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Affordances for Participation in Sound Art

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Abstract

Audience participation is a prominent thread running through much of sound art practice, yet it remains largely absent from the sound art scholarship. In this article, I argue that the most widespread methodologies employed in sound art research – roughly split into the phenomenological branch and the object-oriented branch – are ill equipped to tackle the questions of sociality and participation. Instead, I offer a framework for the study of participation in sound art – and, more broadly, for sound aesthetics in general – rooted in the pragmatist tradition. My starting point is John Dewey's conceptualization of an artwork as an aesthetic experience developing in cycles of doing and undergoing – a structure, he claims, present in both the creative process and the reception of artworks, putting them on equal footing. I then expand this notion by turning to the contemporary pragmatist trends in creativity studies, ANT and affordance theory, introducing the concepts of we-creativity, mediation and affordance. The second half of the article focuses specifically on affordance – a relationship between a sound artwork and its audience delimiting and facilitating the possibilities for participation. I discuss the low-level affordances (facilitating elementary action) for creative listening and soundmaking and high-level affordances (facilitating complex behaviors) for creativity, experimentation and connectivity. I conclude that the pragmatist framework allows to go beyond the subject- or object-centeredness of phenomenological or object-oriented methodologies, bringing to the foreground the relational and social character of sound art.

Introduction

In his book *The Audible Past*, sound historian Jonathan Sterne (2003) names the moment the concept of sound was born. According to Sterne, the emergence of early sound reproduction technologies – the telephone and the phonograph – marked a shift in the cultural understanding of sound. If the pre-phonograph theories – predominantly philosophies of music and language – conceptualized sound in terms of its sources (musical instruments and voices) and how it was produced, the phonograph made the ear and what it perceives the center of attention. Where sound "had previously been conceptualized in terms of particular idealized instances like voice or music" (Sterne, 2003, p. 2), a holistic idea of *sound as an object of hearing* emerged, of which "speech and music became [only] specific instances" (Sterne, 2003, p. 71).

A century later, this emphasis in conceptualizations of sound on perception over production, listening over soundmaking, remains the central focus of both the sound studies and the sound art discourse. Merleau-Ponty's phenomenology of

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perception, developed in application to sound by among others Don Ihde, Salome Voegelin and Jean-Luc Nancy (Ihde, 2007; Nancy, 2007; Voegelin, 2010) still dominates the philosophy and aesthetics of sound,[1] despite the critique from post-structuralist (Kahn, 2014; Kim-Cohen, 2009) or new materialist (Cox, 2011) camps.

At the same time, various technological and cultural developments that happened since the invention of the phonograph have greatly influenced the ways people make sound. Practices like sound synthesis or design, beatboxing, or remixing, to name just a few, can no longer be meaningfully categorized into speech and music. On the other hand, the listening-based epistemologies do not particularly cater to such practices either, remaining largely agnostic of the material, social and cognitive processes, which facilitate and inform soundmaking, but cannot be inferred from sound perception alone. The contemporary soundmaking practices thus demand new theoretical approaches – those that would emphasize the proactive, expressive and pragmatic aspects of sound culture.

Arguably, the most radical examples of soundmaking practices – ways of soundmaking that cannot be described within the speech-music paradigm – can be found in sound art, primarily in the form of sound installations, sound sculptures and soundwalks. As the debate on the definition of sound art (see e.g. Engström & Stjerna, 2009; Maes & Leman, 2017) as well as its relationship to music (Landy, 2017) is well beyond the scope of my argument, in this article, I use the term "sound art" as referring to any sound-based artworks that happen outside of musical institutions and do not conform to the traditional musical presentation formats such as concert performance or recording.[2] My goal with this definition is not to demarcate a clear border between sound art and music – a task I consider both impossible and unnecessary – but rather to emphasize the primary factors that lead to emergence of non-musical soundmaking within sound art practice. While somewhat apophatic, my interpretation of sound art is grounded in the historical origins of the art form, as it emerged specifically as an alternative to the concert hall soundmaking, though not necessarily to music per se. For example, Max Neuhaus, a pioneer of sound installation, described his shift to sound art as an attempt to move "beyond [being a performer] and beyond being a composer, into the idea of being a catalyzer of sound activity" (Neuhaus, 1994, p. 5).

Among other things, this quote reveals the importance sound art places in audience participation, broadly understood as delegation of creative soundmaking agency from the artist to the audience. Many similar quotes can be found both in Neuhaus' writings and in the writings of other early sound artists. For example, the Baschet brothers, the inventors of sound sculpture, claimed that the three main components of their works are "shapes, sounds and public participation" (Baschet & Baschet, 1987, p. 110). Peter Vogel described his cybernetic sound objects as having

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a behavior and being able to enter a dialog with a viewer/listener (Vogel, 1996). This list could go on indefinitely.

Nevertheless, the existing academic theories of sound art, with their emphasis on listening and perceptual phenomenologies, have left participation and sociality of the art form largely unexplored. The few texts on participatory sound art that do exist for the most part present the results of artistic research (e.g. Harries, 2013; Rebelo & Velloso, 2018; Tanaka & Parkinson, 2018) and thus only confirm this peculiar divide between the artists' own statements and the academic discourse on sound art. The prominence of soundmaking in participatory sound art and the theoretical vacuum around it, then, make it a perfect object to explore the possibilities of a pragmatist approach to sound.

This article, therefore, has two goals. First, I want to offer a theoretical framework for the study of participation in sound art based in pragmatist aesthetics. My starting point is John Dewey's art theory, which I expand through the current scholarship on creativity, mediation and affordance to bring it up to date with the contemporary developments in sound art. I will then use this apparatus to discuss what constitutes participation in sound art on two levels: of elementary interactions and of complex behaviors. Second, in developing this account, I will also sketch out the potential directions for the pragmatist approach to sound in general.

Towards a pragmatist aesthetics of sound

Sound art experience

The pragmatist epistemology provides a perfect framework to bring soundmaking back into the focus of sound art theory, not in the least that is because it does not present an opposition to the dominant phenomenological approaches and does not force us to cast aside its insights, but rather complements them. To put it bluntly, human soundmaking does not exist without listening – it is a closed dialectical loop where perception directs expression and vice versa. However, such dialectical loop is precisely what lies in the heart of John Dewey's aesthetic theory.

A connection between the pragmatist aesthetics of Dewey's *Art as Experience* (1980; originally published in 1934) and the phenomenology of sound, particularly the version laid out in Salome Voegelin's *Listening to Noise and Silence* (2010), can already be found in both theories' emphasis on the experiential character of art. For Voegelin, however, the experience in question is purely perceptual, although perception is interpreted as an agentic action as opposed to passive reception. Dewey, on the other hand, emphasizes the dialectical nature of the aesthetic experience, its oscillations between "doing and undergoing" (1980, pp. 47–54). While both Dewey and Voegelin agree on the bodily character of art experience, Dewey's corporealism is arguably more radical as he draws its sources from the pre-subjective interactions

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of the living creature with its environment. These interactions happen in cycles of the creature affecting environment and being affected by it, doing and undergoing, which emerge on every level of complexity, from most basic needs to socio-cultural processes.

Art for Dewey is thus, first, characterized by these cycles of doing and undergoing, and, second, necessarily involves an interaction with the environment. From this follows the distinction between the art object (the product of creative process) and the artwork, defined as the experiential interaction with the art object. Moreover, Dewey insists that the cycles of doing and undergoing in interaction with the environment characterize both the artistic creation and the reception of art, resulting in a principal isomorphism of expression and perception. This makes Dewey's aesthetic theory particularly relevant for the study of participatory art, as participation can arguably be situated in-between creation as reception.

Dewey's art theory also offers a useful change of perspective from subject-centered to relational. The prioritization of the listening subject in sound art theory has long come under critique from both the post-structuralist and the new materialist camps. Dewey, on the other hand, posits a dialectical relationship between the subject and the object as creating each other, at least in the context of aesthetic experience. He insists on the principal relationality of art, claiming the "completeness of relations" as a necessary condition of the artistic form (Dewey, 1980, p. 134). Such a relational perspective, once again, provides an important synthetic alternative both the phenomenology's subject-centeredness and new materialism's fascination with the objects.

Creativity, affordance, mediation

Dewey's theory has recently seen a resurgence in the realm of socio-cultural psychology and creativity studies. A study from 2013 led by Vlad Glaveanu tested the relevance of Dewey's framework through interviews with 60 creative professional from five different fields: art, design, science, scriptwriting, and music, revealing various configurations of doing and undergoing in all of them (Glaveanu et al., 2013). According to Glaveanu, creative processes are therfore far from being confined to the mind of a lone genius. They are necessarily interactional, with both the physical and the social worlds playing a significant role. Glaveanu dubbed this view of creativity the "we-paradigm", as opposed to the Romantic concept of creative genius ("he-paradigm") (Glaveanu, 2010, pp. 80–84). In the context of we-paradigm, the creative agency of the world, against which a creative act takes shape, is represented by the concept of affordance – the opportunity for creative action that the world presents to the actor (Glaveanu, 2013)

The term "affordance" was first introduced by the American psychologist James Gibson, as a foundational concept for his project of ecological psychology. In

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Gibson's original formulation, "affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" (Gibson, 1979, p. 127). He stressed, however, the relational nature of affordances, situating them not fully within the environment nor within the perceiving subject (the animal). The concept of affordance was meant to overcome the dichotomy of the subject and the object, demonstrating the inadequacy of this binary opposition. The relational character of affordances has been particularly emphasized in recent literature. Anthony Chemero's article "Outline of a theory of affordances" (2003) redefines affordances as "relations between the abilities of organisms and features of the environment" (p. 189). Furthermore, Gibson (1979) himself extended the notion of affordance to social matters: "[b]ehavior affords behavior, and the whole subject matter of psychology and of the social sciences can be thought of as an elaboration of this basic fact" (p. 189).

Glaveanu's cultural-psychological account of the role of affordances in facilitating creativity finds support in a number of aesthetic studies that explore the creative opportunities that specific materials, objects or environments afford to an artist or musician (Hogg & Östersjö, 2015; Maier & Schulze, 2017; Samson & Soon, 2015; Strachan, 2013). At the same time, other studies have explored the affordances of the artworks, developing the idea of art as a quality, or an affordance, of art objects that allows aesthetic engagement with them (Brincker, 2015; Leduc, 2013). This line of thinking parallels Dewey's approach to art as "a quality of doing and of what is done" rather than some class of objects (Dewey, 1934/1980, p. 214). In this context, participatory sound art is uniquely situated at the intersection of these two perspectives as such works engage the participants both as audiences and as co-creators, providing affordances for aesthetic appreciation as well as for expressing their own creativity. Moreover, these affordances do not just stem from the material components of the artwork, but also emerge from the participants' own actions and behaviors.

This convergence of humans and objects, perception and production, individual engagement and collective action is what makes Glaveanu's concept of we-creativity a particularly useful conceptualization of participatory processes in sound art. Shifting focus away from the individual creator onto a multitude of people and objects, it unveils the entangled mass of creative agencies involved in the production of the sound art experience. Its attention to the role material things play in creative processes also evokes another modern iteration of pragmatism – the actor-network theory developed in the works of Bruno Latour and, closer to the art world, Antoine Hennion. ANT essentially expands what the theories mentioned above conceptualized as "environment" or "world" – somewhat amorphous and reactive – into networks of distinct material agents of various scales (Hennion, 2016). The

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notion of affordance is also mentioned by both Latour (2005, p. 72) and Hennion (2016, p. 300) as a useful tool for expressing the agency of the material things.

The kind of expansion that ANT offers becomes particularly important when we attempt a close-up examination of what can be seen as the "art product" (in Dewey's terms) in participatory sound artworks. Taking participation itself and the interactions between the participants out of the equation leaves behind any number of material and conceptual objects – technologies, interfaces, shapes and volumes, spatial structures, sounds etc. – with and through which the participants then negotiate their aesthetic experience (the artwork). This is why notion of mediation becomes particularly important.

Within the ANT, mediation is primarily understood as the convergence of agencies between human and nonhuman agents. In his article "On Technical Mediation", Latour (1994) discusses the four possible meanings of mediation: translation, composition, blackboxing and delegation. Translation in Latour's terms refers to how interaction between different actors changes their goals and programs of action. For example, an exhibition visitor might have a goal of aesthetic contemplation, but encountering a sound sculpture among them may prompt her to engage in co-creative activity. Delegation takes it one step further, changing not just the goal, but its expression as well (in the example above, the exhibition visitor starts engaging in making sounds instead of viewing the artworks). Finally, mediation can also refer to how constellations of actors assemble in a single action (composition) and how they can be perceived as a single actor (blackboxing).

The last two meanings take center stage in Hennion's sociology of music. For Hennion, music "[constitutes] a whole theory of mediation in practice" as it "must always produce its object through a proliferation of intermediaries, interpreters, instruments and media" (Hennion, 2015, p. 1). Approaching music as necessarily heterogeneous and emerging at various levels of mediation allows him to reconcile two perspectives on it: as a (monolithic) object of perception and as a (distributed) creative activity. This dichotomy of perception and production arguably becomes even more pointed in the case of participatory sound art, which makes the theory of musical mediation applicable, despite its musical and sociological roots. Participation underscores the distributed character of sound artworks, reconceptualizing them as situations rather than objects (Groth & Samson, 2017) and turning them into micro-societies that prompt a social perspective. Music, on the other hand, shares a number of soundmaking strategies with sound art, and it is by looking at mediations and mediators that the *differences* in these strategies can reveal themselves.

In fact, sound art has appeared in the orbit of the musical mediation theory in Georgina Born's interpretation of it. Picking up on Lydia Goehr's account of how 20th century experimental musical practices, including that of sound installation, undermine the modernist idea of musical work (Goehr, 1994), Born (2005) uses the

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theory of mediation to underscore the prominent role new technologies play in reimagining the idea of musical creativity and redefining the agencies of the human and nonhuman actors involved in it. However, Born's theory does not explicitly deal with audience participation, and she prefers to pick her case studies from within the institutions and presentation formats of music.

The three concepts briefly discussed in this subsection – "we-creativity", mediation and affordance – present possible extensions of Dewey's aesthetics, making it applicable to the analysis of participatory sound art. We-creativity underscores the collective and negotiated nature of the creative act, particularly prominent in participation. Mediation reveals the relational networks of human and nonhuman agents involved in the sound art situation. Finally, affordance provides the language to discuss exactly how this creativity is negotiated between human participants and material and conceptual components of the artwork. In this article, I will specifically focus on the affordance aspect, as this perspective emphasizes the inseparability of doing and undergoing, sound production and sound perception, thus allowing me to go as far away from the phenomenological position as possible without venturing into the new materialist territory and losing the relational perspective.

Aesthetic affordances

Listening and soundmaking

As stated in the previous sections, an affordance in a relationship between two agents that delimits the possibilities for their interaction. In other words, seen from the perspective of affordances, any object – and in particular, any art object – is in some way interactive. This is in accordance with Dewey's view of unity of art production and art perception, involving the same cycles of doing and undergoing. What does an affordance for participation mean then?

The way participation is conceptualized in the participatory art discourse relies on two basic assumptions. First, following Nicolas Bourriaud's idea of relational aesthetics (even though most later authors do not consider relational art as properly partcicipatory – see Bishop, 2012; Kester, 2011), the emphasis is put on the social relations and interactions as the medium of the artwork, relegating the material and medial components to mere catalysts (Bourriaud, 2002). Second, participation, as a collective and media-independent process, is distinguished from interactivity, which happens in one-on-one interaction between the spectator and the artwork (Bishop, 2012).

These distinctions, however, do not quite apply to participatory sound art. The whole identity of sound art relies on the fact that it is an art form that does things *with* sound and *about* sound. (see Engström & Stjerna, 2009; Wong, 2012)

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Attempts to take this sound-centeredness out of the equation leave the researcher with descriptors like "sound in the arts" (Kahn, 2014) or "non-cochlear sound art" (Kim-Cohen, 2009), which make it hard to distinguish sound art from the general corpus of contemporary art characterized by its post-media condition. Moreover, as I will demonstrate below, the relational and dialogical character of the sound medium itself maintains the essential continuity between one-on-one interactions and social processes in sound art. Two consequences follow from that. First, the affordances for participation in sound art are necessarily realized through material and technological means of interactivity. Second, the discussion of participation in sound art should start with the smallest possible degree that just goes beyond traditional forms of music and sound reception.

This smallest degree can be found in Max Neuhaus' idea of sound installation, defined as "sound works without a beginning or an end, where the sounds were placed in space rather than in time" (Neuhaus & Jardins, 1994, p. 42). This was to contrast sound installation with music, which involves "[locating] the elements of composition in time", and to "[let] the listener place them in his own time" (p. 34). In other words, the spatial distribution of sounds or sound sources at a scale that is not commensurate with the listener forces her to move from one to another, composing the sounds into an individual sequence.

This affordance can be called creative listening, as it puts the listener in the co-creator's position, while not having her produce any sounds, at least not by design. It can be thought of as soundmaking *within* one's listening, as what the participant listens to is, in part, the result of her actions. At the same time, as I noted at the beginning of the article, listening and soundmaking are inextricably interwoven. While moving from one sound source to another, the participant necessarily produces some sounds, which may or may not become part of her experience. This is most evident in the case of soundwalks. Introduced by the Canadian artist Hildegard Westerkamp, soundwalks are traditionally conceptualized as silent excursions whose purpose is to listen to the environment. However, the sounds of the participants' footsteps on different surfaces – pavement, ground, snow – come into play with the acoustical qualities of the environment and funnel into the surrounding soundscape, becoming parts of what is listened to.

At the other end of the spectrum are sound artworks that afford explicit soundmaking by design. The Baschet brothers' sound sculptures are a classic example of that, essentially having the same functionality as musical instruments. In fact, the Baschets started their career creating experimental instruments for traditional musical performances, calling them "sound structures". The term "sound sculpture" emerged when they started exhibiting these instruments at museums and galleries, where the public could play them (Baschet, 1999, p. 40). Some works, on the other hand, could include listeners as sources of sound themselves. For example,

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Benoît Maubrey's *Speaker Sculptures* (1983 onwards) are large architecture-like constructions built of loudspeakers and installed in public spaces. The sculptures are connected to phone lines, so the participants can call a specific number and have their call transmitted through the sculptures, contributing their voices to the work.

Once again, however, soundmaking in such works functions in connection with listening. The way the participants interact with Baschets' sculptures is guided by their listening to the sonic result of their actions in much the same way as with traditional musicians and their instruments. Moreover, listening to each other's soundmaking invites the participants to enter into a sonic dialog, either simultaneously, as is the case with Baschets' works, or in succession like, for example, in *Speaker Sculptures*. This makes the distinction between one-on-one interactivity and collective participation mentioned earlier meaningless for a large segment of sound art practices.

The affordances for creative listening and soundmaking in their various mediated and immediate constellations can be called low-level affordances as they facilitate elementary actions. In the following subsections, however, I want to look at what kinds of complex behaviors are afforded by participatory sound art.[3] Specifically, I will focus on three kinds of such high-level affordances: for creativity, for exploration and for connectivity. While obviously not exhausting the possibilities, these three affordances, in my opinion, best reflect the particular character of sound art, both underscoring the prominence of participation for the art form and distinguishing it from other participatory art practices.'

Affordance for creativity

The affordance for creativity refers to the audience members exercising creative agency towards the sonic aspects of the work, co-authoring it. Following the traditional music theory dichotomy of composition material and form (see e.g. Schoeneberg, 1970, pp. 1–2), the participants can produce the sonic material, or arrange existing material into their own composition, or do both.

An example of the first approach is Neuhaus' *Broadcast Works – Public Supply I-III* (1966-73) and *Radio Net* (1977). These works were staged as live radio shows, where the participants could call the studio and perform their sounds or music. Neuhaus then mixed the content of the calls in real time and broadcasted it live, allowing the participants to improvise with him and each other. Speaker Sculptures operate on largely the same principle, substituting live mixing by technologically limiting the number of calls to one at a time and the length of one call to three minutes. In these works, creativity is afforded at the level of individual sounds. The participants create all or most of the sonic material of the work, while the compositional

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structure is controlled by the artist, either by design (*Speaker Sculptures*) or by direct intervention (*Broadcast works*).

In other works, all the sounds are pre-recorded by the artist, while the participants evoke and combine them, creating the compositional structure of the work. A very interesting example of this approach are Kaffe Matthews' bike operas. Since 2014, Matthews has been developing sonic bikes – bikes outfitted with loudspeakers, GPS tracking devices and sound sample banks. Riding sonic bikes, the participants evoke various sounds, played through their bikes' loudspeakers, depending on their location, direction and speed. Here, the participants have no control over the sonic material; however, the affordance for creativity is expressed in how their actions and interactions shape the form of the composition produced from these predefined sounds.

The two approaches can be combined in several ways too. The Baschets' sound sculptures allow the participants to play any sounds they can get out of the sculpture in any sequence or combination they want. While the acoustic qualities of the sculptures are designed by the artists, their soundmaking affordances, being relative to the participants interacting with the sculpture, are never limited to what the artists intended. Another example is the use of "found" sounds. Christina Kubisch's *Electrical Walks* (2004 onward) are soundwalks assisted by the special technology of inductive headphones, which transform the electromagnetic waves in the urban environment into soundwaves in the human hearing range. Just like in Matthews' bike operas, the participants are free to roam the city, shaping the composition of what they hear. However, the sounds they hear are not pre-recorded samples, but rather a sonification of the technologically mediated activities of the city's inhabitants, which become unwitting participants in the artwork.

The affordance for creativity in a general sense is something shared by most participatory art practices irrespective of media. However, the character of sonic medium exerts a significant influence on how this creativity is realized evident in the two further affordances – for exploration and for connectivity.

Affordance for exploration

In the previous subsection, I described the affordance for creativity in general musical terms as this is currently the only language we have to address sound-related creativity. However, the soundmaking activities that the affordance for creativity facilitates are distinctly different from the musical affordances. First and foremost, they are characterized by a lack of musical *intent*. François Baschet wrote about his observations of the public interacting with sound sculptures: "Musically, the result is often a sheer disaster. If one puts a small child in front of a piano, the child will pound on it as heavily as possible: 'I make noise, therefore I exist.' If one puts an adult in front of a sound sculpture and hands the adult a mallet,

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the same thing will happen: 'I make noise.' But I am sure that in both cases the hyperactivity stems from the pleasure of discovering" (Baschet & Baschet, 1987, p. 110). Particularly in works that rely on spatial distribution of sounds, the temporal compositional structure is a byproduct of the participants' actions rather than their end goal. The way they interact with the artwork is primarily exploratory and experimental, leading the way for the second high-level participatory affordance I want to discuss here.

The affordance for exploration refers to several aspects of participatory sound artworks. First, the participants in such works are not necessarily trained musicians, and even if they are, they are not familiar with how a particular work operates (at least not the first time they encounter it). Their initial engagement with the work is driven by curiosity, the desire to uncover the sonic potential of the work and its relation to the immediately visible elements. The cycles of doing and undergoing are most evident here as the participants try out different actions to hear what sounds they produce and plan their next actions based on what they hear. Some of Kaffe Matthews' sonic bike rides have the word "games" in their titles (*The Pedalling Games*, 2014; *The Coventry Pedalling Games*, 2015 etc.), emphasizing the playful and experimental nature of this kind of sonic engagement. The artist challenges the "players" to figure out what actions are required to activate this or that sound, both from their own experience and from watching others play. In many ways, it is a process similar to hunting virtual monsters in *Pokémon Go*.

Furthermore, the participants are not even expected to produce a musical result that would comply to set aesthetic criteria or even be identified as musical or artistic. Some of the Baschet sculptures were designed specifically with non-musicians or people with disabilities in mind, replacing the traditional musical scales and harmonic relations with a palette of timbres (Baschet & Baschet, 1987, p. 112). These sculptures resemble traditional instruments just enough to suggest that they should be played, but are alien enough so as not to create specific expectations of what could or should be done with them.

Another aspect of the affordance for exploration is the lack specific instructions – scripts or scores – telling the participants what exactly they have to do. Even in guided soundwalks, arguably the most directed form of participatory sound art, there is enough leeway for the participants not to follow the guide, directing their listening to the sounds that catch their attention or spontaneously engaging in soundmaking with the objects in environment.

Finally, the connection between the participants' actions and their sonic result is often unobvious, or even obscured. *#tweetscapes*, an online audiovisual installation by Anselm Nehls and Tarik Barri that ran from 2012 to 2015, produced a real-time sonification of the activities in the German Twitter segment. Each tweet was processed by a complex algorithm, translating such aspects as hashtags, number

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of retweets and reactions, geolocation etc. into the parameters of a synthesized sound. Thus, while an individual tweet would have an immediate effect on the sound of *#tweetscapes*, the complexity of the algorithm and the number of events happening at any given time made it impossible to predict – or sometimes even discern – exactly what that effect would be. The affordances of *#tweetscapes* thus enforce experimentation in a way, hindering the more traditionally musical modes of soundmaking.

Affordance for connectivity

In the introduction to his book *Background Noise*, Brandon LaBelle (2015) claims that sound is an inherently relational phenomenon. The affordance perspective, with its focus on relations and interactions between actors, supports such a reading of sound. As shown in the previous section, sound in participatory sound art exists in a dialectical unity of doing and undergoing, being the object of both aesthetic production and reception, often at the same time. Moreover, it is inextricably linked, on the one end, to the material and medial components of the artwork (the art product in Dewey's terms) and on the other end, to the listener-participant, establishing a relation between the two.

Similarly, it can be said that sound in sound art serves to establish interpersonal relations between the participants as well. LaBelle (2015) describes this phenomenon in connection with the spatial properties of sound, stating that "sound as relational phenomena immediately operates through modes of spatiality" (p. xi). He proceeds to name three consequences of this spatiality: that "sound is always in more than one place", that it "occurs among bodies", and, finally, that "sound is never a private affair", always carrying with it a social dynamics (pp. xi–xiii). The order of these consequences is important, as it indicates causality: sound is spatial; therefore, it connects the objects (bodies) in space, and thus facilitates relations between them. In other words, for LaBelle the sociality that sound art produces is a consequence of its spatiality.

The connection between spatiality and relationality of sound is hard to deny, however, I would argue that it is better stated in terms of affordance than causality. Space does not cause the sonic connection between the bodies, but affords it. Similarly, this connection does not necessarily lead to a tangible sociality, but affords and encourages it. It is not a necessary condition either, as works like Neuhaus' *Broadcast Works* or *Speaker Sculptures* operate through bypassing physical space to establish connections over large distances and other barriers.

I call this ability of sound to establish relations the affordance for connectivity. Arguably, it finds its most prominent expression in the form of collaborative performances facilitated by sound artworks. Giving the participants the means to produce sound and placing them in a shared environment, physical or virtual,

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invites a non-verbal sonic dialog between them. This affordance is particularly prominent in virtual environments, like that of Neuhaus' *Broadcast Works*. The materiality of such works is confined to a virtual space and not immediately accessible to the participants; instead, it serves as a means for them to enter a collaborative soundmaking process.

However, collaborative aspects may be equally prominent in physical environments as the case of the Baschets' sculptures shows. In an exhibition situation, sound sculptures and their players inhabit a shared acoustic space where listening to other participants' soundmaking invites one to enter into a sonic dialog with them.

At the same time, sound's ability to establish relations leads to the distinction between the participants and the secondary audience (that is, the audience not involved in co-creative processes) largely dissolving. A rider on Matthews' sonic bike broadcasts her sounds onto the public space, attracting attention and prompting interactions with the passers-by, who, initially, might not even be aware of a sound artwork taking place.

On the other hand, soundmaking is not a necessary condition for the realization of the affordance for connectivity. A silent group of soundwalkers disturbs the ordinary order of the everyday and prompts social encounters just as well as sonic bike riders do – precisely because of the walkers' silence (Polli, 2017). In parallel to that, a more obvious listening connection is going on as well, as the participants listen to the soundscape collectively created by the inhabitants of the environment.

Finally, the affordance for connectivity can also happen across the human-nonhuman border. In her recent article "On nonhuman sound: Sound as relation" Georgina Born (2019) calls for abandoning the subjective and anthropocentric models of sound, reconceiving it instead as a relational and mediational phenomenon that transcends the subject-object division. Sound in participatory sound art acts both as a way of relating among the humans and nonhumans engaged in its mediational networks and as an expression of their relations. In Kubisch's *Electrical Walks*, for example, the rhythms and harmonies of electromagnetic waves draw our attention to the technological underpinnings of the contemporary city. The silent, familiar, ostensibly non-threatening objects – ATMs, anti-theft gates, power cables, communication lines – reveal themselves through sound, making us notice them, consider them and their role in our lives.

From that, the primary difference between the sound art's mediation and the musical one emerges: sound art purposefully brings its mediators to the foreground, making them part of the aesthetic experience.[4] The shapes of the Baschet sculptures, the physicality of riding a sonic bike, the spatial organization of Neuhaus' installations – all these elements are simultaneously aesthetic agents and devices for listening and soundmaking. On the other hand, sound attains a dual

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role as well, being the aesthetic product of the participants' interactions as well as one of the mediators, through which the human and nonhuman actors can relate to each other.

Conclusion

In this article, I have attempted to sketch a pragmatist framework for the study of participation in sound art, one that would reestablish soundmaking as an integral aspect of the practice. My framework is rooted in Dewey's idea of art as an experience happening in cycles of doing and undergoing since it provides a relational perspective, balancing both the subject- and listening-centeredness of the dominant phenomenological theories and the object-oriented approaches of new materialist aesthetics. I have then further expanded this perspective through the concepts of we-creativity, mediation and affordance.

We-creativity refers to the fact that no creative act happens in solitude, but always in interaction with the physical and social world. Harking back to Dewey's claim that art creation and reception have the same nature and involve the same processes, it allows situating creative participation in sound art in inextricable connection to both social and medial aspects of the artwork. This resolves the opposition of interactivity as happening in one-on-one interactions with the artwork and participation as a necessarily collective action, highlighting the sound's ability to connect and facilitate interactions.

The perspective of mediation underscores the distributed and negotiated character of the sound artworks. It changes the scale from the level of the artwork as a whole to the level of individual actors, human and nonhuman, and interactions between them. The relational character of sound art and sound as a medium reveals itself through mediation, as it shows how the artwork as a whole is negotiated through the elementary actions of listening and soundmaking, but also how sound and participation exist in a dialogical unity with each other.

Finally, the concept of affordance expresses the potential relations between the various actors involved in a participatory sound artwork, exposing the mechanisms through which it is negotiated. Affordances can emerge on different levels of mediation, facilitating both elementary actions and complex behaviors. In this article, I have identified three high-level aesthetic affordances that sound artworks possess: for creativity, for experimentation, and for connectivity, though this list is by no means exhaustive. While participatory sound art shares some of these affordances with participatory art in general, sound plays a pivotal role in how they function in sound art and determines the specific character of participation. First, sound is processual and happens in real time, which allows for spontaneous, emergent and non-directed forms of creative or political activities. It facilitates a

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particular form of co-authorship, where the artist creates the conditions for the participants to exercise their creative agency, but does not influence their actions beyond that. Second, sound invites listening and replying, instigating a non-verbal sonic dialog between the participants and encouraging their collaboration with each other, once again, without being instructed to do so. The dialogical nature of sound presents itself in one-on-one interactions between the listener and the artwork as well. Here, sound acts both as creative product of the participant's actions, and as feedback mechanism, guiding her through the work's affordances and encouraging exploration. Finally, sound facilitates immersion and refocuses the participants' perception from vision to listening, creating a seamless continuity between their actions, aesthetic experience and meaning-making.

At the same time, the approach undertaken in this article has certain limitations that present the possible directions for further research. First, I have focused specifically on the aesthetic affordances of sound artworks, circumventing the questions of pragmatics and politics of participation. My goal with that was to establish the particular mediality of participatory sound art, distancing it from the concepts of participation that follow Bourriaud's formulation of relational aesthetics. However, this does not mean that the political questions are outside the scope of the pragmatist perspective of sound art. On the contrary, I believe that this perspective can provide a fruitful alternative to the critical theory's view of sound art as largely politics-agnostic (see e.g. Kim-Cohen, 2009).

At the same time, the relational nature of affordance and the negotiated character of mediation means that my account of the participatory affordances of sound art extends only as far as I, with my corporeal traits and cultural background, can experience or imagine experiencing. A more thorough pragmatist investigation of participation thus necessitates empirical, qualitative research methods. As an additional benefit, ethnographic observations of and interviews with audiences of participatory sound art could then answer another important question – how participants act upon the affordances presented to them.

References:

Baschet, F. (1999). *Les sculptures sonores*. Chemsford: Soundworld.

Baschet, F., & Baschet, B. (1987). Sound sculpture: sounds, shapes, public participation, education. *Leonardo*, *20*(2), 107-114.

Bishop, C. (2012). *Artificial hells: participatory art and the politics of spectatorship*. Verso Books.

Born, G. (2005). On musical mediation: ontology, technology and creativity. *Twentieth-Century Music*, *2*(1), 7-36. https://doi.org/10.1017/S147857220500023X

Born, G. (2019). On nonhuman sound: sound as relation. In R. Chow & J. Steintrager (Eds.), *Sound Objects* (pp. 185-208). Durham, NC: Duke University Press.

Bourriaud, N. (2002). *Relational aesthetics*. Les Presses du réel.

issn 1904-500X

Brincker, M. (2015). The aesthetic stance – on the conditions and consequences of becoming a beholder. In A. Scarinzi (Ed.), *Aesthetics and the embodied mind: beyond art theory and the Cartesian mind-body dichotomy* (pp. 117-138). Dordrecht: Springer.

Bucher, T., & Helmond, A. (2018). The affordances of social media platforms. In J. Burgess, A. Marwick, & T. Poell (Eds.), *The SAGE handbook of social media* (pp. 233-253). London: SAGE Publications.

Chemero, A. (2003). An outline of a theory of affordances. *Ecological Psychology*, *15*(2), 181-195. https://doi.org/10.1207/S15326969ECO1502_5

Cox, C. (2011). Beyond representation and signification: toward a sonic materialism. *Journal of Visual Culture*, *10*(2), 145-161. https://doi.org/10.1177/1470412911402880

Dewey, J. (1980). *Art as experience* (23rd ed.). Perigree Books.

Engström, A., & Stjerna, Å. (2009). Sound art or Klangkunst? A reading of the German and English literature on sound art. *Organised Sound*, *14*(01), 11-18. https://doi.org/10.1017/S135577180900003X

Gibson, J.J. (1979). *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.

Glaveanu, V.P. (2010). Paradigms in the study of creativity: introducing the perspective of cultural psychology. *New Ideas in Psychology*, *28*(1), 79-93.

Glaveanu, V.P. (2013). Rewriting the language of creativity: the five A's framework. *Review of General Psychology*, *17*(1), 69-81. https://doi.org/10.1037/a0029528

Glaveanu, V.P., Lubart, T., Bonnardel, N., Botella, M., Biaisi, P.-M. de, Desainte-Catherine, M., … Zenasni, F. (2013). Creativity as action: findings from five creative domains. *Frontiers in Psychology*, *4*. https://doi.org/10.3389/fpsyg.2013.00176

Goehr, L. (1994). *The imaginary museum of musical works: an essay in the philosophy of music*. Clarendon Press.

Grimshaw, M. (2015). A brief argument for, and summary of, the concept of Sonic Virtuality. *Dansk Musikforskning Online*, *Special ed*, 81-98.

Groth, S. K., & Samson, K. (2017). Sound art situations. *Organised Sound*, *22*(01), 101-111. https://doi.org/10.1017/S1355771816000388

Harries, G. (2013). 'The open work': ecologies of participation. *Organised Sound*, *18*(01), 3-13. https://doi.org/10.1017/S1355771812000192

Hennion, A. (2015). *The passion for music: a sociology of mediation*. Ashgate.

Hennion, A. (2016). From ANT to pragmatism: a journey with Bruno Latour at the CSI. *New Literary History*, *47*, 289-308.

Hogg, B., & Östersjö, S. (2015). 'Patterns of ecological and aesthetic co-evolution': tree-guitars, river-violins and the ecology of listening. *Contemporary Music Review*, *34*(4), 335-349. https://doi.org/10.1080/07494467.2016.1140867

Ihde, D. (2007). *Listening and voice : phenomenologies of sound*. New York: SUNY Press.

Kahn, D. (2014). Sound art, art, music. *Tacet*, *3*, 329-347.

Kester, G. H. (2011). *The one and the many : contemporary collaborative art in a global context*. Duke University Press.

Keylin, V. (2015). Corporeality of music and sound sculpture. *Organised Sound*, *20*(02), 182-190. https://doi.org/10.1017/S1355771815000060

Kim-Cohen, S. (2009). *In the blink of an ear: toward a non-cochlear sonic art*. New York-London: Continuum.

LaBelle, B. (2015). *Background noise: perspectives on sound art* (2nd ed.). New York: Bloomsbury.

Landy, L. (2017). But is it (also) music. In M. Cobussen, V. Meelberg, & B. Truax (Eds.), *Routledge companion to sounding art* (p. eBook edition). Routledge.

Latour, B. (1994). On technical mediation. *Common Knowledge*, *3*(2), 29-64.

Latour, B. (2005). *Reassembling the social: an introduction to actor-network-theory*. Oxford: Oxford University Press.

Leduc, K. (2013). Art as affordance. *Totem: The University of Western Ontario Journal of Anthropology*, *21*(1), 51-58.

issn 1904-500X

Maes, L., & Leman, M. (2017). Defining sound art. In M. Cobussen, V. Meelberg, & B. Truax (Eds.), *Routledge companion to sounding art* (p. eBook edition). Routledge.

Maier, C. J., & Schulze, H. (2017). The tacit grooves of sound art. Aesthetic artefacts as analogue archives. *SoundEffects*, *7*(3), 20-35. https://doi.org/10.7146/se.v7i3.105227

Nancy, J.-L. (2007). *Listening*. Fordham University Press.

Neuhaus, M. (1994). The broadcast works and audium. In *Zeitgleich: the symposium, the seminar, the exhibition*. Vienna: Triton. Retrieved from http://www.max-neuhaus.info/soundworks/vectors/networks/Broadcast_Works_and_Audium.pdf

Neuhaus, M., & Jardins, G. des (Eds.). (1994). *Max Neuhaus : sound works. Vol. 1: Inscription*. Ostfildern: Cantz.

Polli, A. (2017). Soundwalking, sonification and activism. In M. Cobussen, V. Meelberg, & B. Truax (Eds.), *Routledge companion to sounding art* (p. eBook edition). London-New York: Routledge.

Rebelo, P., & Velloso, R. C. (2018). Participatory sonic arts: the Som de Maré project – towards a socially engaged art of sound in the everyday. In S. Emmerson (Ed.), *The Routledge research companion to electronic music - reaching out with technology* (pp. 137-155). London-New York: Routledge.

Samson, A., & Soon, W. (2015). Network affordances: the unpredictable parameters of a Hong Kong SPEED SHOW. *The Fibreculture Journal*, (24). Retrieved from http://twentyfour.fibreculturejournal.org/2015/06/04/44/

Schoeneberg, A. (1970). *Fundamentals of music composition*. Faber and Faber.

Sterne, J. (2003). *The audible past*. Duke University Press.

Strachan, R. (2013). The spectacular suburb: creativity and affordance in contemporary electronic music and sound art. *SoundEffects*, *3*(3), 5-24. https://doi.org/10.7146/se.v3i3.15732

Tanaka, A., & Parkinson, A. (2018). The problems with participation. In S. Emmerson (Ed.), *Routledge companion to electronic music: reaching out with technology* (pp. 156-177). Routledge.

Voegelin, S. (2010). *Listening to noise and silence: toward a philosophy of sound art*. New York-London: Continuum.

Vogel, P. (1996). *Peter Vogel : Interaktive Objekte, eine retrospektive.* Mainz: Skulpturenmuseum Glaskasten.

Wong, M.-S. (2012). Sound art. Retrieved February 22, 2018, from http://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-1002219538

Notes

1 For an overview of recent approaches to conceptualizing sound see e.g. Grimshaw, 2015.

2 While such a definition may extend the category of sound art to a number of grassroots and amateur cultural practices (and I would not necessarily disagree with their inclusion), to manage the scope of the article, I am focusing here on works and practices that are institutionally recognized as art.

3 I am borrowing the distinction of high- and low-level affordances from Taina Bucher and Anne Helmond's work on affordances of social media – see Bucher & Helmond, 2018.

4 I have previously written about this aspect of sound art with regard to sound sculpture – see Keylin, 2015.

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