Klangkunst goes mobile

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Abstract

This article stresses the term *Klangkunst* in comparison to the English term "sound art" because of the incorporated interweaving of auditory and visual dimensions, or rather multisensory perception as a prerequisite for this art genre. Furthermore, one can observe an increasingly large number of artists and works that create a dynamic form of motion between the art work, the audience, and the perception. Contemporary media offers a wide range of opportunities to make *Klangkunst* mobile. Hence the article outlines a taxonomy of mobile *Klangkunst* focusing on different conceptions of locating sounds and possible interactions. This paper will conclude with some analytical considerations of mobile *Klangkunst* from a musicological perspective.

Klangkunst and Motion – a fundamental interweaving

Motion as generally understood is a fundamental aspect of sound art / *Klangkunst*. I tend to use the German term *Klangkunst* in this paper to mark a distinction in comparison to the term "sound art". It seems to be necessary to underline the correlations and importance of both artistic genres, sounding or musical art and visual or fine arts, within the notion of *Klangkunst*. This understanding leads to an awareness of different expressive as well as perceptive dimensions of this art form of *Klangkunst*. It is more than looking for new sounds like Luigi Russolo claimed in his 1913 written manifesto 'The Art of Noises', it is more than the theatrical presentation of sound by the Dadaists, and it is more than integrating noises in musical contexts or questioning traditional Western music concepts. All these radical movements in music which expanded the horizon for musical material constitute a foundation for *Klangkunst* but just from the perspective of sound. What about the art? *Klangkunst* is understood as an art genre that highlights both aspects – sound/*Klang* and art/*Kunst*. If we look at the history of art, we should take into account the early happenings of Allan Kaprow (*Communication Happening* 1958, *18 Happenings in 6 Parts*, 1959) for example to get an idea of artists' approaches in creating an origin in the arts. Kaprow invited the visitor to come in, to walk around, to stay or go out of his 'happenings' while the artists were reading out loud, painting the walls, singing, producing sounds and noises, walking around and so on. We can observe some fundamental aspects of *Klangkunst* here: the open form, the movement of the audience, and the interaction of sound and art. We might see Max Neuhaus' *Drive-In Music* (1967) from the same perspective as a piece of sound art that is based on the motion of the audience. There is neither a visual anchor nor a strict motion direction for the audience. Rather it is a need to move with a car and a turned on/tuned in radio passing the hidden transmitters to explore the installation. Neuhaus

understands his works more as "public instruments rather than art works"[1]. Without doubt for this work a moving body is taken as a basis for the concept of the recipient.

From the beginning of this *art genre*, if we finally assign a point or piece in history to be *the first one*, we can observe a fundamental connection between sound art and motion. It can be the movement of the sound by itself, it can be the movement of the audience, and certainly it can be the movement of the sound sources.

In the last decade it became much easier to bring sounds and audience into motion. Personal Digital Assistants (PDAs) and smartphones open up a wide range of possibilities for sound artist to create pieces that invite the audience to explore the installation or environment by moving around. Hence *Klangkunst* can be conceived as locative art that dispose different sorts of media in space. In case of *Klangkunst* it is an auditory or sonic format. If artists like to locate sounding objects in space, most of them, strictly speaking most of the used technology, make use of Global Positioning System data and tracking systems. However, there are of course a few more options to locate sounds in space: one can easily put loudspeakers in a specific position, or one can guide the listener by an audio guide with cues or a subversive tempo, and an appropiate rhythm. This paper will focus on *Klangkunst* that makes use of GPS-data to dispose sounding objects in an augmented urban space.

"Klangkunst goes mobile" means that there is a sounding artwork located in space. This location is easy to reach by walking or driving around, and it is accessible by everyone's smartphone, tablet or provided PDA including headphones. This interaction of course can be more complex if one integrates sensitive devices that track the movement of the head or the speed of the moving body to discover or transform sounds. In addition one can observe broadcasting technologies for transmitting the sounding layer in a specific range.

From that point of view it seems to be self-evident to understand the term "mobile sound art" with the main or entire focus on sound. Of course the auditory dimension is the core of the composed media, but it is influenced by the visual context of the location and it influences the sensory perception. The majority of *Klangkunst* artists perceive the visual, physical, and specific auditory dimension of the location as an important part in the compositional process. Artists know the location very well, she/he has spent a lot of time there, has listened to the particular soundscape, has observed the urban or natural surrounding, and has finally experienced the piece in situ. Faced to that we have to keep in mind that Helga de la Motte-Haber (1999) still emphasises *Klangkunst* as a multisensory art that works beyond one single art genre[2].

A Taxonomy of mobile *Klangkunst*

After a basic introduction of the fundamental aspects and the understanding of mobile *Klangkunst* from my perspective, the paper will outline three main categories of mobile *Klangkunst*. Furthermore, it will present different concepts integrated in these categories, as well as analytical and aesthetical challenges for musicological approaches.

First of all I would suggest according to Frauke Behrendt (2010) three categories of mobile *Klangkunst*: Placed Sounds, Sound Platforms and Sonified Motion[3].

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[1] Max Neuhaus, *Sound Works,* vol. 1, *Inscription*, Ostfildern-Stuttgart, Cantz, 1994, p. 75.

[2] Cf. Helga de La Motte-Haber, Elmar Budde, *Klangkunst: tönende Objekte und klingende Räume*, *Handbuch der Musik im 20. Jahrhundert*, Laaber (Germany), Laaber-Verlag, 1999, pp. 13 *sq*.

[3] The terms are partially borrowed and modificated from Frauke Behrendt's (2010) investiagtion on *Mobile Sound* (cf. Frauke Behrendt, *Mobile Sound: Media Art in Hybrid Spaces*, unpublished PhD thesis, Department of Media, Film and Music, University of Sussex, 2010, chapter II: A Taxonomy of Mobile Sound Art).

Placed sounds have been, obviously, placed by the artist in space. In this case the artist is responsible for the entanglement of sound and location, (s)he works like a curator for an exhibition. The Artist knows very well the place in its acoustical and visual peculiarity. It is not only to dispose sounding objects in space, rather to realize an exhibition concept, or to have a dramaturgy in space guided by the auditory dimension. That means building up contrasts based on the spatial relationships between the objects. It is easy for instance to create an amount of sounding objects which have a similar sound structure or a semantically closed context in comparison to another location. Also, one can put something in an 'acoustic parenthesis' (e.g. if you have a row of sounding objects in which the first and the last one have an acoustic or structural connection while the rest is different).

Figure 1: *toposonie :: spree* (map of the located sounds by Georg Klein)

To illustrate that concept I would like to mention the *Music from the Cloud* project of Akademie der Künste Berlin and Georg Klein's *toposonie :: spree*[4]. The works are based on GPS located sound objects, and the audience requires both a smartphone and headphones. After you arrive in a particular place, a small application has to be started, and one can explore the art work by listening, watching and walking. One of the cloud music pieces is Stefan Rummel's *querfeldein* which consist of three placed sounding objects. Each of these places has its own motion, its own rhythm. The sounds are corresponding with a similarly basic structure, but each with a different motion sequence and varying rates. They absorb the structure of the relating place or provide a contrast to it. Georg Klein's *toposonie :: spree* works in the same way. It provides more then 20 sounding objects located in specific places. The contextualisation of the placed sounds here is stronger than in the piece of Stefan Rummel because you have a political charged localization, as well as a wide range of sounding formats. *toposonie::spree* provides formats from audio drama to modified or generated sounds, and it creates strong tensions or correlations between the visual dimension of the location and the sounding objects (e.g. the sparkle of the water in the sun, the movement of leaves in the wind, and the vitreous fragile dimension of the sound disposed in that location).

To sum up after this short introduction placed sounds can be understood as an exhibition of sound objects or sounding objects that can be explored by the audience itself guided by an artistic dramaturgy. In that case it is more than just listening to sounding objects, it is rather perceiving sounds in a particular visual and physical context, and it is in fact a listening experience shaped by a motion based space exploration.

[4] See http://www.wolkenmusik.de (last accessed 09/14) for the *Music from the Cloud* project; see http://www.toposonie.info (last accessed 09/14) for the *toposonie::spree* project.

The second category can be named *sound platform*. This term means an environment that 'invites' the audience to engage with the existing soundscape. In this case the artist creates an interacting platform in virtual or real space for a specific location and a particular listening situation. Therefore an easy access is needed for the audience to become an active part for the sounding layer. To interact with this layer one can either send sounds by Bluetooth or other wired/-less connections to the processing system, or one can send a sound via internet, telephone call, or media messages to a transmitting system that forwards that media to the processing system. The mechanism or system created by the artist now distributes the auditory input in the frame of the particular installation structure, for instance as stream or loop. As a participant one has the opportunity to explore the environment in a particular point in time. Either you can just listen to that moment in which you are participating or you may have the opportunity to go back to several saved points in the history of that specific work. Sound platforms are located in a particular space as well. Because of the input of unknown auditory material by the participant, it needs a strong conceptual foundation. The artist has to explain the idea clearly to receive material that fits into the conceptual frame, and provides a manifold sound layer for the artistic conception.

Audio Graffiti (2006) by Chia-Ying Lee is a god example of a sound platform. This work translates the visual practice of graffiti into a sonic one where the artist leaves a sounding object too, tagged to that image, and created simultaneously with that image. To specify this work, graffiti artists create an individual sound object by an interface that tracks their spray can movements while they are producing the visual work. The platform finally provides a frame for artists, as well as visitors to tag a sound (in case of the artist their tracked spraying sound or an individual chosen sound) to a particular located graffiti. If someone now is in front of an audio tagged image (s)he will be listen to the linked sounding object.

An other example is the *Tactical Soundgarden Toolkit* (2006) by Mark Shepard. This work provides a virtual augmented urban space where people can ‘plant’ sounds. By walking through the city one can enter a sounding garden, discover the sounds which become louder when you approach. Furthermore one can walk around, and can ‘prune’ the located sounds which means changing parameters of the musical reproduction by an easily utilized interface for a particular listening situation, and for further listeners.

Sound platforms invite the audience to engage with the existing soundscape of a specific location, calling for an auditory input into a particular context. The artist provides a system of interaction, of access, of sound range, of duration, of format, of context and content in a certain level, as well as a particular listening device setup. Finally it is up to the artist or the participant to create a sounding dramaturgy or a particular piece by a fixed selection of sounds or a fixed sequence of sounds. Sound platforms can be linked to a location, or can be allocated in a wide range urban space, but they do not have to be. Sound platforms do not need a real space they can be provided also in a virtual space that can be discovered by the audience, or extended by input of the participants.

The third category – *sonified motion* – is deeply connected with the moving aspect of *Klangkunst*. Artworks of that category make use of the participants’ motion to shape the sounds the audience is listening to. In the worst case one could imagine that you as participant would not experience anything of the sounding dimension if you are not in fact moving. But whereas placed sounds and sound platforms focus basically on the changing locations of the audience, sonified motion is mainly concerned with the trajectory of the moving audience to generate or transform the sounding object.

Sonic City (2003) by Lalya Gaye, Ramia Mazé, Daniel Skogl and Margot Jacobs is a good example of sonified motion[5]. Participants in this case walk around the city with a wearable device that picks up all sorts of body and environmental data by different sensors to create a real-time personal soundscape of electronic music. Body and environment factors like heart rate, compass heading, level of light or traffic will be captured by sensors to turn your individual path into a musical gesture. Musical dimensions like rhythm or harmonic structures, as well as fore- and background disposition of sounds will be directed by the tracked motion of the body itself and the body environment.

Sounding motion contains artworks that provide an interface and fixed or live generated sounds. Furthermore a conceptual and technical structure is required that tracks the participant's motion and use that data to shape the auditory layer or to generate a sounding environment related to the captured motion of the body.

Analytical concerns for mobile *Klangkunst*

If *Klangkunst* goes mobile it opens up a wide range of possible interactions, formats, and artistic strategies. We as musicologists have to challenge these constellations in relation to the conceptual and aesthetical value of the piece. For a critical approach to these works we have to be aware of some aspects I would like to mention in the following paragraphs. Certainly this cannot be understood as a completed systematic differentiation, it is more a collection of aspects we have to consider if we try to analyse such works from a musicological perspective.

First of all we have to put into account that these structures are formal structures of placed sounds and complete pieces faced to individual multisensory perception. Composers in these contexts have to handle musical and compositional challenges, as well as opportunities which lead far beyond common strategies. The artist has to integrate both a multisensory perception situation and a listening experience in situ. This means that the audience, to use a term by Julia Schröder, must deal with "mergence phenomena" of their visual and auditory experience[6].

Bearing this in mind we have to consider three aspects concerning the structural dimension of such artworks: the way sounds interact with the environment, the transitional strategies to connect different sounds, and the conceptual or perceivable relations between sounding objects.

The next to be considered aspect is the provided or used listening device. It is obvious but it marks a fundamental difference for the perception of the piece if one use a binaural or multichannel high definition setting inside or different headphones or speakers outside, like Benoît Maubrey in his installation *Gateway* (Berlin, 2014) or *Temple* (Karlsruhe, 2012). Concerning the listening device we have to ask for the frequency range, as well as the spatiality of the sound. As the listener you are often faced to the overlapping or layering of particular acoustic spaces. A so-called spatial overlapping can occur for example if the participant is listening to a dry and direct sound while (s)he is in a place with a long reverb like a church or shopping mall. In this situation it depends on the used headphone in which way and up to which level these different reverberations mix up in the specific listening experience. The question of auditory attention and auditory space in mobile *Klangkunst* challenges the common argument that headphone listening disconnects you from your

[5] Cf. Lalya Gaye, Ramia Mazé, Lars Erik Holmquist, "Sonic City: The Urban Environment as a Musical Interface", in *Proceedings of the 2003 Conference on New Interfaces for Musical Expression* (NIME-03), Montreal (Canada), 2003, pp. 109-115.

[6] Cf. Julia Schröder, "Klangkunst von Komponisten. Emergente und performative Aspekte in Arbeiten von Tsangaris, di Scipio", Stache und Minard, *Klangkunst*, XI, Ulrich Tadday (ed.), München, edition text + kritik, 2008, p. 114.

physical surrounding, suggesting that one would only pay attention to the sound on the headphones and not to sound of the wider soundscape. Doubtless, that depends on the listening devise, but artists are aware of that too, they suppose for instances a particular kind of headphones or they integrate a mix of placed sound and soundscape in their pieces. This obviously become more important for pieces that make use of speakers in the urban environment, like Kirsten Reeses *Zoobrücke* (Karlsruhe, 2012). As listener you will perceive a mix of placed sounds and local soundscape depending on the volume of the speakers, their position, their sounding direction, and finally your position in relation to the sound source and the environment.

Further concerns should question the notion of space in particular contexts. Contemporary technology offers a lot of possibilities to locate *Klangkunst* in different spaces like the 'real' space, the 'virtual augmented real' space or a complete 'virtual' space. Real spaces means spaces in our common world. These spaces/places are understood as specific locations in our urban or natural surroundings, and in these places are for instance fixed speakers or headphones provided as sound sources. Places have been stumbled across by the artist, and afterwards the artist has to create a grid of correlations between the unique character of the place and to the artistic concept. In comparison to the modulation of the real space by artistically and technological interventions a space can be virtually augmented as well. In that case an artistic concept makes use of mobile devices that provide detached auditory or visual space. This concept offers a virtual extension of the real space in front of the participant. The participant can enter a mediated space that offers complete independent spatial (acoustically and visually) properties in comparison to the particular space where the participant is located in that moment. A virtual space finally is understood as an artificial space that can be explored by navigating virtually through that space. The *Sonor Field* application of the ZKM is such a sounding virtual space that contains several pieces from more than 30 composers, and the listener can navigate through that sound galaxy by moving virtually from piece to piece. Furthermore, one can bring the provided pieces in different arrangements, and can replace them in the virtual space accordingly. A virtual space allows you to arrange the sounds in a three-dimensional allocation with certain directions and distances. In correlation to the movement through the virtual space the participant can experience a spatiality by listening to a simulated three-dimensional sound arrangement that is completely independent from any physical condition, but is based on real world space experience of the human participant.

That drives us to the aspect of motion in the frame of the analysis of mobile *Klangkunst*. As we have seen the audience's motion can become different values in particular artistic contexts. I would like to state some questions sketching the scholarly field of investigations. First of all we have to be aware and to consider that motion or the movement of the body is the basic access to the placed sound. Participants have to cross a distance, a particular space, or a path that leads to the sounding object. But how does that influence the experience of an artwork? If we bear in mind research concerning "walkscapes" or walking as bodily experience[7], what does it mean in the context of mobile *Klangkunst* if the audience has to walk for hours and hours to reach a sound in comparison to sounds which are located just a few meters away? The last constellation offers the opportunity to switch quickly between specific sounding areas, one can realize a rapid mix by yourself. But how does the crossing of a long distance between two sounds infect our perception, in particular the ability of auditive or semantic correlation? In addition to that a fundamental point for critics comes up, how shall we talk about a sounding object or work of *Klangkunst* that is individual generated depending on the motion of each participant, the specific daytime or density of environmental dimensions? The individual behaviour of the participant becomes a 'mixer' or 'composer' who

[7] Cf. Francesco Careri, *Walkscapes walking as an aesthetic practice*, Land & Scape series, 1, Barcelona, Gustavo Gili, 2002.

creates his own piece with an individually determined time frame. That seems to be one of the biggest challenges for scholarly approaches in that context to keep the balance of formal and individual aspects of *Klangkunst* and *Klangkunst* perception.

Referring to the last point we have to consider both the sounding object and the visual/spatial dimension. Particularly in *Klangkunst* one can observe sources that range from electroacoustic music to sounds, texts, audio dramas or field recordings. All these sounds have to be seen in correlation with the visual peculiarity of the perception in a specific location. The mergence or interaction of sounding and visible dimension of *Klangkunst* marks the aesthetical value of such artworks. It rises up the question of intermediary dramaturgies depending on the artistic concept, the path of the audience, the motion of the body, as well as the day and time. The paths of the audience turn into compositions, and motion through the shifting contexts generate a large scale gesture of the artwork.

From that perspective mobile *Klangkunst* is an increasing artistic field that claims artistic and scholarly approaches beyond common formats and approaches. For analytical approaches I suggest some fundamental issues which have to be considered in musicological analysis: a) the modification of space, b) the interaction of media, environment and audience, c) the individual acquirement through perception, and d) the immersive value of a multisensory artwork like *Klangkunst*, in particular for a mobile context.

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