Towards an Aesthetic of Electronic-Music Performance Practice

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ABSTRACT

The performance of electronic-music shows a large number of different practices, some displaying cunning interfaces that minutely track physical motions, while others refuse the display of any performative actions on behalf of the performer. With today's availability of largely inexpensive interfaces, the choice of a particular performance practice does not come as a technological necessity but as an aesthetic decision. This paper proposes a method to aesthetically evaluate the different performance practices that have emerged in the past decades in electronic music. Thereby the goal is to get a better understanding of the differing concepts of performance in electronic music. Since a fixed typology of performance practices proved not to be a suitable approach, a description of the practices by means of a parametric space is proposed. After the introduction of the various parameters, the application of the parametric space is demonstrated with five different examples.

1. INTRODUCTION

This paper attempts to identify performance practices of electronic music that have become established during the last decades. Thereby the objective lies in an aesthetic understanding of performance as an audiovisual means of expression. In response to the recent ubiquity of cross influences between various genres of electronic music – not only in a technological but also in an aesthetic sense –, this discussion will include forms of performance practices from four genres: academic electronic music, *electronica*, improvised electronic music and electronic music with an affinity to media-art. This broader focus is chosen as specific choices in the performance practices can be identified across different genres, despite their sometimes substantial differences in aesthetic and historic references.

In the context of this discussion, performance is confined to concert settings in which the presentation of a musical event takes place while the presence of one performer can be identified. The discussion of performance practices involving more than one performer would be the topic for future investigations.

The discussion will deliberately refrain from reflecting upon technical issues. The focus lies in the investigation how a performer stages a sonic event. Whether actions on behalf of the performer that suggest to have an influence on the sonic result are merely pretended or actually happening is not considered to be of any rele-

vance.[1] This is contrary to some theories on performance that argue that performativity can only emerge as a specific quality when the actions of the performer are authentic.[2] These same theories also almost categorically dismiss technology as means to convey qualities such as presence and performativity. Even though these arguments are very valid in many contexts, they do not prove to be very fruitful for the discussion of a performance practice that is entirely based on technology, such as electronic music.

Within the computer music community the discussion of performance is predominantly technologically oriented. By placing the focus on the relation between the performer and the sonic event, and the overall staging of a performance, the goal of this paper is to stimulate a discussion and reflection of established modes of performance and to get a better understanding of its possibilities as a means of communication and expression.

2. DETERMINING THE FRAME OF REFERENCE

Various attempts to develop a typology with fixed categories of performance practices – such as i.e. "embodiment", "interaction design" or "acousmatics" – have yielded more problems than insights. Either the fixed categories rendered significant details of a performance practice invisible, by subsuming differing practices under the same label; or practices spread across different categories, which again made a differentiated understanding and comparison impossible. This paper will therefore propose a description of performance aesthetics that are expressed graphically in a parametric space. As a frame of reference it is thereby useful to identify two oppositional tendencies of performance practices, which I refer to as the *centripetal-* and the *centrifugal-*model. Within the parametric space that I am going to propose, they are functioning as gravitational forces. In a next step I will determine a number of parameters for each of those tendencies.

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[1] In other words, from the perspective of performance practice it is not considered to be relevant whether i.e. a laptop performer is actually performing a work during a concert or doing his/her tax return – see Stuart, Caleb: "The object of Performance: Aural Performativity in Contemporary Laptop Music", Melbourne DAC, 2003

[2] Fischer-Lichte, Erika: *The Transformative Power of Performance: A New Aesthetic*, New York: Routledge, 2004

The *centripetal*-model is characterized by:
- a *centripetal* disposition, meaning that the performer is at the center of attention;
- visibility of performer;
- high transparency of bodily action and sonic reactions;
- events that can be related to the physical actions of the performer;
- sound sources in the direction of the performer;
- correspondence of body and sound;

The *centrifugal*-model is characterized by:
- a *centrifugal* disposition; the performer functions as a controlling rather than enacting entity;
- performer is in a rather hidden position;
- little or no correspondence between actions and sonic results;
- there is no causal connections between the performer's actions and the occurring events;
- sound sources are decentralized and/or spread out;
- independence between the performer's body and sound;

Historic examples of the *centripetal*-model are practically all traditional instruments. With them, there is always a direct connection between the performer's actions and the sonic results. Also the sound source is at the position of the performer. In this model, the instrument tends to be *anthropomorphic* in the sense that it functions as a surrogate of human sounds. The only traditional instrument which has *centrifugal* characteristics is the church organ. Here the performer is often invisible, and his or her actions cannot be compared to the sonic result. Due to the reverberant acoustics of most churches, the sound source is also dispersed throughout the space. It is interesting to note that the church organ's function has always been to represent divine power, hence it makes sense that it does not carry *anthropomorphic* characteristics.

A more recent historic example of a centrifugal-model is acousmatic music. Even though the early generation of *musique concrète* composers deliberately rejected all traditional models of performance, I contend that concerts of acousmatic music constitute a performer-based performance practice. With this practice the performer is usually not in an exposed position (behind the mixing board) and there is little – if any – correspondence between the performer's actions and the sonic results. Also the *acousmonium* – the instrument *par* excellence for acousmatic music – disperses the sound throughout the space. The influence of the performer is characterized by exercising control over the events but he or she does not act as an agent that produces the sounds in the moment of the performance.

As a historic note I would like to mention that the *centripetal* and the *centrifugal*-model can be related to the two different Greek myths of the origin of music. According to Pindar music was created by Athena when she invented the aulos. When Perseus decapitated Medusa her sister Euryale cried out in horror. Athena was so moved

by her vocal utterance that she invented the aulos in order to imitate that sound. According to this myth, music was invented in order to imitate the human voice, therefore it is *anthropomorphic*.[3]

According to Homer music was invented by Hermes. The myth tells that while Hermes was taking a rest during one of his voyages he observed a turtle passing by. It struck him that the tortoiseshell could function perfectly as a resonating body. He then invented the lyra which he gave to Apollo. In this myth there is no direct connection between a human expression and music, rather the tortoiseshell's aptitude as a resonating chamber refers to sound as it manifest itself in nature.

It is interesting that acousmatic music refers to the pythagorean tradition[4] which understands music as part of a cosmic order and therefore not as an expression of human affect.

3. SELECTION OF PARAMETERS

3.1 The First Group

The first group of parameters is derived from characteristics of the *centripetal* model:
- **body** – is the performer's body clearly exposed and visible?
- ***presence*** – is the performer's presence prominent as part of the performance?
- **embodiment** – is there a strong correlation between the performer's bodily actions and the sonic result?
- **transparency** – is there a strong readability between the performer's actions and the sonic result?

The first parameter is self-explanatory.

3.1.1 Presence

The second parameter deserves more explanation as there are various sorts of *presence* that can be identified. In general, *presence* refers to a perception of the performer that is perceived as intense and auratic. As this quality is rather hard to grasp, I would like to differentiate between so-called *authoritarian* and *personal* presence.

The former refers to the appearance of the performer as the author of the artistic event, hence the artistic idea is not only present as sound organization but is personified by a human agent acting as author. This implies that a congruence is assumed between the actions and the artistic intentions. The performer enacts an artistic idea.

Personal presence results in physical and/or psychological identification of audience members with the performer. Physically this can take place on a neu-

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[3] Wisskirchen, Hubert: *Musik und Sprache*, PDF accessed on March 29, 2014, p.23 [http://www.wisskirchen-online.de/downloads/arbeitsbuch3.pdf]

[4] Schaeffer, Pierre: *Traité des Objets musicaux*, Paris: Seuil, 1966, page 91ff

ronal level. Part of the human nervous system consists of so-called mirror neurons that show the same activity when a bodily motion is performed as when the same motion it is observed when being performed by another person.[5] This means that when an audience member observes a person on stage, he or she physically co-experiences the actions on stage. Obviously, this is more relevant when the performers are making use of large gestures.

On a psychological level identifications of the audience with the performer can happen in a similar way as they are known to take place with motion pictures.[6] Commonly this is referred to as the *Persona.* This process of identification cannot be generally applied to all performance situations, as it depends on whether the performer conforms to a set of cultural and discourse-dependent values.[7] However, it can be assumed that processes of identification are also taking place in musical performance situations. A person in the audience can react sympathetically to a performer or the contrary, which results in a different effect of presence.

3.1.2 Embodiment

In general terms *embodiment* refers to the application of *embodied* as opposed to cognitive knowledge. When playing traditional instruments *embodied* knowledge plays a significant role as it would be impossible to apply the necessary fine motor skills if all motions were consciously reflected.[8] In the context of the performance practice of electronic music *embodiment* takes place when there is a very intimate connection between the physical actions of the performer and the reaction of the technology.

3.1.3 Transparency

This parameter refers to whether the chosen mode of performance actively tries to create transparency as to how actions relate to results. If a strong *embodiment* is present, this will usually also yield strong transparency. However, as it will become evident with the examples further below, transparency can exist independently of *embodiment*, therefore it is useful to keep those parameters separated.

3.2 The Second Group

The second group of parameters is derived from characteristics of the *centrifugal* model:

- **space (centered/expanded)** – is the sound source located in proximity of the performer (centered) or is it spread out throughout the performance space (expanded)?
- **mediatization** – are there sounds that occur independently of any actions on behalf of the performer?
- **camouflage** – does the chosen performance mode consciously hide the performer's actions from the view of the audience?

3.2.1 Space (centered/expanded)

As outlined above it is characteristic of the *anthropomorphic centripetal*-model that the sound source is in proximity of the performer. If the sound source is dissociated from the performer it conforms to the centrifugal-model. As it supports the performers *presence* if the sound is centered at his/her location, this parameter is positioned at the opposite position of the parameter *presence.*

3.2.2 Mediatized

If there are sounds that clearly do not show any relation to the actions of a performer, and they occur as if they could have been preproduced, this is referred to as *mediatized.* This indicates that the sound could have been produced at a different time and that the sound was played back during the performance. This parameter is positioned at the opposite pole of the parameter *Embodiment.* While *Embodiment* indicates the tight connection between the performer's body and the sounds, *mediatized* events are completely independent of it.[9]

3.2.3 Camouflage

Camouflage is the opposite of the parameter *Transparency.* Why introduce it as a separate parameter? Several performance practices can be found that actively and consciously try to hide the actions from the audience or to dissociate the actions from the results, as for example performances by Toshimaru Takamura, who deliberately sets up his equipment in such a way that his hands are not visible to the audience. Therefore it seemed insufficient to describe this as a mere absence of transparency. This parameter was introduced in order to indicate that camouflaging decisions were explicitly taken.

3.3 Visual Extentions

This last parameter refers to all sorts of technological visual extensions, like video projections or sound objects. They can take a centripetal or centrifugal function. Therefore this parameter has been positioned between the aforementioned two groups, opposite to the parameter *body.*

3.4 Arrangement of the Parametric Space

The eight parameters are arranged in the parametric space as displayed in *Figure 1.*

[5] Iacoboni, Marco; Woods, Roger P.; Brass, Marcel; Bekkering, Harold; Mazziotta, John C.; Rizzolatti, Giacomo (1999). "Cortical Mechanisms of Human Imitation", *Science* 286 (5449), page 226–252

[6] Shail, Robert: *Studying Film Stardom: Methods and Debates* http://www.academia.edu/1019677/Studying_Film_Stardom_M ethods_and_Debates [06/26/2013]

[7] Lüneburg, Barbara: *A holistic View of the Creative Potential of Performance Practice in contemporary Music*, London: Brunel University, Dissertation, 2013, page 45-72

[8] Kim, Jin Hyun: "*Emboyment* musikalischer Praxis und Medialität des Musikinstruments" in: Harenberg, Michael et al.: *Klang (ohne) Körper*, Bielefeld: Transcript, 2010, page 105-118

[9] see Croft, John: "Thesis on Liveness" in: *Organised Sound,* Cambridge: Cambridge University Press, 12(I), 2007 p 59-66, Crofts understanding of liveness can be understood as a description of the axis comprising *mediatization* and *embodiment.*
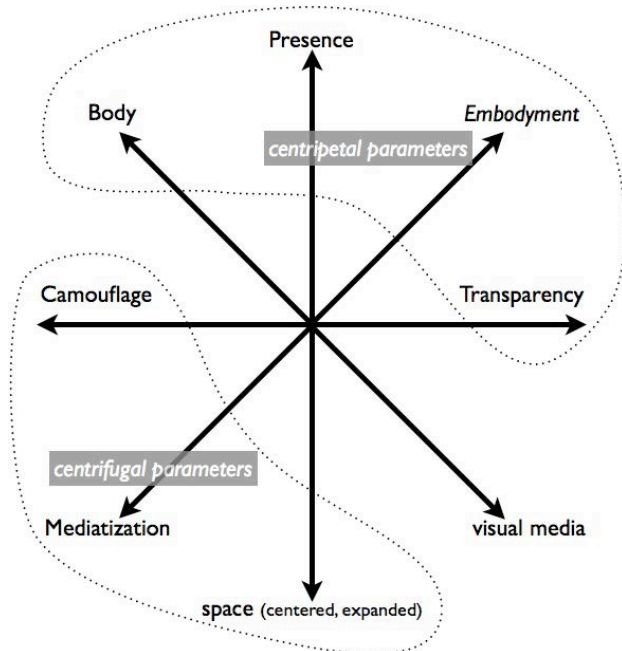
Figure. 1 distribution of parameters in space

4. EXAMPLES

I would like to demonstrate the application of the parametric space by means of a number of differing examples. When possible, I included links to Youtube videos so that the discussed examples can be easily accessed.

4.1 Acousmatic Performance Practice

This example refers to standard acousmatic performances. Since my contention that acousmatic music is a performance practice has been questioned, due to the historic rejection of any performative displays by acousmatic composers, I would like to emphasize that especially the use of *acousmoniums* has been established as a performative art in itself. This is evident seen that in Belgium or Austria there are even courses and competitions for the performance of works on acousmoniums.[10]

As an example for an acousmatic performance practice, I would like to refer to a short documentation of Thomas Gorbach's *Trilogy* (1999) which is performed by the composer: `http://www.youtube.com/watch?v=g4esZqEnyas` (accessed on March 29, 2014).

The clip shows that the performance space is darkened except for the area around the mixing-board, which is also the position of the performer. Even though he is in the back of some of the audience members, he is physically visible and present. The music is dispersed throughout the performance space. The actions of the performer can be related to spatial movements but not to the creation of the sounds themselves. In that sense the actions are not particularly transparent. Even though the

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[10] See for Belgium: Concours de Spatialisation "Espace du Son" http://www.musiques-recherches.be [31.03.2014]; for Austria: Electroacoustic Music Festival Vienna http://www.theelectroacousticproject.at/index.php?gr_id=10&k_id=106 [31.03.2014];

place where the performer is positioned is the brightest in the space, the setup suggest a concealment of actions. I propose the distribution of parameters as displayed in *Figure 2* to describe this situation.
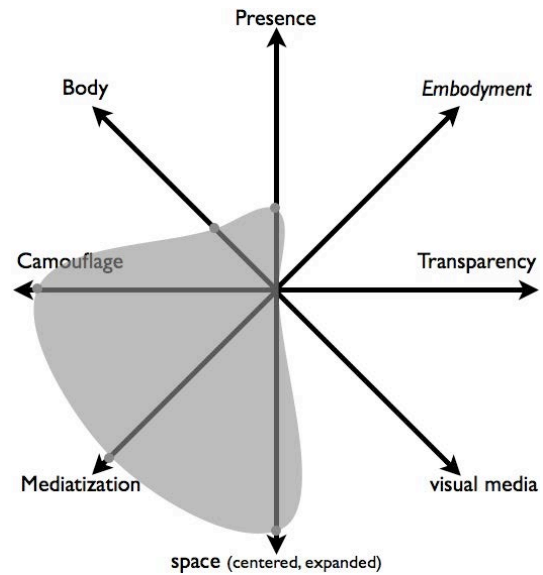

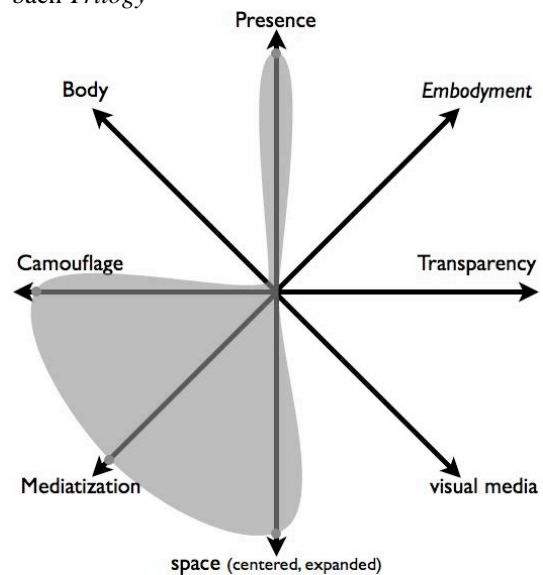**Figure. 2** parametrized space for Thomas Gorbach *Trilogy*

Figure. 3 parametrized space for the performances of Francisco Lopez

4.2 Francisco Lopez

I would like to include a second example in the tradition of acousmatic music, namely of the performance practice of Francisco Lopez. As it is well known and also documented in the following clip `http://www.youtube.com/watch?v=pWvLvN5T-lI`, (accessed on March 29, 2014) Lopez encourages the audience to wear blindfolds during his performances. At the beginning of the concert event he usually introduces himself to the audience, explains what he is about to do and why he finds it appropriate for his music to be listened to without any visual distraction. By presenting himself as the author and the performer, and explaining the necessity for his particular performance setup, he gains a strong presence.

I consider his introduction to the audience the actual beginning of the performance although no sound of the program was yet played. He nevertheless creates a specific aura that has a strong influence on how his music might be perceived. For the rest of the performance he is completely invisible, even for the audience members who do not choose to put on blindfolds. This is because he normally sets up the seating in a circular manner while positioning himself in the center, in the back of all audience members. I propose the distribution of parameters for his performance practice as displayed in *Figure 3*. It shows strong resemblance with the acousmatic model, but reflects the special presence he set up at the beginning of the event.

4.3 Laetitia Sonami

Sonami's performances are in many ways the opposite of the acousmatic performance practice. As an example I am referring to this clip from one of her performances: `http://www.youtube.com/watch?v=ngygk20 M1pI` (accessed on March 29, 2014). The event is very focussed on her physical appearance as a performer. Her interface – the so-called Lady's Glove – is highly *embodied*, the gestures are readable and can easily be related to changes in the sounds. I propose the distribution of parameters as displayed in *Figure 4* to describe this performance practice.
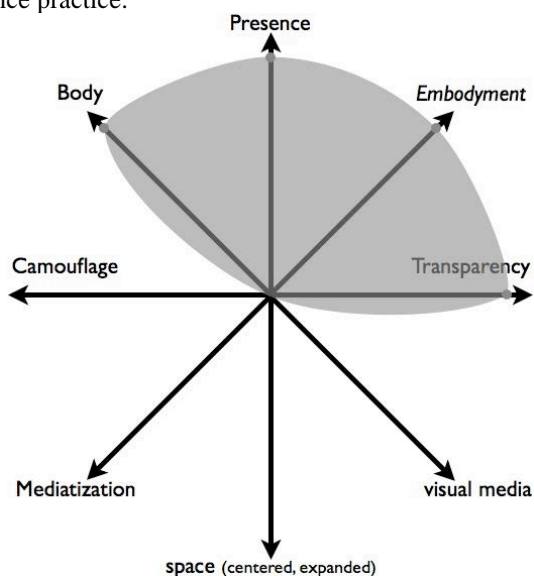

Figure. 4 parametrized space for the performances of Laetitia Sonami

4.4 Thor Magnusson

The next example is from a live-coding performance of Thor Magnusson: `http://www.youtube.com/ watch?v=04TcXlC9IBw` (accessed on March 29, 2014). In live-coding computer musicians generally refrain from using any additional interfaces apart from an ASCII keyboard and a computer mouse. The music is created by typing code and compiling it in real time. [11] Typically the computer monitor is projected on a screen

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[11] iXi is a language specially developed for live coding that is used by Magnusson http://www.ixi-audio.net/ [31.03.2014]

so that the audience can follow the process of typing commands and evaluating them. Alike to many other laptop performances, this type of presentation is sometimes criticized as it emphasizes the technological aspect of computer music that may not be accessible to laymen. However, the conscious rejection of additional interfaces tries to strip the performance of all unnecessary accessories and presents the creation of music in its bare form: in this case the typing of code.

By projecting the code on a screen, the process is very transparent. The performer is clearly present but not in any *embodied* relationship to the interface or the sounds. Even though the display of code closely correlates to the sonic events, the compiled code blocks function as on/off switches, rather than suggesting that the sound is created and shaped in that very moment. Therefore I ascribe a strong mediatized quality to this aspect of the performance practice. I propose the distribution of parameters as displayed in *Figure 5*.
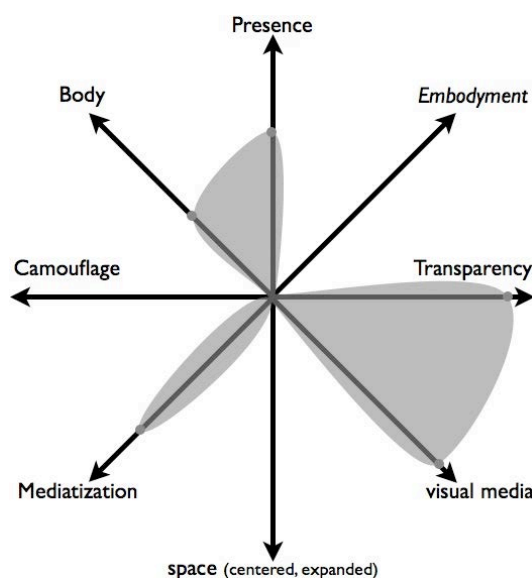

Figure. 5 parametrized space for the Live-Coding performances of Thor Magnusson

4.5 Alvin Lucier

As a last example I would like to pick a historic work that in my view still manifest one of the most radical redefinitions of performance practice: Alvin Lucier's *Music for a Solo-Performer* from 1965. I am referring to the following performance by Ninoska Berdichevsky: `http://www.youtube.com/watch?v=zlFMAxX U03U` (accessed on March 28, 2014).

In this piece brain-waves are measured by means of EEG electrodes that are attached to the performer's scalp. For the piece to become audible, so-called alpha waves have to be detected that have a frequency between 8 and 12 Hz. The EEG responds by replicating the brain activity with voltage changes that are then applied to transducers, small loudspeakers or other vibrating devices that incite several percussion instruments distributed throughout the space. Brain waves of such a slow frequency only occur when the person is in a very relaxed state, almost in a state of meditation. Therefore this piece

presents an example where a constellation is constructed between performer, interface and sound generation that inverts the behavior of traditional instruments. For the work to resound, utmost passivity is required on behalf of the performer. As performance situations are often exciting for performers, the production of alpha waves can be seen as a 'virtuosity in passivity', which stands in contrast to traditional sound production where an increase of sound production is always allied to a reciprocal increase of physical involvement.

In this case I found it difficult to decide whether to describe the interface as fully embodied or not at all. From a technological point of view it is clearly a fully embodied interface. On the other hand it is impossible to recognize any correlations between the bodily actions and the sonic result. Therefore I consider both descriptions equally valid, even though I personally prioritize the former.
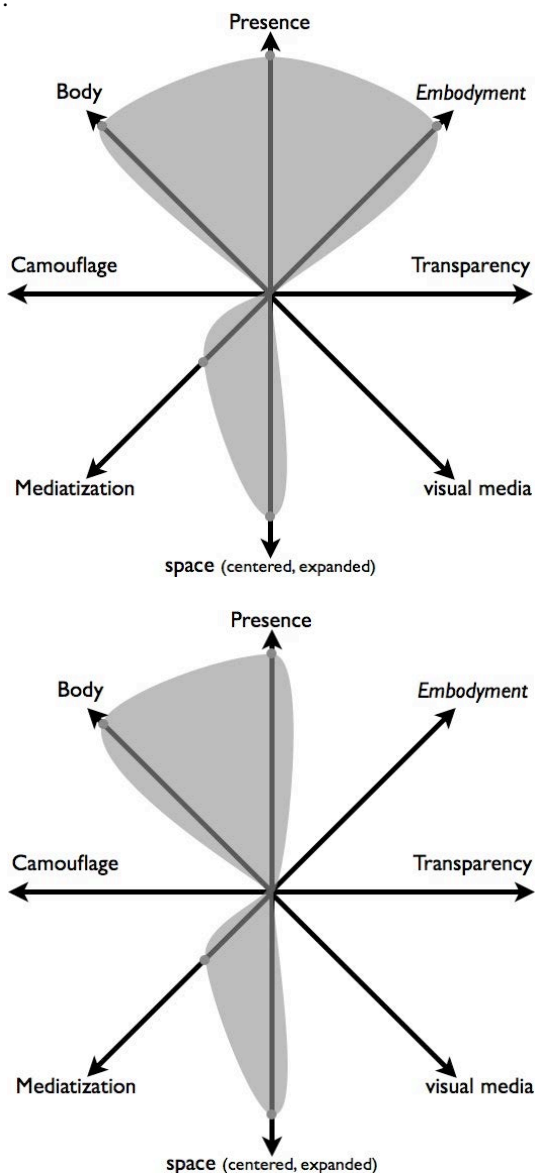

Figure. 6 and 7 parametrized spaces for the performances of *Music for a Solo-Performer* by Alvin Lucier

5. EVALUATION

The proposed parametric spaces give a good graphic impression of the relevant aspects of a given performance practice. Also when comparing different graphic distributions of parameters it is immediately evident which performances are based on similar aesthetics. However, as it became evident with the Lucier example, some parameters might be ambiguous which was in this case hard to resolve. Also – as with all types of analysis – the decision which parameters to give what amount of weight asks for discussions and can be interpreted differently. However, every analysis is a personal interpretation. Therefore it would be inappropriate to expect identical results from a variety of users that are using the same method.

Visual media are often an important element in performances. With the given distribution of parameters, the function of the visual media component is not clearly described. In the case of Magnusson, the visual element enforces the transparency of the performance by displaying the code that is typed in and compiled by the performer. In other situations the video can take on a completely different function, as for example in performances by Laetitia Sonami where she uses live manipulated projections. In this instance, the function of the visual media supports the *embodiment* aspect of the performance.

For a precise analysis of the visual aspect a separate parametric space would have to be defined in order to adequately show its function. For an analysis where the precise function of the visual media is not the focus of attention, the model proposed above would still suffice.

6. SUMMARY

In response to a large number of different performance practices that have occurred in electronic music, this paper proposes a parametric space as a means to approach an analysis of performance practices with the goal of getting a better understanding of the underlying aesthetic preferences. At first two major tendencies have been identified, the *centripetal*- and the *centrifugal*-models. On their basis seven parameters have been derived which have then been complemented by an eight one for the indication of visual media.

The distributions of parameters for the discussed examples show suggestively which aspects of performance are of relevance in a given case. Similar shapes make evident which performance practices pursue a similar aesthetic. The parametric space seems to be a good alternative to fixed categories of performance practices, as the latter render many aspects invisible while the former is capable of displaying subtle details, while also showing group characteristics when several examples are compared.

How performance situations with more than one performer can be grasped is still open for investigation. As mentioned above, an indication of the function of visual media asks for further elaboration, if it plays a prominent role in the work at hand.

7. REFERENCES

[1] Fischer-Lichte, Erika: *The Transformative Power of Performance: A New Aesthetic*, New York: Routledge, 2004

[2] Wisskirchen, Hubert: *Musik und Sprache*, PDF accessed on March 29, 2014, p.23 [http://www.wisskirchen-online.de/downloads/arbeitsbuch3.pdf]

[3] Schaeffer, Pierre: *Traité des Objets musicaux*, Paris: Seuil, 1966

[4] Iacoboni, Marco; Woods, Roger P.; Brass, Marcel; Bekkering, Harold; Mazziotta, John C.; Rizzolatti, Giacomo (1999). "Cortical Mechanisms of Human Imitation", *Science* 286 (5449)

[5] Shail, Robert: *Studying Film Stardom: Methods and Debates* http://www.academia.edu/1019677/Studying_Film_Stardom_Methods_and_Debates [06/26/2013]

[6] Lüneburg, Barbara: *A holistic View of the Creative Potential of Performance Practice in contemporary Music*, London: Brunel University, Dissertation, 2013

[7] Kim, Jin Hyun: "*Emboyment* musikalischer Praxis und Medialität des Musikinstruments" in: Harenberg, Michael et al.: *Klang (ohne) Körper*, Bielefeld: Transcript, 2010

[8] Croft, John: "Theses on Liveness" in: *Organised Sound,* Cambridge: Cambridge University Press, 12(I), 2007