# *'Intercourse with Ghosts'*
## *'Haunted Territories' revisited*

*Touch and time, the two nonreproducible things
we can share, are our only guarantees of sincerity.*[1]
John Durham Peters

*So wie früher die Erfindung der Elektrizität die Bühnentechnik revolutionierte,
so müssen auch heute alle technologischen Neuerungen,
vor allem auf dem Gebiet der Elektronik, einbezogen werden.*[2]
Mauricio Kagel

## Prologue:

The emerging field of artistic research still seems to be entangled in what we could call the objective/subjective dilemma.[3] Here the Barthesian approach to research of 'what is missing'[4] still provides a productive and apt guideline to frame reference points and, by doing so, to map the field of exploration. This essay reconstructs a performance and unveils its creative processes with a focus on the interweaving of vocal and bodily practices as well as sound art. The reflection is based on the preparations and the premiere performance of *Haunted Territories*, an extended vocal and bodily art performance for two soloists, a female dancer and a male vocal performer who combines the human voice with gesture-controlled live electronics, called the *strophonion*.[5] The underlying documentary video displays the premiere which took place on the 4th February 2018 in Studio A of Radialsystem V Berlin.[6]

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[1] Peters, *Speaking into the Air* (1999), p. 270.

[2] Kagel, 'Neuer Raum – Neue Musik (1966/2010), p. 149. 'Similarly to previous times when the invention of electricity revolutionised the stage technology, today as well all technological innovations, especially in the field of electronics, have to be incorporated.' (My translation).

[3] Mersch, *Epistemologies of Aesthetics* (2015), pp. 24 – 44, p. 26.

[4] Barthes, 'Writers, Intellectuals, Teachers' (1977), p. 197.

[5] For further insights on the strophonion see Nowitz, 'Designing and Playing the Strophonion: Extending vocal art performance using a custom digital musical instrument' (2016), http://econtact.ca/18_3/nowitz_strophonion.html [last accessed 7 Jan. 2019]. Moreover, for generic information on the history of voice and live electronics see Klein, 'Voice and Live Electronics: An Historical Perspective' (2008), http://econtact.ca/10_4/klein_livevoice.html [last accessed 6 April 2018].

[6] See Alex Nowitz, *Haunted Territories* (2018), private Vimeo video "HAUNTED TERRITORIES by Alex Nowitz and Florencia Lamarca" (40:19), posted by Alex Nowitz on 13 March 2018, https://vimeo.com/259827135 [last accessed 3 April 2018]. To access use password *PhD*.

## Introduction to *Haunted Territories*

*Haunted Territories* is inspired by a letter written at the end of March 1922 by Franz Kafka to Milena Jesenská. He writes:

> The easy possibility of writing letters [...] must have brought wrack and ruin to the souls of the world. [...] Writing letters is actually an intercourse with ghosts and by no means just with the ghost of the addressee but also with one's own ghost [...].[7]

Following Kafka, *Haunted Territories* circles around the notion that modern communication yields ghost phenomena, and the more technological means are deployed, the more this is the case. It addresses the idea that emerging fields become 'haunted territories' along the way of their exploration. We have to overcome our fear and insecurity whenever we enter unknown and unexplored terrain. We need to endure crises and to develop fearlessness, strength and persistence, stamina and an incessant joy for exploration. The performance's title points at those kinds of intersections of performance practices that are foreign or at least unfamiliar and evolving precisely because of the interweaving.

*Haunted Territories*, in its second part a solo, presents an extended vocal art performance by combining the human voice with playing a live electronic instrument, the strophonion, in a setting of four loudspeakers allowing the performer to disseminate the sound in quadrophonic space, to assign it to one of the four loudspeakers and thus direct the sound in space. This is to be understood in its literal meaning that the player of the strophonion determines the source and thus the direction where the sound comes from. By applying sensor technology and corresponding arm movements the musician can gradually place and direct the sound, according to the arm movements, from one to the other speaker, for example.

As 'new artistic forms demand new working processes'[8] the performance is the result of two long-term collaborations with dancer-choreographer Florencia Lamarca and with software programmer of digital instruments, Sukandar Kartadinata. The ambiguous relation between performer and applied technology is addressed by shedding light on the challenges the performer confronts, and revealing experiences and strategies for how to overcome these.

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[7] Kafka, *Letters to Milena* , transl. by Philip Boehm (1990), p. 223. The original version reads as follows: 'Die leichte Möglichkeit des Briefeschreibens muß – bloß teoretisch angesehn – eine schreckliche Zerrüttung der Seelen in die Welt gebracht haben. Es ist ja ein Verkehr mit Gespenstern und zwar nicht nur mit dem Gespenst des Adressaten, sondern auch mit dem eigenen Gespenst, [...]', in Kafka, *Briefe an Milena* (2015), p. 302.

[8] Till, *'Hearing Voices* – Transcriptions of the Phonogram of a Schizophrenic: music-theatre for performer and audio-visual media' (2012), p. 191.

The goal of *Haunted Territories* was to map unexplored performance territories out of three practices, i.e. the vocal, sonic and bodily. The essay aims at elucidating the offsetting of performance-typical practice demarcations and surpassing conventional approaches in order to create open spaces that allow novel kind of experiences for both performer(s) and audience.

## Entitling the title

The title *Haunted Territories* alludes to several meanings, is equivocal, not to say *multivocal*. Regarding its two components, the geopolitical notion of 'territory' implies that an area is to be conquered so as to become 'civilised' in one way or another. On the other hand, the territories in question are 'haunted' possessing a ghostly quality or the power to even invoke spectral apparitions. Beyond these rather generic definitions, it is my intention, to refer to those kind of areas that emerge when exploring the interweaving and intersecting moments of vocal, sonic and bodily practices. Moreover, the title points to the ambiguous relationship between performer and technology, the *ghost in the machine* respectively. The issues as described later in this essay concern wireless data communication in particular, and tech control in general. This aspect may also lead into another, but similar direction, the Freudian notion of the *uncanny* (*unheimlich*).[9] For the performer the practice of combining vocal with sound art and bodily practices has become familiar (*vertraut, heimlich*), whereas for the audience the practice may appear mysterious, almost like a secret (*Geheimnis*), unfamiliar and therefore—maybe—uncanny. The performance piece as a whole is embedded in a ghostly sphere introduced through a quote by Kafka complaining about the modern man who tries everything to bypass distances through various technological inventions, such as motor cars, airplanes and the wireless, all of which to keep up with face-to-face interaction. But at the same time, by doing so, ghosts are called in. Although written in 1922, contemporary communication technologies, such as internet, email and social media, suggest that Kafka's analysis hasn't lost its relevance.[10]

> The easy possibility of writing letters—from a purely theoretical point of view—must have brought wrack and ruin to the souls of the world. Writing letters is actually an intercourse with ghosts and by no means just with the ghost of the addressee but also with one's own ghost, which secretly evolves inside the letter one is writing or even in a whole series of letters, where one letter corroborates another and can refer to it as witness. How did people ever get the idea they could communicate with one another by letter! One can think about someone far away and one can hold on to someone nearby; everything else is beyond human power. Writing letters, on the other hand, means exposing oneself to the ghosts, who are greedily waiting precisely for that. Written kisses never arrive at their destination; the ghosts drink them up along

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[9] Freud, *The Uncanny* (2003).

[10] Two further aspects that the title might allude to is the association with war zones, as there are countless conflicts all over the world. The audience might also think of ecological disaster zones such as Chernobyl or Fukushima.

the way. It is this ample nourishment which enables them to multiply so enormously. People sense this and struggle against it; in order to eliminate as much of the ghosts' power as possible and to attain a natural intercourse, a tranquility of soul, they have invented trains, cars, aeroplanes—but nothing helps anymore: These are evidently inventions devised at the moment of crashing. The opposing side is so much calmer and stronger; after the postal system, the ghosts invented the telegraph, the telephone, the wireless. They will not starve, but we will perish.[11]

## Indexing the form

*Haunted Territories* is a work-in-progress and thus, at the current stage, portrays an intermediate state. It presents itself in two parts, a duet of two soloists and a solo performance, each of which takes about twenty minutes. In both cases, the structure is based on what I like to call a *framed improvisation composed of a number of sequences with both pre-composed as well as pre-recorded and improvised elements* that, within a setting of various stipulated beginnings and endings, are employed in a fairly free manner. All parts have been arranged by the performers during a four-day rehearsal period.

The performance starts off in the dark. Gradually a solo by the female dancer unfolds writing letters into the air by slowly moving across the stage. Once passing by a dim light beam, a mouth slowly comes into focus. The male performer is in fact covered with a black cloth whose shape may remind the audience of a burqa.[12] However, in this case, it's the mouth that is revealed and its sound potential that is explored.[13] It's then again the dancer who, in the meantime disappeared, returns in order to present a solo while a German quote from a letter by Kafka gets recited by an acousmatic voice whose origin cannot be detected by the audience, only assumed. The dancer triggers the playback which is actually the voice of the male performer a three half-tone steps transposed downward by slowing down the speed of its recording. This creates what is called a Brechtian *distancing effect* (*Verfremdungseffekt*) which in this case is the aim to achieve an unhurried atmosphere of contemplation to represent the times when Kafka lived. Over the period of the acousmatic presentation of the text the dancer presents a solo with the same movement material that the male performer applies later

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[11] Kafka, *Letters to Milena* (1990), p. 223.

[12] A burqa is usually worn by women from cultures of Islamic tradition to cover the body except face or eyes or, in some traditions, to cover the full body.

[13] The 'mouth' sequence can be considered as the resumption of a composition that, created formerly, also emphasises on the mouth only. It's called *Mundfundstücke* whose idea is to focus on the exploration of consonants as given by German and English alphabet and of its derivations. The piece is inspired by *Not I*, a short dramatic monologue for one actor written by Samuel Beckett in 1972. The 'mouth' sequence now takes the *Mundfundstücke* a step further by elaborating on the virtuosic aspect of given consonantal material, on the one hand, and vocal sounds, on the other, standing on their own without referring to a semantic and linguistic convention of any alphabet. Vocal sounds as applied in the 'mouth' sequence are variations of the jaw tremolo or those of the Mongolian throat singing technique *Kargyraa* with and without the whistling voice. See Alex Nowitz, *Mundfundstücke: Das Konsonantenvokabular* [mouth found objects: the vocabulary of consonants] (2017), https://vimeo.com/242024425 [last accessed on 7 January 2019].

on to play the strophonion. Thus, asymmetrical and therefore contrasting arm movements provide the material for the dancer. Meanwhile the vocal performer takes off the costume and puts on the strophonion. Subsequently, a duet sequence emerges when female and male performer interact either in terms of movements or in regards to electronic sounds. The invisible connection becomes, to a certain degree, visible. Elements of mirroring and opposing each other dominate the scene until the dancer takes a seat on the stool in the back of the stage. A solo for the male performer begins to unfold by displaying an interplay of sounds in the countertenor register with the strophonion, which eventually leads to a short two-line aria on Kafka's text: 'Written kisses never arrive at their destination; the ghosts will drink them up along the way.'[14] After exchanging their positions, the dancer then, amplified by a hand-held microphone on a stand, recites the same quote by Kafka as already heard before, this time in Spanish which is the dancer's mother tongue. The spoken text fragments serve as material that the musician samples and works with playing it back in different variations, one of which is accumulating phonemes and forming text clusters or transposing and manipulating the vocal material by applying different velocities and, in so doing, 'scratching it'.

After this sequence, at the time mark of ca. 19:50, the solo performance of the vocalist playing gesture-controlled live electronics starts and lasts about twenty minutes. It is stopped by the dancer who, like a *deus ex machina*, comes back onstage and pulls all plugs turning off light and sound. What remains at the very end, is Kafka's quote in the dark saying that ghosts 'will not starve, but we will perish'.[15]

## Voice, body, sound, technology, space

The vocal performer combines the human voice with playing the gesture-controlled live electronics, the strophonion, which is disseminated in a quadrophonic setting of four loudspeakers. The strophonion is a wireless, digital musical instrument (DMI) that has been developed and built at STEIM in Amsterdam since 2010.[16] In order to play the instrument and record the sounds of the wide-ranging human voice in real time, the performer moves fingers, hands, arms as well as the full body. By doing so, s/he is given the possibility to steer the vocal reproductions and its sonic derivations through the space of the venue. Combining and interweaving voice, movement, sound creation and sound control is a performance practice that I propose to call *voice-induced sound dance* (*stimminduzierter Klangtanz*) or *vocal sound dance*. Expanding the range of the human voice through the application of extended vocal techniques, on the one hand, and the use of manipulated technological counterparts of the voice, on the other, not only provides the basis for the creation of idiosyncratic sounds and

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[14] Kafka, *Letters to Milena* (1990), p. 223.

[15] Ibid., p. 223.

[16] For an in-depth study on the development see Nowitz, 'The Strophonion — Instrument Development (2010–2011)', http://steim.org/projectblog/2012/01/02/alex-nowitz-the-Strophonion-instrument-development-2010-2011 [last accessed 7 Jan. 2019].

movements but also, more importantly, yields unfamiliar, 'haunted territories' equally involving the spheres of voice, body, sound, technology and space.

The sound art techniques as applied during the performance act are characterised by swiftness, immediacy and simultaneous production of vocal sounds, real-time sampling including a variety of playing back and re-sampling operations. The interdependency and the intertwining of all single practices entail that the material is subject to constant change, is never the same, and therefore creates an aura of freshness and continuous stimulation which, to some listeners, may carry the connotation of æsthetics similar to improvised music and/or free jazz. The significance of the performance practice of playing the strophonion in combination with the live voice is twofold. On the one hand, the performer creates and moves sounds in real time through spatial sound distribution while, on the other hand, being constantly moved by the sound that is created by playing the instrument. Even though it's a solo, the practice is multifarious and reveals various dialogical principles unfolded by the interdependent processes and interactions of voice, body, space and technology.

The main challenge along the way of playing a gesture-controlled, wireless instrument is the question how to mediate, in a performative and elegant way, between the technologically driven practice generating abstract soundscapes[17] in a quadrophonic space and the mere presence of the multifaceted nature of the live voice creating concrete, emotion-bound material.

R. Murray Schafer has coined the term 'schizophonia' which is 'the splitting of an original sound and its electroacoustic reproduction'.[18] The performance practice as presented in the solo parts of the vocalist in *Haunted Territories* is subject to *an artistic and constant negotiation*, sometimes becoming a struggle between the appearance of the human live voice and the apparition-like appearance of its processed replica. Especially in the case when the original comes close in time to its reproduction, a novel kind of a hybrid voice emerges. Also, the hegemonic contention on the audible vs. the visual is tackled. One way to overcome schizophonia, on the one hand, and to fill the gap that often emerges as a result of the quarrel between the realms of the audible and visible, on the other, is to integrate full body movements into the process of gesture-controlling the sound, its creation and the interweaving with the simultaneous presentation of the live voice. What I'm principally striving for, in this respect, is to draw the audience's attention to how sounds are actually

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[17] Emerging only in the 1970s, the term *soundscape* is an assemblage of the components *sound*, on the one hand, and *scape*, derived from the word *landscape*, on the other. Note that over centuries there exists a word to describe the environment in visual terms, but not so with the hearing sense. This is just one, but a good example that shows the visual primacy over the audible in Western cultures. The term *soundscape* is attributed to Canadian composer Murray Schafer who discussed it in detail in Schafer, *The Soundscape: Our sonic environment and the tuning of the world* (1994) originally published in 1977.

[18] Ibid,. p. 88, 90, 241, 273.

produced in the live situation. This, at the same time, answers the question why live electronics are used in the way I'm applying them, namely as gesture-controllers. *The initial idea is to afford the audience the possibility to experience sound and its production with both senses audibly and visually.*

## Translating processes of electroacoustic sound production — some thoughts on why and how

In order to fully understand my argument here, which initially motivated the development of the strophonion, I suggest examining one aspect that is concealed in the history of live computer music performances. During the 1990s, computers as sound generators and devices to control sound and music entered the stage of the music scene and, apart from its appearance in commercial pop-culture productions, became quite popular in the context of art music, experimental and improvising music respectively. Admittedly, the potential and its results of creating new sounds using computer technology were fascinating. Applying digital music manipulation techniques such as the slowing down or speeding up of sound which, until then, has been reserved to a musical elite that had exclusive access to state-funded music studios, now became available to almost anyone interested. Besides a few cables and an amplification system, a laptop and an interface was sufficient enough to generate intriguing sounds. Correspondingly to hitherto unexplored soundscapes, a novel type of music performer evolved. The appearance of the 'laptop artist' on the musical stage was characterised by disappearing behind the computer screen. It created unusual and ambiguous performance situations for the audience to perceive. Composer John Croft, in his essay *Theses on Liveness*,[19] formulates the disproportion between the audible and the visual sphere in the situation of electroacoustic sound production as follows:

> The most extreme example […] is the 'laptop artist': if the relationship between the energetic and gestural characteristics of the performer's action and the sound generated is opaque, then most of the point of live performance is lost. […] In short, we expect sound proportionate to the energetic characteristics of the performer's action. This is closely related to the second principle, that we expect the sound to have a more or less transparent relation to the properties of the sounding body we see before us. (Croft, p. 61)

Indeed, I often asked myself why go to a concert when I had the CD at home. What was often missing during the live process of electronically generating and manipulating sound and music, was its corporal mediation. When comparing computer music performances with traditional ways of music making one can almost always tell with regard to the latter how the sound is produced. Laptop performances, in contrast, show the lack of a translation aspect that we expect to perceive during the

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[19] Croft, 'Theses on Liveness', *Organised Sound*, pp. 59 – 66.

music making process. If, for the audience, the process of sound production is obscured in such a way that the proportions between a high degree of musical energy, on the one hand, and the visual component of its production with no gestural correlation, on the other, don't match, then we are in the realm of acousmatic music listening, i.e. listening to sound the origin of which we cannot tell or detect. This practice goes back to Pythagoras who lectured from behind a screen so that his disciples, called *acousmatikoi*, could focus solely on the sound of the voice – his words. John Croft argues similarly drawing on what he calls a 'diffusion artist behind the mixing console' trying to reintroduce a visual component into the music performance:

> […] while there is a body, there is only a generalised mapping of the physical movements of such body (pressing keys, moving faders, and so on) to the types of energy and gesture present in the music — the music remains, in essence, acousmatic, in the sense that what is known to be the source is visible but remains perceptually detached. (Croft, p. 60)

So, when it 'comes down to the use of new technologies in music' such as live electronics, the question to be asked is not only *why*, as Croft demands (p. 59), but also *how*. How do we mediate the practice of sound production? Which gesture triggers what sound? How do we achieve a plausible correlation between the movement made and the sound generated? And how can we make sure that the musical performance practice can be experienced in such a way that the sound production and manipulation process can be, at least to a certain extent, comprehensible, if not understood.

A prominent example of implementing live electronics in music making is the use of turntables. One of the first live electronic music instruments was the gramophone when applying a different speed for the playback. The same applies in regards to DJ culture whose practices can be, in some cases, highly musical and extraordinarily virtuosic.[20] But if the allegedly musical performance consists only of starting and stopping a playback and applying the mixer to enhance certain frequencies, then I

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[20] Japanese-American Takuro Mizuta Lippit aka Dj Sniff, who was the artistic director during the period of developing the strophonion at STEIM from 2010 through 2011, shows a great deal in performing with turntables exploring the rhythmical essence of sound samples, often taken from jazz recordings of ensembles and musicians he admires. A German equivalent of that kind is alto saxophone player, turntable player and composer Ignaz Schick with whom together with percussionist Tony Buck I played in the nineties at the Jazz-Keller, which used to be a venue space for improvised, experimental music in Berlin. As DJ, he was also part of *hyp'op III: UNIKATE*, a production of the Staatsoper unter den Linden Berlin, whose music I composed for soprano, actors of all age, DJ and ten instruments, performed a few times in 2006 at the depot (*Magazin*) of the opera house. A third of that generation to be mentioned is Washington DC-born, electronic and experimental hip hop musician Paul Dennis Miller known as DJ Spooky, That Subliminal Kid. Other great musicians of that kind that also serve as precursors of the aforementioned are mainly coming from an American, often downtown New York-related music culture, such as turntable player and artist Christian Marclay or composer-performer, instrument builder, sampling pioneer, journalist and activist Bob Ostertag. With regard to the latter's inspiring productivity range see: Ostertag, *Creative Life* (2009).

would not consider this an artistic practice. What it comes down to in the end, I claim, is the fact that certain degree of *liveness*, [21] largely discussed in cultural theory circles, and its underlying potential to fail must be detectable in order to tell whether a presentation has artistic value or not. To conclude, if a computer music performance without any gestural or bodily mediation of its sound production takes place by neglecting the step that needs to be taken during the music creation process, i.e. that from movement to sound, which is an essential part of music making, then the audience might perceive a presentation of a kind that, characterised by mere 'juke box actions', leads to incomprehensible and inauthentic performance outcomes.

## Interdisciplinary, choreographic interventions, fluidity and consolidations

Aiming at a transparent practice modality for a vocal art extended by gesture-controlled live electronics, I propose that, one way or the other, the sphere of the audible should be consolidated with the visual one. By seeking ways of doing so, I integrated full-body movements (*Ganzkörperbewegungen*) into the process of gesture-controlling the sound creation while simultaneously interweaving them with the presentation of the live voice. This is an attempt to form a unity out of the voice, the movement and applied technology. Based in Berlin and currently dancing in the Sasha Waltz & Guests company, dancer-choreographer and somatic coach from Uruguay, Florencia Lamarca, introduced her methodological knowledge in building body awareness and incorporating whole body movements into the performance practice of playing the strophonion as both, musical instrument and extension of the body's expressivity. The movement techniques and somatic practices of Lamarca lead to choreographic interventions aiming at a performance practice which is endowed with natural fluidity of body movements and a holistic approach to overcome the separation of voice and body, body and technology, technology and voice.

> *Acoustic space is where time and space merge as they are articulated by sound.*
> Pauline Oliveros [22]

## Towards a thinking of improvisation as practice of instant composition

Generally speaking, with regard to improvisation practices and performance goals, I'm striving to push forward the expansion of those intersecting fields that allow me to immerse in and, in the best case scenario, to become largely oblivious of everyday life requirements and affordances. This state of deliberate forgetfulness for the sake of

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[21] On the discussion of *live-ness* see Auslander, *Liveness* (2008); 'Liveness' in Fischer-Lichte: *Ästhetik des Performativen*, (2014), pp. 114 – 26; 'Verlust der Aura' in Mersch: *Ereignis und Aura* (2002), pp. 106 – 15.
[22] Oliveros, *Deep Listening* (2005), Kindle ebook, pos. 270-280.

focus on the performance matter implies, for the performer, to let it happen and lose control. At the same time, in order to successfully consolidate the different practices, the performer has to re-invent, re-structure, re-organise the material in every instance of the continuous flow of the performance. This highly demanding and exhaustive process involves immediate actions in dealing with result processing and reflection. Result processing encompasses the questions of what do I sense—hear, see, touch, taste, smell and, as a result, feel—and what am I going to do next in technical (voice) and technological (live electronics) terms. Reflection, contrarily, concerns the question about what am I going to do next in æsthetic terms. Contingently, in countless instances so-to-speak, when action, result processing and reflection are no longer distinguishable, the fields of focus seemingly become one internal procedure and, in order to make sense in creating a coherent musical performance outcome, have to become one. Theses interdependent procedures of equally involving action, result processing and reflection are, for the performer, the necessary ingredients to build on a performative consciousness—an agency for meticulous and unconditional scrutiny (*thinking*) and processing (*doing*) of sound (audible field) and image (as visual field) in the space/time continuum.[23] Due to the rapidity of events, the diversification in focus or, in other words, focal separation is not even possible anymore. The faster the events, the more the performer gets involved; the more s/he immerses, the more s/he loses control, all of which in order to master the overall performance situation even better. It is my intention to point to the very fact that it is precisely this paradox which describes the act of improvising, as I understand it, the best. Or, in other words, these seemingly ambiguous prerequisites are indispensable to gain a better understanding of how musical improvisation works in order to achieve a convincing and coherent

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[23] With a particular attention to detail, I'd like to point to American composer and accordion player, Pauline Oliveros (1932–2016), who afforded the contemporary music community insightful knowledge on musical performance with her personal approach. As coined by Oliveros, she explains the notion of 'deep listening' as follows: 'Acoustic space is where time and space merge as they are articulated by sound. Deep has to do with complexity and boundaries, or edges beyond ordinary or habitual understandings—i.e. 'the subject is too deep for me' or 'she is a deep one'. A subject that is 'too deep' surpasses one's present understanding or has too many unknown parts to grasp easily. A 'deep one' defies stereotypical knowing and may take either a long time, or never to understand or get to know. *Deep* coupled with *Listening* or *Deep Listening* for me is learning to expand the perception of sounds to include the space/time continuum of sound—encountering the vastness and complexities as much as possible. Simultaneously one ought to be able to target a sound or sequence of sounds as a focus within the space/time continuum and to perceive the detail or trajectory of the sound or sequence of sounds. Such focus should always return to, or be within the whole of the environment and beyond.' (Oliveros, pos. 270 - 280). Previously in the book, she shares her experience as follows: 'When I arrive on stage, I am listening and expanding to the whole of the space/time continuum of perceptible sound. I have no preconceived ideas. What I perceive as the continuum of sound and energy takes my attention and informs what I play. What I play is recognised consciously by me slightly (milliseconds) after I have played any sound. This altered state of consciousness in performance is exhilarating and inspiring. The music comes through as if I have nothing to do with it but allow it to emerge through my instrument and voice. It is even more exciting to practice, whether I am performing or just living out my daily life' (Oliveros, pos. 225 – 236). Further on she gives a revealing insight on the question what 'consciousness' is. It 'is awareness of stimuli and reactions in the moment. Consciousness is acting with awareness, presence and memory. What is learned is retained and retrievable. Information, knowledge of events, feelings and experiences can be brought forward from the past to the present. In this way one has self-recognition.' (Oliveros, pos. 246).

performance outcome and, by doing so, to establish an authentic performance practice. Indeed, the immediate and relentless interplay of action, result processing and reflection forms the basis on which the performance practice of *voice-induced sound dance* (*stimminduzierter Klangtanz*) can unfold.

## Questions accompanying the performance practice of *voice-induced sound dance*

What action triggers what kind of sound? What's the sound representing in both audible and visual terms or, in other words, what expectations are raised by the sound either chosen or created and by the movement applied? What are the potential next steps to take? Do I confirm or subvert the expectation of the audience as well as of my own? To what degree do I already anticipate the next actions? How long does the memory of sonic and musical content last with regard to short-term durations and the overarching long-term duration of the full performance?[24] How does the *sensing of time* influence the decision-making process?[25]

How do I create a flow of sonic or musical events and/or actions that resides within the logic of the moment? How do I create a flow of sonic or musical events and/or

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[24] In this context of short-term memory of sonic and musical content, it is of great value to note the observations made by sound engineer Hans Peter Haller (1929-2006) who closely collaborated with Luigi Noni (1924-1990) at the *Experimentalstudio des SWR* [experimental studio of the southwest radio]. He was taken part in the working process on Nono's composition *A Pierre. Dell'azzuro silenzio, inquietum*, for contrabass flute in G, contrabass clarinet in B flat and live electronics (1985), dedicated to French composer Pierre Boulez (1925-2016). In the form of a lecture given in Venice on 11 December 1999 on the occasion of a symposium of the Archivio Luigi Nono and the Fondatione Cini, Haller reflects on questions about time span between original and its repetition as follows: 'For a long time the question of time limit of repetition had been on my mind, of a canonical form, after which the original of the repeating audio signal is no longer entirely present in one's mind. That is, selective listening becomes less discriminating. Of course, it was very important for this experiment, that there should not be an acoustic silence between the original sequence of notes and its repetition, but up to the moment of repetition a continued acoustic information must been heard. The result of our experiment: With a delay of about 24 seconds the previously quoted time limit was reached. The row of tones was identified only partly, but more so than a newly played sound, in other words, no repetition of an audio signal played 24 seconds previously. | The result further experiments showed that this psychological process of listening depends on the sound colour, on rhythmical forms and the location of sound of the replay. So, I have changed the repeated sequences of tones, selected the sound with band pass filters and mixed in some reverberations. The result was stunning: The time limit could be shortened by about half, about 12 seconds. I played in the electro acoustic signal to the original by means of two loudspeakers. It was unavoidable to re-record small parts of this signals, so that there was a hardly audible Feedback, which again created a very diffuse background sound. Nono extended and made even more colourful this sound in his composition by means of very, very soft sound transformation.' (my underscores!), in Haller, *A Pierre and Omaggio a György Kurtág,* http://www.hp-haller.homepage.t-online.de/venice.html[last accessed 7 January 2019].

[25] Referring to the last three questions, it would be very fruitful for both the reader and the author to include the study of Edmund Husserl' theory on the inner time perception and his approach to describe the fleeting states of consciousness, but would certainly go beyond the scope of this writing here. However, even though putting it very bluntly, I'd like to point to the phenomenological question of how the *now* is constructed and how we can delineate its passing by. To do so, Husserl elaborates on the distinction between the coming of the near future and the just passed time by coining the terms 'protention', as a sensing quality towards the near future, and 'retention', as a quality in holding the memory of the just passed time. See Husserl, *Zur Phänomenologie des inneren Zeitbewußtseins* (2013).

actions that create follows and creates a logic to the musical scene in both ways audibly and visually? The same questions can be asked in regards to bodily practices.

Furthermore, beyond the interaction between the different fields of artistic practices (vocal, bodily and sound art-related), various other questions arise with regard to the relationship between performer and further performers as well as between performer(s) and audience. Since this is of secondary interest for me, at this juncture, I leave aside the formulations of such and instead continue to reflect on the performance piece *Haunted Territories* as a whole and its emerging idiosyncrasies.

## Two long-term collaborations and motivations

The performance of *Haunted Territories* on the 4th February 2018 was a premiere in two respects. On the one hand, it concluded a two-year collaboration between dancer-choreographer Florencia Lamarca and myself. On the other hand, the performance was the premiere of the newly implemented audio-processing software environment for the strophonion based on a complex network of patches written in the audio software application Max 7 (Cycling '74)[26] by programmer and developer of musical interfaces, Sukandar Kartadinata,[27] over the period of three years.

Regarding the collaboration with Florencia, we started in December 2015 to explore the possibilities of enhancing the onstage-presence of the extended vocal performer and to use full-body movements to play the strophonion. In other words, we explored the idiosyncratic movement vocabulary that is required to play the strophonion and further develop this material to use it in a dance-like style rather than applying it as a vocabulary of instrument playing only. During the performance, Florencia as dancer then also performed on the basis of these movements while elaborating on and incorporating the 'ghost' topic by Kafka as described above.

The development of an audio-processing software from scratch, on the other hand, was motivated by rather different considerations. By the end of 2014, it had become inevitable to build a new software environment simply because the software component that I was using, i.e. the live sampling software application *LiSa*, was working under the operating system of Mac OS 9 and OS X including 10.6, but no longer on newer machines starting from OS 10.7 upwards. In the case of the latter, the software cannot be re-configured anymore. Until 2017 I was using a Mac Mini provided by STEIM purchased around 2007. On the computer market a ten-year-long life span is already considered as an incredibly long one, meaning that the computer will most likely crash in the near future. Indeed, as everybody knows, computers die eventually. Once using a new machine, the formerly applied software of LiSa might not work anymore. Also the staff at STEIM decided to discontinue the procedures of releasing updates, even though LiSa delivered great outcomes with regard to the

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[26] See https://cycling74.com/
[27] See http://www.glui.de/

æsthetics produced. One very important consideration was the ability to use an audio-processing software that is internationally well-known in order to be able to exchange the programmer in case the current one becomes unavailable. Luckily, I didn't have to look into this option yet.

The other reason for me to start working on a new audio-processing software from scratch was the desire to enhance the sound quality per se, to refine its control parameters and to develop an architectural concept that allows the storage of a fairly large number of samples, a quick and easy access and, most importantly, various kinds of polyphonic playback strategies as well as an enhanced event management based on simultaneous procedures.

## On the premiere within the premiere or on technical restraints, pulling plugs and fixing anxieties—towards an æsthetics of uncertainty

Considering the dress rehearsal on the 3$^{rd}$ of February, which unveiled a number of technical malfunctions and rendered the rehearsal process quite stressful, I was surprised how enjoyable the actual premiere was on the day after. One of the reasons why it turned out this way, was that I 'pulled the right plug' still in time by taking a decision that then changed the technical setup for the premiere performance. Quite a few technical deficiencies occurred during the rehearsals and, in particular, the dress rehearsal. After excluding other potential sources, I was sure the malfunctions were caused by interferences from at least two competing Wi-Fi systems that were turned on and continuously searching for uninterrupted Wi-Fi connection: on the one hand, the wireless headset microphone system that I was using to connect with its base station provided by the technical staff of the venue space of Radialsystem V and, on the other hand, the wireless Wi-Fi connection of the strophonion's controller system and its base station connected via USB to the computer, a Macbook Pro (3 Ghz Intel Core i7, Operating System 10.9.5). It might have been the case that even more wireless systems were involved. This was why Sukandar measured the Wi-Fi activities in the whole building in comparison to the venue space of the Radialsystem V. It turned out that the in-house Wi-Fi system was quite strong. However, once I relinquished one of the two wireless systems that I was using, the issues experienced before disappeared. For the sake of simplicity, I attached the headset microphone to a XLR-cable that then was visible throughout the performance and, of course, restricts mobility on stage which, of course, wasn't my initial idea at the first place. In fact, it was my goal from the beginning of the strophonion's development to build a gesture-controlled live electronics that I could apply during the vocal performance without restraining the full-body movements or, in other words, to move freely on the stage. However, I was happy with the result that I achieved by abandoning the wireless system for the headset microphone during the actual premiere. Yet, even though detected late in the process of rehearsals, I can tell that this was not surprising, but in accord with the experiences that I collected over the years when playing the original

version of the strophonion and the system with LiSa and a MacMini computer. I had similar issues when using both the wireless headset system of the microphone and the wireless hand controller system of the strophonion. Since the parts of the electronics responsible for the wireless data transmission haven't changed and still are the same in both strophonion versions, it was no surprise that it then happened again the way it did. It has become obvious that I can avoid these issues in the future only if the electronic part will be exchanged with new components which entail, in consequence, to open up another research project. I will come back to this thought later on in this essay.

With regard to the preparation of the performance, I'd like to note that the plan was to rehearse with a new software environment based on Max 7, on the one hand, and to explore the possibilities of deploying the instrument in a rather theatrical context, as opposed to create a mere musical, concert-like performance, related to the 'ghost' topic raised by Kafka. By doing so, the idea was to test the newly implemented software parts and therefore the new instrument under the conditions of a professional performance production. The Max 7 version of the strophonion passed the test insofar as it didn't crash, but it revealed the restrictions as described above as glitches and other unwanted sound artefacts that appeared during the premiere performance. By all means, as stated above, the main problem of signal competition that arises when a number of wireless systems are installed in the same space still remains.

Usually, of course we don't realise any problems with the Wi-Fi system if we are downloading emails for example. But in combination with live sound production we sense it immediately if interferences occur. In fact, the potentiality of this problem is always present when performing in big cities. Numerous Wi-Fi networks are open and running. In addition, we must be aware that the audience members bring along smartphones and tablets into the performance space as well, each of which is a potential source of interference. In this sense, unless the performance takes place in a shielded room while the audience members leave their devices at the entrance, there will never be, so far at least, such a thing as a *safe performance* when applying wireless technology. This performance approach is therefore already a risky undertaking. At this point in time, in case the curator or facilitator of performances is willing to do so, the sources of interferences can be limited only to a certain degree, but never fully. But one needs to leave behind fear when entering and dealing with such haunted tech territories, and to start to enjoy the risk-taking involved. Furthermore, the performer has to be prepared to improvise within the frame work as the venue settings provide. One needs to be aware of the fact that each one is different in terms of the acoustics, in general, and in regard to the instrument response, in particular.

What remains, from the performer's perspective, is that, in regards to the technical circumstances, no matter whether the audience is aware of it or not, an *æsthetics of uncertainty and unpredictability* evolves. It's this situation composed of specific performance conditions that creates tensions for the performer to stay sensitive and

highly alert throughout the performance. This, on the other hand, allows the audience members to sense an energetic field which, of course, is hard to grasp for them, but bears the potential of experiencing an intensified presence or, to refer to Walter Benjamin, an 'aura' of the performer.[28]

## On troubleshooting and debugging, glitches and wireless data communication—an excursion to haunting tech issues detecting the ghost in the machine

Certainly, in previous years and performances playing the first version of the strophonion, I was also confronted with a number of issues, such as latency and unreliability of different sorts. Now, by implementing a new software for the strophonion—the performance of *Haunted Territories* is not only a premiere of the overall piece, but also the premiere of the newly implemented software based on Max 7, provided by California based company *Cycling '74*— the hope was to get rid of any of such issues as discovered within in the first version of the strophonion. But the audio software isn't responsible for glitches and clashes, it's the technology as built into the hand controllers that doesn't seem to be compatible with technology of other wireless systems. The applied hardware is based on radio transmitting technology whose models, called *Xbee* distributed by *Digi International, Inc. (Digi)*, have the advantage of being very small, in fact, they are no bigger than a U.S. quarter dollar coin and, at the same time, available at low cost. Unfortunately, the rehearsals at the Radialsystem V starting from the 31st January and the dress rehearsal on the 3rd February in particular proved such wishes and assumptions wrong. The question that arises from the conflicting problem of wireless technology is how to solve it. Currently, I have only three solutions at my disposal:

1) The performer sticks with the equipment as set up until now and makes the best out of it. So, in order to lower interference issues the performer would then have to play only with one wireless system at a time while the other has to be played in its cabled version. In consequence, there will be always one cable being visible on the floor.

2) The other option for the performer is to develop a new pair of hand controllers with different and up-to-date technology built-in which then means that the process of R&D starts all over again and, on top of that, from scratch. The long-term and often demanding process of testing, playing, making refinements, testing, playing, adjusting, testing, playing, advancing, etc. will continue for a long time. In addition, such an endeavour would also imply raising money to cover the costs for material and personnel ranging between 15 000 to 20 000 €.

3) The last option seems to be of a quite different nature, but no less worth a thought. It would require re-configuring the performance approach and changing the æsthetic concept of playing the instrument with acute response. In other words, by letting go of the idea of absolute instrumental reliability and precise accuracy and thus giving up

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[28] See Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction' (2015), pp. 211 – 44, in particular No. III, pp. 216 – 17.

the notion of 'playing a real musical instrument' in favour of 'steering a live electronic system' that, to a certain degree, acts on its own, might be liberating.

It seems that, at the moment, only point 1) and 3) are to be taken into consideration. Number 2 seems to fall out of the grid for a variety of reasons that are elaborated in the paragraphs that follow.

The development of custom-built instruments based on computer technology is a time-consuming undertaking. Even before the actual work starts, it requires an awful lot of planning time. This was the case when Sukandar and I started to talk about what and how to implement a new software strategy for the strophonion. We collaborated for the first time in 2014, when Sukandar implemented both, the electronic part of the black-coloured back-up version as well as the cabled version for the strophonion. Since then, over the period of an entire year, we were recurrently discussing the new software parts, how to re-new and to advance the software components of the instrument taking into account that all has to be done from scratch since there was no audio software configurations available which we could have built on. I'd like to note that, even there were such configurations available, they didn't meet my imaginations and conceptions of how to design the instrument's functionality and playability. The discussion process was also about finding out which software would suit the best. For the most part, it was my intention to stick with the concepts of the strophonion's former software configuration as elaborated, in close exchange, by Frank Baldé from STEIM in Amsterdam. In other words, the structure should remain the same as much as possible. The reason for this is that the structure was already tested over a period of four years of practicing, including the process of learning how to play the instrument. The idea behind this is simple: the more the instrument's functionality and its playability remains the same, the easier and faster it will be for me to learn the new structure. But of course, I also had the urge to develop new ideas and to advance various different parameters concerning the sensor control and the sonic quality. One task that stood out was the further development of playing as many voices and events as possible simultaneously. Therefore, a new sample architecture had to be developed from scratch too.

Either way, further developing or staying with what one has achieved, the software configuration had to be written from scratch and in constant dialogue between the programmer and the performer. This process finally started in August 2015 and ended, for the sake of gaining a preliminary status so-to-say, during the premiere of *Haunted Territories* in February 2018. Now, in August 2018 the software development has come to a point of completion. The performance of the *Haunted Territories* displays an intermediate state which was good enough to play in and to present it to a public. Since then Sukandar worked hard to detect and solve the problems with a couple of bugs, errors in cursor behaviour and glitches, such as unwanted sound artefacts all of which occurred throughout the premiere performance.

It's worth noting at this juncture that detecting the actual cause of a technical problem when developing computer-driven live electronics, especially if they are custom-built, can be a tiresome and demanding process. Often, we don't know what's causing the glitches and unwanted behaviour of the instrument as we perceive it from the performer's perspective. It's only through a meticulous and recurrently performed process of troubleshooting that tech issues can be nailed down in order to get solved subsequently. Firstly, the source of interference needs to be fathomed and eventually detected by eliminating it from all other potential sources. During this sometimes laborious and cumbersome procedure the performer has to force oneself to stay calm and focussed. Logical and analytical thinking procedures must be prioritised during this process in order to come to an end and eventually solve the problem. This is certainly something that can get quite challenging when the problems occur right before a performance. The second step, once the source of the issue has been detected, is to find out whether it is possible to solve it immediately, to bypass the problem, often called *work-around*, or if other long-term actions are necessary to take.

In hindsight, I tested the 'old' system using LiSa and a MacMini computer in various different environments over the period of seven years. It turned out that, in regards to technical specifications such as wireless data communication, each venue space differs from another fundamentally. The architectural condition of the venue has a huge impact on the functionality of the instrument because, just to name an example, wireless transmitted signals are bouncing back and forth from walls according to the condition of the surfaces. If those are sleek and smooth it is more likely that the data flow might get disrupted. Continuously sent and received in packages, the data messages might then get corrupted which most likely leads to latency issues and false response. In short, the instrument gets unreliable. Even the country one is performing in is a variable that needs to taken into account. Technology regulations vary tremendously from country to country. In the meantime, with regard to legislation, wireless data communication is restricted to a very small frequency bandwidth that the musician is allowed to use. At the same time the bandwidth has to be shared with many other groups of people and institutions, like radio amateurs and even the police.

No matter whether it happens while preparing or right before a performance, during the troubleshooting process, in order to successfully debug, both areas, the analogue and the digital, need to be taken into account in order to track down the malfunction. The source of a problem can stem from the digital software as well as from the hardware used by both one's own equipment and the technology as applied by the technical staff at the venue.

## Live sampling—a schizophonic performance practice

It was Murray Schafer who coined the term 'schizophonia' in order to indicate the 'split between an original sound and its electroacoustic reproduction' (Schafer, p.

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273)[29]. The term is composed of the Greek components *schizo* meaning split and *phone* meaning voice and/or sound. Its proximity to the psychological term of schizophrenia is indeed intended. Schafer elucidates that 'original sounds are tied to the mechanisms that produce them. Electroacoustically reproduced sounds are copies and they maybe restated at other times and places. I employ this 'nervous' word to dramatize the aberrational effect of this twentieth-century development' (ibid.). He elaborates the argument as follows:

> Originally all sounds were originals. They occurred at one time in one place only. [...] Since the invention of electroacoustical equipment for the transmission and storage of sound, any sound, no matter how tiny, can be blown up and shot around the world, or packaged on tape or record for the generations of the future. We have split the sound from the maker of the sound. Sounds have been torn from their natural sockets and given an amplified and independent existence. Vocal sound, for instance, is no longer tied to a hole in the head but is free to issue from anywhere in the landscape. (Schafer, p. 90)

According to Schafer, it was 'with the invention of the telephone by Bell in 1876 and the phonograph by Charles Cros and Thomas Edison in 1877' that 'the era of schizophonia was introduced' (Schafer, p. 90). Since then the history of sound capturing and recording shows a development and constant renewal of the technological means for storage and transmission of sound at a breathtakingly fast speed.[30] Introduced for the very first time in the mid seventies, a special form of recording technique has evolved, i.e. the practice of sampling. Since the nineties when the capacities of computers have become big enough to store huge amounts of data and, more important, the processing power of computers have become fast enough due to an enhanced systems architecture, sampling technology is also placed at the disposal of the musician to affordable prizes. As for today in the digital age, it is a common practice and therefore possible to not only take 'samples' of sound by recording them, but also to play them back in *real time* (*Echtzeit*)[31]. Indicating that any sound source can be captured and played back instantaneously, without involving any sort of intermediary actions such as re-composing, mixing and editing all of which belong to postproduction procedures in the studio, is often referred to as *real time* procedures. The practice is therefore often called *sampling in real time*, but also

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[29] R. Murray Schafer, *The Soundscape: Our sonic environment and the tuning of the world* (Rochester, Vermont: Destiny Books, 1977; repr. 1994)

[30] Not only this is the case. Cultural theorist and philosopher John Durham Peters elaborates on the tremendous impact the suspension of the primacy of writing, with regards to the storage of information, had on modern man once phonography and film emerged. Referring to two Germans, the philosopher Josef Simon (1930-2016) and the media theorist Friedrich Kittler (1943-2011), he elucidates that 'sound, whose being Hegel and many others linked uniquely with temporality, no longer vanished into thin air. The phonograph inscribes the music's happening in time, recording not the score but the performance, not the libretto but the voice. Phonography and film attack the monopoly on the storage of intelligence once held by writing', in Peters, *Speaking into the Air* (1999), p. 163.

[31] *Real time* and the German equivalent *Echtzeit* denotes the experienced time. Although in technical regards latency is in fact introduced, it is so short that it is not perceivable for the human ear.

*digital sampling* or simply *live sampling*.[32]

## Excursion into the land of latency

Assuming a best case scenario, in regards to hardware system and software applied, the latency threshold today can be made small enough so that it is, for the human ear, not perceivable. But latency gets introduced by the sum and combinations of all factors involved in the procedure of sound production with technology that is sensor- and computer-based and works wireless. The instrument is doomed to be ponderous. For, in order to create sound, it takes time, starting from the musical gesture (pressing a button to trigger a sample and, to produce a *crescendo* f.i., aligning the volume level with the entire arm using ultrasonic measurement, etc.), to finally obtain the perceivable sounding result. Sensor-technology as provided by the industry of electronics and the way sensors are calibrated has quite some impact on the responsiveness of the instrument. Another factor is again wireless technology because it simply takes some time for the base station to pick up the wireless data from the sensors. The interface which converts digital information into analogue sound as well as the computer processing the incoming data and translating it into musical parameters and, finally, the amplification system which disseminates the sound through loudspeakers all produce latency. Therefore, the performer has to develop a technique that makes her/him play the instrument as rapidly as possible while anticipating and compensating for any lag. A prerequisite for creating a convincing performance with live electronics is that the audience does not realise if latency emerges. Therefore the performer has to develop a number of strategies one of which can be to anticipate sound to come and to compensate that through adapted gestures and movements. This, of course, is to be avoided, if possible. But what seems to be essential is to practice the instrument to such a degree that the musician can perform on an intuitive basis, meaning that s/he doesn't need to think anymore about the procedure and how to achieve a particular sonic or musical goal. This is a technique that the performer has to acquire, to learn, to practice, to embody in order to

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[32] The sampling device, be it a sampler or a computer, is a musical instrument for which Canadian musician John Oswald argued in his seminal essay on *Plunderphonics*, a term he coined in 1985 to refer 'to the practice of the use, alteration and manipulation of existing recordings to make a new audio work', in Oswald, "My Personal Long-Playing History of the LP", in *eContact! 18.4* (2017), http://econtact.ca/18_4/oswald_personalhistory-LP.html [last accessed 7 Jan. 2019]. In another essay he writes as follows: 'Musical instruments produce sounds. Composers produce music. Musical instruments reproduce music. Tape recorders, radios, disc players, etc., reproduce sound. A device such as a wind-up music box produces sound and reproduces music. A phonograph in the hands of a hip hop / scratch artist, who plays a record like an electronic washboard with a phonographic needle as a plectrum, produces sounds which are unique and not reproduced — the record player becomes a musical instrument. A sampler, in essence a recording, transforming instrument, is simultaneously a documenting device and a creative device, in effect reducing a distinction manifested by copyright' in Oswald, "Plunderphonics, or Audio Piracy as a Compositional Prerogative", in *eContact! 16.4* (2015), http://econtact.ca/16_4/oswald_plunderphonics.html [last accessed 7 January 2019].
For another quick, but insightful historical and technology-related overview on the culture of scratching, turntablism, sampling and, above all, the proximity of the latter to the notion of *plunderphonics* from the perspective of a British musician see Chris Cutler's essay *Plunderphonia, http://www.ccutler.com/ccutler/writing/plunderphonia.shtml* [last accessed 7 January 2019].

play the instrument properly—a circumstance that we would not think of in regards acoustic instruments.

## 'Which is which'—on self sampling and aural clones

By applying sampling techniques in vocal arts, the performer is able to reproduce the recorded vocal sounds immediately after their emission. This technique of instant aural mirroring of oneself is right at the core of what Schafer coined schizophonia, the split between the original and its reproduction independent from the former in regards to time and place. The schizophrenic aspect of the schizophonic technique comes to the fore even more so if the original and its reproduction are juxtaposed immediately, in close temporal proximity. The smaller the time span gets, the closer the original comes to its copy. The original and the copy then get blurred. This effect of dissolving boundaries between the original and the copy, thus the human and the machine is in fact what I'm very much interested in, in general, and to examine the manifold sound possibilities, in particular, that evolve when temporal variations, ranging within the time span of approximately 50 up to 1000 milliseconds, are applied to play back the original. In fact, due to the instantaneous reproducibility of vocal sounds, the speed of recording and playing back actions, on the one hand, and according to the vocal material used, on the other, it can become quite challenging for the recipient to discern a difference between the original and its reproduction. This is the case even more so if the three-part sampling procedure of producing sound, recording and playing back is kept short, within the range of a second, assuming that the original voice overlaps with the reproduced voices and that various sampling techniques, such as re-sampling and over-sampling, are employed. In such instances an interweaving between original and reproduced vocal sounds takes place which, if the perception is limited to listening only and if the sounds of the double aren't manipulated, makes it almost impossible for the recipient to distinguish the original from the doubles. When watching this performance practice though, the recipient might be able to detect which is which[33]. But if the performer applies the technique immediately, that is to say as fast as possible, the recipient will get confused when attempting to discern which is which. For the boundaries between the original vocal sounds and the reproduced material get completely blurred. The performer's original voice merges with the double, a *doppelgänger* or an aural clone. The process of incorporating the voice of the doubles on a continuous basis models an multiplied, augmented sound character. For some in the audience, the result may be monstrous, excessive and even terrifying.[34] Leaving the emotional impact of the audible result aside for a moment and looking at it in a more analytical way, it can be said that what emerges is a multivocal field, an aural plane of voices originated from one single source, all of

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[33] For a historical outline of the logic of the original and the copy, examining various advertising strategies, like 'Which is which?' by the American Victor Talking Machine Company from 1908, see chapter 5 'Social Genesis Of Sound Fidelity' in Sterne, *The Audible Past* (2003), pp. 215-86 (p. 217).
[34] During the artist talk after the premiere of *Haunted Territories* one audience member called the performance practice 'daunting'.

which together are contributing to build up a *complex and multiple stage persona* or *stage-self* (*komplexes Bühnen-Ich*), as I named it previously.[35]

## The dialogue with myself, dancing with my ghosts—a contribution to the absent body

The schizophonic practice of self sampling entails, for the vocal performer, both the joy and the risk to get absorbed by and immersed in the sound of the double or *doppelgänger*. It certainly is a narcissistic trap[37] that the performer falls into when sampling oneself. As we all know, at times, it is irritating to hear one's own voice when listening in on its recording.[38] But the vocal performer gets used to it, in fact one must get acquainted of one's own aural image in order to elaborate on it and to make evolvement and progression possible. The vocal performer acquires the skill to listen in on details of the own voice, learns to decipher the different powers and energies of the underlying atmospheric subtleties that the voice projects at different times. Once the vocal performer has become familiar with the reproduction of the own voice, the disembodied voice becomes almost an object of desire.[39] The reproduced voice as mirror of one's self possesses a seducing power to hear out the details and subtleties of one's own voice, to get to know more about oneself.[40] There is a generic and strong thread that ultimately leads to power issues, when human

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[35] See the paragraph "Questions of Representation Raised by the Performance Concept of the Multivocal Voice", in Nowitz, 'Designing and Playing the Strophonion, in *eContact! 18.3* (2016), http://econtact.ca/18_3/nowitz_strophonion.html.

[36] See chapter 4 'Phantasms of the Living , Dialogues with the Dead' in Peters, *Speaking into the Air* (1999), pp. 137 – 176 (p. 137).

[37] See chapter 4 'The Gadget Lover: Narcissus as Narcosis' in McLuhan, *Understanding Media* (2005), pp. 45 – 61. 'The Greek myth of Narcissus is directly concerned with the fact of human experience, as the word *Narcissus* indicates. It is from the Greek word *narcosis*, or numbness. The youth Narcissus mistook his own reflection in the water for another person. This extension of himself by mirror numbed his perceptions until he became the servomechanism of his own extended or repeated image. The nymph Echo tried to win his love with fragments of his own speech, but in vain. He was numb. He had adapted to his extension of himself and had become a closed system.' (p. 45)

[38] Compare chapter 6 'The Voice That Keeps Silence' by Jacques Derrida who extensively elaborated on the notion of what he called 'auto-affection' and on the concept of ‚hearing oneself speak', in Derrida, *Speech and Phenomena* (1973), p. 70 – 87.

[39] This thought traces back to the thinking of psychoanalyst Jacques Lacan and his theory on the 'objet petit a'. A great introduction to the field of the voice in psychoanalysis based on Sigmund Freud and, following him, on Jacques Lacan is provided in chapter six 'Freud's voices', in Dolar, *A Voice and Nothing More* (2006), pp 127 – 62.

[40] This thought has been greatly elaborated by living British philosopher Steven Connor writing: 'In fact, the normal conditions of hearing-oneself-speak are conditions not only of monitoring, but also of pleasurable auto-stimulation […]', in Connor, *Dumbstruck* (2000), pp. 9 – 10.

beings want to know more about how the own voice affects others.[41] On top of that, the disembodied voice becomes even more seductive when we are given the possibility to modify, manipulate and therefore steer the modelling of the reproduction of the (own) voice through audio-processing software. In the case of *voice-induced sound dance*, as I prefer to name my approach to the practice of applying gesture-controlled live electronics in the context of vocal arts, the disembodied voice or, in other words, the double's voice of the performer gets further developed and controlled by hands and arms of the performer. During the process of its recording, the live voice is extracted from the body and becomes disembodied. In a sense, when playing back the recorded material with the use of gesture-controlled live electronics, the voice gets inserted into the body again. A process of disembodying and re-embodying takes place. In fact, it's a reanimation if the mere acousmatic, inanimate, technically reproducible voice becomes 'alive' again by playing back and manipulating the recorded voice material through gestures and movements. It can be said that, in this case, one is operating and communicating with one's own, inanimate voice. This much is also certain: through the movement of the extremities of the body the inert voice gets re-animated. So, what is happening then? Am I dancing with my ghosts? Media theorist and philosopher John Durham Peters reminds us of Sigmund Freud who 'has famously shown, part of the uncanniness of the double is the foreshadowing of one's own death.'[42]

## Towards the inside of *voice-induced sound dance*—the logic of composing the performing

The voice of the double, when it gets played back after its recording, is by definition a disembodied voice. It has left the body of its producer. What happens now, is through the machine is brought back to life again, though into the audible field only, and the performer controls this act of aural re-animation.[43] With regard to the double's visibility, it's the performer's extremities through which the formerly inanimate voice

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[41] Note that it was Adolf Hitler who was one of the first to take advantage of the power of voice by using technological means for mass circulation and manipulation. 'We should not have conquered Germany without [...] the loudspeaker', as Schafer quotes him in *The Soundscape* (1994), p. 91. This demonstrates the impact of technological means, which in this case is the radio, called *Volksempfänger* [literal translation is *receiver for the people*] accelerating the indoctrination and pushed forward the dissemination of Nazi ideology.

[42] See Sigmund Freud, 'Das Unheimliche' (1919), in *Gesammelte Werke*, vol. 12 (Frankfurt am Main: Fischer, 1947), as quoted in Peters, *Speaking into the Air* (1999), fn. 58, p. 158.

[43] Compare the intriguing conception of the *vocalic body* by Steven Connor and the notion of animation in regards to the art of ventriloquism: 'Voices are produced by bodies: but can also themselves produce bodies. The vocalic body is the idea—which can take the form of dream, fantasy, ideal, theological doctrine, or hallucination—of a surrogate or secondary body, a projection of a new way of having or being a body, formed and sustained out of the autonomous operations of the voice', in Connor, *Dumbstruck* (2000), pp. 35 – 43 (p. 35).

now is enacted. [44] This is achieved when playing the gesture-controlled live electronics by pressing buttons and moving hands and arms to control the sound's parameters, such as volume, pitch and timbre. On top of playing back the voice and controlling its sound parameters, the performer might react with the body to the sound as just heard. This practice is most natural to be applied in the field of dance performances. If the material of the reproduction requires so, the performer might as well re-enact the sounds from the computer that one is playing with. It is my goal to point to the fact that there is a continuum between two ends, one of which consists of *those movements that trigger and control the sounds of the double*, whereas *the other movements are defined afterwards, by the way the sounds present themselves audibly.* It's important to note that it is this continuum between the two poles along which the artistic practice takes place and gets unfolded or, in other words, which the performer, apart from the actual vocal practice, acts on and moves along. One belongs to the artistic discipline of sound creation and the other to dance or movement-bound art practice reacting to sounds and enacting a potential or imagined representation during its perception. It's a play of attention within which the performer smoothly moves back and forth shifting between different kinds of foci. The practice is highly interdisciplinary and threefold. It requires an awareness for vocal sound production and its control, for electronic sound production and its control as well as for movement-based creation and its control (no matter whether this is to produce sound or to display a movement vocabulary on a purely visual level serving as a performance art form on its own). The three artistic practices interweave and intermingle, overlap and disrupt. To gain a better understanding of what I'm trying to uncover, I'd like to propose a stereotypical performance scenario that often takes place during a performance:

> While producing vocal sounds I record them simultaneously performing tasks of a recording engineer; while continuing to produce vocal sounds I play back the recorded material; while listening to the reproduction I produce vocal sounds again without interruption in order to interlock with the new, reproduced sound material while, at the same time, recording both the live voice and its doppelgänger, etc.

In this example, there are at least two professions or competences at work that are required to implement the scenario as described: vocal performance, on the one hand, and sound engineering, electronic sound creation and control, on the other, all of which are belonging to the category of musicianship. Considering the two latter, the sound engineer and the musician, as one profession, a third agency comes into play, i.e. movement or dance. In order to present a compelling and coherent performance, one needs to encounter this very discipline as well. The special task is to shift the

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[44] Peters reminds us also of this: 'Once, all sounds had been mortal and particular. With recording, one can build a mausoleum of sound, fixed in a state of suspended animation', in Peters, *Speaking into the Air* (1999), p. 162.

focus back and forth between sound or music creation, on the one hand, and the elaboration on movement-based elements, on the other., until finally they merge into one practice. In fact, not only a back and forth attention is necessary, but also an extraordinary vigilance to pursue simultaneous actions.

The mutual pervasion of both areas, the vocal sound creation, on the one hand, and electronic sound production and control, on the other, gets mediated by the body, be it through fine motor skills (fingers pressing buttons, the right hand thumb applying a pressure sensor) or full-body movements such as the arms controlling sonic and musical parameters through different types of sensors (ultrasonic measurement for linear control, the x-axis and the y-axis of accelerometers for a rotating quality of control movements). Then again, at the same time, as soon as sound and music emerge, the performer allows the body to get moved by what one hears. In this way the performer appropriates and adapts to the purely 'auditory field'.[45]

As articulated previously in another context, the vocal sound production follows its own rules, has its own logic. To leave the semantic aspect of a voice projecting words with intended meanings takes us into a space where the sound of the vocal (*phone*) not only supersedes the word (*logos*), but rather yields an 'in-between-ness', an unknown territory whose agency might appear elusive and obscure. And yet, listening at and watching the production of vocal art utterances beyond semantic meaning new territories of vocal art expression emerge displaying their own idiosyncratic modes of meaning and expressivity. The same is the case if the sounds of the reproduced counterparts of the voice, once afforded by computer manipulations, unfold. Both cases, the human live voice and the computer-manipulated, demand new, idiosyncratic pathways to follow in order to further develop the material and to continue to build a coherent compositional progression. One practice can support the other, but also possesses a destabilizing, subversive power. If sounds and movements are no longer linked to each other, if no ties can be identified, then the audience's expectation might get undermined. The performer, of course, need to be aware of such dependencies.

Returning to the claim that a continuum exists between the movements that trigger and those that follow sounds, it is worth emphasising that this is a process of constant negotiation of the performer with oneself, necessary to create a coherent performance

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[45] Exploring the phenomenology of sound and voice since the 1970s of the twentieth century, American philosopher of science and technology Don Ihde approaches the 'spatialities of vision and sound as field characteristics'. One can say that sound comes from afar, is near, comes from behind, etc. Therefore sound is directional. But still 'as a field […] it 'surrounds us'. The way it does so defines the specifics of the auditory field, whereas the 'visual field' displays a different character. It is the 'space *in front of the* subject', which 'has the definite characteristics of being limited to a finite *roundness.*' This fact remains even though one can turn the head towards the object or event. 'The space of the visual field is limited to being in front of me. […] The sound field', on the other hand, 'displays an infinite space in all directions from me', in Ihde, *Listening and Voice* (2007), p. 206 - 207. For more insights on this subject, see also chapter 6 'The Auditory Field', pp. 73 – 85, and chapter 18 'Auditory Imagination', pp. 203 – 17.

outcome. In addition, with regard to continuity, fluidity and pervasiveness, this internal debate is taking place with regard to all applied practices, not only the bodily one. If more than two encounter, it's a *plane* which the performer moves in and acts on, therefore *a plane of pervasiveness, fluidity and continuity*. Once the vocal, sonic and bodily practices interlock, a three-fold agency is at play.

The aspect which makes it hard to implement the practice of voice-induced sound dance is, as a preliminary conclusion, that each performance practice has its own logic that the performer needs to follow, the logic of the vocal performance, the logic of sound creation and control and the logic of bodily practice. *Vocalogy* meets technology meets *corporalogy.* The first and the last term are neologisms that I'd like to introduce to shed light on the fact that each discipline or practice entails a hidden agenda, a *logic* to compose the performing act, be it the *vocal* or the *corporal* sphere. Therefore, aware of these threads of logic and entailing compositional tasks, the performer strives for a pervasive interplay of the applied practices in order to create a compelling and coherent overall composition and performance.

## Encounters with ghosts and spectres through Kagel, Kittler and Kafka—a preliminary epilogue

The realisation of the performance piece *Haunted Territories*, in *ghostly* terrain or *spectral* territory[46] seems appropriate for two reasons. Firstly, to the *ghostly* sphere it adds a 'liminal position between visibility and invisibility, life and death, materiality and immateriality, and their association with powerful affects like fear and obsession.'[47] Secondly, the etymological root of the *spectre* and *spectrality* 'evoke a link to visibility and vision, to that which is both *looked at* (as fascinating spectacle) and *looking* (in the sense of examining), suggesting their suitability for exploring and illuminating phenomena other than the putative return of the dead.'[48] Encountering the unknown and the unexplored by trespassing the vocal field to the bodily during its exploration through the application of gesture-controlled technology, already provides a great deal of producing spectral spaces. This thought gets nurtured even more in the light of a claim by German media theorist Friedrich Kittler: 'Media always already yield ghost phenomena.'[49] Kittler builds on Kafka when saying that 'the spirit-world

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[46] Note the two-fold meaning of *spectral*. It either relates to a range, the *spectrum* of light for example, or, derived from *spectre*, it serves as synonym for *ghostly*.
See https://www.merriam-webster.com/dictionary/spectral [last accessed 7 Jan. 2019].

[47] See 'Introduction: Conceptualizing Spectralities' in Blanco and Peeren, *The Spectralities Reader: Ghosts and Haunting in Contemporary Cultural Theory* (2013), pp. 1 - 27 (p. 2).

[48] Ibid., p. 2.

[49] Kittler as quoted in Peters, *Speaking into the Air* (1999), p. 140. Peters refers to the original in German and reads as follows: 'Medien liefern immer schon Gespenstererscheinungen', in Kittler, *Grammophon, Film, Typewriter* (1986), p. 22.

is as large as the storage and transmission possibilities of a civilization'.[50] 64 years earlier Kafka *adds* that 'those who build new media to eliminate the spectral element between people only create more ample breeding ground for the ghosts'.[51]

Returning to the present time, I'd like to remind the reader as well as myself that we still ought to exult without hesitation that we are to compose not only with notes on five-lined staves but also, according to Argentinian composer Mauricio Kagel (1931 – 2008), 'with sounding and non-sounding materials, actors, cups, tables, omnibuses, and oboes'.[52] It is this integrative and non-hierarchical thinking with regard to materiality combined with a vital spirit that isn't just inspiring, but a driving and indispensable force for the creative process as I'd like to conceive it. Only if I allow myself to cross boundaries by throwing myself into the space of the unexplored, a creativity gets kindled that has a power which doesn't need to be devised or pre-conceived. On the contrary, it almost finds its own ways, while the performer then is nothing else than a mediator. The creative power that I'm speaking of and searching for follows its own idiosyncratic threads of logic. Once a creativeness of such kind is called into being, an unstoppable power is unleashed that affects the performer to lean into as well as to keep up with. This mode of practice does not know good or bad because it affords both pleasure and pain. And it still requires more articulating and scrutinising, all over again and again, to convey its latent cogency.

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[50] Kittler as quoted in Peters, *Speaking into the Air* (1999), p. 139. The German original reads as follows: 'Das Totenreich ist eben so groß wie die Speicher- und Sendemöglichkeiten einer Kultur', in Kittler (1986), p. 24.

[51] Peters, *Speaking into the Air* (1999), p. 30.

[52] Kagel as quoted in Rebstock and Roesner, *Composed Theatre* (2012), p. 10.

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Information on the performance piece as documented on the basis of its premiere on the 4<sup>th</sup> of February 2018:

*HAUNTED TERRITORIES*
for voice/body and gesture-controlled live electronics — the strophonion

**ALEX NOWITZ & FLORENCIA LAMARCA**

Premiere 4 February 2018
Studio A of Radialsystem V in Berlin

Performance length ca. 40 min.
Creation period: 2016 - 2018

Voices, sound, music, movement: Alex Nowitz
Dance, voice: Florencia Lamarca

Hardware development: STEIM Amsterdam
Software programming: Sukandar Kartadinata

Costume designer: Heather MacCrimmon

Text: Franz Kafka

Sound: Roy Carroll
Light: Torsten Podraza
Documentation: Oscar Loeser
Video editing: Alex Nowitz and Dan Lageryd

SUPPORT
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- fabrik Potsdam

So see the video documentation go to:
https://vimeo.com/259827135
Password: PhD