Moving through the double vortex

Exploring corporeality in and through performance creation

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Abstract

Music, when performed live, carries the musician's physicality with it, either embedded within the sound or perceivable through the musician's physical presence. A dancer's movement follows dynamics and expresses shapes that are based on musical phrasing principles and 'kinetic melodies'. The two pieces *Double Vortex* for trombone, movement, and live-electronics and *Moving Music* for interactive dance and electronic sounds represent experimental devices for exploring the relationships between musical actions and movement, sound and space, and between instrumental and embodied performance modes. With physical tasks and movement components added to open-form, improvised, and compositional work, the otherwise tacit and taken for granted contributions of the performer's corporeal presence is brought to the foreground. By putting the dancer into the role of an instrumentalist and by setting the trombone player into movement, the intrinsic musicality of movement and the dependence between dance and music is shown. By linking sound and movement in both the corporeal and the technological domains, a shifted relationship is established that generates forms of interaction particular to this specific practice. The work on the two pieces is carried out with a focus on artistic creation, and in parallel becomes the object for observation, trace interpretation, and analysis from the perspective of art as research. The exposition further thematises the methods of trace collection and analysis, as well as the making of maps, diagrams, and assemblages, and addresses the scope of this secondary discursive format. In a movement that goes from media trace to text to sketch, from descriptive to contextual to associative juxtaposition, the exposition speculates about – rather than claims to generate – insights and understanding on corporeality in technologically mediated music and dance performances.

Trajectory

Using the two pieces *Double Vortex* and *Moving Music* as concrete examples, this exposition explores issues of impact and affect of movement in combination with sound, and how the mix-

ture of methods deployed in this project constitute a process of research through artistic practice. By laying out perspectives, traces, and reflections that cover the development and performance of both pieces, a tentative map or web of relationships is revealed with the intent of generating insight and understanding about this particular kind of performing art.

This exposition is organised in different sections. They cover methods of creation, development processes and performance, comparisons of the central pieces of this article, observations from a non-artist's perspective on the different workflows and processes, and higher-level reflections on the import and significance of weaving a second layer of discursive, yet loose assemblages of elements.

The specific question this project poses concerns the meaning and impact of, on the one hand, performing – possibly silent – movements in music and, on the other hand, generating music with movement through dance actions. How does a musician's corporeality, presence, and movements influence, colour, and charge a musical performance; in other words, what effect does the embodied presence have on musical performances? Conversely, the matter concerning the dancer is how musical principles that govern timing, density, and polyphony are also active in movement performance and perception.

Merleau-Ponty's poetic image of the 'two circles, or two vortexes, or two spheres, concentric' resonates strongly with this project. Quite a few slightly shifted yet almost concentric elements are tied, linked, mapped together, juxtaposed, superposed, or co-performed. In the context of his argumentation, Merleau-Ponty may address the inherent duality of seer and seen. For us, the concept may as well apply to physical presence and performative actions, and to the supposed fixity of a 'work', even if it merely exists as a short-duration and ephemeral coming together of people, intentions, and accumulated experiences, brought into a compact time frame and a well-defined space for the sake of convention.

This is a shift in focus from a specific to a fluid and ever-shifting state. The underlying artistic space and process is a domain that exists not only in performance, nor in the documentation, nor exclusively in experiences; instead, it is an assemblage of all the elements and for each person takes on a different shape. The two states in question repeat, double up, and resonate across two works, two disciplines, two performers, and two observers. Like Artaud's shadowy double of theatre, the plague, and cruelty (Artaud 2010), movement and sound, bodies and instruments, and technology and experiences form dualities and pairs that are inextricably intertwined and interdependent.

Performing with live-electronics and gestures is an established practice that dates back to the first electronic music decade, the 1960s, as seen for example in Stockhausen's *Solo*, begun in 1964 (Esler 2006). A qualitative shift occurred with the advent of computer-based live-signal processing, for example with Boulez's *Répons* (1981), which built on the era's highest performing musical computing available (Casserley 1993). Pioneering the use of gestural controllers at

institutions such as STEIM (http://steim.org/), Michel Waisvisz (1985, 1999) paved the way for practices by performers such as Laetitia Sonami (1991), Atau Tanaka (2000), and Sergi Jordá Puig (2005).

Mixing dance and analytical methods dates back to the early twentieth century with Laban's movement notation (Laban 2011; Maletic 1987), which was followed by the choreographic translation strategies of Mary Wigman, Martha Graham, and Merce Cunningham (Reynolds 2007), Steve Paxton's *Material from the Spine* (2008), William Forsythe's synchronous objects (Shaw 2011), and Wayne McGregor's collaborations with neuroscientists (Kirsh 2010) and dance researchers (deLahunta, McGregor, and Blackwell 2004). Interactive dance in the narrower sense begins with real-time-capable computer systems in the 1990s. Early in this field is David Rokeby's (1995) Very Nervous System (VNS). Since the 1990s dance-makers have explored interactive dance (Siegel and Jacobsen 1998; Bevilacqua, Schnell, and Alaoui 2011) and carried out research for archival and dissemination purposes (Bermúdez et al. 2011; deLahunta 2013; deLahunta and Bermúdez Pascual 2013).

Even though the modes of performing in this project conform to conventional stage settings, the shape of the works resonates with contemporary theatre. However, the orientation is deliberately non-theatrical and owes more to the *théâtre musical* tradition (Aperghis 1990; Gindt 1990) and the general concept of 'musicking' (Small 1999) as an overarching cultural technique than to specific issues originating from performance theory (Schechner 1988) or theatre studies (Birringer 1991; Lehman 2006; Rebstock and Roesner 2012).[1]

The particular position taken up in this project focuses on a discipline-crossing exploration between sound and movement. The specific question this project poses concerns the meaning and impact of, on the one hand, performing – possibly silent – movements in music and, on the other hand, generating music with movement through dance actions. In the mirrored configurations of the two pieces, through their reciprocal dependency, a number of underlying principles of movement and sound performance become visible. Thus phrasing, co-phrasing, co-articulating, and the handling of time units through these actions can be attributed to bodily dimensions, speeds, and energies. The resonance of bodily action in the perceptual space and through it the influence of gestures and movement phrases on musical density becomes perceivable.

The intention of this exposition is to explore methods for mapping out materials and reflections and gathering understanding about assembling traces and elements of both an artistic development process and a set of compact performance pieces. By doing this both from a

[1] 'The theatre that Lehmann identifies as postdramatic often focuses on exploring the usually unacknowledged anxieties, pressures, pleasures, paradoxes and perversities that surround the performance situation as such' (Jürs-Munby 2006: 4).

subjective point of view and from an outside observer position, an overlapping field of signification is generated.

The shift in significance through working with embodied presence is one that moves away from the material towards the changed quality of performance. It takes an increased level of knowledge and sensitisation to these issues to perceive and recognise the effects this has in the two pieces. Depending on the familiarity with the idiom, other aspects, such as sound materials or the use of space, may come to the foreground for a viewer.

The question whether the socio-political situation can be addressed by working in a black-box environment is a difficult, ethical question (Cobussen and Nielsen 2012) for all performing arts. In this practice we are tributaries to many cultural norms and socio-economical power relations. Obtaining access to a proper theatrical space and performing work that stretches its boundaries already depends on and exposes the artist's status within society. Embedding this practice in extended forms of communications such as sharing experience in workshops and intercultural encounters potentially generates a different social meaning.

Choosing the concert format eliminates some of the pressure of having to redefine the frame as well as the content of an artistic work. At the same time, it provides the audience with an already established frame of expectations and experiences, which is essential to measure their experience against. Removing the known frame of reference or situating the works in a completely different frame of reference brings questions to the foreground that may not have been the topic of the artistic work. One definite effect of situating the work in the conventional stage context is that the two pieces are compared with more traditional forms of music and dance. Since some of the inner relationships and interactions are unknown to the public, the pieces are challenging to understand. Communicating the intentions and ideas of the pieces to the audience before the performance helps alleviate this problem.

Finally, a large topic in itself, the use of technology is thematised here only insofar as it affects the agency of the performers and serves as a substrate for the corporeal performance. Addressing the significance of wearable technology in this context means asking questions about control and interdependence, as shown in the quotation by Suzan Kozel (2007: 271) and as illustrated in the symmetries graphic from *Moving Music*.

Artistic work

Double Vortex is situated in an electronic music performance practice that is based on real-time sound processing and gestural interaction. The piece is built on a framework that falls within the current practice of electronic music making. Through this filiation it inherits a number of assumptions and tropes that limit the potential for altering the format.

Moving Music takes on the principles of live-electronic performance and lets a movement expert – a dancer – take on the role of a musician. The dancer's movement is translated to ele-

ments of sound, the control over and responsibility for temporal and dynamic structure lies with the performer. This form proves to be less common in the domains of both music and dance.

In both cases the staging takes into account the use of the black box as an abstract space, where presence shows up in different degrees: the performers are in the limelight, and therefore occupy the centre of attention; the composer-performer sits at the front edge of the stage and is perceived as being part of the performance – his contributing role is clear. The audience partakes from a vantage point situated outside the stage space and contributes to the intensity of the performance by their focussed attention. The decision to frame the pieces in a traditional, frontal concert performance is made to be able to focus on other aspects of the process that seem conducive to generating insights about the core questions asked. Thus, the conventional framing establishes a sort of common baseline or ground truth.

This framework allows for a 'differential' method in composing. The frame doesn't exclude a deliberate stretching of those boundaries but helps focus the energy on those elements that are deemed essential to fulfil the intended goals of the piece. The 'differential' that is achieved stems from the fact that for most novel solutions a traditional element can be juxtaposed. An example of this would be the posture of a conventional trombone player and the way it expresses his or her conscious application to presence. In the new piece, this element is consciously shaped and results in making evident or even central the corporal presence of the performer.

The two central pieces of this project serve as vehicles for exploring corporeality. Their entire development and creation processes aim, on the one hand, at performance and, on the other hand, at creating a space for reflection, experimentation, materials collection, and iterative testing – in a continuous dialogue – of the configuration and balance between the key elements of each set-up.

The pieces share the formal framing; they are solo-pieces with live-electronics intended to be performed in a concert situation. The composer is always present as a live-electronic performer, influencing to varying degrees the evolution of musical elements. Furthermore, the use of technology is in both cases instrumental – that is, it provides the means to extend or alter the sound outcomes of an artist's musical performance. From a compositional point of view, both pieces consist of several sections that create a progression of musical materials, gestural expressions, and sonic principles. The works share the notion of a dramaturgic arc; they are neither static states nor minimalistic empty spaces.

The question of augmenting, sensing, and interfering with the performer's body through movement-to-sound linkage is a recurrent theme. In the case of the interactive dance piece, the connection through sensing technology between movement and sound poses a number of critical questions about the role and impact of wearable and surveillance technology on the performing subject, as is expressed in the quotation by Susan Kozel (see 'Quotations' section below).

Double Vortex for trombone, movement, and live-electronics is a collaboration between trombonist Beat Unternährer and Jan Schacher. A trombone player steps to the centre of the stage and performs a piece that lasts approximately fifteen minutes. Starting with breathing and an imperceptible rotation of the instrument and the body, the physical presence of the musician is the first and central compositional element presented. The piece gradually evolves from breathing and air sounds, to noisy double-reed multiphonic techniques and mouthpiece-less playing, to include feedback with the adjacent speaker and electronic sound processing. The movements of the trombone player become more expansive, finally covering all sectors of his peri-personal (body-encircling) space (see video 1).

The piece explores the performer's physical presence and actions; physical movements that have a 'musical' character become a core compositional element. The use of live-electronics and motion sensing problematises the relationship between musician, instrument, movement, and sound, as well as the algorithmic, autonomous system. Conceptually, the technology sits at the nexus between the instrumentalist's actions and the natural or electronically extended sounds. For the audience, the declaration and subsequent recognition and reading of the technologies and sound transformations during performance generates expectations: they want to see and recognise the linkages and dependencies that are at play through technical means. The system sometimes fulfils expectations, and sometimes proposes alternate modalities of interplay.

This piece is built using a modular framework, where playing techniques and dynamic qualities as well as movement-to-sound relationships constitute the skeleton of musical material. The compositional juxtaposition of movement and sound instructions leads to sections during the piece, where the activity of the musician consists of simultaneously playing and moving with body and instrument, or performing with the body alone. In addition, two sections of the piece deal explicitly with autonomous decision making in human–machine interaction and foreground the question of agency and intersubjective interaction in the interplay between trombone player and algorithmic system. The piece ends with the trombone player's breathing, while the autonomous algorithmic system continues playing on its own, before being cut off.

The piece for interactive dance and electronic sound *Moving Music* is a collaboration between dancer Angela Stoecklin and Jan Schacher. The underlying question of how gesture influences the perception, affect, and impact of music is shared with the trombone piece. In the relationship between dancer and sound, however, they exist under an inverted sign. Compared with music there are fundamental differences in how dance deals with time and movement materials. When considering how dancers' movements are always already their material, how the dynamics of movement are self-evident in the dancers' bodies, it is noteworthy that a musician's dynamics and expressions always require translation into the sound-domain to take their effect (see video 2). The two domains only share a limited set of fundamental characteristics and prin-

ciples. Whereas dance and movement is inherently multi-dimensional, multi-modal, and based to a very high degree on physiological as well as psychological human factors (Kozel 2007), technical processes of electronic sounds are based on models of mathematical formalisation (Xenakis 1992).

The exploration of materials for this piece is informed by the categorisation of movements and their qualities as defined by Laban (2011). In his system the term 'effort' is one way of defining the central aspect that human perception is sensitive to when identifying movement qualities. Using the term in its most literal form enables a direct linking of measured effort – that is, energy – with sound energy. By doing this in the fundamental dimension of time, the piece explores shaping or phrasing of time with the aid of linking individual limbs to sound processes. Contrary to music, in dance, space in its absolute form plays an essential role. The placement and trajectories in space are basic material for movement and are translated to a sound map with the aid of camera tracking.

The overall structure of the piece has the classic form of the thesis, antithesis, and synthesis. The first two sections focus on the aspects of time and space. The third section enables a more complete expression of movement and sound. The dancer's task is to take the materials, forms, and interactions of the first two sections and transform them with the intent of shaping and phrasing without restraint. The goal is to explore the dynamics and forces that have accumulated over the time span and to put them into a succinct order of movement phrases and sound 'gestalts' through the electronic sound-generation 'instrument' that is at the dancer's disposition.

Present and past of performance

Two perspectives complement each other when analysing performance work: The present is where the actual performance takes place and all elements are compressed into a dense 'manifold' (Held 2003) of corporeal, affective, cultural, and social dimensions. The past includes one's personal history as well as the history of development of a work, but also – after the performance – the remnants of the moment, its artefacts and traces.

Considering the present of performance is a delicate proposition. Going through the singular moment of performance means traversing changing states of focus, of exploratory indetermination and of concentration. The compressed moment of the performance is a crystallisation point along a chain of activity that starts long before going onstage and does not end there. The transition from loose activities in the experimentation phase to the increases in pressure during final rehearsal, to the moment of the actual performance is stepwise, never just gradual. The transition into the moment of the piece in the actual performance is rapid and uncontrollable: by stepping into the limelight in front of the audience there is no turning back.

The increased pressure and that this moment counts provide the performer with extra energy, a higher focus, possibly a state of hyper-awareness (Phelan 1993: 147) or hyper-reflection

(Kozel 2007: 22) that allows multi-focal, multi-level (self-)perceptions and (self-)observations. The improvisatory attitude and attention is directed towards navigating the altered state while following pre-agreed structures, ideas, or aesthetic choices.

The choices that become possible cover a wider array of meanings, affects, and impacts – more choices than can possibly be reached and understood only in rehearsal-studio or laboratory situations. The iterative process of sketching, exploring, and developing that occurs through rehearsals and preliminary showings is part of the process. The compression-relaxation cycle is what fuels refinement or maturation. The experience of the work in the 'actual' environment of the performance makes the value of choices become evident and easier to discern.

A performance possesses a density and compression that brings together countless sub-personal, individual, collective, and social significations in an inextricable mesh of intertwined fragments, layers, planes, vortices, and circles. This moment of 'doing' in the condensed presence of all participants is what Schechner (1988) calls the 'actual'.[2] It denotes a shift from potentials and pre-given norms and structures to the realisation of action, rituals, and drama in performance. The actual is present as long as the performance is ongoing, then this evidence disappears and cannot be fully recreated, except through another full-blown performance. Schechner's 'actual' does not require a virtual that is 'subjective, or duration', or a multiplicity in the sense of Deleuze (1988: 42);[3] rather, the actual coming together of material and social conditions in performance engenders a concrete but open transformation of state of those partaking. All the same, the 'actual' has a unique status as a cultural element. What is left after these moments of 'actualisation' is only a trace in the memories of the persons who were present. These memories are highly multidimensional and encompass the sensorial inputs, the affective, physiological reaction, sensations, feelings, and emotions that arose through the performance. Technological recording techniques are merely capable of capturing a few modalities, mainly audio and visual, that serve as aides-mémoire in further work but also have a 'materiality' of their own.

Considering the past of performance is equally problematic. When operating on fragments, traces, and leftover forms after performance processes and actual moments, the central issue lies

[2] 'An actual has five basic qualities, and each is found both in our own actuals and those of tribal people: 1) *process*, something happens *here and now*; 2) *consequential*, *irremediable*, and *irrevocable* acts, exchanges, or situations; 3) *contest*, something is *at stake* for the performers and often for the spectators; 4) *initiation*, a *change in status* for participants; 5) space is used *concretely* and *organically*' (Schechner 1988: 46).

[3] 'The subjective, or duration, is the virtual. To be more precise, it is the virtual insofar as it is actualized ... it is inseparable from the movement of its actualization. For actualization comes about though differentiation, through divergent lines, and creates so many differences in kind by virtue of its own movement' (Deleuze 1988: 42–43).

in the shift of status: the origin, the primary works, or the objects possess infinitely densely intertwined or enfolded multitudes of relationships, significations, and effects that are not present anymore in the trace. The primary artwork's virtue is that it generates a compact, singular entity, but its descendants, the traces, echoes, and secondary emissaries, do not possess this power. It is necessary to make explicit and present in a 'tangible' way those elements that would form the new narrative and thus 'retrace the transformational relationships' (Schwab 2014: 37) to their original.

Linear argumentative language is one way of effecting such a translation. However, to become an appropriate rendering or approximation, the lines of intersection and connection, the lines of flight, merely function in a loose association and do not let a single rigid form emerge. The multiple intersecting planes, vortices, slightly decentred spheres, and circles (Merleau-Ponty 1968: 138) demand an entangled, enfolded, shifting, and continuous rearrangement of elements, a reading or transection that can only be one of many attempts, a fortuitous choice or random occurrence that generates meaning from the intrinsic connections and inherent potential of the elements inherited from the original source of the primary work.

The activity of finding or defining paths across an accumulation of materials, territories, or planes (Deleuze and Guattari 1988: 512) always constitutes a map. In concrete terms, the present exposition on the weave of the research catalogue is a map of elements that are all related to the project at stake. Since 'a map is *not* the territory it represents, but, if correct, it has a *similar structure* to the territory, which accounts for its usefulness' (Korzybski 1994: 58) or Magritte's 'ceci n'est pas une pipe', the discrepancy between the signifier and the signification is evident. If the territory in our case is the fleeting, ephemeral 'actual' of a performance and the map is a reading of more solid traces, artefacts, and resonances of this intangible object, the relation between map and territory could even be considered to be inverted. It is important to avoid reifying the map at the expense of the 'actual'. De-multiplying readings and continuously rearranging the map provides a promising if impractical solution. Nevertheless, if additional communication outside the place or time-space of performance is intended, engaging in a process of continuous re-readings and rearrangements of the assembled traces is necessary. Consequently, in artistic practice if not research through art, the process of map making is always occurring. The critical questions then are what possible forms can the maps take, how accessible can they be, and how well can they communicate that to which they refer?

The connecting and establishing of relations between trace elements of a performance and the manner of reading a performance from the vantage point of the partaking audience constitutes a type of diagram. The web of interpretation can take a multitude of forms, some visible as sketches, or graphical diagrams, or juxtapositions of blocks of text on the page, some invisible as understanding of relations through recognising repetitions, commonalities, and parallelisms. This exposition as a whole attempts to function as a diagram, a symbolic representation and lay-

ing out of elements with their connections. From low-level local juxtapositions that sometimes even look like diagrammatic drawings to the highest level of layout, which is only visible through the navigator, the significance of elements and their relationships is important. The groups arranged on the page with their individual lines of flight denote their dependence and the slipping relationships among one another, which in an alternate, less fixed form would be rearranged fluidly with every new reading.

Even without extending into abstract signification (the concept of laying out heterogeneous objects side by side to form an assemblage), the value of such an unordered and non-hierarchical procedure becomes clear. It is precisely through the equivalences of all elements, through their juxtaposition rather than ordering by dependencies, that an open field, a malleable pool of materials, is generated that is essential for navigation, reading, and drawing of connections, if not conclusions. Assembling does not mean fixing; the grouping may shift, dissolve, and rearrange itself at any moment. This malleability is crucial for constructing a second-order art object from the ruins of the primary work. Assembling as an activity rather than assemblage as a state is also appropriate to the time-sensitive nature of the performing arts context. In the same way that a partaking audience member co-performs with the musician or dancer during a show, the reader co-assembles the exposition with the author. In that sense, the translation mechanisms, the method of salvaging and rebuilding, are art practices in themselves, but only to the limited extent afforded by the fragmentary nature of the mere traces and impressions upon which they are based.

Observations

The development processes of the two pieces were accompanied during the entire period from their inception to their final form by psychologist and second author Patrick Neff. This was done through observation, participation, and conversation and resulted in the following paragraphs.

Before this project, the trombone player had never consciously integrated and refined movement and gesturality in his practice. Although, limited by his instrument – both hands are needed to hold and manipulate the trombone and this constricts the movement of the upper body to a fixed posture – the performer is motivated and inspired to explore new possibilities of movement. With the motivation and inspiration to explore the boundaries of movement and gestures in trombone playing in an interactive setting, the performer seems at a turning point of his gestural performance practice. He explores the space through movements of the instrument with its implicit directionality: he uses it to sound out the room by sending and receiving impulses and textured sounds. Furthermore he investigates aspects of temporality and anticipation through different movement velocities and by (mis)matching sound with motion. With this (mind)set, the performer therefore begins the personal process of establishing a new practice.

His focus of attention shifts from bodily awareness and control to awareness of sound and space: the bodily postures, movements, and directed trombone sounds are now used for artistic expression and performance flow. This two-tiered process is iterated over the development process of the piece.

The dancer-performer in *Moving Music*, on the other hand, brings a lifelong practice of gestural improvisational dance and reports an intrinsic motivation aimed at the fulfilment of her 'urge to move' and 'perfectionism in action not thought'. Contrary to the instrumentalist, there is no 'mediating' instrument present and the body is in direct contact with the space. The movements and sounds are felt to belong to the same field; the performer is capable of dwelling in this intimate and immersed state, which seems to be a prerequisite for exploring, integrating, and generating new expressive movements. The development process of the piece went through a 'basic set' of movements, and parameters such as velocity and density were defined. These were used as 'stains of the body' – a personal mode or (mind)set of the dancer-performer that helps her practice. Through this, the performer is able to focus on the interaction with sound and space, which is particularly important in this setting since she actively triggers and modulates the sounds.

In the development of both pieces the disposition of a performative state is observed in which the artistic processes and content can grow under ideal circumstances. This state, while being established and applied slightly differently in each piece, is in turn also key to both performances. In the trombone piece, it enables the performer to directly interact with the space and probe it by continuously reinterpreting the material, and provides the audience with multilayered perceptions and expectations. The dance piece is different in two aspects of the performance: First, the performer is not static; she is not forced to stay in one place. Therefore, she is capable of exploring the physical space as well as the sound-space with her own body by going to different 'topographical' locations. The room and body can be seen as the 'instrument' where the sound is produced through the interaction of the two. Second, the dancer does not need to handle an actual instrument and its associated cultural codes. Reduced to the 'mere' body and corporeality, the performed gestures, postures, and sequences do not need to overcome strong sociocultural tropes as is the case in the trombone piece. In turn, the trombone piece, with its constant challenging of standardised perceptions, may be more accessible to the audience through the violations of corresponding expectations. In the dance piece this dimension is missing and the audience is faced with a wider and less known array of movement and sound possibilities.

After analysing the development processes of the pieces, the evolution of a narrative or discourse within the 'actual' performance of the two pieces exhibits parallels. Both pieces start with a silent set-up, an empty 'stage', and a single visible performer: a clean slate. Both pieces slowly and continuously explore single movements and their interaction with sound and space,

gradually evolving into patterns of greater complexity. The observer is able to grasp all the discoveries of the performer as the tempo and focus of the build-up is gradual. In both pieces the transition to different states or 'stains' is marked by pauses or transitions. In the dance piece, the exploration of different 'parameters' becomes central, whereas in the trombone piece qualities and speeds change. In each piece, densities and tensions increase and tend towards a climax; boundaries are crossed and extremes are attained – in both performances this is reminiscent of random natural life processes and dramatic primitives. A 'human' scream, detached from the instrument and the other sound materials of the performance, marks the culmination point of the trombone piece, whereas the 'catastrophic' collapse of the dancer at the end of the piece is interpreted in the same way. Both performances fade out smoothly and end as cryptically as they began.

Part of understanding the different positions present in the artists-and-observer constellation is to draw parallels in the perception processes between the inner and the outer points of views and perspectives: the involved artists and the observing psychologist, respectively. The intention is to crack open the 'black box' of the artistic development processes, even if only a tiny bit. The participation of psychologist Patrick Neff as a – possibly biased – 'outside' observer enables the extraction of information about patterns and modes of operation that are usually hidden in the blind spot of an individual artist's practice.

From the point of view of the actively engaged artists, the parallels and commonalities between the two workflows can be seen everywhere, as is noted at other points in this exposition. Parallels can be seen in the iterated methods that are applied in the disciplines of both dance and music; they include compositional strategies and structural decisions about the form of the pieces. Seen from the inside, even when dealing with two disciplines that do not share all their fundamental principles, the commonalities exceed the differences. This insight is based on working with both disciplines over an extended period.

From an outside perspective, it is noteworthy that we are only interested in similarities between the pieces that were *not* the result of structural and procedural influences of the research project. Nevertheless, the co-creations are linked; even if parallels, mirroring, and identical aspects between the pieces are constantly discovered while observing the process, the momentum of reciprocal influence remains a 'black box' and is only resolved with specific information obtained from the performers involved in both pieces.

Reflections

Reflection on processes of art making is an integral part of any artist's method. It serves to guide and sharpen, differentiate, and refine the works created. Organising it in such a way that it extends the primary artwork with additional elements is what distinguishes 'artistic practice' from research that communicates beyond the work's original environment. The performing arts

produce no tangible and lasting objects. The ‘actual’ (Schechner 1988) is contained in a performer’s effort and expression and is translated into an experience for the audience. The primary ‘actual’ is gone as soon as the performance is over. The main strategy used to mitigate the fleeting, evanescent nature of the art objects is to collect all possible forms of traces, both from the development process and the actualisation, in the hope that through these surrogate objects, single, detached aspects of the primary work might resonate and produce inklings that still relate to the original experience. Through an archaeology of the immediate past of performance, the processes, concepts, and methods used after performance take on a new signification. Physical artefacts, texts, sketches, notes, discussions, audio and video-recordings, and photographs are all examples of traces that might foster the emergence of a new identity of the work, in a new, second order form (Schwab 2014).

Composing at the edge of a known style with the influence of outside concepts demands that one engage in processes of speculation, experimentation, and loose ways of fixing structural, interactive, or sonic ideas. The use of sketches as external representations is an essential means of ‘coming to grips with’ or apprehending the various forces and elements involved in the processes (Nakakoji, Tanaka, and Fallman 2006).

Paper-based sketches such as drawings, diagrams, maps, and collections of key terms are generated before, during, and after the development process in the collaborative working sessions. These graphical arrangements provide a support for metaphorical, visual thinking (Arnheim 1980), by using structures in the visual domain to think and communicate about the organisation of materials and processes. Sketches maintain a fleeting, ephemeral quality until the ideas they contain have been experienced, evaluated, and deemed worthy of keeping.

Non-paper sketches are based on the same principles of exploratory experimentation. A typical sketch of this kind is a ‘what-if’ scenario during a working session, where a new notion or idea surfaces, and the collaboration partners agree to test it without prior structural, technical, or conceptual preparation. Thus, trial and error is used to generate an experience on the basis of which it becomes possible to evaluate the effectiveness of certain interaction strategies, formal constructions, or sound ideas (Edmonds, Bilda, and Muller 2009).

The core of this method is the dialogical process, which is characterised by a collaborative compositional development. Beginning with communication through language-based exploration of visual sketches, the dialogue continues through explorations of materials, interaction patterns, and sound transformation processes. The loop is closed after the performance of a sketch, of an intermediate state of the work, or an actual performance in concert. These pre-, intra-, and post-experimentation dialogues result in common ‘agreements’, which take the place of a score.

In this context ‘corporeality’ can only be addressed by looking at the potential and impact of performing with the body. Whereas for the dancer the action of creating expressive forms with the body is part of the core discipline, the same cannot be said of the trombone player.

Conversely, having the dancer follow musical rather than kinaesthetic and movement principles for the creation of forms and structures pushes her into a new territory. The resulting imbalance has an affective impact, first for the performers, who become aware of the corporeal presence in a less than habitual way, second through kinaesthetic, non-verbal channels for the audience who are confronted with unfamiliar performance styles.

The trombone player's astonished statement that 'Movement sounds!' indicates that the conceptually motivated task of performing silent phrases with the body shifts his perceptual focus and emphasises the affective impact of movement. Although musicians are trained to be and are used to being physically precise in their actions, awareness of the expressive potential of the body is rarely developed. Through the decision to put movement and corporeality at the centre of the work, every involved person becomes acutely aware of the importance and impact that the body has on this kind of performance.

The dancer in *Moving Music* finds herself in the inverse situation. Being an expert in expressive body work, the challenge is now to reduce the richness and polyphony of 'kinetic melodies' (Luria 1973; Sheets-Johnstone 2009) and 'moving forms' to a functional instrumental shaping of – a limited set of – sounds. The reduction results in a demonstrative exploratory and searching action that has the benefit of being clearly legible to the audience. The corporeal presence of the dancer undergoes a transformation in the opposite direction to that of the trombone player. At first she needs to remove bodily capabilities and habitual modes of performing, before the dual tasks of instrumental and dance actions can be integrated. Nevertheless, the dancer's statement that her 'perception of movement tends to be purely auditive' finds its reflection in manifestations of musical phrasing within the movements. For the audience, from an outside perspective, the corporeal presence of the performers is essential for experiencing the pieces properly. As with all performing arts, being part of the situated, physical, corporeally shared space is what engenders the full experience.

From the point of view of the observing psychologist, being in the state of the 'naive' spectator allows one to let go of the continuous interpretation effort and to pay attention in a mode described as 'focused on the sound, but aware of the movements'. With 'divided attention', the experience of the performance happens in an empathic, embodied manner while experiencing intrinsic pleasure. This produces semantic reverberations and a perceptual immersion in both sound and movement. Nevertheless, the urge to interpret and analyse returns: despite experiencing intrinsic satisfaction, the inner process of constructing narratives and interpretations when thinking of the pieces is a consequence of thoroughly following their creation and iterations.

In the case of the dance piece, the personal narrative evolves around an organism or being that comes into life, experiences and explores the world around it, starts to interact, and finds its place. This story continues with the 'catastrophic' collapse towards the end, representing defeat or death. Subsequent resurrection and continuation is only a logical consequence of the con-

structed narrative and closes the perceived 'circle of life'. The specific nature of sounds – they changed substantially during the development of the piece – matters less than the tangible 'interaction' of the fictional being with this natural habitat.

The trombone piece contains aspects of a personal narrative about a developing life or general evolution as well. The directionality and axes represent the prominent 'salient' features in this performance; the variation of tempi, the 'curvy' and 'edgy' movements, and the abrupt changes in axes and directionality create a stark contrast with the rather fluid and organic dance performance. The changes in directions and the mode of exploring the (sound-)space through directed sounds lead to a similar interpretation of 'learning and failing'. In the trombone piece, the epistemic impulses – or cultural codes – are provided by the stage set-up and instrument, whereas in the dance piece they are delivered directly to the place in space.

The parallels and mirroring between the pieces are evident and occur between the actual performances and developmental phases, as well as between performer and audiences. Finally, let's not forget that our minds are incapable of not generating patterns, connections, and meanings. The question remains: Are these patterns or narratives intended by the artists or are they the result of a biased perception?

From the point of view of the artist(s), the essence of performance resides in its fluidity and ephemerality, and is a manifestation beyond words. Even though it is meant to be experienced live and directly from person to person, the acts of thinking, writing, and arranging traces form an important part of communicating the outcomes of this process. To understand the unfolding continuum of ideas and perceptions, the collection of traces becomes an indispensable part of a method that aims to reach beyond the immediate domain of the performance, to include experience and memory.

As with any fully realised cultural and human endeavour, the experience is singular and impossible to properly share. Nevertheless, it is precisely by sourcing an additional effort of presenting materials from the unique position within the performed moment that a richer and more satisfying interpersonal exchange can take place, which multiplies the impact of an artwork. In this regard, persevering in the conflictual state between the doing and the talking, between performing and communicating, provides a worthwhile and fruitful attitude in the specific kind of performing art presented here.

Quotations

> There is an extraordinary push-pull to wearable and ambient technologies, a dynamic of seduction and repulsion. We are seduced by the convergence of computational systems with corporeality … or by unseen systems that anticipate corporeal needs … ; seduced by the potential expansion of our senses, intellects, and imaginations, of how we engage with the world, how we

> communicate, how we remember the past and project desires into the future. Yet we are only a breath away from repulsion at the specter of the monstrous body or monstrous forces of surveillance and control lurking just behind the technologization of the body. Once the domain of research and performance converges with skin, blood, flesh, internal organs, biology, or DNA, political questions around who controls, owns, or has access to our bodies are unavoidable. (Kozel 2007: 271)

> But my seeing body subtends the visible body, and all the visibles with it. There is a reciprocal insertion and intertwining of one in the other. Or rather, if, as once again we must, we eschew the thinking by planes and perspectives, there are two circles, or two vortexes, or two spheres, concentric when I live naïvely, and as soon as I question myself, the one slightly decentred with respect to the other. (Merlau-Ponty 1968: 138)

> The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality. (Deleuze and Guattari 1988: 142)

> The use Fuller makes of the 'dot' is in a sense a concentration or dilation of an infinite expanse of spheres of energy. The 'dot' has its rim and middle, and could be related to Reinhardt's mandala, Judd's 'device' of the specific and general, or Pascal's universe of center and circumference. Yet, the dot evades our capacity to find its center. Where is the central point, axis, pole, dominant interest, fixed position, absolute structure, or decided goal? The mind is always being hurled towards the outer edge into intractable trajectories that lead to vertigo. (Smithson 1996: 94)

The impossibility ever of fully grasping complexity in art might be exemplified in a reflection Smithson makes about 'mapscapes or carthographc sites' in relation to an abstract idea of minimal space. Although Smithson's central works are in the domain of land art and his writing about the 'mapscape' is concerned with the fascination with actual representational maps, what is interesting in his reflection about Fuller's 'dot' is the realisation that it cannot be fixed or tied down, its centre is unreachable. In a sense the 'infinite expanse of spheres of energy' correlates with the compressed, singular moment of performance, where the 'concentration or dilation' is a characteristic of the intangibility of the moment onstage, and the attempt at grasping and trying to generate understanding may lead to actual 'vertigo' and being hurled 'to the outer edge'.

> In the passage from one to the other, from the assemblage of sounds to the Machine that renders it sonorous, from the becoming-child of the musician to the becoming-cosmic of the child, many dangers crop up: black holes, closures, paralysis of the finger and auditory hallucinations, Schu-

> mann's madness, cosmic force gone bad, a note that pursues you, a sound that transfixes you. (Deleuze and Guattari 1988: 350)

> In performance, the body abruptly and explicitly comes into visibility and resists forms of objectification that may put it to rest, to clarity and obviousness. The body becomes maniacally charged, in the sense that it enacts fears, fantasies, beliefs and so on, and in the sense that it confronts and makes us suffer as soon as we have to turn to its bold presence. The body, in its distressing explicitness – which may be an explicit absence – exhibits an existential level that is usually concealed, partly because it functions without (and even underlies) our ordinary and superficially guaranteed awareness. (De Preester 2007: 352)

Key statements made during interviews between the performers and observer Patrick Neff:

> 'My perception of movement tends to be purely auditive.'
> 'Perfectionism in acting, not in planning.'
> 'The visual sense is only needed to prevent crashing with objects.'
> Angela Stoecklin

> 'Movement sounds!'
> 'Movement is louder than sound!'
> 'I'd love to learn new gestures for artistic expression!'
> Beat Unternährer

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