Dialectic Attempts in Artistic Eurhythmics Practice
Towards a notation of spatial qualities through an iterative multi-layered description

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In this contribution we introduce and discuss an iterative descriptive practice for the field of eurhythmics performance research by means of a performative interpretation of the piano etude 'Sur la montagne' by Émile Jaques-Dalcroze. We thereby try to achieve two objectives. On the one hand we would like to add methodological content to this field of research which in this regard is otherwise sparsely populated. On the other hand, we aim to enrich the practice itself. First, we describe the context of this research and discuss a case study on a Dalcroze score with an underlying didactic subject of creating spatiality through phrasing, dynamics and pedalling. Then we outline the iterative descriptive practice through a set of challenges and methodological ingredients. One of these is the pluralistic perspective in the sense of pluralism as a paradigm that favours the co-existence of several opinions versus only a single one. Another one is the cartographic approach connecting multiple threads and cross-references. In both we consider the border crossings between different disciplinary views to be crucial. We conclude with an example of this methodology for the Dalcroze case study.

Dans cette contribution, nous présentons et discutons une pratique descriptive itérative pour le domaine de la recherche sur la rythmique à travers l'interprétation performative de l'étude pour piano « Sur la montagne» d'Émile Jaques-Dalcroze. Nous essayons ainsi d'atteindre deux objectifs. D'une part, nous souhaitons ajouter un contenu méthodologique à ce domaine de recherche qui, à cet égard, est par ailleurs peu peuplé. D'autre part, nous cherchons à enrichir la pratique elle-même. Nous décrivons d'abord le contexte de cette recherche et discutons d'une étude de cas sur une partition de Dalcroze dont le sujet didactique sous-jacent est la création de la spatialité par le phrasé, la dynamique et la pédale. Nous décrivons ensuite la pratique descriptive itérative à travers un ensemble de défis et d'ingrédients méthodologiques. L'une d'entre elles est la perspective pluraliste au sens où le pluralisme est un paradigme qui favorise la coexistence de plusieurs opinions par rapport à une seule. Une autre est l'approche cartographique qui relie de multiples fils et références croisées. Dans les deux cas, nous considérons que le franchissement des frontières entre les différents points de vue disciplinaires est crucial. Nous concluons par un exemple de cette méthodologie pour l'étude de cas Dalcroze.

Introduction

Methodological research for and through artistic practices is crucial for their advancement and enrichment and this is particularly the case for the artistic eurhythmics practice. In the artistic research project "Atlas of Smooth Spaces" (funded by the Austrian Science Fund FWF) we investigate spatial phenomena in the audio-corporeal arts. We seek to notate, create, communicate and eventually compose spatial phenomena. The emphasis lies on spatial qualities rather than metric quantities. Here we pursue a methodological investigation of such spaces in the audio-corporeal practices. These practices share an alertness for and a certain tacit knowledge about space. We are not concerned with the metric properties of spaces but instead with the emergent qualitative spatial qualities of spaces that exist outside of but not without the performer.

As a crucial ingredient for our case study, we have placed the concept of a nullspace. Within the context of such spaces of qualities we define a nullspace as an essential expression or a fundamental attitude within an audio-corporeal artistic practice, much like the baseline model in mathematical statistics. In the following we describe one possible nullspace of artistic eurhythmics research based on a case study of an étude by Jaques-Dalcroze. With this example in mind, we will outline a more general methodology and use this particular case study as an example to explain the methodology.

Case study on the étude 'Sur la montagne – étude d'espace et de jeu de pédale'

The decision to choose this original score from Dalcroze as study work for our nullspace research is on the one hand based on the desire to trace the underlying roots of contemporary eurhythmics practice. On the other hand, this score provides substantial parameters connected to the aspect of space qualities. A few questions guide the experimental case study: what is in the centre of a eurhythmician's artistic routine? How far is music conceptualised as movement in space? How is music being expressed as movement in space and which space concepts are underlying in the music-choreographic formats existing in the realm of eurythmics (historically, contemporarily)? What role does (kinaesthetic) listening play in this kind of concepts and practices? How does a eurhythmician apply his/her identities as an instrumentalist/ vocalist in a spatial setting and which kind of audio-corporeal expressions are generated by their body archive as mover-instrumentalists? How is space being created through the lense of Dalcroze's musical score 'Sur la montagne - étude d'espace et de jeu de pédale' from the 4th booklet of the '50 etudes miniatures?[1]

As far as the concept of space is concerned, there seems to be no other work by Jaques-Dalcroze in which it explicitly appears in a title.[2] However, this does not mean that the dimension of space is not present in Dalcroze's other works[3] [4]. The piece chosen here is supplemented in the subtitle by 'étude d´espace et de jeu de pédale'. Dalcroze obviously points at the varied use of pedal play as a means of expression for spatial sound effects. Not without reason the pedal is often being compared with the natural vibrato of the human voice or the vibrato of string instruments. The piano tone can be shaded in many ways through pedal use. Repertoire study on the piano is therefore indispensably connected with pedal playing and effects (see for example Banowetz, 1992); Dalcroze dedicates one separate subchapter to the pedal technique in his remarks 'La rythmique appliquée a l'étude du piano' (Jaques-Dalcroze, 1918, p. 6-7). The pre-condition for differentiated pedalling is differentiated listening and flexible sensorimotor reaction of the interplaying body parts. A pianist´s pedalling is constantly reacting on the piano's and venue's acoustics which in itself is an emergent process. On closer examination of Dalcroze´s notation, the composer makes various suggestions for pedalling, alternating finger legato and pedal legato in the legato slurs of the melodic phrases. The pedal entries and exits are precisely notated. Dalcroze seems to be deliberately playing with spatial atmospheres here: sometimes dry, sometimes muted, here dark (in the bass register) and blurred (very long pedal phase), there brilliant and sonorous, sometimes on the border of the audible and porous. The sometimes very long pedal bows require the use of various pedal techniques: half-pedalling or even quarter-pedalling, half-damping, and flutter (surface or vibrato) pedalling which all involve the similar technique of only depressing the pedal, and therefore the foot, a fraction, sometimes as little as an eighth of an inch depending on the piano (see Spanswick, 2015).

Another layer of space can be derived from Dalcroze´s very uncommon notational choice of the pitches that run through all registers of the piano: it could also be read as

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1   An intention that Jaques-Dalcroze pursued with the composition of the 50 Miniature Etudes may be apparent from the full title: 'Cinquante Etudes Miniatures de Métrique et Rythmique écrites pour le piano à l'usage des petits rythmiciens ainsi que des enfants et adultes de tout âge n'ayant pas fait d'une étude spéciale de rythmique'. So, there is clearly a didactic intent in his approach and at the same time the pieces, especially the fourth book, can be performed very well in a concert. It is interesting that each piece has a 'picturesque', often humorous title and a subtitle indicating the didactic intention of the musician (many thanks to Mr. Jacques Tchamkerten for providing information on this). Henri Gagnebin's commentary on the '50 Etudes miniatures', found in the collective biography written in 1965 (p. 288): "The title could be misleading and lead one to believe that these are purely technical pieces. These are purely technical pieces, where the author juggles with the most complicated metric combinations. […] But Jaques-Dalcroze is above all a wry observer of life, of people and their little foibles, a poet who knows how to transform everyday banality into an enchanted world. […] Each of these studies is a marvel of charm and humour."

2   In the first booklet of the 50 miniature etudes, there is also a 'Study on space and the decomposition of durations' with the title 'A petits pas dans la forêt du mystère' (small steps in the forest of mystery, transl. H.P.).

3   In this context the 16 Plastic Studies (for piano solo but some of them were even orchestrated), which are pieces conceived for Hellerau are of central meaning.

4   Special thanks to Mr. Jacques Tchamkerten – swiss musicologist, organist and ondist – who, as a Dalcroze connaisseur, was so kind to provide information on this.

space chart with all its auxiliary lines (there is a repeated melody lead followed by a big arpeggio ranging from the bass to the treble and therefore requiring notational solutions). In summary, the instrumental interpretation of the piece, as a first examination of the previously posed questions, already allows many spatial projections and spatial movements to take effect on the process of our case study.

After having interpreted and shaped the pianistic expressions of 'L'étude d'espace' the next step was to design a movement interpretation as 'plastique animée', being one of the music-choreographic formats existing in the realm of eurhythmics (see 'Le Rythme' 2017 issue on 'L'interprétation corporelle'). The aspects which the movement interpretation is reflecting are manifold: the search movement of the melody (as narrative) in space and analogous to this, searching movements of the gaze, head and torso which lead to shifts in the weight of the pelvis on the piano stool which in turn correspond to shifts in the weight of the fingers in the keys and between the hands on the journey of the wide arpeggios; the 'spontaneous expression of an inner sculpture' (Émile Jaques-Dalcroze, 1921, p. 166) inspired by the sensory spaces the piece creates; the pianist´s/ eurhythmician´s attitude towards the corporeality and spatiality of the piano and its voice; the movement repertoire of a pianist with its range of functional, expressive and personal vocabulary etc., to name a few.

Challenges and ingredients of the methodology

We propose a set of elements that can be combined into a practice for developing a description that also functions as a notation. These can be read as a recipe, but can also be shuffled or re-interpreted for other purposes. We believe that descriptions of practices in the field of eurhythmics research and more generally in the audio-corporeal artistic practices need to address a series of challenges that are outlined in the following. We henceforth propose methodological ingredients that aim to meet those challenges.

One of the major challenges that a description faces is its dependence on the perception, the language, the idiosyncrasy, the personal history and the constitution of the describer. A trained pianist without exposure to, say, carpentry might for example have a different tactile experience or motor reaction to a performance than a carpenter who at the same time is not a trained pianist. Even any two trained pianists might have different reactions to the same performance. The cultural and language background of the describer factors into this dependence as well. The idiomatic expressions available in certain French dialects yield different descriptions to those that draw from, say, the Baltic languages. Even the physical position of the describer within the context of the performance plays a prominent role as in the description. With this in mind it becomes apparent that any single description of a single describer would be but a brush stroke of the picture that the description ought to be.

This discrepancy can be addressed by superimposing various descriptions, similar to how one would layer brush strokes over another to achieve ever higher depth. This ingredient may be referred to as the *pluralistic perspective*, in the sense that it provides a plurality of descriptions and also in the sense of pluralism as a paradigm that disfavours any single opinion versus the co-existence of several. Adding this ingredient in practice means that there will be multiple describers, each of whom may choose to take multiple perspectives. The performers may be one of the describers and if they are, their contribution should not be weighted more or less than that of the other describers. This does not mean that their role in the performance is disregarded.

Another related challenge is the rigidity, the lack of depth and the coarse granularity that a description may suffer from when it is set in stone once and for all. One may for instance aim to describe a certain spatial atmosphere just before the onset of the first movement. Irrespective of whether it is considered part of the performance or not, there is a great accumulation of expressions, tensions and attentions in this phase. In a first descriptive attempt one of the describers may wish to focus on the geometric arrangement of the

performative space. Suppose the describer later wishes to focus on the luminar qualities of reflections and colour saturation or the flickering atmosphere in space. In a description that is fixed unchangeably, there would be no space for such an addition.

We try to overcome this deficiency by invoking an *iterative methodology*, which we consider to be another ingredient. Each iteration step adds depth and refines the granularity of the former iteration. We distinguish two types of iteration steps, one of which extracts information from the former step and another one that deepens or diversifies the previous description layer. The former type could for instance extract all the information that relates to movement or processes. The latter type typically starts with a question that refines the description. An example would be the question "Which spatial area has the highest amount of tension before the first movement" or "How exactly does the luminar quality change the tension?". The iterative methodology also plays an important role in the mathematical fields of analysis (Godement, 2004) and in proof theory (Buchholz, Feferman, Pohlers, Sieg; 2006). It is for instance known that any continuous signal can be arbitrarily well approximated by the superposition of sine waves of different frequencies. By adding more and more sine waves of varying frequencies, one may achieve a higher resolution and more fine-grained resemblance of the original signal. One may also distinguish between the qualities of the iteration. The iteration may for instance fail to converge, or it converges in relative terms (so-called Cauchy convergence) or with respect to an absolute objective (so-called absolute convergence), just to name a few examples in mathematical analysis. Iteration is also crucial for induction, a proof method that establishes a consecutive statement based on a previous one resulting in a chain of statements that hold for an ever-greater set of situations.

Arguably one of the pitfalls of descriptions is their intention to establish objectivity where subjectivity and contextuality are needed. What is the movement of an arm outside of its experiential context? A movement could be the determined articulation on a piano in one context for one describer or a mere ornamental gesture in another context for another describer. This issue may be addressed by adding thickness to the description. A *thick description* according to Gilbert Ryle (Ryle, 2009) and Clifford Geertz (Geertz, 2008) creates anecdotal and contextual subjective accounts of an event such as a performance, rather than physical or generally quantitative ones. We consider this as the third ingredient.

Last but not least we would like to raise the issue of linearity and one-dimensionality in descriptions. An audio-corporeal performance may not be captured adequately by chaining together through chronology, through causation or through syllogisms various atomic description segments. Although some of the former ingredients may remedy some of this linearity, we believe that a crucial ingredient is missing, one that itself has many ramifications. This is the ingredient of a diagrammatic and in particular of a *cartographic approach*. Individual descriptions don't stand by themselves in isolation. There can be multiple threads and cross-references amongst them or contexts that connect them. This ingredient is rooted both in the rhizomatic method by Deleuze-Guattari and in cartographic methods, such as the mapping of verbs in the artistic discplines.

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An iterative procedure

We put these ingredients from the previous methodological excursion into an iterative procedure that attempts to converge to ever higher descriptive resolution:

1. An audio-corporeal artistic practice takes place in time and space. Recordings may additionally be taken of the event.
2. The first iteration consists of a thick description in natural language, formulated freely and without a correcting posture if possible. The focus lays on the spatial qualities that exist through and around the performer. The more describers participate, the more layers and the thicker and more refined the description can become. An empty online canvas can be used as a basis to write the information.
3. In a second iteration each describer extracts their process-related content. We suggest extraction of verbs. They may be plain verbs, but also composite verbs. For instance, "start fishing" could be added as a composite verb. They may also be the verbs from nominalisations. For instance, one could add "shiver" from the nominalisation "the shivering …"
4. The next iteration step aims at deepening or making more precise the previous description by focusing on another aspect or by raising a specific question. This step can also be added to the canvas. In the next section we discuss a few options for superimposing new descriptions.
5. Once again extracts process-related content such as verbs.
6. The next iteration is optional and may include the creation of new artistic material given the descriptive input from the previous description.
7. Repeat steps 4 and 6.

The four ingredients from the previous section are clearly visible in this approach. The pluralistic perspective profits from a plentitude of contributors. The iterative methodology is encoded in the repetition of the steps. The thick description is a methodology that holds at every iteration level. Finally, the cartographic approach is present in the extraction of verb-content and more importantly in the superposition of the descriptive output on a canvas. There are many ways the output can be presented. We suggest a digital canvas for

its ability to be flexible, which is a key component of the iterative methodology. However, the describers are free to choose their medium.

Example description on a case study

In this section we would like to discuss an example description. We go through each of the steps in the iterative method and explain the choices we made.

In the first step we choose the interpretation of a Dalcroze score as base for the case study. This audio-corporeal practice has been discussed in the previous section. That performance consists of two parts, a pianistic expression of the piece 'sur la montagne' and in a second step a movement interpretation. We also chose to record the performance via video and audio. For the second step we initially chose two describers: A eurhythmician and a complexity scientist. The eurhythmician was the performer. The complexity scientist did not have a background in eurhythmics. We also chose to notate our observations digitally. In our cases we wrote down between 500 to 1000 words respectively for this case study. In the third step we extracted the verbs for each description. Then we added a layer of depth by describing more precisely what we had described earlier. For instance, the eurhythmician described the sensation of space in the pianistic execution and by further self-interrogation noticed the correspondence between that sensation and Dalcroze's choice of notation that she likened to a "space chart" with all its auxiliary lines. The complexity scientist on the other hand focused on the spatial surroundings of the performer before the first movement and noticed in this new round of descriptions that another person was co-creating the space around the performer. The descriptions were written into the same digital canvas. Again, we extracted the verb content to emphasise the process-related aspect of the description. At this stage we were joined by a concert piano technician who added his descriptions from his perspective and from the perspective of the piano. For this round of iterations, we used the recording of the original artistic practice as a mental aid. Subsequently we opted for the creation of another performance that drew upon the descriptive material. In particular we re-staged the first performance, albeit with different spatial surroundings. This optional step can be considered an output of this practice, rather than being part of the description. Finally, we added one more round of iterations where we focused respectively on different aspects. The complexity scientist for instance asked "How much tension does the performer build up in her upper body?".

In the iterative method we mentioned the liberty of choosing a form of superimposing the descriptions into a description. We have chosen to work on a digital document that allows for re-editing. In the following we describe two formats that we explored, both of which have the additional advantage to yield a visual representation of the interwovenness. The first form uses continuous text with parentheses. Here is an excerpt from the second iteration:

> The atmosphere settles, the feathery blanket sinks down (Settle, Sink Down) [P. takes a few steps out of the 'Performance space' (Take, Step)]

> E. puts her fingers to the piano. A wave swings through her arms and leads into the first actuated movement. (Put, Swing, Lead) [E. tilts the head. Turns towards the direction of maximal feedback (Turn Towards)] A wave sweeps through her arms and results in the first actualised movement (Sweep, Result, Actualise) [The hands are folding and the active fingers are articulating themselves on the keys (Fold, Articulate)].

Here we have anonymised the names with P (for person) and E (for eurhythmician). The second form follows a more syntactic approach and uses indentations to facilitate the reading of the description:

The atmosphere settles, the feathery blanket sinks down
(Settle, Sink Down)
{
   P. takes a few steps out of the 'Performance space'
   (Take, Step)
}

E. puts her fingers to the piano. A wave swings through her arms and leads into the first actuated movement.
(Put, Swing, Lead)
{
   E. tilts the head. Turns towards the direction of maximal feedback
   (Tilt, Turn Towards)
}

A wave sweeps through her arms and results in the first actualised movement
(Sweep, Result, Actualise)
{
   The hands are folding and the active fingers are articulating themselves on the keys
   (Fold, Articulate)
}

This latter form is reminiscent of a programming code. It also facilitates the implementation of other digital representations. We chose to fill a digital canvas with the descriptions by superimposing the various multimedia contributions as intertwined texts and representing the depth of the perception through font size. We also drew on the prominent notational work of John Cage's "Lecture on Nothing" (John Cage, 2007).

Online Exposition of the notation through description by Leonhard Horstmeyer and Hanne Pilgrim

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