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Editorial

This third issue of *ÍMPAR: Online Journal for Artistic Research in Music* is a thematic publication and a special one, as it features research focused on artistic projects developed with and by children. The authors were selected from the delegates who participated in the first edition of the international conference *Musichildren - Music for and by Children: Perspectives from Children, Composers, Performers and Educators*, which took place at the University of Aveiro in October 2017

Why should a journal for artistic research adopt such a theme? Apart from analyzing a given reality, artistic research involves exploring possibilities. Of course, creativity and imagination are required for both analyzing realities and exploring possibilities, but the imaginings that emanate from concrete artistic practices belong to the subjective realm of our games of make-believe. Our capacity for this imaginative activity and specifically for exercising our imagination involving "props" is, doubtlessly, a *sine qua non* condition for any kind of aesthetic experience to occur (Walton, 1990). In many cultures, children devote a great deal of time to games of make-believe and this continuous effort does not simply disappear when they grow up. Most probably, as Walton (1990) argued, make-believe continues in our interaction with representational works of art and, we add, in our artistic practice. Indeed, the imaginings induced during musical practice by children constitute the genetic core of future mythopoetic inventions. Since we understand that artistic research should correspond to an act of criticism that both deconstructs an old mythopoetic configuration and constructs a new mythopoetic configuration, we felt that the opportunity to bring the theme of music with and by children to the debate should be welcomed, presenting different proposals and approaches.

This number opens with two articles that discuss creativity and inclusive composition in projects involving children. The first one, ‘The polarity cooperative vs collaborative as a conceptual tool to observe young children's creative interactions in group music making,” by Andrea Sangiorgio, presents a theoretical framework that aims to explain the possible interactions in the creative music making of early primary school level children when they are engaged in a group. As the title reveals, the study explores the dichotomy "cooperative vs collaborative" as a useful conceptual tool to interpret how children organize the process and the final product of their collective work. The second article “Challenging Creativity: Inclusive Composition,” written by Oliver Searle, discusses the processes of integrating several inclusive music technologies in recent composition projects, as well as the development of creative methods when working with individuals with Additional Support Needs.

The second group of articles focuses on projects dedicated to piano performance and learning. The article “György Kurtág's *Játékok*: a tool to learn the piano” by Pascal Terrien and Emmanuelle Huart, demonstrates how Kurtág’s pedagogical series can contribute to autonomous learning and performing in music education. While this first article brings to light further pedagogical implications, “Tales of a Talking Piano: Performing for childlike adults or adultlike children” by Ann-Kristin Sofroniou, refers to an artistic project concentrated on the performer’s role and their interaction with the ‘condition of childhood’, regarding selected piano music specifically composed in relation to the subject of *child-becoming* (*devenir-enfant* in Deleuze’s terms).

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The final contribution to this special thematic edition of ÍMPAR is an interview with the composer Dai Fujikura, the keynote speaker at the Musichildren conference. The interview, conducted by Sara Carvalho and Filipe Lopes, focuses on a composition project for children in Japan that promotes composer-performer collaboration and experimentation.

With this publication, apart from sharing the individual contribution of each of the selected papers, the editors hope to reinforce that which they all have in common, namely the dissemination of research that triangulates music composition, performance, music education and artistic research. The articles that comprise the present edition were selected from a set of proposals assessed by a panel of peer reviewers who focused their analyses, on the implications brought to light by this triangulation.

Clarissa Foletto and Jorge Salgado Correia
Editors of the issue

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The polarity "cooperative vs collaborative" as a conceptual tool to observe young children's creative interactions in group music making

Andrea Sangiorgio[1]
Elemental Music Education, University of Music and Performing Arts Munich, Germany

Abstract: This article presents some findings of a doctoral study on children's collaborative creativity in music. The study intended to develop a theoretical framework for understanding the ways in which early primary children interact when they engage in group creative music making. The focus of the research questions was on creative interactions and, more specifically, on the different kinds of interactions emerging in the group, the component aspects of group work influencing children's collaboration, the meanings that children ascribe to their experience, and the educational value of creative interactions. This exploratory, interpretive enquiry was framed by sociocultural perspectives on learning and creativity. A qualitative research methodology was adopted, which combined elements derived from case study research, ethnographic approaches, and practitioner research. The data collection was carried out in a music school in Italy, where a group of 5-7-year-old children were involved over eight months in a range of creative music and movement activities. I was the teacher researcher and worked with a co-teacher. Data collection methods included participant observation, videorecording of sessions, documentation, and strategies for eliciting children's meanings. Thematic analysis, both theory-driven and data-driven, was conducted in order to identify relevant issues. This paper concentrates on a slice of the findings, relevant to the categorisation and analysis of children's creative interactions. In agreement with similar distinctions in the research literature, the study identified the polarity "cooperative vs collaborative" as a useful conceptual tool to interpret how children organise the process and the product of their collective work. Some exemplary episodes of creative interactions in children's group work in music are presented and discussed. "Cooperative" and "collaborative" can be seen as the extremes of a continuum of possibilities ranging from "working separately and then assembling the parts into a whole" to "jointly generating and developing ideas all along the process". This conceptual distinction helps to identify the varying degrees of interactivity in the group's creative work, the different kinds of division of labour and the decision-making strategies that the group may adopt in tackling the creative task. Based on the findings, implications for the pedagogical practice are drawn.

Keywords: collaborative creativity; children; music; creative group work; cooperative/collaborative

Introduction

Two aspects of (music) learning appear to be foundational: the group aspect and the creative aspect, i.e. how it is that we learn with/through others, and how it is that together with others we invent something new. In this sense, 'creative interactions' represent a most relevant theme both for research and practice. Indeed, collaborative creativity constitutes a transversal, interdisciplinary issue – perhaps 'the' issue of the present cultural-historical period – cutting across different domains, fields and theoretical perspectives, both in education and beyond (Sawyer, 2006). Creative interactions can be considered as a particular kind of social processes in which something new, original, unforeseeable and valuable is generated in the 'space-in-between' two or more partners. With specific regard to music, this 'area of shared meaning' (Jordan, 2009) could be a joint activity, an emotional-relational space, a dialogue, a common mental representation, a physical interchange, a musical relationship, or an abstract space of formal relationships. In order to foster children's creative and social development, it seems important to investigate such a complex and multifaceted phenomenon and understand how creativity emerges in these spaces of intersubjectivity.

In the first part of this paper I introduce some relevant theoretical perspectives about collaborative creativity and creative processes in education. I then outline the main features

[1] andreasangiorgio.mus@gmail.com

of the doctoral study with young children from which this article is derived. Subsequently, a slice of the findings are presented, which exemplify the idea of categorising creative group interactions as distributed along a continuum between 'cooperative' and 'collaborative' ways of working together. These findings are then discussed and some implications for the teaching practice are drawn in the conclusion.

1. Theoretical perspectives on collaborative creativity

Collaborative creativity is becoming a central theme in research. Since the 1990s creativity is increasingly understood as a social interaction process aiming at the production of novel ideas acknowledged by a group or by society at large (Amabile, 1996; Sternberg, 1999). From the individualist approaches of the 1960s-80s – dealing with basic components of creativity as occurring in the individual – the focus of research gradually shifted towards a multidimensional, sociocultural approach which recognised the complexity, specificity, and social and cultural situatedness of any creative activity (Glăveanu, 2010; Sawyer, 2012). This new orientation offers in-depth explorations of the multiplicity of individual, collective, cognitive, emotional, relational and cultural aspects involved in the creative co-construction of knowledge (Craft, 2008; Csikszentmihalyi, 1996, 1999). Since the 2000s socioculturally oriented research on creativity has focused more directly on diverse aspects of collaboration in creativity in fields such as the arts and science (John-Steiner, 2000), jazz and theatre improvisation (Black, 2008; Kenny, 2014; Sawyer, 2003), business and organisations (Henry, 2004; Sawyer, 2007), education (Craft, 2008; Hämäläinen & Vähäsantanen, 2011; Littleton, Rojas-Drummond, & Miell, 2008) and in music education (Burnard, 2007; Rojas-Drummond, 2008).

Collaborative creativity is viewed here as an inherently social phenomenon emerging from the interaction with significant others within a sociocultural context (John-Steiner, 2000). Through interchange, partners jointly generate new ideas and are able to construct multiple perspectives. The juxtaposition of alternative positions is a productive resource for partners in order to build an elaborated understanding of a topic. Division of labour based on working styles, disciplinary knowledge and personal expertise enriches the opportunities of the partnership. Conceptual complementarity – the dynamic tension between conflicting visions – deepens, widens, and transforms the partners' habitual modes of thought. In successful creative collaborations, divergences are balanced through the focus on a shared vision or common purpose, and a "unity-in-diversity" is achieved (p.39). The integration of differences is crucial to the construction of creative syntheses. In Vygotskian (1978) terms, through collaboration partners create mutual zones of proximal development, and can transcend the limitations of their isolated skills and knowledge.

Expanding the notion of ZPD to the affective sphere, John-Steiner (2000) suggests that the 'emotional scaffolding' between partners creates a safe zone of mutual care-taking, trust, belief in each other, and constructive criticism which heightens their willingness to take risks in the face of the uncertainties or failures of creative undertakings. The creative self-in-relation is more resilient because it is stretched and strengthened by the supportive presence of the other. Thus, by constructing "we-ness" (p.204) partners build a shared identity which is bigger than both individuals. They function as cognitive and emotional resources for each other. Not only do they create together new ideas and products, but also their very identity is transformed through the collaborative creative process (Moran & John-Steiner, 2004).

Reciprocal support between partners, however, does not mean that collaboration is immune to tensions. There can be a marked discrepancy between the promise and the reality of creative collaborations (Eteläpelto & Lahti, 2008), which can also result in disputational talk, dominance of one of the partners, or lack of a true dialogical process. Nevertheless, tensions are vital in terms of discussion and negotiation of opposing views, as the goal is not to reach a superficial consensus, but to work out and evaluate creative solutions through critical argumentation. Taking as a precondition the fundamental value of tolerance of diversity, "collaboration is not absence of tension, but fruitful cultivation of tension" (Moran & John-Steiner, 2004, p.12).

2. Children's collaborative creativity

In the field of education, a basic rationale behind the urgency of investigating and implementing "creativity in relationship" (Craft, 2008, p.242) is that, well beyond transmitting established knowledge and skills, schools have to prepare future generations to work creatively in teams, as innovation relies on the capacity of creative people and organisations to collaboratively engage in improvisational processes of knowledge building (Sawyer, 2006). This shift in perspective from the individual to the social almost naturally brought about a confluence of research interests in group creativity on the one hand and, on the other, of sociocultural studies on learning as a social phenomenon (Vygotsky, 1978; Lave & Wenger, 1991; Rogoff, 2003) and on cooperative / collaborative learning (Blatchford, Kutnick, Baines, and Galton, 2003; Howe & Mercer, 2007).

Recent research in music education reflects these new assumptions and perspectives. Following a similar pathway as described above, since the 1990s there has been a shift from research on individualistic approaches to musical creativity, mostly oriented to cognitive aspects (Gordon, 2012; Pressing, 1988; Swanwick & Tillman, 1986; Webster, 2002) towards sociocultural conceptions of musical creativity as a culturally situated phenomenon (Barrett, 2011; Burnard, 2006, 2007; Elliott, 1995; Glover, 2000; MacDonald, Hargreaves, & Miell, 2002), and an increasing interest in how musical creativity develops in learning contexts through the interaction in a group (Burnard, 1999, 2002; Espeland, 2006; Faulkner, 2003; Fautley, 2005; Kanellopoulos, 1999; Morgan, 1998; Wiggins, 1999/2000; Young, 2008).

Research on children's group musical creativity is as yet a developing field and there seems to be relatively little research on the topic, especially with regard to the age range of early primary children considered here (5-7 years old). This particular study is situated in this wider context, at the intersection of different lines of investigation: children's learning in social contexts, creativity, collaboration and music.

3. Categorising creative interactions

The focus of this article is on how to characterise the different kinds of creative interaction which partners develop in their joint activity. A relevant distinction between alternative ways of working together is put forward by John-Steiner (2000), who identifies 'complementary' versus 'integrative' forms of eminent adults' creative collaboration: in the former each of the partners makes a specific contribution to a shared task (which is more typical of scientific collaborations), and in the latter there is a much stronger sense of mutuality and joint engagement in the task (as in artistic collaborations). In early childhood research on play,

Broadhead's (2010) Social Play Continuum organises the observation and interpretation of interaction in young children's play along a continuum of four categories, from Associative Play and Social Play – characterised by low levels of shared understanding and little development of play ideas – to Highly Social Play and Cooperative Play – characterised by stronger shared understanding of goal orientation and extension of ongoing play. From the line of research on group work in primary education, as a possible criterion for the distinction between 'collaborative' and 'cooperative' learning, Dillenbourg (1999), Galton and Williamson (1992), and Ogden (2000) indicate the kind of division of labour among the group members: in cooperative learning, which is often highly structured in its procedures, students solve sub-assignments separately and eventually put them together into the final outcome – see for example Slavin's (1991) jigsaw technique – whereas in collaborative learning all members share the same task and produce a joint output.

Importantly, the investigation of creative interactions in group creative music making has to include verbal as well as musical and bodily/nonverbal interactions, as the emergence of an intersubjective space can occur at different levels and through different media of communication. In this perspective, I find helpful the notion of 'transactive communication', which Miell and MacDonald (2000) used in order to investigate the influence of social variables on the nature and quality of 11-12-year-old children's collaboration on creative tasks. Transactive communication, in relation to talk and verbal interactions, refers to the attitude of building on, extending and elaborating on each other's ideas, as opposed to offering just unelaborated agreements or disagreements with the others. In music, transactive communicative actions consist in producing musical refinements, extensions or elaborations of previously presented musical material or responding musically to earlier verbal questions or suggestions from the partners, as opposed to non-transactive playing for themselves, just repeating musical ideas, or not being engaged with or oriented to the partner through music. The main idea is that, in order to be 'transactive', the interaction must bring the discourse forward, either through music or talk, or both. In a similar perspective, gathering evidence from research with primary school children, Wiggins (1999/2000) defines the characteristics of shared understanding in collaborative composition in terms of the children's ability to construct a common vision of the problem at hand and of the strategies necessary to solve it, based on their culturally situated knowledge of music and on their personal interpretation of possible solutions to the task.

In conclusion, taking this 'holistic view' brings the focus of the investigation a bit further than just the observable interactive behaviours and includes the analysis of the partners' broader communicative intention, seeking to capture basic characteristics of human interaction, such as 'intersubjectivity' (Rogoff, 1990), attunement, mutual engagement, or shared understanding.

4. The study

The research reported in this paper is part of a larger study (Sangiorgio, 2016) whose purpose was to investigate and understand how primary children interact when they are engaged in collaborative creative music making. Four subsidiary questions focused on specific aspects, namely the nature of children's creative interactions in terms of the communicative media employed (bodily, musical, verbal), the component dimensions of creative group work which influence children's collaboration, the meanings that children

attribute to their creative experiences, and the educational and ethical values that creative interactions have for children's learning.

A group of eight 5-7-year-old children were involved over a school year in 30 weekly sessions centred on group creative music activities, which took place in 2013-14 in a private music school in Rome. My role in the project was that of teacher researcher and I worked with a co-teacher. The typical structure of a session comprised as its most significant part some creative music and movement activities which were intended to cover quite a wide range of approaches to inventing individually and/or in collaboration with others. The focus of the study and of our pedagogical approach was on moments in which children jointly generate ideas, and not so much on finalising reproducible pieces. Thus, children were guided through a playful process of ongoing exploration of creative themes which yielded each time new pieces, often largely provisional and improvisational, or at best good second or third renditions of an evolving piece.

Given the naturalistic context and the kind of exploratory questions posed, a qualitative research methodology was adopted, which combined elements derived from case study research, ethnographic approaches and practitioner research. Data collection methods included participant observation, videorecording of sessions, documentation and strategies for eliciting children's meanings. Thematic analysis, both theory-driven and data-driven, was conducted in order to identify relevant issues, to uncover essential relationships, concepts and understandings, and to construct a consistent portrait of the phenomenon under investigation (Bazeley, 2013). Within the learning activities taken as the unit of analysis I could identify relevant phases of creative interaction between children (around 300 items in total) and within those a number of interesting critical incidents or revealing anecdotes, i.e. moments of major significance in relation to the object of the study. One of the aims of the analysis was (following Kanellopoulos, 1999) to identify those key incidents which were representative 'instances of abstract principles' underpinning children's creative interactions in music. Indeed, my intention was to rise from the local and particular examples towards some more abstract conceptual models – such as the one presented in this paper – about how these interactions work. However, based on the qualitative approach of the study it is clear that the kind of transferability of these findings has to be intended at best as 'naturalistic generalisation' (Stake, 1995), implying that the conclusions drawn and the interpretations made here may – but not necessarily will – be referable to other contexts. The aspiration is that relevant perspectives emerging from this enquiry can be useful to other interested researchers and practitioners in understanding and making judgements about their own particular contexts.
In the following I present and discuss a few instances of children's creative joint activity, which exemplify distinct forms of interaction as identified in the study.

5. 'Cooperative vs collaborative' as a conceptual tool to observe children's creative interactions

The first research subquestion of the study focused on the nature of children's creative interactions in group music making, that is it looked at possible categories for description and analysis in relation to a rich body of collected data. In the first place, the findings identified three interrelated kinds of interaction according to the communicative media used, namely *bodily interactions* (nonverbal, body-based communication – embodied interactions in

movement/dance – embodied musical communication), *musical interactions* (behavioural strategies for interaction in music), and *verbal interactions* (talk – task-related or off-task interactions). A further viewpoint was on interpersonal relationships, emotional and relational aspects of creative collaboration, group dynamics and power relationships. A third useful category to describe children's interactions – which is the focus of this paper – was partly derived from the literature and partly emerged from the data as a significant finding in the course of the research process, and regards the degree of interactivity in the partners' actions.

5.1. Division of labour and decision-making strategies

Group work encompasses diverse ways in which children can work as a group. As mentioned above, some researchers (Dillenbourg, 1999; Galton & Williamson, 1992; Ogden, 2000) distinguish 'cooperating' as opposed to 'collaborating' in order to make clear the kind of division of labour and the decision-making strategy that the group adopts in tackling the task. I take these as two polarities that define a continuum of possibilities ranging from 'working separately and then assembling the parts into a whole' to 'jointly generating and developing ideas all along the process'. The distinction 'cooperative – collaborative' can serve as an effective conceptual tool to better identify and understand the different strategies that the children of this study used in working together and the ways in which they related to each other and to the task in the course of the activity. Here are some exemplary episodes that offer a more detailed picture of the issue and provide a good basis for discussion (videos are accessible online – password: *res*).

5.2. Cooperative Interactions

a) Taking turns (one after the other)

In the project children often used the strategy of 'taking turns' as a way to structure the pieces they cooperatively invented, as in the following example:

Taking turns in cooperation: "The bear"
Chiara and Sandra represent a bear walking and sleeping by differentiating their roles. Sandra plays on the drum a rather regular ostinato | *du dude dude* |, then Chiara plays fast glissandos on the glockenspiel, some random staccato notes and a concluding stroke on the floor. They alternate this way a few times, following an ABABABA rondo form. With a quick nod and gaze Chiara gives the sign for the closure. (https://vimeo.com/104223535)

s.18/30 20140219 C,SA

In the performance of this piece there is not much interaction, but only a succession of two unrelated musical chunks. In the previous group work phase the girls have developed their individual ideas about the image, shared them with each other, and decided in what order to put them. I would define this way of working together as 'cooperative', to mean that here children juxtapose in sequence what each of them has devised on their own, and take turns in playing it – 'together' means here 'on a line one after the other'.

b) Playing in parallel (alongside each other)

In order to present the next category of interactive strategies I first need to introduce a pedagogical idea which was intended to guide and enrich children's collaborative creative endeavours, that of "figure-ground relationship". The activity is centred on the idea of interaction as co-presence of two contrasting elements, namely a background and a foreground figure standing against it. Pairs of concepts such as melody / harmony, solo / accompaniment, or main rhythm / background metre can be understood as types of figure-ground organisation of the musical material.

In the context of the research project we introduced this concept to children both as a perceptual principle – a way to listen to music – and a constructive principle – a way to invent music. Our goal for children was to analyse music as a whole made of interrelated parts and to create musical structures made of two distinct elements, by taking on opposing roles in terms of timbre, pitch, texture and duration, and integrating them as parts of a unitary action. By working on 'figure-ground compositions' our pedagogical intention was to go beyond the experience of musical interaction as linear succession of isolated chunks (as in the preceding example), and to bring children to interact together based on a visual or narrative relationship between two different elements that belong to a common context.

In quite a few instances, however, children did not go much beyond deciding the respective contributions and playing them just alongside each other. They adopted a cooperative strategy in the simultaneous/vertical performance of music which I would define as 'playing in parallel', i.e. each child plays their own thing without a clear connection to what the other is doing, as in the following episode:

Playing in parallel: pair composition "Moon and stars"
Sonia begins with a light background of maracas (moon), on which Alessandra plays soft, random tones on the odd bars of the alto metallophone (stars). Alessandra is absorbed in her own exploration, then realises that Sonia has just finished and adds an ending, *gbd'c*. (https://vimeo.com/104224552)

s.25/30 20140416 AL,S

In the group work phase they have decided together what image to invent and what instruments to use, but then, while playing, each of them goes their own way, and there is almost no direct, interactive relationship between them (but for one gaze on the part of Sonia towards the end). They simply co-exist and play next to each other, also facilitated by the ametric nature of the musical material. Their way of working is more cumulative or additive than transactive (Miell & MacDonald, 2000) and, in this sense, can be defined as more cooperative than collaborative – a sort of 'creative musical jigsaw', so to say (Slavin, 1991).

The idea of different degrees and qualities of interaction – more detached and superficial vs more close and reciprocal – has been supported in the views of other researchers. In the creativity literature there can be found similar conceptual distinctions to the one used here. In relation to what I term here 'cooperative interaction', for example, Glover (2000) defines 'parallel composing' the situation in which individuals in the group are working *beside* rather

than *with* each other. The findings of this study corroborate her observations with regard to 6-7-year-olds' group instrumental work:

> Centred as they still are very much in their own music-making activity, there is some variability in the degree to which they are able to manage their own music at a genuinely interactive level with another player. Music can arise which is co-operative in intent, but with each player pursuing his or her own musical structuring *in parallel to*, rather than *interaction with*, the others (Glover, 2000, p.70 – italic mine).

5.3. Collaborative interactions

As I am using it here, the term 'collaboration' implies that children jointly generate and develop an idea, which they perform in tight interconnection with each other. In the study this occurred both as a horizontal string of events which are performed in unison, and as a vertical superimposition of different rhythms in a layered ostinato, as illustrated in the two examples below.

a) Planning and doing the same thing together

The following episode illustrates how the girls worked as a group to shape the idea of a metrical structure. We had been working for a while on 'rhythm structures', i.e. strings of timbrically different strokes on a pulse which generate metrical patterns (e.g. OOXX, OXX, OO. XXX., etc). By placing different combinations of objects on the floor (e.g. O=triangles X=castanets) children could build a notation and perform it with the voice, body percussion and instruments. This is a 'combinatorial' or 'modular' approach to rhythm in which basic elements are combined and permutated in various ways to form higher-level structures – a 'bottom-up' approach to composition, leading from the parts to the whole. Prior to this episode children had already explored a number of rhythm structures. This time, the task was to decide together a structure with the objects/notation, then play it with voice and gestures or body percussion, and finally perform it with the instruments.

Planning and doing the same thing together: group composition "rhythm structure"

In the small group work phase, Sonia initially proposes OOOO.XXXX., but Chiara then takes the lead and decides to change it, removing the triangles and castanets to form the new structure OOO. XXX. Sonia reads it and finds the syllable association ("glin glin glin toc toc toc"). Sandra specifies that the hand gesture should also be different, i.e. flat hand on glin and knocking fist on toc. They have now fulfilled the task and rehearse it four times in a row. (https://vimeo.com/104223586)

Based on this preparatory work with voice and movement, the next step is then a further group work phase aiming to transfer this voice/body percussion sequence onto the instruments. The girls re-arrange their string to OOO.OOO.XXX., adapting it to the instrumental actions they have found. (https://vimeo.com/104223674)

s.18/30 20140219 AL,C,S,SA

This can be taken as an instance of collaborative group work, in which the members build together the group composition, each of them adding different ideas to it, and integrating in the resulting outcome the contributions of everybody. Only Alessandra seems to play more

the role of a participant-observer, in that she follows well the activity, but does not take any initiative. Thanks to the scaffolding role of the notation with objects, children can literally manipulate signs and concepts and it is always very clear for the group what the common focus is. Further, by using their voices children synchronise better – in fact, though at the beginning they are not really together, the joint rhythmical pronunciation of the speech helps them gain a precise alignment already by the third repetition of the sequence. The girls were obviously very happy with the outcome. The process appropriately balances the challenge of the task with the skill level of these children. This kind of procedure lends itself well to a collaborative creative task, as it provides enough structure to channel a series of group decisions leading to a unison performance, with the whole group working together on the same musical idea. Both the process and the final product show a high degree of interactivity in the group.

b) Planning and doing together different but related things (weaving polyphonic textures)

The last and most complex form of musical interaction consists in building a polyphonic texture in which different simultaneous parts are intertwined to form a coherent musical structure. Here is a successful example of figure-ground composition, where Chiara and Sandra engage in a simple but effective rhythm ostinato as vertical interaction of contrast:

Vertical interactions: two-voices layered ostinato with bells and drum

Sandra on the darbukka repeats a regular ostinato | *du du du dude* | and Chiara follows her first two macrobeats with two bells with a right-left movement, which due to the bouncing pitched sounds of the bells casually produces interesting variations of a melodic phrase on two tones. Sandra has a closing formula, too: | *du du du dukade* |.
(https://vimeo.com/104224513)

s.24/30 20140409 C,SA

This is one of the most crystal clear examples of a figure-ground relationship and is a rare example, relative to this project, of a finished and well-performed piece of rhythm polyphony. The children have constructed two different musical objects and put them together, connecting them rhythmically. They deeply listen to each other throughout the performance – Chiara's continuous gaze on her partner makes it easier to synchronise with her. Such behaviours may be related to Black's (2008) characterisation of 'listening' among jazz musicians as 'interactive attentiveness', and to Gratier's (2008) notion of 'grounding' as a basic strategy to establish intersubjectivity in a communicative interchange. Indeed, in the process of moment-to-moment monitoring of their 'common ground' during the performance Chiara and Sandra use eye contact, head-nods and gestures alongside the playing to display their mutual understanding.

6. Conclusions and implications for practice

Framed by sociocultural perspectives on learning and creativity, this exploratory practitioner study on the nature of children's collaborative creativity in music identified among its findings a conceptual distinction that helps to characterise the varying degrees of interactivity in children's group creative work: 'cooperative vs collaborative'. This distinction is proposed by Dillenbourg (1999), Galton and Williamson (1992), Ogden (2000), and implicitly by Glover

(2000). It also relates to John-Steiner's (2000) differentiation between complementary and integrative forms of creative collaboration and to Broadhead's (2010) categorisations of children's interactions in play along a continuum ranging from Associative, to Social, to Highly Social, and Cooperative Play.

In this study, the two categories 'cooperative vs collaborative' are conceptualised as extremes of a continuum of possibilities between qualitatively different strategies in organising the division of labour and the decision-making process in the group. At one pole children cooperatively produced separate parts that were then assembled as in a 'musical creative jigsaw' (Slavin, 1991). Cooperative strategies were those in which children were 'taking turns', i.e. playing each their own thing one after the other, or 'playing in parallel', i.e. one simultaneously to the other but with reduced interaction. At the opposite pole, children adopted collaborative strategies when they were working *with* the other and generating ideas together all along the process. They shared the ownership and the responsibility of the whole while they co-constructed unison structures, i.e. 'playing the same', or polyphonic textures, i.e. 'weaving different but related ideas'. The episodes reported in this paper provide illustrative examples of these different interactive strategies.

Table 1 summarises the main traits of children's cooperative vs collaborative interactions in creative group work, as identified in the findings of the study. The arrow points to the fact that these concepts represent two polarities between which an array of varied and intermediate situations can be positioned.

Table 1. Characteristics of cooperative versus collaborative interactions in creative group work

Creative Group Work	
Cooperative work ⟷	**Collaborative work**
Working one ***beside*** the other	Working one ***with*** the other
Children put together distinct ideas within a common project	Children generate ideas together all along the process
Division of labour and responsibility	Shared endeavour and responsibility
Separate ownership	Joint ownership
Complementary	Integrative
Individual invention, then assemblage of the parts ('musical jigsaw')	Dialogic processes of co-construction of a whole
Interactive strategies	
Taking turns (one after the other)	*Playing the same* (e.g. omo-rhythmic synchronisation)
Playing in parallel (alongside each other with limited interaction)	*Weaving different but related ideas* (e.g. polyphonic structures and layered rhythm ostinatos)

Based on the findings, a few concluding considerations can be made and some implications for practice drawn. Firstly, the distinction between cooperative and collaborative interactions in creative group work regards both the process of building up a joint musical action – exploring and developing ideas in the group work phase – and the product – the presentation of the outcome and children's interactions in it.

Secondly, there seems to be a progression 'from cooperative to collaborative' and the latter is somehow more advanced. Indeed, from a developmental point of view one may presume that this is the case and that collaborative skills build on cooperative skills. In practice, however, these are just distinct strategies of interacting with others, which can be appropriate, possible or desirable in relation to different moments, partners, contexts and pursued goals implied in the activities.

Thirdly, cooperative or collaborative ways of interacting creatively can originate in children's preferred modalities to work in/as a group. In fact, children can show heterogeneous attitudes: some children may ideally have a high relational attitude and cover the whole spectrum between cooperative and collaborative, being able to adapt flexibly to different partners and circumstances. Other children, instead, may mostly tend to work one *beside* the other, at times almost on their own. They might be more immersed in their own processes than attentive to what the others are doing. In such a case, the continuum proposed here should actually be extended to the left of the 'cooperative' side to include the possibility of very limited interaction or individual, self-centred play (as Broadhead, 2010, does). Naturally – and this counts as an implication for practice – the teacher plays an essential role as mediator of communication in the group, supporting the growth of a proactive and responsive network of relationships among the children, fostering their identity as community of creators and helping them develop a micro-culture of creative collaboration.

Finally, the kind of interactions that are established in the group work also depend on how the task is designed. In relation to the instances presented here and to other similar examples in the study, the relevant finding is that – to a certain extent – the task assignment does affect the nature and quality of the interaction among players. Indeed, how the goals and the contents of the group work are structured by the task influences the ways in which participants interact, and this interaction pattern, in turn, impacts on the outcomes of the activity. In this perspective, some task assignments can be defined as more 'interactive' than others, because they require and activate higher levels of positive interdependence (Johnson & Johnson, 1999). Again, it must be stated that cooperative is not necessarily less or worse than collaborative: in fact, for children, who for whatever reasons appear to be less able or willing to interact, a cooperative rule may advantageously be more inclusive and facilitative for their being 'with the others', in that they can even remain in their own space and still be involved as legitimate members of the community of learners.
So, the task design can positively steer the interaction process among the players. However, this occurs only 'to a certain extent', because as soon as the creative assignment is given children exert their freedom to interpret it in one or the other direction. Actually, it can well happen that two subgroups approach and solve the same creative task in very different ways or that some children do not work as would be expected but follow an independent route.

This issue relates back to the necessity of a dialogic and co-constructive attitude on part of the teacher when dealing with children's unanticipated or surprising responses.

The educational implication here is to design creative tasks that can act as an open-framework (in the sense of Siraj-Blatchford, 2009) in which a flexible structure is provided to guide children's interactions with the material and the partners, which at the same time is open enough for them to self-regulate the kind and degree of engagement in their joint activity. Starting from there, the aim is to offer to children a carefully structured learning pathway through which they can witness, experience and reflect on a number of strategies about how to initiate a musical dialogue, how to mutually scaffold each other in the music making process, how to respond to somebody else's contributions and how to give shape to a musical idea as a group – in short, how to creatively interact with others.

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Challenging Creativity: Inclusive Composition

Oliver Iredale Searle[1]
School of Music, Royal Conservatoire of Scotland, UK

Abstract: In this paper, I discuss processes surrounding the integration of a number of inclusive music technologies in recent composition projects, as well as adaptations to creative methods when working with individuals with Additional Support Needs[2], and my involvement with an organisation that specialises in working with musicians with disabilities – Drake Music Scotland. I will extrapolate initial compositional ideas, demonstrating how they may translate into completed musical material, detailing any alterations to working methods through experiences gained in collaborating with performers within a live context, and highlighting specific examples through score excerpts; individual sections of new work are presented, introducing musical influences, and highlighting the challenges of working with a new ensemble of musicians, playing both acoustic and digital instruments. This work has also impacted directly upon my teaching role at the Royal Conservatoire of Scotland, with the formation of a new course component (module), available to students from a wide variety of disciplines across the building. The rationale for the creation of this module will be discussed, along with the broader aims for intended student experience, learning methods and outcomes.

Keywords: Composition; inclusion; digital; technologies; disabilities

As a professional composer, I seek to create high-quality, new music for a range of instrumentalists, performers, and performance environments, with an additional aim of offering potential templates for future working practices to student musicians and other professionals. Although aspects of my work could be identified as 'Community Music' (for example, as defined by the third perspective of Higgins, 2012, p.4), this is not a principle goal, instead focusing on creating music that is largely scored, at times harmonically and rhythmically progressive, drawing on a range of ancient and modern influences, and reliant on abstract forms and structures, whilst offering a listening experience and artistic challenge for any attending audience members.

In this paper, I aim to demonstrate that high-quality, virtuosic new music can be written for new digital instruments, and that the inclusion of assistive technologies for individuals within an ensemble can inspire a professional approach to learning, rehearsing and performing new music, offering a wide variety of possibilities for musical expression, whilst extrapolating a development of working methods from the initial project introduced here – *Technophonia* – through to the creation of a definitive, live performance of *Microscopic Dances*.

Technophonia, and explorations of inclusivity through composition

In 2012, I became professionally involved with Drake Music Scotland[3] (DMS); the organisation's vision is to 'transform people's lives through the power of music' (the aim, as set out on their website), through commissioning and performing new music featuring musicians with disabilities, whilst acting as a centre of expertise in inclusive music technologies.

I had been aware of the varied work of this organisation for some time, and had collaborated on a number of music projects for deaf people with a company in Austria that designs

[1] o.searle@rcs.ac.uk
[2] https://beta.gov.scot/publications/supporting-childrens-learning-statutory-guidance-education-additional-support-learning-scotland/pages/3/
[3] https://drakemusicscotland.org/

Cochlear Implants and hearing systems: MED-EL[4]. Previous projects included the Mu.S.I.C Test[5] (a music perception test for cochlear implant users, currently utilised by audiologists and clinicians around the world), and *Noise Carriers*[6] (a recorded concert of music for adults with cochlear implants). The final project I developed with the company was a music/theatre show for young children with cochlear implants, involving 2 actors and six musicians, entitled *The Farmer's Cheese*[7], which toured the UK, the USA and South Africa between 2009-2011.

DMS applied to the Performing Rights Society New Music 20x12[8] Biennial – in collaboration with a number of young musicians from The City of Edinburgh music school – for a project that would become part of the cultural Olympiad in London in 2012 (a large cultural festival, running alongside the Olympics that year): ***Technophonia***[9]. DMS were interested in utilising a number of different technologies within the project, then working with a composer to create new musical material for the instruments, as at the time, there was very little new repertoire in existence for the technologies they wished to incorporate into the final performances.

When I began to work directly with the performers involved in *Technophonia*, I began to consider the effort and control involved in producing sound, and what musicians must do to produce it. This is often not visible; musicians may be contributing to a loud orchestral chord and outwardly it may seem as if there is little physical activity involved in the production of this sound. For some individuals in particular (in this case, a number of the musicians participating in these projects), the control of finer body movements may be exceptionally difficult – if a person has been diagnosed with Cerebral Palsy, for example.

Through my working processes, and discussions with various individuals, I became acutely aware of how rarely I had witnessed people with disabilities being offered a musical challenge in performance, and being presented with activities that they might find initially difficult, requiring repeated practice and learning to complete (and thus allowing for the opportunity to improve specific, musical performance capabilities on a certain instrument). The challenge for me as a composer/musician lay in stretching not only participants' skills and abilities, but also the technologies involved, discovering what they may be capable of achieving, and what this may offer for their development and improvement within inclusive music projects, as well as for wider use in live performance.

Technology and *Technophonia*

In *Technophonia*, I composed new music for a number of digital instruments, including: **Soundbeam**[10]: this instrument has existed for a number of years (an ultrasonic beam, acting as a MIDI trigger for pre-set sounds); I experimented with a number of different hand movements to break the beam with one of the young performers, who performed using the Soundbeam and another instrument – **Roland HandSonic**[11], similar to an extended electric

[4] www.medel.com/uk/
[5] https://www.karger.com/Article/Pdf/262598
[6] http://www.medel.com/uk/show/index/id/889/title/MED-EL---s-Music-For-Adults/
[7] www.medel.com/uk/show/index/id/887/title/MED-EL---s-Music-For-Children/
[8] www.prsfoundation.com/Partnerships/Flagship-Programmes/New-Music-20x12/
[9] https://www.youtube.com/watch?time_continue=80&v=Yq0DBLz-eig
[10] http://www.soundbeam.co.uk/
[11] https://www.roland.co.uk/blog/hpd-20-handsonic-v-hpd-1015/

drum pad. As with many inclusive technologies, few composers at the time of writing have explored the sonic/expressive capabilities of such instruments within a concert-music setting.

Skoog[12] – this instrument, consisting of a pliable cube with a number of large, coloured buttons, acting as a tactile MIDI controller (the result of a research project at the University of Edinburgh, Scotland), was on this occasion played using a type of colour-coded **Skore**[13] – entitled by the company who created the instrument – realising a series of up to 5 different pitches at a time, and aiding the interpretation of musical notation for some individual performers (see Figure 1).

Figure 1 Excerpt from *Clandestine Waltz; Technophonia*

[12] http://www.skoogmusic.com
[13] http://skoogmusic.com/support/skoog-song-book/

Brainfingers[14] – detecting electrical signals from facial muscles through a headband fitted with sensors, which is then converted via software into computer controls, **Brainfingers** can be customised to control a variety of programmes. In this case, it was used to act as the conductor within **Notion**[15] software, enabling the performer to play through complex fragments of especially-composed musical material, also allowing for frequent changes of instrumentation between sections of the new piece, as called upon within the scored part; as a composer, this offers a large amount of creative freedom, in imagining any set of instrumental forces that might join or augment the existing, live ensemble.

Microscopic Dances

Considering the aforementioned issues of effort and control of musical expression, inextricably tied with the creation of sound for musicians, I initially wrote the following text as my starting concept for the composition:

> *Music psychologists tell us regularly about the fantastically complex series of procedures that your brain goes through on its way to performing music. We must interpret pitches, rhythms, dynamics and articulations from a page of music, itself a type of complex language, then begin to realise these through a number of minuscule muscle movements, making decisions about the attack and sustain of individual notes, before moving to the next one.*
>
> *With or without sheet music, we are looking at others around us, perhaps focusing on a conductor/director, using our ears to decide when to join in with other musicians, altering our pitch by the smallest of microtonal increments and balancing our sound to produce a musical performance.*
>
> *These tiny movements and processes (many of which are only barely noticeable, or often completely invisible to the human eye), seem to me to be a number of microscopic dances between our neural processes and motor skills.*

I therefore started composing a set of *Microscopic Dances*[16], within which sections of the work are inspired by fragments of dances – often disguised, hidden or warped, hence the title of each section below – which subsequently offered me the opportunity to draw on a number of musical influences, such as Ragtime, Jazz, Scottish Traditional Music, Rock, amongst others, often mixed with Classical Music forms:

Clandestine Waltz
Secluded Charleston
Secret Cakewalk
Atomic Jive
Portable Polka
Invisible Fandango
Veiled Sarabande
Concealed Reel

Microscopic Dances 2017

In 2017, I was offered the opportunity to create and develop a new set of *Microscopic Dances* (extending my knowledge and experiences of working on the previous set), for

[14] http://brainfingers.com/
[15] https://presonus.com/products/Notion
[16] https://www.nmcrec.co.uk/recording/technophonia

performance in the Edinburgh Festival Fringe[17] in August 2017, in collaboration with the DMS Digital Orchestra[18] – a newer, larger collective of performers of digital instruments – and the National Youth Orchestra of Scotland, with their dedicated new music ensemble, *NYOS: Futures*[19].

A week was spent rehearsing material with the musicians/ensemble, concluding in two performances on the final afternoon, drawing in members of the general public. I recognised that viewing the DMS Digital Orchestra performance in a live context presents a new concert experience for many of those in attendance, (not least of all that it can be challenging to identify the exact source of particular sounds/musicians in performance when newer, digital instruments are incorporated), from which we have begun to develop a best-practice habit of adding discussion between the Artistic Director of DMS and myself after an initial performance, followed by a further airing of the new work to aid clarification of the musical activity; close-up camera footage of Digital Orchestra performers has also been displayed on a large screen in the past, to encourage audience members to associate certain sounds with individual performers or instruments.

The second instalment of *Microscopic Dances* was undoubtedly a different working environment from that of before. This was my first opportunity to work with the Digital Orchestra in full (which did not exist in its present form in 2012), in the largest ensemble DMS had worked with so far in a live setting.

I began to consider a number of alterations to my collaborative processes for this latest project – what I had learned from *Technophonia* and which of the working methods might I develop?:

- **Leader of the ensemble** – I wanted to provide the opportunity for a number of individuals to take on this role (rather than relying solely upon myself as conductor/director to make musical decisions).
- **Flexibility of tempo and metre** – as a number of individuals in the Digital Orchestra find the sustaining of repetitive, pulse-driven musical material more challenging, I explored a number of ways in which a flexibility of tempo might be incorporated into ensemble performance (for example, two consecutive bars of 4/4 may not be of equal duration), whilst retaining a musical reason for such fluctuations of metre – this might offer further, musically expressive possibilities (e.g. equal to the addition of rubato).
- **Integration of digital instruments into larger ensemble** – a number of potential layouts of the overall group were considered, to avoid a situation where it may appear as if a group of digital soloists are sitting in front of accompanying, acoustic soloists (and therefore attempting to eliminate any perceived barriers/hierarchies for all musicians involved).
- **Performers controlling duration and direction of musical material** – a number of improvisatory elements existed within the work, once again encouraging the players to explore a number of methods of musical leadership; I offered a number of more open sections in the score, where performers could choose pitches from suggested

[17] https://www.eventbrite.co.uk/e/microscopic-dances-a-nyos-futures-and-drake-music-scotland-collaboration-tickets-35630778618#
[18] https://drakemusicscotland.org/what-we-do/digital-orchestra/
[19] https://www.nyos.co.uk/classical/futures/

modes/scales; there also exist a number of repeated sections, for which I have not specified an exact number of repetitions, instead requiring musicians to respond as an ensemble to any structural changes as they arise.
- **Roles of instruments and how they might change over time** – a number of different 'personalities' were explored for each performer (see below for further details), and the various roles that we find ourselves adopting as musicians.

In considering these changing roles that we may encounter as musicians, I began to make an informal list of aspects of musical performance:

- *Sometimes* you have a melody to play
- *Sometimes* you are providing a less prominent melodic line
- *Sometimes* you are accompanying someone else
- *Sometimes* you play something that contributes to a texture
- *Sometimes* you have to follow someone else's tempo
- *Sometimes* you have to play slightly quieter than others
- *Sometimes* you play something that is almost inaudible to you when everyone else is playing
- *Sometimes* you have to listen to someone across the room (occasionally at the furthest point) from you
- *Sometimes* you have to make eye contact with someone (occasionally with more than one person at a time), and be aware of what they are doing and how your part coincides with another musician's
- *Sometimes* you have to count bars rest

Arguably, these aspects are inextricably tied to an ultimate goal of achieving musical expression in performance; within this latest incarnation of *Microscopic Dances*, I believe I have allowed all musicians involved to experience each of these aspects at least once.

There was a total of 22 performers onstage for the performances:
NYOS (12 musicians): Flute, Saxophone, Bassoon, Horn in F, Trumpet in Bb, 2 Percussionists, 2 Violins, Viola, 'Cello, Double Bass

Digital Orchestra (10 musicians, each with multiple roles within the ensemble): Keyboards, iPads, Notion, Handsonic, Drumkit, Percussion, Voice

We had hoped to include as close to a 50:50 split from each organisation in the project as possible – an important goal for us – to aid our work towards equity within the performance environment; this was unfortunately not completely achieved on this occasion due to the illness of two musicians from the Digital Orchestra, shortly before the commencement of rehearsals.

A new addition to the ensemble – since *Technophonia* – was the iPad, utilising the **Thumbjam**[20] App, and allowing performers to alter a number of parameters more easily on a single digital instrument; this included setting instrumental sounds, bending pitches, altering the volume whilst playing, and setting as many or as few pitches as required for sections of the work. This expressive facility allowed me to set a series of pitches over a chord

[20] http://thumbjam.com/

sequence, then leave decisions about the direction of solo material to the discretion of an individual performer, or set small fragments to be read, copied, or extended by musicians. The iPad has arguably changed the role of a digital instrument, offering a broader range of creative and musical possibilities, with fewer limitations over the number of parameters that can be altered in real-time by performers.

As part of the rehearsal process, I relayed several musical fragments aurally to performers, as well as exploring a variety of methods of simplified notation, including some parts adapted with the use of ***Figurenotes***[21] for keyboard players (a notation system originating in Finland, which correlates pitches and rhythms to coloured shapes on an instrument). One of the challenges for the Digital Orchestra musicians arose from navigating around a complex, extended piece, with a myriad of different sections, movements and structural changes, much of which individual performers had learned by ear. The role of conductor/director was therefore also extended to include indications for changes in instrumental settings between and during sections, and careful reminders for structural 'landmarks' within the new piece as they arose during performance. Standard hand gestures and visual cues were employed to encourage performers to establish eye contact between myself and each other when beating a pulse (especially for those less experienced in watching a conductor while performing), and in sections that were intended to be less reliant upon perfectly synchronised rhythm, simple reminders of dynamic information and structure were indicated (typically with a raised/lowered hand, or an occasional downbeat to demonstrate arrival at a specific point in the score).

Microscopic Movements

In keeping with the initial concept of *Microscopic Dances*, I created a selection of new dances between February and July of 2017, some of which suggest a set form in themselves, with others having strong suggestions of style, movement, or musical starting points for me to explore in a number of ways:

Jimp Jitterbug[22] – Jitterbug[23] as a dance, seems to have appeared from the 1920s onwards, often characterised by a fast walking bass, repeated drum rhythms, regular chord changes and virtuosic solo instrumental lines. For my own purposes, I coupled this with an archaic, Scots adjective: *Jimp*[24] (the alliteration was also appealing); this term is used in relation to someone donning an item of clothing which may appear slightly too small. I had the mental image of a person attempting to dance a Jitterbug while being restricted by trousers that were too tight; this humorous metaphor and visual movement allowed me a mechanism to explore unsettled rhythms, searching for a musical means to incorporate the aforementioned aspect of a flexibility of tempo/metre.

Aside from exploring a higher tempo marking and rhythmic patterns, I also identified sudden changes in the texture/structure of a piece of music as one of the more challenging aspects for the Digital Orchestra musicians – included within this were the acts of preparing to play at a specific point, synchronising with others, or stopping at a set point. To prepare for some of

[21] https://www.figurenotes.org/
[22] https://www.youtube.com/watch?v=8QcJzameeBU
[23] https://www.britannica.com/art/jitterbug
[24] http://www.dsl.ac.uk/entry/snd/jimp_adj_adv_v2

these challenges, I presented the piece in compartmentalised fragments of musical material (that could exist in their own right, or with whatever came before/after), in sections that might be repeated/extended as required.

I was also drawn to the act of placing acoustic and virtual instruments together (the vibraphone, for example). In Figure 2, a vibraphone line on Notion software is accompanied by an acoustic vibraphone player; the drum rhythm continues at a set tempo, recognising possible fluctuations of tempo from the Notion performer, but allowing the underlying, incessant rhythmic feel of the Jitterbug dance to quietly continue throughout the movement (n.b. exaggerated differences between dynamic markings act as an indicator of the importance of various lines within the overall texture).

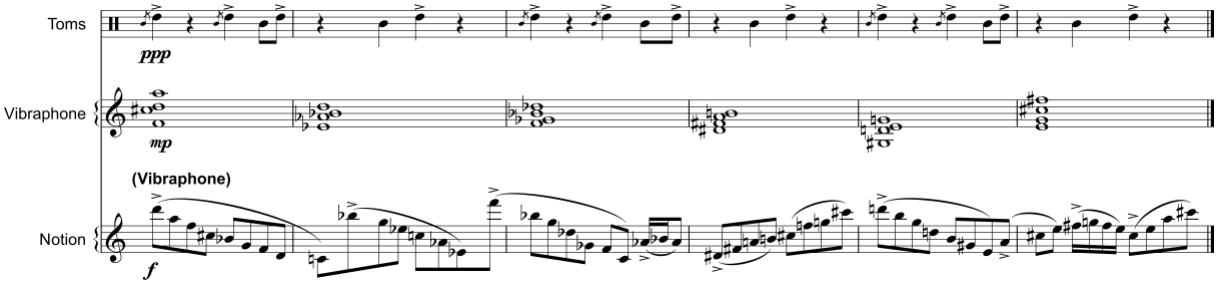

Figure 2 Extract from *Jimp Jitterbug*

As in standard orchestration practice, these sounds may combine to create something timbrally new or interesting; after meeting one of the Digital Orchestra performers who demonstrated a strong sense of rhythm and memory for the material, I included an electronic string sound on an iPad, doubling a solo violin to highlight a particular melodic line in the texture; similarly, Brainfingers/Notion provided a bassline later in the *Jitterbug* – this not only offered a rhythmic and structural challenge for the performers, but the electronically-synthesised sounds add a welcome extension to the acoustic timbres at points in the opening movement.

Infinitesimal Tango[25] – drawing on the strong stylistic and atmospheric mood of the tango, this section is coupled with the concept of an infinite cycle downwards; a repeating, descending chord sequence, which covers all twelve pitches of the chromatic scale within its bassline. As well as some opportunity for all to improvise at points (the ending is a collective decision by the ensemble, at any point during the sequence), the opening feature takes the form of another duet between acoustic/virtual vibraphone, again asking the acoustic player to follow the fluid tempo of the line played by a performer on Notion software (see Figure 3).

[25] https://www.youtube.com/watch?v=z0IpzWfyFFo

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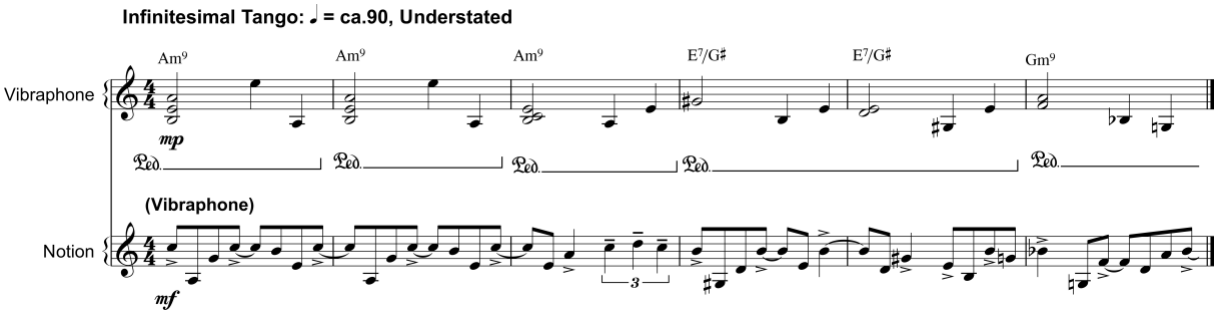

Figure 3 Extract from Infinitesimal Tango

Peerie Passacaglia[26] – Following the form of a Passacaglia – and with more than a passing reference to 1970s funk music – this movement relies on a small bassline cell of three notes (hence the Scots/Shetland Isles word: 'peerie', defined as 'small/tiny'). Rhythmically, it is grouped in 7, with phrases carrying across barlines – giving a feel of irregularity and breaking up the general rhythmic structure – but due to the repetitive bassline, the harmony is largely fixed (acting much like an extended pedal-point), albeit with a large number of chromatic lines shifting in the upper parts. Other than the challenge for all performers to carefully count in groups of 7 (and finish perfectly together on this occasion), I also included an iPad solo near the start – with a pre-set series of pitches around a chromatically-altered scale – encouraging the performer to consider longer melodic shaping in their playing, and introducing some counterpoint with the underlying rhythmic patterns (Figure 4).

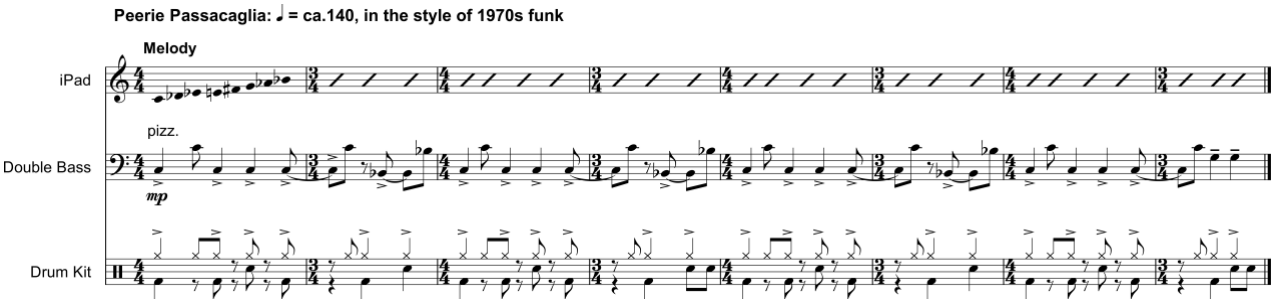

Figure 4 Extract from *Peerie Passacaglia*

Molecular Hornpipe[27] – after considering the function of a molecular sieve in chemistry (whereby the larger molecules of one substance can be separated from another), I imagined what might happen, should you carry out a similar process with some chordal fragments of G.F. Handel's famous *Hornpipe* – from his *Suite in D Major* – experimenting with the removal of a number of pitches from the original chord sequence. With a number of resultant notes, which cycle round over the remaining chord sequence (perhaps sounding like something akin to 1980s pop music), I wrote a number of **Notion** harp fragments, anticipating an element of flexibility and 'suspended' time, to allow the performer to take the lead (**Figure 5**); as well as some additional opportunities for improvised lines for the NYOS musicians, the performers add a number of repeated-note patterns to the musical texture (consciously avoiding anything that might be classed as a true solo line in the movement), exploring the

[26] https://www.youtube.com/watch?v=8oXnNV9fBLo
[27] https://www.youtube.com/watch?v=oFQkJhRbVws

collective response to music-making that might arise through the lack of any one particular musical leader.

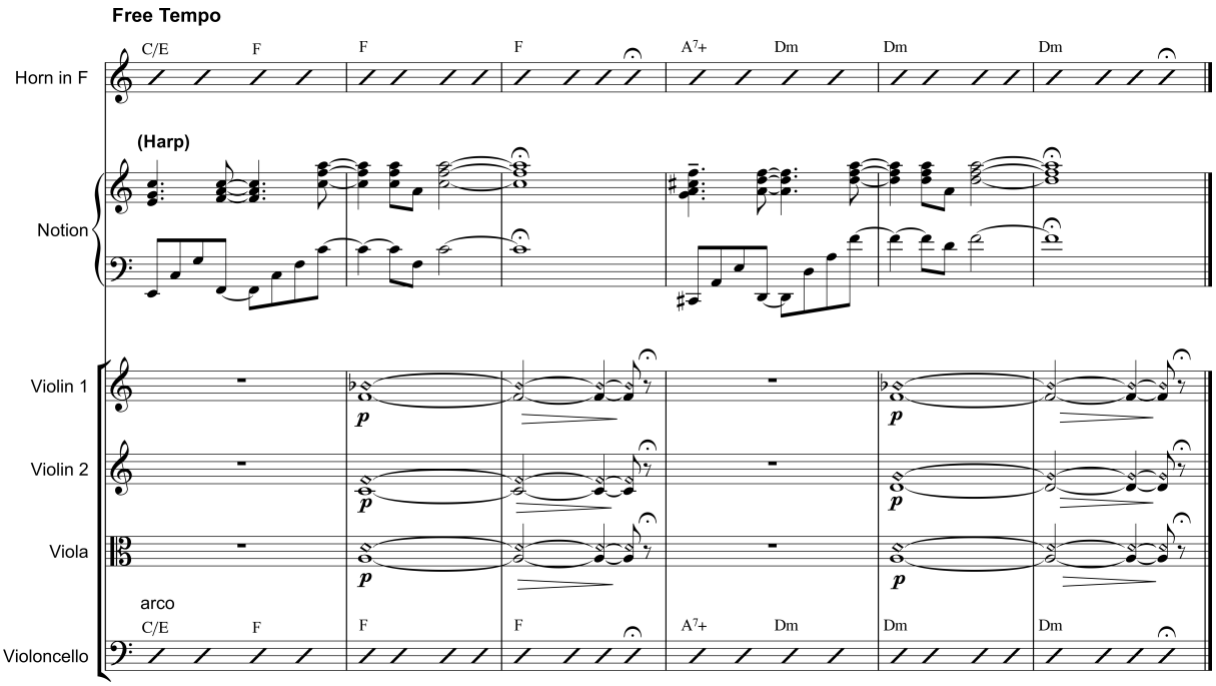

Figure 5 Extract from *Molecular Hornpipe*

Minuscule Mosh[28] – in this movement, I imagined a series of very small, rising and falling gestures by a number of tiny creatures (similar to a group of amoebas headbanging quickly, in many different tempos), without any separate, melodic elements, to give a general wash of sound. This offers the freest textures of all the movements, while still retaining a high level of structural organisation in rehearsals, with every individual fitting a number of set gestures together, and considering the integration of electronic/acoustic sonorities carefully within the balance of the overall ensemble (Figure 6). Particular challenges included asking performers to reduce their tempo marking at the same rate as others around them, rather than relying on a conductor as the sole provider/controller of tempo; this musical skill of responding directly to others was identified as being quite different to following one individual in ensemble playing, and some time was spent on practicing fragments in various combinations to achieve the eventual result in performance.

[28] https://www.youtube.com/watch?v=Mwametvl-Ro

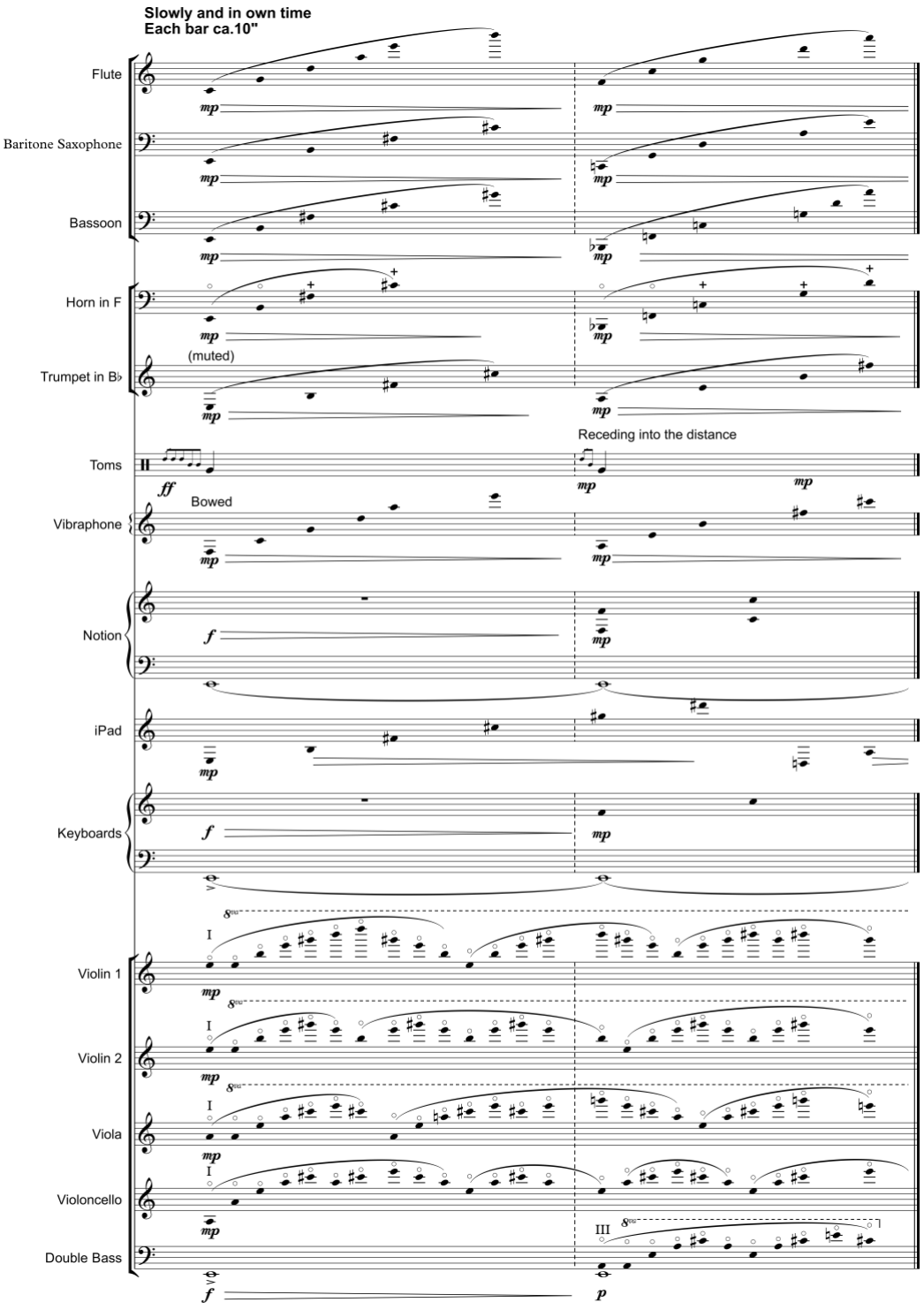

Figure 6 Extract from *Minuscule Mosh*

Skiddlie Jig[29] – 'Skiddlie'[30]: from the Old Scots language, translated as 'fleeting/small insignificant thing'. This movement manufactures a structurally-unstable environment, whereby the jig melody – see the flute/upper strings et al. in Figure 7 – settles on certain rhythmic patterns for a short, managed period of time, before a change is instigated to

[29] https://www.youtube.com/watch?v=chQdpANCCgE
[30] www.dsl.ac.uk/entry/snd/skiddle_v1_n

unsettle the underlying metre; this includes altering the melodic line to become a 'Hip-Hop' version of the original melody (notice the accents and syncopated bass-line in Figure 8), and repeatedly exploring the concept of metric modulation, whereby the 1/8th note rhythm in one bar of a compound time signature is equal to a 16th note in a following bar of 2/4. As I was working with musicians with very different levels of understanding and experience in this project, difficulties often arose in explaining and defining these rhythmic changes to facilitate comprehension for every performer. Some of the more complex alterations were more easily remembered through aural instruction, than through the notation, as demonstrated by the singer within this movement; she learnt this line entirely by ear, allowing her to couple her singing with other individuals when the melodic fragments recurred; the vocal line as written in Figure 7, also appears as a rhythmically-augmented version of the original jig melody, sitting in the middle of the texture, while the original version continues in a higher register.

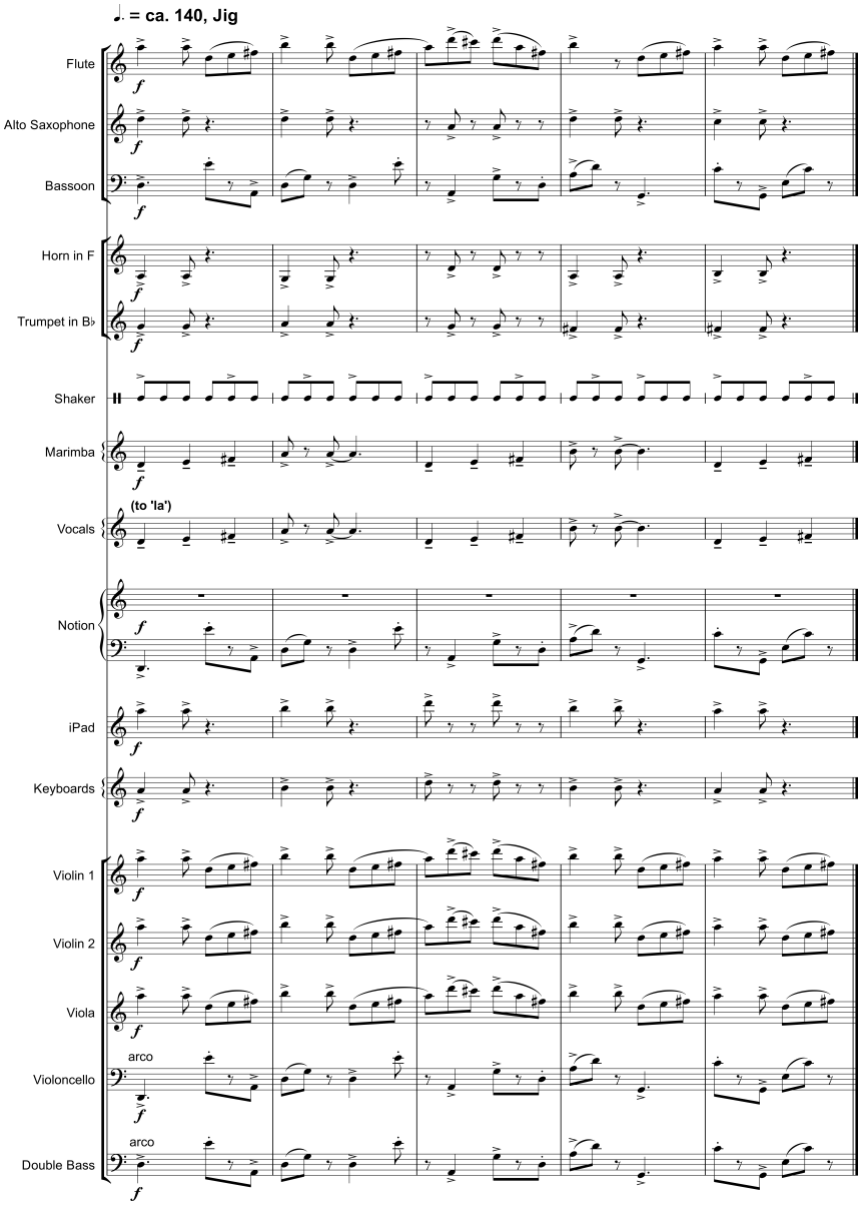

Figure 7 Extract from *Skiddlie Jig,* m.589-593

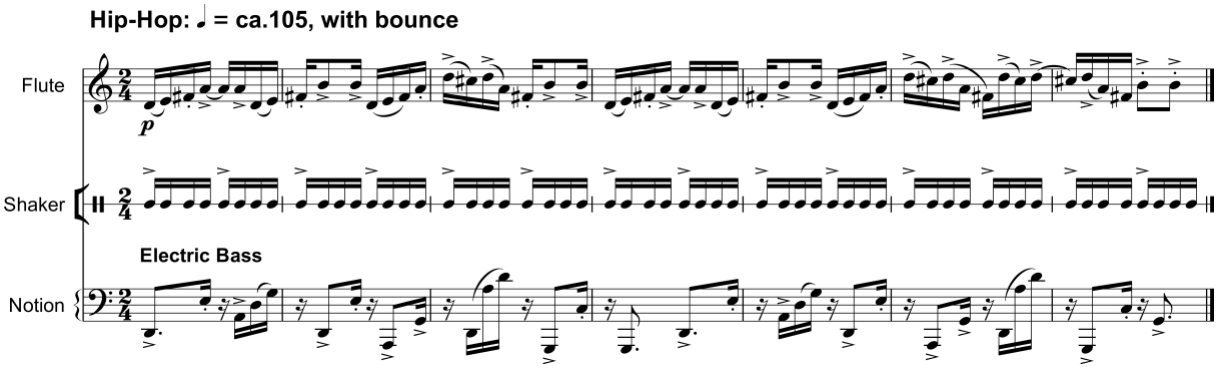

Figure 8 Extract from *Skiddlie Jig*, m.509-515

Composing and Creative Music Making

In 2012, the Royal Conservatoire of Scotland (RCS) underwent an extensive process of Curriculum Reform for all of its programmes; Inclusion and Diversity are key themes within the institution's Strategic Plan[31], encouraging staff and students to explore ways in which we might engage the Conservatoire with a larger cross-section of society. One of the developments to come from the reform process was the concept of 'Choice Modules' (since renamed as 'Options') – these can be taken by any student within the building (regardless of discipline), but are often created by individual staff members, drawing on their own personal arts practice, with the aim of sharing and involving students directly in this work.

DMS developed this module together with myself as a staff member, as an opportunity for students to learn about the technologies used by the organisation and ways to integrate these into their musical practice, whilst developing new material for the instruments, then encouraging interaction with DMS musicians and participants. One of the principle aims is to build skills and confidence in devising and leading workshops/performances with musicians with disabilities; this was identified as an area for enhancement within the RCS, which may contribute to music education more widely in Scotland and the UK, and distinct from Music Therapy as a separate discipline (which is not currently offered as a course of study within the RCS).

The *Composing and Creative Music Making* module takes place in our Intensive Learning Week, where students experience an immersive learning environment for 5 days, working with staff and peers; towards the end of the week, students work directly with musicians regularly involved with Drake Music Scotland, and share their work in an informal setting amongst fellow students and staff members.

Within this course, we explore the following areas:

Notation – We encourage students to explore a number of methods, not relying entirely upon standard Western Classical Music notation, and introducing a degree of flexibility in scores and performances. This includes the use of a **Skore**[32] (as mentioned above) for a **Skoog** performer, or studying systems such as **Figurenotes**; a number of examples of composing and performing with different forms of graphic notation are also presented to students, who

[31] https://www.rcs.ac.uk/about_us/equalityanddiversity/
[32] http://skoogmusic.com/support/skoog-song-book/

are encouraged to create their own methods of capturing and recording aspects of musical work as they develop (as much for their own future reflection as to aid with any immediate recreation of a new piece).

Additional Support Needs – through discussions, we ask students to consider their personal definitions of *Additional Support Needs*[33] (the term used in Scotland to help recognise a range of educational needs), and how this might affect our practice as musicians, or alter our approaches and methods when working with particular individuals.

Composition/Improvisation – we use improvisation as a tool to create and develop musical material within the group, discussing a range of methods for setting up musical environments in which others can more easily participate. This includes: initial exercises in musical memory, expanding on simple material (e.g. a well-known melody) and then harmonising within an agreed chord sequence; layering of simple, improvised, repetitive rhythmic cells, which are vocalised initially, then introducing instruments to build a broader range of pitches and expand the tessitura of a texture; free improvisation, using simple themes created from 3 or 4 pitches which may be separated by a certain pattern of intervals.

Technologies **–** through the module we introduce all of the technologies DMS regularly utilise in workshops and performances (including those listed within my own projects), encouraging practical engagement and consideration for integration with acoustic instruments.

Throughout, there is an emphasis on practical composition and methods for creating new musical material for people with Additional Support Needs. We assess students through observing their work with each other, the application of their musical skills, and how they implement collaborative methodologies within small groups to create new work with musicians from DMS.

A short, informal performance ends the intensive week of activities, and students have previously gained the opportunity to perform new work with DMS musicians as part of the RCS lunchtime concert series; some were also involved in demonstration workshops at the International Society of Music Educators (ISME) conference in Glasgow in 2016[34], or in the RCS new music festival, PLUG[35], in which a new work by one of our student composers, (also participating in the module), was developed in collaboration with several RCS Woodwind Department students.

Conclusion

As a composer, my work explores opportunities for new music to be included in a variety of environments and settings, attempting not to exclude any methods from the process of composition, or anyone from the performance of a new work. Consequently, I am interested in exploring how music may be included in as diverse a range of settings as possible – as well as being *inclusive* – finding ways to include my individual personality as a musician, composer or director, and encouraging younger musicians to become less concerned as to

33 https://www.thescsc.org.uk/campaigns/additional-support-needs-asn/
34 https://www.isme.org/events/32nd-isme-world-conference-glasgow-2016
35 https://www.rcs.ac.uk/plug-is-10-years-old/

whether engaging in a broader range of activity may label them as a particular sort of composer or musician – exclusively – or not.

Although some of the work within these projects is certainly exploratory (e.g. the technology and methods in *Technophonia* include a number of more rudimentary experiments, as demonstrated when compared to the more sophisticated approaches and thought processes of *Microscopic Dances*), they have both provided an opportunity for young, disabled musicians from a range of backgrounds to perform, learn and interact with their peers, (e.g. other young, non-disabled musicians performing with both acoustic and digital instruments), and the involvement of musicians with the DMS Digital Orchestra has subsequently resulted in attendance at more high-profile events nationally and internationally, raising expectations for musicians with disabilities.

As discussed, there are many creative possibilities with the technologies available, and many more await as the technology is improved and developed to allow further exploration of musical expression, both for myself as a professional composer, and for student musicians, as they consider improving their skills in developing and utilising new musical material, incorporating a range of inclusive technologies and music notation methods into their practice and future careers.

As the work of organisations such as Drake Music Scotland becomes more widespread and well-renowned, the implication is that more composers and musicians (such as myself and my future students) will become involved in working in a broader range of environments, with a longer-term outcome of raising the standard of new music being created for such settings, further exploring ways in which we can build our knowledge and understanding as musicians, and considering how we might adapt our own methods when working with inclusive technologies and individuals, whilst continuing to aspire to the highest-level of music-making.

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György Kurtág's *Játékok*: a tool to learn the piano

Pascal Terrien[1]
Aix Marseille University, France

Emmanuelle Huart[2]
CRD Grand Paris Sud, France

Abstract György Kurtág's Játékok for piano, piano duet or two pianos, produced with the pedagogical collaboration of Marianne Teöke, consists of eight books. The first is published in 1979 by the publisher Editio Musica Budapest. This Work in Progress marks the renaissance of the composer; the pseudo-pedagogical work "suggested by children playing spontaneously with the piano" is designed to enable "familiarization with the processes and the thought of contemporary music, from the first contacts with the instrument", and also with "pleasure in playing" and "joy of movement-daring". Each book proposes to compare two types of complementary writing, and an explanatory note presents the elements of musical language: pianistic, correlating sign and musical and instrumental gesture, highlighting this search for "gesture-sound" at the heart of Kurtág's thought. We have chosen the specific theoretical frameworks of didactics, more particularly the didactics of music, together with the methodological tools of activity analysis, to examine the experiments undertaken by these young pianists to explore the meaning of their musical experience by the acquisition of the technical gestures written in the Játékok. Our methodology is based on video recordings of autonomous practice sessions of young pianists aged from 8 to 12 years old, followed by a simple self-confrontation interview. We ask about their musical realization, about what is to be done (the task) and what has been done (the activity) in order to understand the process that leads from the technical gesture to the musical gesture. In this paper, we propose to present some results on the relation between task and activity in piano learning, to understand how certain technical gestures learned in the Játékok context are transferable in other musical situations, and to describe some pedagogical paradoxes existing in some of these games. This work of didactic analysis of the pianistic activity allowed us to observe indicators that elicit and trigger activity. It shows that certain exercises, certain parts, require the presence of a teacher so that the child understands what is prescribed. These data indicate the principles of the acquisition of gestures that allow the young pianist to develop a sensitive and musical discourse.

Keywords Didactic, piano, musical learning, pianistic gesture, performance process

Introduction

In 1973, when Hungarian composer, pianist and pedagogue György Kurtág embarked on the *Játékok* ("Games"), emerging from a "very long period (many years) of [creative] paralysis and repeated crises" (Kurtág, 2009). It was Marianne Teöke, dedicatee of the first four volumes of the *Játékok*, who was the source of their creation, which the composer experienced as a rebirth: "the *Játékok* were a new opus 1" (*Ibid*, 86). György Kurtág wanted to write a series of works that allowed pianists to discover the enjoyment of a game, the enjoyment of movement, in order to develop the initiative and the freedom of the performer (*Ibid*). The object of these collections was to "move around without fear [...], with speed over the whole space of the keyboard, at the very outset of the learning process..." (*Ibid*). Thus, Kurtág composed *Jeux*, a set of short pieces for the piano for 2 hands, 4 hands or two pianos accompanied by explanatory notes, of which the first 4 volumes were published in 1979[3]. One of the concerns of the musician was that the beginner should be made sufficiently aware of notation in order to understand what should not be taken seriously and what should indeed be "taken seriously" (*Ibid*.). For, musical notation is on the one hand a constraint, since it is supposed to represent, through symbols, graphics, the musical will of the composer that

[1] *pascal.terrien@univ-amu.fr*
[2] *Emmanuelle.huart.piano@gmail.com*
[3] A second set *Entrée de journal intimes, messages personnels* was published in 1997 (vol. 5 & 6), 2003 (vol. 7) and 2010 (vol. 8).

must be complied with, as well as providing a wealth of information for the interpreter, On the other it is a space for the play, for the freedom of the imagination. For the musician and likewise for the pedagogue, it serves as a prescription which determines the tasks and activities to be realized in order to give life to the signs as sound and music to the signs set on paper. The study of the relation between notation-prescription (signs describing pitch, duration, intensity, even timbre and space) and the activity of the young pianist should make it possible to understand how the music takes possession of their fingers. We therefore assume that Kurtág's notation (explanatory note and score) in *Jeux* guides the instrumental and musical gestures of the learner both explicitly as well as implicitly.

In the foregoing, we referred to certain concepts (notions) that are still rarely used in research into musical pedagogy in France (prescription, task, activity). These notions belong to the scientific fields of didactics and the ergonomics of activity, much studied in the sciences of education and grouped together in the field of the theories of activity (Vergnaud, 1990, Chevallard, 1985, Brousseau, 1998, Pastré, 2011, Clot (1999), Clot et Faïta (2000), et al.). Our study is founded on this theoretical framework and our ergo-didactic approach attempts to understand and to explain the links between task and activity based on an example taken from Kurtág's Games*,* drawing on the characteristics of the didactic game (Brousseau, 1998; Sensevy, 2007). Our hypothesis is that the notation of these works serves more to accompany than guide the young instrumentalist as she elaborates the pianistic game aimed at producing musical expression. It will be tested by crossing the methodologies of research into musical didactics (Marchand, 2009; Terrien & Leroy, 2011; Terrien, 2015;) with the ergonomics of teaching activity (Amigues, 2003; Clot & Faïta, 2000; Saujat, 2002; Joshua and Felix, 2002; Espinassy, 2009; Espinassy and Terrien, 2017). Based on didactic game indicators in the context of the didactic triplet and on a re-examining and discussion of the didactic approaches desired by Kurtág in this work, our video analysis tools enable us to propose results that explain the impact of the notation-interpretation relationship concerning young learner-musicians, and to better understand certain learning mechanisms.

1. Theoretical framework

The theoretical framework on which we base our work is taken from the field of didactics and ergonomics of the activity of teaching, which, with other researchers in the educational sciences of the laboratory for *Learning didactics assessment and training* of 'Aix Marseille University (EA 4671 ADEF), we term in France an ergo-didactic approach. From the field of dialectics we take the notion of didactic triplet (Chevallard, 1985; Sensevy and Mercier, 2007; Terrien, 2015), the notion of didactic game and didactic environment (Brousseau 1998; Sensevy, 2007) and in a more limited use the notion of didactic transposition (Chevallard, 1985; Vergnaud, 1998; Brousseau, 1998; Terrien, 2006) and from the field of the ergonomics of the activity of teaching the notion of prescription (Daniellou, 2002; Amigues , Félix & Saujat, 2008; Amigues, 2009; Espinassy, 2009) and the notions of task and activity (Leplat and Hoc, 1983; Clot 1999; Saujat, 2001; Goigoux, 2007). But research in the pedagogy of music also creates its own notions, that of musical gesture when we speak of intensity, nuance, expressiveness (Hoppenot, 1981; Renard, 1982; Matthieu, 2004) and that of instrumental gesture when referring to tonic-muscular movement (Cadoz, 1999; Schmidt and Lee, 1999, Desmurget, 2006). Our study falls within the broad framework that we call didactic musicology (Terrien, 2016, 2017).

We use the term prescription to mean "an attempt at unrestricted prediction and control, both as to what is to be done and as to how to do it" (Daniellou, 2002, 9). Prescription usually results from a reflection on how to perform an action after studying the various possible ways of doing it. In the narrow sense, prescription is the rule for carrying out a task, for doing what is to be done, but it may also consist in any statement, instruction or indication conveyed in writing or orally to a pupil or group of pupils, in other words stating what has to be done. But such prescription is polymorphic and contains a good deal of the implicit, not only because it is badly formulated, but because it fails to say everything about what is to be done and how to do it in other words the know-how. In the case studied below, we will analyze the consequences of the explicit and implicit in the prescriptions given (explanatory note and musical score) upon the young pianist's learning process. We shall study how she carries out her training in the light of what she takes the prescription to mean.
The notion of task, often linked to that of prescription, is a goal to be achieved under certain conditions (Leplat, 2000). It is the work to be carried out to meet the wishes or expectations of a prescriber: the teacher or the designer of the method. In this case, the expression "prescribed task" is used. When it also concerns the actor (the pupil, the learner), the expression "effective task" is used. In the observed situation, the student becomes familiar with the prescription and interprets it in her own manner. Hence, it is a "redefined task" (*Ibid*.). This makes it possible to observe the activities of the partners in a didactic situation. The task to be undertaken in the case of our study is the interpretation of the pieces *Flowers we are ...* (1a) and *Flowers we are* ... (1b).

For didacticians (Reuter et al., 2007, 11), the notion of activity "refers to everything that the didactic subject implements in the performance of a task". For ergonomists, who borrow their definition from work psychology (Leplat, 1997) and the activity clinic (Clot, 1998), it is part of the theory proposed by Leontiev (1976) following the theses of Vygotski. Activity includes all that a subject does but also what they decide not to do. Its history starts at an earlier point and cannot then be reduced to what is merely seen (the action). It is imprescriptible and depends on the relation that the subject maintains with the didactic environment in which the activity is conducted (Amigues, 2003, 8).
All three notions, prescription, task and activity, are key notions in didactics and ergonomics. They are also integrated with other elements of didactic theory such as the didactic triplet, they may also be linked to didactic games that occur in any learning situation (Chevallard, 1985; Brousseau, 1998; Sensevy & Mercier, 2007).

On the didactic level, all teaching situations are covered in the didactic triplet combining mesogenesis (learning in terms of environment), topogenesis (learning in terms of distance or relation to knowledge) and chronogenesis (learning in terms of time, duration). These notions have been described at length in numerous works on the didactics of disciplines (Chevallard, 1985; Raisky and Caillot, 1996; Brousseau, 1998; Sensevy and Mercier, 2007) and in the didactics of teaching music (Terrien, 2006, 2015). The notion of game (Brousseau, 1998; Sensevy, 2007), whose characteristics will help us to analyze the didactic situation, is linked to that of the environment (Brousseau, 1998; Joshua and Felix, 2002). The game involves the teacher and the student, and they both succeed together. In other words, the teacher wins when the student has managed to carry out the exercise. This situation is made possible if the didactic environment is organized in such a way that the pupil can carry out the task asked of them. In this case, there is a state of didactic devolution, that is to say that the pupil performs the task assigned to her or him unassisted (Brousseau, 1998, 51). So

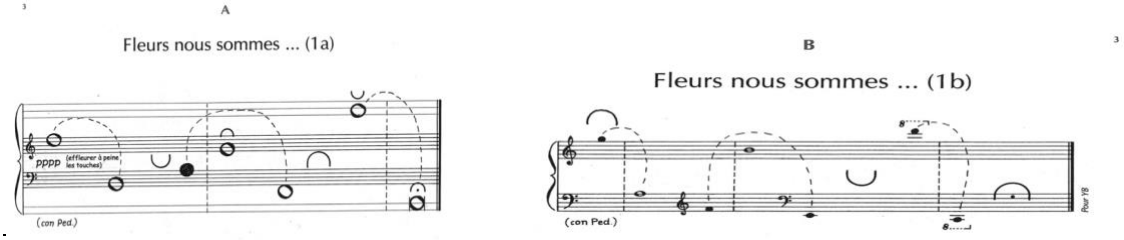
much for the brief recapitulation of the main notions of the theoretical framework that we shall now use in the study of this situation.

2. The purpose of the study

Our study is based on the first collection of *Játékok (Games)* by Kurtág. The composer gives graphic design a key role in *Games* and, though "the musical text is not to be taken literally", [...] it is important [nonetheless] be very attentive to its development, to the quality of the sounds and silences." (Kurtág, 2004). By way of help, "the semiographic solutions adopted by Kurtág quickly convey the constructive peculiarities of events, they mark the units of articulation and through a ratio of analogical correspondence they show the dynamics of gestures required to produce sound profiles. [...] Events of equal durations are represented by equal symbols and, as in the case of silences [...], the various duration of the sound elements are represented by various symbols which are not related in terms of precise mathematical relationships, but instead linked just by the relative terms 'longer' or 'shorter' " (Melis, 2009, 144). With the help of the graphic image, the student intuitively grasps the spaces to be passed through (through ascending or descending movements), the temporal progression (the indications of length being reinforced by the spaces left blank between two notes or clusters), the sound mass is described by circles of clusters either inked-in or left empty. "These graphics make it possible to conclude that there exists a precise correlative ratio between the graphic representation of the notation, the mental representation of the sound structure and the motor coding necessary for sound reproduction" (Melis, 2009, 144).

2.1. Organization and disposition

The organization of the book, the set of exercises and repertory present the originality of juxtaposing two types of writing. The left-hand page (A) "hosts an undifferentiated material" (Kurtág, 2009, 187), that is to say, the "avantgarde" game modes (cluster, glissandi, etc.) and their characteristic graphics. "The note does not matter, what matters are rather the gesture and approximate register" (*Ibid*), the composer informs us.
The right-hand page (B), numbered identically with page A, proposes "notes defined" (Kurtág, 2004, I) on traditional staves.
If "pages A form a continuity together (ditto for pages B)" (*Ibid*) and if pages A and B can be played independently, these latter are nevertheless complementary. The example of the two versions of "Flowers we are ... (1a)" and "Flowers we are ... (1b)" on pages 3A and 3B illustrates this complementarity perfectly and highlights the "search for gesture, for sound-gesture "[4] at the heart of Kurtág's thought and approach, seeking to connect sign and musical and instrumental gesture.



2015 of Valérie Haluk (a French pianist who had worked in the Franz Liszt Academy in Budapest, with Kurtág himself and was a pedagogical contributor to the French edition of *Játékok I*).

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Ill. 1. : György KURTÁG, *Játékok I*, “ Flowers we are… (1a)”, page 3A
et “Flowers we are… (1b)”, page 3B.
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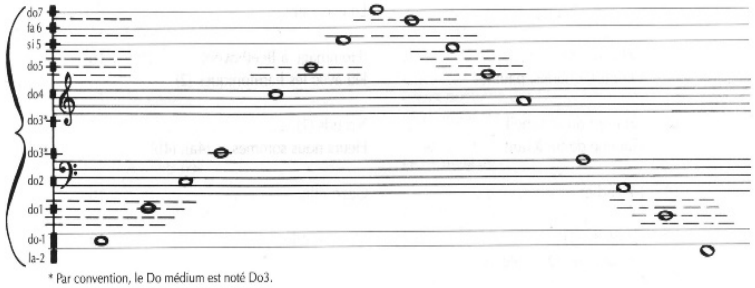
A table of tessituras, "figur[ing] the entire keyboard without transpositions of octaves, with red lines at the ends" (Kurtág, 2009, 186), makes it possible to find one’s way on the keyboard (see "Table of tessituras" below, the red lines appearing in gray).



Ill. 2. :György KURTÁG, *Játékok I*, “Table of tessituras”, page I.
© Éditions Henry Lemoine

The words of Kurtág in his preface to *Játékok* then take on their full meaning: "Let the musical graphics take effect and exert their influence upon us. They inform us about the progression in time of the pieces, even for the freest of them " (Kurtág, 2004, I).

2. 2. "Flowers we are ... (1a)" and "Flowers we are ... (1b)": explanatory note

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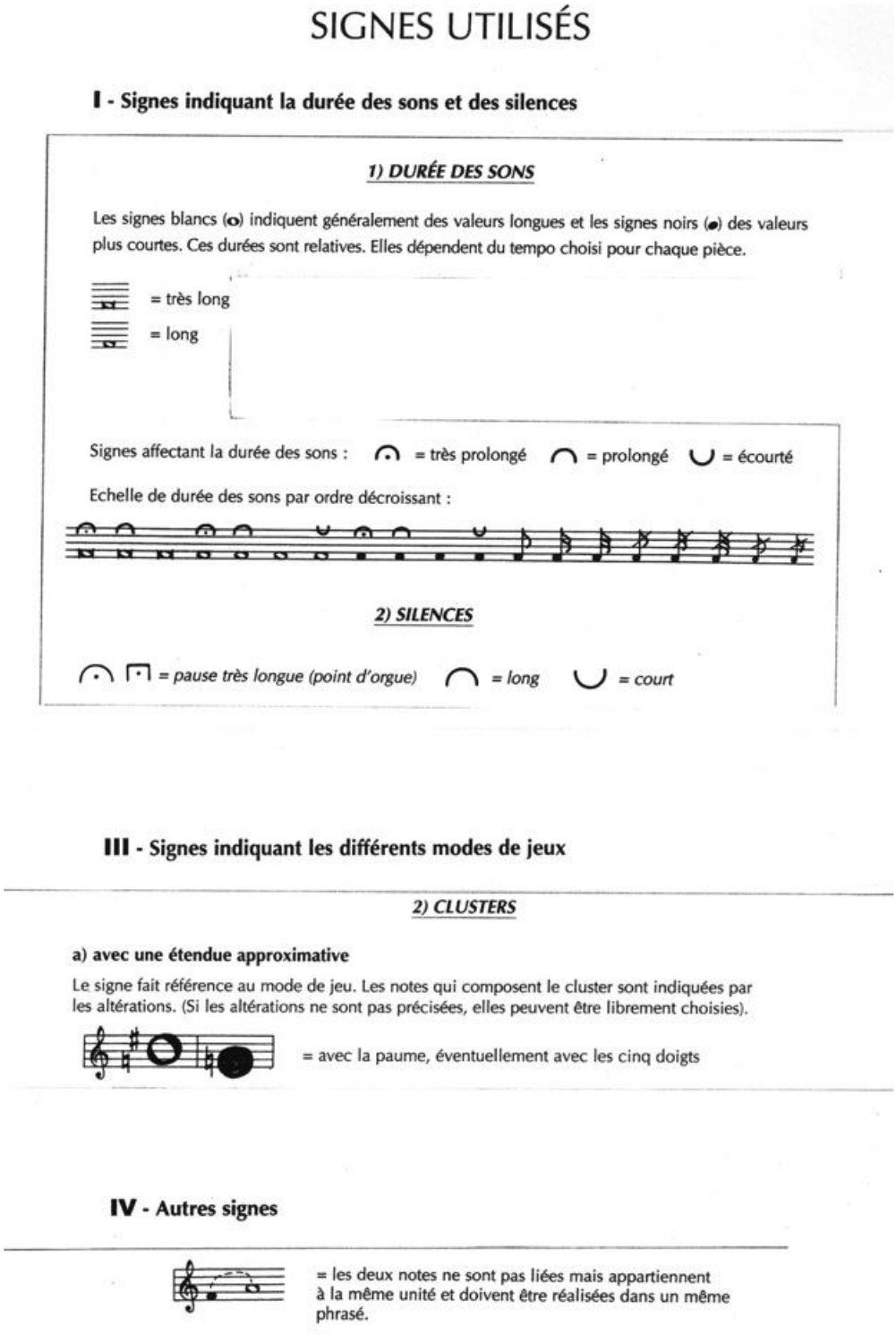

SIGNES UTILISÉS

I - Signes indiquant la durée des sons et des silences

1) DURÉE DES SONS

Les signes blancs (𝅗𝅥) indiquent généralement des valeurs longues et les signes noirs (𝅘𝅥) des valeurs plus courtes. Ces durées sont relatives. Elles dépendent du tempo choisi pour chaque pièce.

= très long

= long

Signes affectant la durée des sons : = très prolongé = prolongé = écourté

Echelle de durée des sons par ordre décroissant :

2) SILENCES

= *pause très longue (point d'orgue)* = *long* = *court*

III - Signes indiquant les différents modes de jeux

2) CLUSTERS

a) avec une étendue approximative

Le signe fait référence au mode de jeu. Les notes qui composent le cluster sont indiquées par les altérations. (Si les altérations ne sont pas précisées, elles peuvent être librement choisies).

= avec la paume, éventuellement avec les cinq doigts

IV - Autres signes

= les deux notes ne sont pas liées mais appartiennent à la même unité et doivent être réalisées dans un même phrasé.

Ill. 3. :György KURTÁG, *Játékok I*, Extract from the explanatory note. © Éditions Henry Lemoine

For the present study, we have selected examples from "Flowers we are ... (1a)" and "Flowers we are ... (1b)" (Kurtág, 2004, 3A, 3B). The explanatory note familiarises the pupil with the prescriptions written by the composer for this work, in particular regarding the signs of duration of sounds and silences with their longer or shorter extensions. These values apply to both sounds and silences equally.

The clusters, that is large empty or filled circles to be "played with the palm, possibly with all five fingers" (Kurtág, 2004, 3A, 3B). In "Flowers we are ... (1a)", the clusters indicate both an approximate extent and the corresponding pattern: play on the white keys, on the black keys or on both, depending on the alterations preceding the clusters. When no alteration is specified, the notes may be freely chosen by the young pianist.

The dotted lines indicate that though the two notes are not linked, they "belong to the same unit and must be performed in the same phrase" (Kurtág, explanatory note).

The whole must be played "(*con Ped.*)".
The two pieces (1a and 1b) differ somewhat in graphic representation. The first one indicates the pitches with large circles arranged on the two staves, marked by a clef (top: treble clef, below: bass clef), gives some indication of nuance (pppp), and of movement (“barely touch the keys"), whereas the second is written with distinct notes, key changes within each stave, and octaviations in the treble and bass.

As we may see from the explanatory note, the prescription is both explicit, giving precise indications as to pitch, duration, intensity, and at the same time broadly implicit, allowing each student a choice as to how to interpret the data. Concerning the pieces (the tasks), while the written score complies with the prescriptions indicated in the explanatory note, it issues the student with a two-fold instruction (actually a paradox), namely to play the piece in accordance with the prescriptions of the explanatory note, and yet to do so each in their own way, according to each one’s possibilities, each one’s understanding of the prescriptions. Each piece, each task, must to be redefined by the student and he can play what is asked of him, in spite of the explanations given by the explanatory note. The implicit dimension of a musical score needs to be ascertained, even if it sets out to be "simple".

3. Methodology

Our methodology is based on the observation of two video sequences of a 9-year-old student who has been practising the piano for two years and has taken music classes (music harmony) for three years.
During the making of these video sequences, the student is left alone with the score, the explanatory note and a piano for 20 minutes. It is filmed from a three-quarters angle from behind in a fixed plane, which allows us to observe the movements of the pupil on the piano, and sometimes even their eyes, as they look at the score or the explanatory note lying at hand on the music stand of the piano, which serves as instrument.
The process of analyzing these videos is linked to the framework in which our experiment takes place. Left on her own with the score, the explanatory note and a piano, the young pianist is therefore in a devolved situation, a notion that we defined above. The object is to analyze the data to allow us to understand and to explain how Flora sets about carrying out, in the time allocated, the work that enables her to play the piece. Methodologically, we refer both to Brousseau's didactic situation theory (1998) and to ergonomics to study the activities involved in discovering a musical piece, while retaining the analytical scales specific to didactics: macro / meso / micro (Tiberghien and Malkoun, 2007). In the words of our colleague C. Marlot:

We thus move away from the logic of the "proof", based on indictive methods and generic classifications, to turn to one which aims at a certain "pragmatics of interpretation" by enquiring more closely into singular cases and making their contexts more explicit. (Marlot, 2008, 98)

Our analysis is based on the scenes that depend on the learning games, and on some episodes characteristic of the manner of regulating their activity adopted by the student. Drawing on the epistemological foundation of the methodological approach, this consists in a close dialectic between theoretical questioning and video data, which is quite near to the idea of combinatorial ethnographic inquiry (Dodier and Baszanger, 1997).

4. Analysis of the video

4. 1. The student

Flora (alias), a young nine-and-a-half-year-old pianist, has been practicing the piano for two years and been following music classes (harmony) for three years. She goes to a French elementary school and is in the *cours moyen* 2nd year (equivalent to fifth grade (U.S.) or year six (U.K.)). In addition to French she speaks fluent Chinese and Vietnamese. She practices on her own every morning for about a quarter of an hour. Her parents support her and oversee her musical studies. Outside school she also practices Taekwondo.

4. 2. The didactic situation

A large classroom with a piano at the conservatory.
Explanatory note to "Flowers we are ... (1a)" placed on the left-hand side on the music stand of the piano
Score: "Fleurs we are ... (a)" placed on the right of the explanatory note on the music stand
White sheet of paper over "Flowers we are (1b)" and under "Flowers we are ... (1a)"
The student is therefore left completely on her own and in a situation of didactic devolution, in other words, she organizes the learning process exactly as she likes.

4. 3. Indicators for the analysis

As mentioned previously, we have chosen to analyze the video using indicators borrowed from the theory of joint action in didactics (Sensevy and Mercier, 2007) that take into account didactic transactions. These links the didactic contract concerning devolved situations (thus here learning to play "Flowers we are ... (1a)" without any outside assistance), to the environment and the learning games (the didactic situation and the rules set by the teacher), but also to the didactic triplet and the didactic quadruplet (define-regulate-institutionalize). In order to identify the interactions between these notions, we have relied on the prescriptive data of the explanatory note on the task as represented by the score, and on the activities developed by Flora, the student pianist, in order to complete the task of learning to play a piece without any assistance.

The session takes 19 minutes and 22 seconds, and is analyzed at three different levels: first a macro level or didactic phase taken in its topogenetic sense, i.e. the relation which the student, in this devolved situation, maintains with the knowledge and knowhow; then a meso level understood as mesogenetic which makes it possible to identify the different scenes that

appear through the video; and finally, a micro level, where the extraction of individual episodes that mark the chronogenesis of the didactic situation takes place.

4. 4. Results

Our analysis shows that the learning process is made up of three distinct episodes.
The first episode (0'-4'12) involves the discovery of the material. At this point, and through metacognitive activity, the students employ all their knowledge and know-how in order to perform it by reading, analysing, as well as imagining gestures. This phase lasts almost 4 minutes, and we observe the contribution made by the skills acquired over three years in the musical field – the music read internally, the silent deciphering, and so on, together with the instrumental skills acquired in respect of the instrument, like instrumental gestures, exploration using trial and error (Mialaret, 1991), and finally and finally the initial gestures with the instrument, testing how does it sounds". During this phase, the student's actions, the silent reading, the constant shifting between the explanatory note and the score, how her right hand is placed on the keyboard, and the manner in which the movement of the hand is prepared, all point to the student's activity, the choices she makes, the different tests she explores, the hypotheses she seeks to verify by testing them and then finally confirming them.
The second episode (4'12-12'12) can be broken down into three phases. The first (4'12-4'45) is two clusters. During this episode, the young pianist appropriates the relation between the prescriptions (explanatory note) and the task (the musical piece) and she makes sense of it through her experience of the activity. In order to conduct these activities, she makes use of all that she already knows about music and what she has learned from the explanatory note; and she also creates new gestures to accomplish what she assumes the task to require. These actions are the result of trial and error such as lateral movements made across the keyboard. The second phase (4'45-10'17) is the first step in rule-making: Flora confirms these new gestures by reproducing them and she even proposes some musical gestures through her work on the intensities or pitches. It is during this phase that she makes use of the pedal of the instrument to give greater amplitude to the resonance. The final phase (10'17-12'12) of this second episode concerns the execution of the two last clusters. This action leads to a rebalancing of the whole. Every moment in the game is much shorter than the moments of thought that consist in the re-reading of the prescriptions, of the mimed instrumental acts, the to-ing and fro-ing between score and keyboard, the movements up and down the keyboard, and the pre-operative or preparatory gestures preceding the game.
The third phase (12'12-19-22) consists in the process of institutionalization. Flora considers that she has acquired the knowledge needed to play the work and performs it entirety several times, while taking the time in the breaks between the performances to come back to the text, that is the explanatory note.

Flora passes frequently back and forth between the explanatory note, the score, and the keyboard during the game and also between the game's phases. This activity generally takes place quite independently from the production of sound. She looks alternately at the position of her hands on the keyboard and at the score, trying through this action to give meaning to a task that does not furnish the basis of this activity. Through these gestures she shows how she develops her pianistic activity: by miming, by feeling, by touching the keys on the keyboard, by moving her hands from one side of the keyboard to the other, by clasping her wrists as if to play, without necessarily producing any sound. She elaborates propositions of

musical sense, by testing her previously acquired experiences and by creating new ones when those she already possesses are of no help.

V. Discussion

An analysis of this video sequence shows how the student develops a pragmatic approach in her practice all by herself. This act of didactic devolution, in which students take over the task entrusted to them with the aid of their cognitive resources, confirms the ability of a child to make use of his or her knowledge, skills and abilities in order to perform the prescribed task whatever the implicit nature[5] of this task may be. This analysis confirms the fact that students in a didactic situation designed for their specific level of competence, can perform prescribed tasks where the implicit proves more important than in any learning situation at school. The teacher must set up this didactic situation in order to allow the student to evolve in their proximal area of development (Vygotski, 1985).
The analysis of this situation also reveals the pragmatic aspect of a music student's approach to this work. Flora first reads the explanatory note, then the score. She goes on to mime certain instrumental gestures, develops them by tentatively touching the instrument, then attempts musical gestures to give a meaning to her work (Mialaret, 1996). Admittedly the training provided by the music teacher, the family or the school, plays a part in the process of acquiring autonomy. Nonetheless the analysis indicates that students do develop their autonomy when left to their own devices.
This study also confirms the importance of the implicit in musical training, and the limits of explanatory notes with a prescriptive purpose. There is a great deal of implicit in the learning of music because the score is not a general prescription. It is true that instrumental acts can be acquired or learned in company with others, and that musical writing and notation can inform about the nature of the musical work, but on the other hand they always yield a partial view only of their reality. It is up to the learner to make the link between what seems explicit in a score (pitch, duration, intensity, etc.) and what is implicit (the activities by which they are expressed), in order to give them meaning, especially a musical meaning. It is the implicit contained in the task that impels the musician to reorganize his or her activities, to adapt them, and to give a meaning to the score.
This study also shows that pupils are capable of preparing their instrumental gesture, not only because this is indicated on the score but also because they have institutionalized certain positions.

This study furthermore also reveals the limitations and even the paradoxes of the didactic work of Kurtag.
For indeed, if *Játékok* is intended for young pianists, the explanatory note that he proposes proves by no means easy to understand. Some of them will require the assistance of the teacher or of an adult to understand it. Then in the context of an autonomous approach, the very idea of using such an approach, together with certain technical terms, musical terms or phrases, appears beyond the reach of children. The same applies to the indications contained in the *Játékok* exercises and in the repertory ("scarcely touching", "*con Ped.*" in "Flowers we are ...", for example).
Besides which the *Játékok* requires a regular and sometimes sustained use of the pedals of the piano. Though the latter are of obvious musical, instrumental and educational interest,

[5] What must be understood without being explained.

the youngest pianists however may on account of their shorter height and weaker strength encounter difficulties and discomfort with pedals, despite the greater enjoyment they offer. It will be necessary to fit a pedal booster to the instrument to allow them to enjoy fully and comfortably all the vibrations of the instrument.

This analysis also provides information on the didactic level, both regarding didactic transposition and the didactic games to come, in order to enable the student to develop the missing skills. The analysis of this video shows that Flora does not rely - or not sufficiently so - on her short-term or medium-term memory to increase her learning. Although she uses her metacognitive abilities to develop her activities, she seems not to know how to use her memory to rationalize her training, even though she has the ability to do so. It is not unusual for this faculty to be underemployed in musical education, which seems paradoxical when one observes how much musical activities offer opportunities for memory. Thinking about the musical tasks that would enable the student to develop his or her short, medium and long-term memory skills ought to be a didactic challenge which more teachers ought to take up.

Beyond the undisputed interest of the *Játékok*, the observation of the actions of Flora in the realization of "Flowers we are ..." can offer a teacher some useful ideas to pick up. The latter may propose tasks to the learner pianist that lie in their proximal area of development (Vygotski, 1985) and they may promote the most autonomous approach possible by keeping in check their own interventions - or even totally avoiding them - to enable the young musician to set up the necessary processes during the various phases of their task. To this end, sequences of free experiment by the student can be organized. In addition, this model – the foundation for demonstration-type approaches - but also other tools, such as clear instructions, guidance techniques, extrinsic feed-backs, ought to be used in a pertinent way, taking care to keep the learner in the proximal development zone and avoid any detrimental cognitive overload.

The experience of working in total autonomy allowed Flora, a young pianist often unsure of herself, to find the resources necessary to carry out a given task and to become aware of her ability to learn on her own.
She expressed her deep appreciation of "Flowers we are ..." (and more specifically "Flowers we are ... (1b)"). Whether it is the delicate poetry of its title and the imagination that it evokes, the sounds proposed over the whole register of the instrument, or the relative freedom left for its temporal realization, she was moved by the game and wanted to renew the experience, an indispensable condition for her training.

Conclusion

The findings of this initial piece of research, conducted into the consequences of an autonomous process of learning by a pupil, can inform the music teacher about the conditions necessary to realize such a project, and besides inform him about the pupil's metacognitive abilities as well as the scope of Kurtág's pedagogical project. Our study focuses on the relationship between the prescribed task the piece "Flowers We Are ..." and what the student does by way of response to the task. It reveals the considerable number of interactions involved in learning this short piece. For if we consider the learning of this piece to lie in the proximal zone of development (Vygotski, 1985) of the young pianist, the observations that have been made do reveal how significant a part is played by the implicit

within both the prescription and the task. This study shows how the goal of the composer (namely "to discover the joy of the game, the joy of movement, in order to develop the initiative and the freedom of the interpreter" (Kurtág, 2009, 86) is a project requiring the pupil to engage himself in an activity, that is in work that fully engages them. The pupil will gradually grow in confidence and attempt to play with the objects (the explanatory note, the score, piano). But this can only happen after much trial and error, with the eye moving back and forth between explanatory note and score, between score and keyboard and also with the gestures of the hands moving tentatively over the keyboard (based on the ordinary gestures of the learner (Vygotski, 1985), but not forgetting routine and even institutionalized gestures (Meirrieu, 1987). As she boldly attempts to play on the piano, the student begins to produce a proto-music, or bits of organized sounds. It will take some time before she attempts to produce music, that is to say an interpretation of the piece. Following Mialaret (1997), we find that the student is able to construct a musical discourse on the basis of the exploratory trial-and-error process. To do so the student ensures she can master the gestures and, above all, master the relationship between her musical intention and the actual result of her activity as musician and pianist. For it is only after explaining herself and clearing away a great deal of the implicit from the task that the student can grow in confidence and so offer an interpretation of the piece. Thus, through our study light is shed on a part of the process leading the student to express herself musically, that is to make a free interpretation of the piece, in other words to produce music.

Translated by Philip O'Prey

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Tales of a Talking Piano: Performing for childlike adults or adultlike children

Ann-Kristin Sofroniou[1]
Greece / United Kingdon

Abstract This paper discusses the theoretical rationale and practical experimentations that culminated in the project *Tales of a Talking Piano* for speaking pianist. The project involves pre-existing piano music composed on the subject of the child, along with a commissioned, original fairy tale by the musician and author Dr. Andriana Minou. The repertoire consists of fragments of Sofia Gubaidulina's *Musical Toys* (1969), Helmut Lachenmann's *Ein Kinderspiel* (1980), and Robert Schumann's *Kinderszenen* op.15 (1838). Departing from the proposition that in these works the composers attempted to empathize with the condition of 'childhood' rather than write for children from an adult's perspective, as well as experiment with the notions of 'toys' and 'games', these works embody a self-contradictory condition between childhood and adulthood. The main focus here is the role of the performer in relation to these works, and equally their interaction with this 'condition of childhood', in contemporary performance. In this project, the performer almost becomes a collaborator to the original piece, an arranger of the pre-existing music, and a storyteller. In the end, the performance aspires to create an experience in which adulthood and childhood are equalised through becoming transparent, rendering the music fairy-tale relevant to both adults and children. The first part of this paper examines the theoretical background behind the notion that these works were composed on the condition of 'childhood', and introduces the concept of 'games' and 'toys' as a means of inspiration and compositional method. The second part details the collaboration with Dr. Andriana Minou, and the methodology behind blending various musical material from the particular piano repertoire with the fairy-tale.

Keywords music for children; contemporary music; Tales of a Talking Piano; music about children;

Introduction

Tales of a Talking Piano is a creative practice project in which the performer explores creative ideas in relation to the performance of piano repertoire composed on the condition of childhood. The detailed analysis and study of the piano repertoire of this genre and the various compositional methods used by each composer, resulted in the question of how can this concept of 'childhood' inform individual performance decisions and programming, here in reference to Henk Borgdorff's notion of 'discovery-led' research (rather than 'hypothesis-led' research) (Mateus-Berr, 2013, p. 154). To test the premises of this approach, I experimented with performing these compositions in different contexts, curating each performance in diverse ways, and adopting what I purport as the composers' creative stimulus while composing these works – in other words, a condition of childhood with the aim of creating something 'new'.

In the process of experimenting with, and exploring this repertoire both theoretically and creatively, the project *Tales of a Talking Piano* emerged, and with it an expanded understanding of the role of the performer and the nature of the performance: The performer evolved from a mere executor of the music to the arranger of the music and story-teller, and the project became a cross-art collaboration with the addition of an original fairy-tale written specifically for this repertoire by Andriana Minou. As such, *Tales of a Talking Piano* is a collaboration between a performer and a writer, in which an original fairy-tale and pre-existing music composed on the subject of the child are put together to create a musical

[1] kristin.sofroniou@gmail.com; www.kristinsofroniou.com

fairy-tale. In this context, a music fairy-tale is understood as a genre in which text and music complement each other, aspiring to create an experience in which the conditions of adulthood and childhood inform one another, through the performers' interpretation of the work. The methodology used in creating the music fairy-tales is informed by the musical material itself, highlighting existing hidden storylines that remain concealed unless approached in this manner. Therefore, in this project the study of the piano repertoire – theoretically and creatively – made methodology itself part of my exploration as a performer, and informed the direction for realising the collaborative project *Tales of a Talking Piano*.

The following section details the theoretical context of this project through discussing piano repertoire for/about children, and focusing on the particular examples of Gubaidulina and Lachenmann. The section "Tales of a Talking Piano" is an analysis of the process and the theoretical and creative exploration behind this collaborative project.

Setting the Context

The broad category of "music for children" showcases various dimensions, according to the function and scope of each composition in relation to children. For the purposes of this paper I will be referring to "music for children" as a genre, and will be separating this genre into two categories, with overlapping characteristics:

1. Music deliberately composed for young pianists/children with a pedagogical intention. This includes:
    - *Exercises in technical advancement*, such as exercises by Charles-Louis Hanon, Ferdinand Beyer, etc. In this category, there is a clear rationale that the compositions target to the progression of technique.
    - *Musical pieces for young pianists/children*, which target at improving the technical aspects of playing through musical pieces attuned to children.
2. Music composed on the subject of the child and/or through a state of 'being a child'. This category includes the objects of study of this project.

1. Composing for young pianists/children with a pedagogical intention

This category can be divided into two further sub-categories that include technical exercises intending to advance technique, and musical pieces for young pianists/children. Here I will concentrate my analysis on musical pieces for children/young pianists with a pedagogical intention. It is assumed that when composers write music for children, their target is children that are in the process of learning an instrument (from beginners to advanced). And even though all music can be considered instructive and hence pedagogical in different ways, here I will be examining those works created as explicitly pedagogical.

Dmitry Kabalevsky, a composer and educator devoted in composing for children of various levels, argued:

> *In order to compose music for children, it is not enough to be only a composer. One has to be at the same time a* composer*, a* teacher*, and an* educator*. A* composer *will see to it that music is good and fascinating. A* teacher *will see to it that the music is expedient from the pedagogical standpoint and useful. An* educator *will have in mind that music, like any art, educates children: cultivates not only their artistic taste and creative imagination but rears in them love of life, love of mankind, of nature* […] (Kabalevsky, 1964, p. 49)

This view encapsulates one of the most challenging aspects of composing for children. The challenge of composing something within certain technical limitations (level of student), which aims to advance or cultivate specific dexterities of young pianists, but without compromising the artistic integrity of the music and music making *per se*. Although there is a vast selection of performance pieces for children and piano teaching methods with original material, it is more often that we encounter music that compromises artistic integrity to technical progression. Nevertheless, a variety of examples manage to achieve a balance between the composer-teacher-educator triptych that Kabalevsky is suggesting: Kabalevsky's own piano cycles and pieces for the beginner and intermediate pianist; Aram Khachaturian's *Children's Album* (1926-1947) for intermediate - advance student; Bela Bartók's *Mikrokosmos* (1926-1939) that consists of six books of progressive technical difficulty that introduces the student to technical features of the instrument, various uses of harmony and form, through artistically intriguing pieces evidently composed by Bartók (Suchoff, 1961). What these three examples share is that, while they were all explicitly composed for children, they achieved to utilize the 'compromises' in their favor and result in music consistent to the composers' artistic nature and vision.

Contemporary practice in this spirit has been institutionalized in events such as the "Mauricio Kagel Composition Competition" that has been actively involved in promoting new music for children and young adults with an educational perspective – a prominent example is Matius Shan-Boone's work, *6 views from my window* (winner of the competition in 2016). According to the organizers:

> *Everything appears to exist already, even pieces for children and young adults. Still, far too frequently it is precisely this contemporary „educational literature" which proves lacking in artistic qualities; accompanying a reduction in technical difficulty, with an objectionable reduction in the notion of what children and young adults are capable of understanding – both intellectually and emotionally.*
> *We are looking for piano pieces written for children and young adults which, although limited in their technical difficulty, remain uncompromising in their artistic aim; pieces written with a contemporary compositional technique which offer the young student stimulus, insight and new experiences: experiences about oneself and the world in which we live* (Mauricio Kagel Composition Competition, 2017).

1.1 In between the two main categories of music for children

A more recent example that stands in between the two main categories of music for children (composing for pedagogical reasons, and composing on the subject of the child), is György Kurtág's *Játékok*, a cycle of nine volumes composed between 1960 and 2017. *Játékok*, which translates as 'games' in English, undoubtedly belongs to the first category as Kurtág specifies the pedagogical intention of the work, but he also points at strong parallels with the second category that he drew inspiration from the convention of childhood and the act of 'being a child' through the use of 'games'.

Kurtág believed that conventional pedagogical methods limited the education and development of young pianists in relation to musical expression, their relationship with their body and instrument, and so he attempted to fix this problem with these 'games' (Jang, 2015, pp. 2-3). The quality that distinguishes *Játékok* from the conventions of other pedagogical piano pieces, is that Kurtág departs from the conventional format of pedagogical methods, and composes performance pieces for young pianists using graphic notation, extended techniques,[2] as well as traditional elements of piano playing. He promotes a rounded approach to piano playing in the sense of developing mutually technical aspects and musical expression.

Amid the various pedagogical inputs of *Játékok*,[3] what is of interest here is that it challenges the imagination through the act of games, and introduces knowledge through what Kristiina Junttu describes as the 'spontaneous nature of children at play' (Junttu, n.d.).[4] Concentrating a bit more on this model of 'games', Gabriel Neves Coelho proposes a wider understanding of the word 'games' that takes significance in *Játékok* within three aspects: 'playing' as the act of performing a piece; 'playing' as the act of childhood 'playfulness' in which the word 'toys' is embedded; and 'playing' in the sense of 'compositional and/or cultural games' (Coelho, 2014, p. iv). This very last branch of playing – which will prove a meaningful resource when discussing Lachenmann's *Ein Kinderspiel* shortly – reveals new perspectives in regards to what 'playing' can mean to the composer and how a 'game' could seem "childish". On the other hand, the fact that such compositions could also be considered a statement or comment on existing traditions, conventions, and practices on the part of the composer (see for example Coelho, 2014, iv), render these works directly relevant to adults even if not for pedagogical reasons.

2. Composing on the subject of the child and/or through 'being a child'

> *How have composers risen to the challenge inherent in children? By providing them with a potty or with fruitful syntheses of artistic creativity and pedagogical wisdom? By setting themselves up as children's composers or by recognising the fact that children are ultimately the most unyielding challenge the composer is ever likely to come across (as Einojuhani Rautavaara never tires of pointing out)?* (Linjama, 1999)

The works of this category, and particularly the works of this project – *Musical Toys*, *Ein Kinderspiel* and *Kinderszenen* – were not composed for children as the works in the first category, but rather *about* children and childhood. These works were not composed with a pedagogical intention, even though they can certainly be instructive for young pianists. Instead, these works use the condition of childhood in various capacities as a starting point for composing and 'approaching' children through their own nature. Children's nature, as approached by Leonard Meyer, denotes the neutral perspective that is not determined by cultural expectations, since "the child symbolizes the ideas of acontextuality and

[2] The players are requested to use not only their fingers, but also their palm, fist and forearm exploring the whole range of the instrument through glissandi and clusters, and using their whole body.
[3] Some of the pedagogical goals of *Játékok* are the following: Familiarizing young pianists with a new musical language, new format of notation, and sound possibilities of the instrument; the expansion of the kinesthetic abilities of the players and their relationship with the instrument (Junttu, 2008); and, developing musical expression (Shi, 2016).
[4] According to Junttu: "Kurtág began writing a set of very short pieces which were inspired by the spontaneous nature of children at play. In Játékok he tries to recapture something of this spirit." (Junttu, n.d.)

egalitarianism" (Meyer, 1997, p. 174). Furthermore, Meyer makes a direct association of this perception of childhood with music composed 'for and about children':

> *The prevalence of these beliefs is evident in the art of the "high" culture: in the compositions for and about children (for instance, those of Schumann, Saint-Saens, and Debussy) and in literature (from Blake's "Songs of Innocence" to Kipling's "Just So Stories). The truths of innocent childhood result from a closeness to the divinity of nature and are gradually dissipated through the weight of custom… (Meyer, 1997, p. 174)*

Accordingly, this paper is arguing that the works belonging in this category attempted to stimulate creative ideas based on a similar understanding of children's nature.

2.1 Sofia Gubaidulina's Musical Toys

> *Above all, this book is intended as studies in musical expression; it is therefore important that players should respond imaginatively to the titles*. Aki Takahashi (Gubaidulina, 1991)

Gubaidulina's *Musical Toys* (comp.1969), is a collection of fourteen short pieces for children. Pianist and educator Aki Takahashi, describes it foremostly as "studies in musical expression" (as cited in Gubaidulina, 1991), while Michael Kurtz, Gubaidulina's biographer, as "pictorial miniatures that she would have liked to play as a child" (Kurtz, 2007, p. 81). Indeed, the imaginative titles of individual pieces – such as 'Mechanical Accordion', 'The Trumpeter in the Forest' – as well as the collective title of this cycle that introduces the concept of 'toys', ignites the listener's/performer's curiosity for an undiscovered world of sounds. On the other hand, these pieces are excellent examples of studies, not only in musical expression, but also in musical imagination and synesthetic associations. Svetlana Rudenko associates *Musical Toys* with neonatal synaesthesia (see Walker, P. et al., 2010, pp. 21-25) – the condition in which the newborn mixes the senses and is able to perhaps smell the sound or hear the smell. Her methodology focuses on their educational aspect, suggesting ways of using the musical content of *Musical Toys* for enriching and creatively challenging the imagination and response of the young pianist (Rudenko, n.d.).

Still, these pieces are undoubtedly difficult and challenging for children in a number of ways (see Kim, 2015). From a technical perspective, this work requires a large hand span and an advanced finger control movement, for example the echo technique ('The Echo'). It contains complex rhythms, difficult passages ('The Little Tit'), and challenging musical expression ('Song of the Fisherman'). Moreover, it entails dodecaphonic rationality, as well as polyphony within a wider spectrum of artistic spontaneity and freedom. In terms of the edition and format, the pieces do not correspond to one technical level but move in between the standardised level of intermediate and advanced. Additionally, the various extended techniques and technical material that come up in each piece are not accompanied by detailed or pedagogically supportive notes, but are rather simply introduced (only when necessary) in the format in which they would be written in an "adult's" musical score.

These observations accentuate the lack of pedagogical intention on the composer's part as they render the score more 'dysfunctional' or difficult to use in such a context. It could be argued that *Musical Toys* could be intended for children that want to be challenged, or for adults that want to act childlike. Indeed, it has been performed by a good number of professional pianists, while it has also been of some use as pieces for children, whether that

is in graded exams or general repertoire (Gubaidulina, n.d.). Gubaidulina herself commented on *Musical Toys*:

> *I often thought of my childhood and of the lack in those days, of piano pieces that were able to take one back into the highly imaginative world of toys. At the time I also looked upon toys as material from which I could elicit sounds; they were part of the world of my musical sensations. With this collection, I have paid a late tribute to my childhood*. (Roster, 1995, p. 6)

At first glance, this statement seems to describe the composer's attempt to create pieces for children in order to compensate for a lack in inspiring pianistic repertoire for children, similarly to Kurtág in *Játékok*. Upon deeper inspection though, Gubaidulina is referring to herself as a child and the lack 'in those days' of piano pieces that would take her back to the magical experience of toys – meaning that she was already over that experience of discovering things for the first time through toys. When composing *Musical Toys*, she experimented with toys, in an attempt to revive the "discovery" phase of childhood, which is both the inspiration for this work, as much as the methodology of the compositional process. And in that sense, could it not be also part of the performance of this work? Gubaidulina is interested in unlocking the mind and imagination of the pianist (professional or young pianist), promoting a childlike experience, in which the composer-performer-listener acts as a child and does not have pre-formed assumptions of what happens if you press a key on the piano.

2.2 Helmut Lachenmann's Ein Kinderspiel

> *…in which it concerns more the demonstration of a child's model than the charming of childhood*… Theodor Adorno (as cited in Lachenmann, 1982a)

Lachenmann's *Ein Kinderspiel* approaches the notion of childhood from Adorno's perspective (rendering it a questionably child-friendly piece). *Ein Kinderspiel* was composed in 1980 and consists of seven short pieces with inventive titles, such as 'Clouds in icy moonlight', 'Fake Chinese, slightly drunk', 'Shadow Dance' and so on. Although it was composed for his son and has been performed by his daughter when she was still seven years old, Lachenmann clarifies that this is "not a pedagogical music or a music intended specially for children either" (Lachenmann, 1982b). In *Ein Kinderspiel* Lachenmann uses familiar forms, patterns, finger technique, and children melodies such as 'Hänschen Klein' creating at first glance a safe territory for the listener and performer to enter. Yet, very soon within the piece the listeners realize that this seemingly familiar land is just the surface. Through the structural arrangement of the music and various extended piano techniques, Lachenmann manages to make the familiar transparent and allows something else to appear on the other side, which in fact was already there (Lachenmann, 1982b).[5] In other words, he interchanges our hearing with our perception of what we thought we already knew. The stylised 'compromises' of the material that Lachenmann is exploiting do not result equally in an artistic compromise.

Lachenmann further provokes the transparent nature between adulthood and childhood with the following statement:

[5] Also, Seth Brodsky writes: "The astonishment we might experience comes in part from the phantom-quality of this third-stage-music: it seems made by no one, not the composer, not the pianist. It simply comes in from the outside, the ghost in the machine giving us a second's wink of recognition." (Brodsky, n.d.).

> *The result of all this is something easy to play and easy to understand: a childrens* [sic] *game but aesthetic, without compromises… here is actually a question of the demonstration using a childs* [sic] *model rather than of the conjuration of childhood*… (Lachenmann, 1982b)

By defamiliarising children's musical material and transforming them into something else, Lachenmann leads the pianist (young or adult) into a 'discovery' land of possibilities in which he (re)discovers something (a)new, or something that was already there, through *playing as a child*. According to the composer: "To experience lustfully and, in this experience, discover the world, nature, technology, art and especially itself, thus develop and unfold its powers ever more" (as cited in Eecke, 2016, p. 227).

2.3. Summarizing the points

From what we have seen until now, Kabalevsky's opinion that to write for children "one has to be at the same time a composer, a teacher, and an educator" (Kabalevsky, 1964, p. 49), stands in contrast with the works of this second category of music for children. What diversifies Gubaidulina's, Lachenmann's, and even Kurtág's works from Kabalevsky's approach, is a difference of viewpoint. In order for Gubaidulina, Lachenmann, and Kurtág to compose these pieces, they were not thinking so much as teachers and educators, but rather attempted to re-create a condition of 'being a child'. Obviously, the perspective from which this act is directed is an adult's who consciously attempts to act as a child and experiment with discovering something anew. The result leaves us with self-contradictory compositions in which the game and process of discovery is imbedded in structured compositions and expressed through adult solutions for sound effects. It constantly alternates between the idea of 'child as adult' and 'adult as child', and in this way, creates a transparency between who is the adult and who is the child – if we decide to make that distinction.

Livine van Eecke makes a notable comparison in her analysis of Lachenmann's *Ein Kinderspiel* with Adorno and more precisely with the paradoxical statement that Adorno discusses in *Minima Moralia*: "The intellectual is faced with the choice, to inform himself or to turn his back to the hateful" (as cited in Eecke, 2016, p. 227). Eecke discusses that the listener faces the choice, to either listen to the music with the innocence and naivety of the uncritical 'child', or as an adult with a critical approach and contextualized opinion. According to Eecke, the 'child-listener' runs the danger of compromising to the societal taste-dictates of "sensuous listening" whilst the adult-listener is respectively in danger of rationalizing the music and as such losing sight of the "utopian possibility that reality may be different" (Eecke, 2016, p. 228). Inspired by Adorno's theory of the *negative dialectic,* Eecke concludes that the listener has a third option apart from the antinomy of child vs adult, in which the listener embraces both extremes.

By extension, and in agreement with Eecke's reading of Adorno, this paper and project introduces a similar discussion about the roles of the composer and the performer. Lachenmann, in this particular case, appears to be positioning his work outside an antinomy, and to be embracing a harmony of the extremes. As such, his work is used here exactly for this reason – to highlight and reinforce the idea of blending together two opposite roles or functions. This project has discussed so far, the following pairs of opposites:

> These works were composed by adult composers who attempted to experience musical composition both as children and adults.
>
> These works are intended to be played from children and adult performers.
>
> These works are to be listened by children and adult listeners.

As argued before, this mode of thinking has clear reasons for being present not only in Lachenmann's work but also Gubaidulina's and Kurtág's works (Gubaidulina discovered sounds through *toys* and Kurtág created new sound possibilities through *games*). What all these composers share – and what characterizes works that fall within the second category of music for children – is their childish nature, their un-conventional manner of 'educating' the pianist through deconstructing and reconstructing the state of 'being a child'.

Taking this point of view further, arriving to the role of the performer, these works were intended to be performed by both adult and children performers. Within this project though, the antinomy for the performer takes up a new perspective and attempts to answer not only to the question, '*Who* should perform these works?', but most importantly to the question: '*How* should I perform these works?' *Tales of a talking piano* engages with the above understanding of the compositional process of each composer, and attempts to promote a similar mindset in relation to performance. In this project, I have personally experimented with enacting the state of 'being a child' through the use of musical works that were composed on the subject of the child, aiming to embrace both ends of the following antinomies. Thus, the performer's role can expand to act as the interpreter of the music but also the arranger and collaborator of the music.

This project revolves around the understanding of conceptual oppositions – such as child and adult in the case of the composer/listener, text and music in the case of the fairy-tale, and, interpreter and arranger/collaborator in the case of the performer – not as oppositions, in which one surpasses the other, but as interdependent conceptions.

3. Tales of a Talking Piano

For my final MMus degree recital in 2009, I played a selection of *Musical Toys* along with Alfred Schnittke's *Improvisation and Fugue* (1965) and J.S. Bach's Partita in E minor BWV 830 (1730). The feedback at the time was a dismissive, 'Charming little pieces, yes, but don't you think they are somehow easy for an MMus final recital?' My defensive response was 'Perhaps, but do you not think the other two works made up for the "virtuosic" loss? I was looking to project other aspects of my playing: sound control, creativity, and childish playfulness'. Then I realised my childish playfulness probably cost me a few marking points but yet, earned me a charming smile as a response.

Nevertheless, I continued performing and exploring this repertoire driven not only by the creative stimulus that these pieces offered me, but most importantly driven from a necessity to defend the "significance" in performing these pieces as an adult.

3.1. Experimenting with games

Tales of a Talking Piano began to evolve during a residency at the Banff Centre of Arts in 2016, in which I started experimenting with Schumann's *Kinderszenen*, Gubaidulina's *Musical Toys*, and Lachenmann's *Ein Kinderspiel*. As a tool, I created a set of 'childish games' for developing further experimentations with this repertoire and allow as such, unfiltered creative discoveries to arise:

Game 1: Automatic associations
Place paper copies of *Musical Toys*, *Ein Kinderspiel*, and *Kinderszenen* on the floor and observe it all at once. Take colored pencils and circle associations that emerge at first glance. The associations can be similarities or severe contrasts. Play in that order.

Game 2: Different sounds & Improvisations
Choose any piece(s) and improvise with the material or with different sounds: transpose it, use a different instrument /non-instrument/toys/movement, etc.

Game 3: Synesthetic associations
See what you are hearing, say what you are seeing, touch what you are hearing, etc.

The output of 'playing' with these games revealed particular ideas that served as the core of *Tales of a Talking Piano*. Through exploring "Game 1", I experimented with collaging pieces from the particular works in a different order, forming thus, short groups of pieces (always including pieces from all three works). Through exploring "Game 2", I experimented and improvised with motifs from the particular pieces of each group in an attempt to create a continuous flow between the pieces, using melodic/rhythmical motives to move from one piece to the other. Finally, "Game 3", clearly pointed out that I wanted to focus on the inherited storylines of these groups of pieces, which led me to seek a collaborator that would realise in words the musical storylines.

As a result of these games-experimentations, my initial role as merely the performer branched out to other roles as well, namely that of the arranger of the music and also the curator of this collaborative project.[6]

3.2. Setting up the collaboration

The point of departure for our collaboration with Minou was a mapping of the musical associations and the various musical storylines that emerged from my experimentations.

[6] For the given project, which falls within the field of musical borrowing in that it uses pre-existing material as a starting point, I decided to use the word 'arrangement' – in favor of other words such as transcription, re-composition, etc. – as I find it more fitting in relation to the nature of this project, which is a collaboration of text and music, and thus the music is arranged to collaborate with the text (and the opposite). For more information see, Sofroniou, A. K. (2016). *Recycling Music-Recycling Performance*. Retrieved from Jerwood Library Trinity Laban.

Based on our mutual understanding of the theoretical compositional background of these works and the embodiment of a self-contradictory perception of adulthood and childhood within them, we formulated our particular concept and musical content. The concept focused on the state of 'being a child' and my intention to experiment with this state as a performer, arranger of the music, and story-teller. And the content of the music was narrowed down to the following:

Schumann, 'The Poet Speaks' from *Kinderszenen* –> Gubaidulina, 'Song of the Fisherman' from *Musical Toys* –> Lachenmann, 'Shadow Dance' from *Ein Kinderspiel*.

In relation to the content of the fairy-tale, Minou suggested that since the musical material of this project derives from pre-existing music, she could also experiment with pre-existing fairy-tales as a means of inspiration. Our quest for suitable fairy-tales, revealed a short Inuit story titled "Kakuarshuk" by Angela Carter. What this story portrays is a paradoxical situation in which an adult becomes a child (to later become an adult again), and highlights the relationship between adult and child as a double-sided interaction, in which not only children learn from adults, but also adults learn from children – a concept that was used by Minou in her fairy-tale.

A short description of the story follows:

The story of Kakuarshuk describes how Inuit women became mothers by digging in the earth and discovering their children. Yet, Kakuarshuk happened to be an infertile/unlucky woman that dug the earth with no luck. Following the advice of an angakok, a spiritual Inuit figure, she went to a specific place and dug the earth deep, and then deeper, until she came out on the other side of the earth where things were different. Carter writes: "There was neither snow or ice and babies were much bigger than adults. Kakuarshuk was adopted by two of these babies, a girl-baby and a boy-baby." After a while, Kakuarshuk, who was very well treated by her baby-parents, asked them to help her find a child of her own. They advised her to go to a specific place and dig the earth. Instead of a child, Kakuarshuk found and met with various vampire trolls that tortured her, finally to be saved by a fox that took her back to the other side and found her a child.

This story follows the concept that seems to be constantly prominent in this paper, by introducing conceptual oppositions, such as child and parent in this case, which are later bridged and reversed: A parent looking for a child, becomes a child with parents, and then becomes (again) a parent with a child. The contribution of the story of Kakuarshuk to this project has not only been the idea of transformation from 'other' to 'another', but predominantly the re-transformation from 'another' to a more complete version of 'other'. Through her experience of transforming to the opposite, Kakuarshuk gained further knowledge and managed to achieve what she wished for in her original identity.

A short description of Minou's fairy-tale follows:

A boy is bored of being a boy and wishes he would became old. But when a magical fish makes his wish come true, things are not as he expected. The boy does not seem to enjoy

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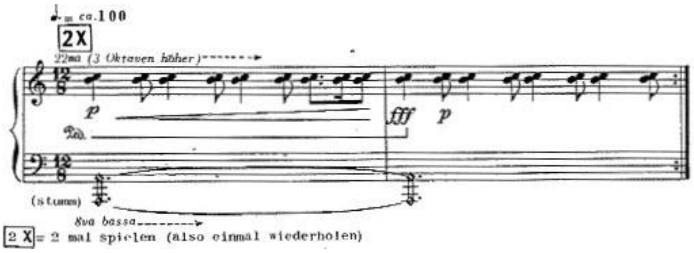
the life of a grown-up and tries to meet again with the little fish so to 'withdraw' his wish and become a little child again.

3.3. Music to Text <-> Text to Music

When receiving the first draft of the story, I started off by making notes of the broader plan of how music and text would interact. An excerpt can be seen below, in which my notes are in brackets:

> *The boy was really excited. At last! He was old! And he had a job and a house and a car and a wife and children of his own!*
>
> *(Start 'Shadow Dance' Lachenmann)*
>
> *It was still dark outside and he was sleepy and he went into his car but he didn't know how to drive it. So, he walked to work and he was late and his boss yelled at him and then he looked on his desk for his crayons to draw with but there were no crayons to be found anywhere so he couldn't draw and he was sad because he didn't know how to do anything else.*
>
> *So, his boss fired him and he walked back home and he sat on the sofa. His wife was preparing food and his children jumped on him but he didn't feel like playing, he was exhausted. And when supper was served, he started crying because he hated fish and chips, he was really hungry but HE SIMPLY HATED FISH AND CHIIIIIIIIPS*
>
> *(Lachenmann fff)*

After experimenting with various ways of adjusting the pieces with the story, as well as with different ways of reading the story on its own, I came up with new ideas of how to arrange the two together. For the climax of the piece, in which I am playing Lachenmann's 'Shadow Dance', it seemed suitable to appropriate the rhythm of the words to the rhythm of the music (*Example 1*).



Example 1: Rhythmical pattern in Lachenmann's 'Shadow Dance' (Lachenmann, 1982b)

In the following excerpt of the fairy-tale, the underlined words are the ones that are spoken on the crotchet notes of the rhythmical pattern in 'Shadow Dance':

> His boss fired him and he walked back home and sat on the couch.
> "Darling, darling, your favourite food!" "Daddy, daddy, let's play hide and seek."
> But he was exhausted, tired, hungry, "LEAVE ME ALONE!"
> When supper was served, he started crying. His wife had cooked fish and chips.
>
> (stop music) "I HATE FISH AND CHIPS!"

Example 2 shows how the words were spoken with Lachenmann's rhythmical pattern:

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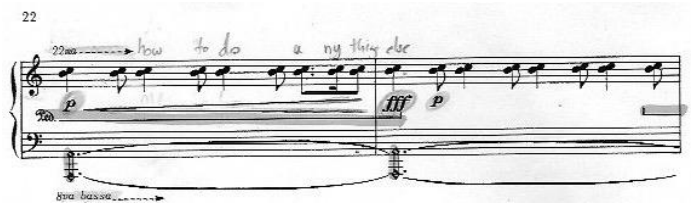
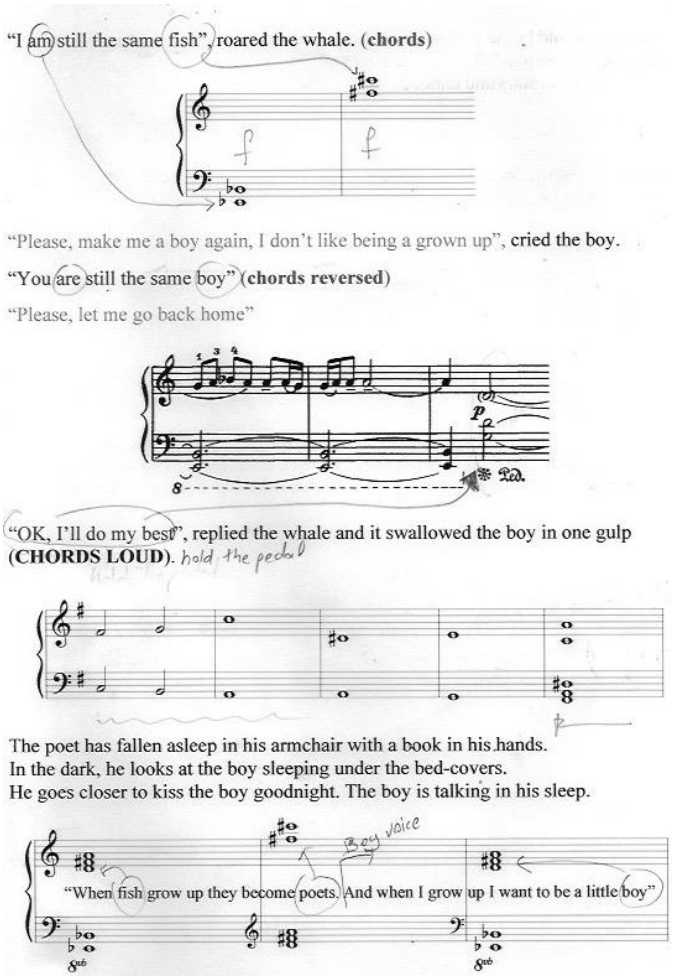


Example 2: Rhythmical pattern in 'Shadow Dance' with text

Minou's fairy-tale revolves around three main characters, the poet, the boy and the fish. The poet relates with Schumann's 'The Poet Speaks', and the boy and fish with Gubaidulina's 'Song of the Fisherman', in which each character matches a different musical line/musical idea. Thus, the pre-existing pieces are not performed complete but are presented fragmented. The text and music interact in various functions: *spoken text over music*; *spoken text with an improvised or already composed musical accompaniment* that derives from the three pieces and storyline; *spoken text on its own*, which occurs once in the climax of the story.

While reciting the last excerpt of Minou's story, an improvised combination of Gubaidulina's 'Song of the Fisherman' and Schumann's 'The Poet Speaks' is being played, an example of which can be seen in *Example 3:*



Example 3: The end of *Tales of a Talking Piano*

Conclusion

Whether this project is successful in harmonising adulthood and childhood and be relevant to both adults and children, is something to be experienced in action. This project aspires to be presented in diverse venues such as schools, arts organisations, music venues, and to a variety of audience, and forms part of a broader project of mine in promoting contemporary music to a wider audience. Up until now, it has been performed twice: at the Jamboree music venue in London (UK) as part of 'Coocoolili', a monthly collaborative performance event (April, 2017), and as part of the conference "Music for and by Children: Perspectives from Children, Composers, Performers, and Educators" at the University of Aveiro, Portugal (October, 2017). After these performances, I came to understand that *Tales of a Talking Piano* aspires to promote an experience that is relevant to children today and enriches their understanding of the world they are living in, and their relationship to contemporary music, as well as an experience through which adults re-discover their inner childlike nature and enter a condition of childhood as listeners. Finally, a further objective of *Tales of a Talking Piano* is to use the chosen methodology and process of work within this project, as educational material in piano workshops and individual piano lessons to both children and adults, provoking them to create their own music fairy-tales and expand their role from interpreters of the music to become arrangers, improvisers, and storytellers.

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The Fukushima project for child composers: An interview with Dai Fujikura at Muschildren'17:

Sara Carvalho[1],
INET-md, Departamento de Comunicação e Arte, Universidade de Aveiro, Portugal

Filipe Lopes
CIPEM/INET-md, uniMAD; Escola Superior de Media Artes e Design do Instituto Politécnico do Porto, Portugal

Aoife Hiney
INET-md, Departamento de Comunicação e Arte, Universidade de Aveiro, Portugal

Abstract:
In November 2017, the international conference Musichildren'17, which took place at the Department of Communication and Art of the University of Aveiro (UA), organised by members of the University of Aveiro's branch of the research centre INET-md (Instituto de Etnomusicologia – Centro de Estudos em Música e Dança), welcomed the Japanese composer and educator Dai Fujikura as a keynote speaker.
Dai Fujikura was interviewed by Sara Carvalho and Filipe Lopes in relation to the project with which he is involved in Japan, namely a composition project for children in Fukushima, Japan. The following interview discusses Dai Fujikura's own work as a composer and his experiences with the Fukushima project for child composers.
Keywords: Dai Fujikura; composition; experimental music; music education; child composers

Introduction

In November 2017, the international conference Musichildren'17, which took place at the Department of Communication and Art of the University of Aveiro (UA) and was organised by members of the University of Aveiro's branch of the research centre INET-md (Instituto de Etnomusicologia – Centro de Estudos em Música e Dança), welcomed the Japanese composer and educator Dai Fujikura as a keynote speaker.

Dai Fujikura was born in 1977 in Osaka, Japan, and moved to the UK at 15 years of age. He has won the Serocki International Composers Competition, the Royal Philharmonic Society Award, the Otaka Prize, the Akutagawa Composition Award, the WIRED Audi Innovation Award, the Paul Hindemith Prize, and The Silver Lion Award from Venice Biennale 2017. His works include operas, orchestral pieces, ensemble and chamber works and film scores.

Dai Fujikura's music has been performed in Europe, Asia, and North and South America. He recently held the composer-in-residence position at Nagoya Philharmonic Orchestra. He has received two BBC Proms commissions, his "Double Bass Concerto" was premiered by the London Sinfonietta, and in 2013 the BBC Symphony Orchestra gave the UK premiere of "Atom". Fujikura's "Tocar y Luchar" was premiered under the baton of Gustavo Dudamel with the Simón Bolívar Youth

[1] scarvalho@ua.pt

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Orchestra in Venezuela in 2011.

His music has been performed and/or commissioned by Bamberg Symphony, Munich Chamber Orchestra, Orchestre Philharmonique de Radio France, Philharmonia Orchestra, Tokyo Philharmonic, Chicago Symphony Orchestra, New Japan Philharmonic and Melbourne Symphony Orchestra, among many others. He has collaborated with Ensemble Modern, Arditti Quartet, Ensemble Intercontemporain, International Contemporary Ensemble (ICE), Oslo Sinfonietta, Asko Ensemble, Klangforum Wien, and Bit20 Ensemble. Ultraschall Berlin, Lucerne Festival, Salzburg Festival, Punkt Festival, Spoleto Festival, NHK Symphony Orchestra, Yomiuri Nippon Symphony Orchestra, Huddersfield Contemporary Music Festival, and Tanglewood Festival have all programmed his music, and his works have been conducted by many conductors including Pierre Boulez, Peter Eötvös, Jonathan Nott, Kazuki Yamada, Martyn Brabbins, Peter Rundel and Alexander Liebreich.

Dai Fujikura also has strong connections with the experimental pop/jazz/improvisation world. His co-composition with Ryuichi Sakamoto, peripheral movement for electronics, premiered in Hakuju Hall in Japan in 2013, and his collaborative works with David Sylvian were recorded for Sylvian's album Died in the Wool. Jan Bang released an album on Jazzland records, which featured Fujikura's collaborations with Jan Bang and Sidsel Endresen. Dai Fujikura is published by Ricordi Berlin[2].

Dai Fujikura (DF) was interviewed by Sara Carvalho (SC) and Filipe Lopes (FL) in relation to the project with which he is involved in Japan, namely a composition project for children in Fukushima, Japan. The interview[3] discusses the various aspects of Dai Fujikura's work as a composer and according to his experiences with child composers through the Fukushima project.

SC: As well as being a composer I hear that you work in Music Education. Would you like to tell us about that?

DF: Yes, well I'm a composer, so most of the time I write music for concerts, orchestra, opera, ensembles, solos and so on. And I write music, so-called contemporary music, experimental music (some people say), whatever - music. And, I run our early music education project in Fukushima, which is part of El Sistema Japan. The model is after El Sistema in Venezuela. I wrote a piece for Gustavo Dudamel and the Simón Bolívar orchestra, several years ago and because of that I think, El Sistema Japan asked me if I could run a composition course for children. And I said 'Ok, let's do it!' And that's how I got involved. Because I don't live in Japan, I go there twice or three times a year, to run the course; the class consists of children from 4 to 5 years old onwards, and they are all in youth orchestra. And because, this is an

[2] For a complete list of Dai Fujikura's recordings, visit http://www.daifujikura.com/un/discography.html.

[3] This is an edited version of the interview

important point, this project is funded by Louis Vuitton, therefore it is completely free to take this class, and they can stay or leave anytime they want. There are no strings attached.
So, for this project usually I bring contemporary music specialist musicians, like for instance the principal horn player. We worked together a lot, because this is what I do when I compose music, I collaborate with the musician on a really annoyingly frequent basis. Like, every day or three days a week, on Skype, for hours, which I record. And every time I write music, I take a screenshot, I send it, the musician reads it, then they record it on their iPhone or whatever, and they send it back to me. We do that kind of thing every day… I make music and that's how I do it.
So, I have a similar model for Fukushima. For example, in this case, the horn player comes to Fukushima, and in a room full of kids, I say, 'this is a horn, and this is the pitch range, from here to here'. Now, straight away I introduce them to extended techniques, for instance: "what it is like if you sing and play at the same time?" and then he (the musician) demonstrates.
Another example, the musician demonstrates using of a bass wah-wah mute on the horn for the kids (as I was experimenting with it for one of my own pieces): "What's it like to stick that in a horn? It's for the bass trombone, but if you put it in a horn, what happens?" So, the kids are putting their hands on the wah-wah mute, so it's going to be opened and closed, it has that kind of effect, and that's what we do. So immediately, we give them a pitch range and then go straight on to experimenting sounds. And we give them 30 minutes of instrumental explanation. And then we give them 30 minutes after that to compose. If they like.

So, again, as I said before, there are no fees involved, the only condition is that they are in the orchestra already, so they can read music and they are interested in music. And they can quit anytime, they can walk out anytime during the lesson and they don't have to compose music. I mean, why do you have to compose anything if you don't feel like it? So, those are the conditions. We are running this for three years and there is not a single time that a child didn't compose. All of them composed. And so, for 30 minutes we give them time to compose and after that the musician will come around to experiment: "Can I play some of what you have written?" And so on. And then, so that's now an hour and a half into the class, and after that we will do some kind of mini-concert, so the musician will just sight-read.

By the way, it's super hard music! I have already told them that music for horn, bassoon, or anything, you can play more than one note at a time, with special fingering, or sing and play at the same time, etc. The kids write for all these multiphonics and key-clicks… yeah! Extended techniques. And the children, especially young ones, like 5 year olds, they are the geniuses, they write a lot and then they are very hard on the musician. I always ask after musician plays: "How was it?" And some kids say: 'yeah…it's ok, it's ok'.

"Well, just ask him if you want him to do something", or "maybe he won't be able to do that, but he might!" That sort of thing.

And I remember one girl, she´s a very quiet and shy girl, and she wrote music for solo bassoon, full of extended techniques and singing, playing multiphonics, playing chords, on a single bassoon, which is possible, you know... And she had written a diminuendo, and the musician, who was just sight-reading, forgot to do the diminuendo, he was just playing and doing his best. And then she didn't want to complain because she's shy, but she took a pencil and drew on top of the diminuendo while he played, and he just stopped and 'I'm so sorry, I forgot to do the diminuendo, I'll play again from the beginning'.

And my motto is that I think all small children are geniuses, they can just create, they can write, they can not just create, but they write. What's important for me is that: "How does one write music for the other to understand what you want them to play?" So, when we have an American musician, they don't share a language but it is not a problem, the American musician has no problem playing the music that kids in Fukushima wrote. And, as far as I know, it's been quite creative, and all the kids, they just keep coming back. A problem we have is that children above around 10 years of age are very difficult. I don't know why… Maybe because they are damaged by adults, at school? They have this blockage, they cannot write music. They ask me: 'But do we need to have melody?' I ask them: 'Do you need a melody? If you need one, write one, but if you don't need it then you don't have to write one'.

I remember that at the beginning, the adults, the organisers of this class, project, they said to me: 'Oh, maybe you can comment on each piece after, at the end of the class'. And I just told them: "No, look at the kids, they don't care, they are just happy to hear their own music". And then that's it! That's the best outcome, and so let's not comment on anything. So, I don't comment, and they just write, the musician plays and then the kids are really happy to hear their own music they have just written, and played by top class musicians! That's amazing, I think. We have brought Japanese traditional instruments to the class, we brought an American ensemble of 5 instruments: flute, oboe, clarinet, bassoon and percussion, who were visiting Japan for my concerts. And all the kids wanted to write either for flute or percussion. They didn't want to write at all for oboe, clarinet, or bassoon. So I asked these three American musicians: 'Ok, now you're going to go over there and promote your instruments to the kids'. And they went over: 'Oh, why don't you want to write music for bassoon? It can do this and it can do this'. And some wrote for them, and some of them played the kids' compositions at the concert hall in Tokyo, a few days after. And some kids said: 'Can we play?' and a boy said: 'No, how can you play? I won't be there. I'm the composer, I

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should be there'. We managed to convince them that we'd send a recording, and so on, and we managed to play. That was wonderful.

FL: Is there any memory or musical experience from your childhood that had an impact on you?

DF: Yeah… that's an interesting thing, actually. My mother used to say when I was little, I was playing some sort of drums, behind my father, who was playing the piano (he is amateur pianist). Anyway, he was just playing piano at home, and I was crying because the music was very sad, minor or something, I don't know, so I don't know if this is the answer to this particular question… often people ask me why do I compose music, that episode may have something to do with it…

Also, I had a very good piano teacher, strict, you know, 80's Japanese style, because Japanese style in the 80s was very strict. But I rebelled against all of that. My mother said she doesn't remember me going through a rebellious teenager phase because I was already… you name it, I was against it. I just didn't feel that the piano teacher was right to tell me off. I was aged 7/8/9 years, and I was changing the music, changing for the better, I thought...And my teacher asked: 'What are you doing? It's wrong', and so I just kept changing, I was just doing what I thought; I always thought I was right.
Then, I realised, because I'd been told off in every single lesson, I realised, if I compose my own music, no one can tell me off. So that's how I started composing music. And composing, writing, actually writing something down, because people often think of composing, it's playing around on the keyboard, which is great, but what I mean here is actually writing down, notating. Maybe that's why, because I was being told off playing something different from printed music.
That's one reason why I wanted to compose music, and notate it. Because if what is on the page before us is the way I like it, then no-one should tell me off. So that was my childhood memory in music, but come to think of it, I love, I love to do everything opposite, for example writing for horn, music for solo horn, I always disliked the typical horn sound, it's kind of macho, loud, fanfare-like, which is very annoying. I don't know why… I just hate it. So that's a very good place to start writing music for horn, of course. And then I just spent hours and hours on Skype with the horn player asking questions such as: "How can I make the softest sound from horn?" So, one day, on Skype, I could see his room (because he was putting his iPhone facing him), and I could see a lot of mutes, and so on. I just said: "What's that just behind you?" "This one?", he replied, "No, that one", I said,, "No that one, can you stick that in your horn, what does it do, how does it sound?". He then started to experiment, and we experimented a lot… some things were not effective, some things were. And then, as I've quite an obsessive nature, I just got real obsessed by that technique and then I wrote the whole piece, a 10-minute solo horn piece, only using that technique. So, the mute doesn't ever come

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off, in the whole piece. This mute for bass trombone, not for horn, is used, and makes the softest wah-wah sound, all the way through.

FL: In recent decades, in Portugal, there has been an increase in projects involving local communities with musicians and composers. Many of these projects employ graphic notation or no notation at all. It's mostly about memorising tunes and memorising signs. However, in conservatoires children need to learn conventional notation. What do you feel should be the role of notation in early music education?

DF: Your question is actually a very important one. I consciously chose, and I don't forbid anything in my class, but I consciously chose not to introduce graphic notation. Because you could just write triangles and circles… graphic notation is much more than that, but one could just decide: "I just write triangles, squares, or scribble, and then the musician will improvise…"

FL: Do you feel the kids were able to express themselves?

DF: With normal notation? Yes, but that's the funny part, you know. So, for example, with the kids, whatever the style their music is, some kids just write melodies, but the young ones are wild, they just write all these key clicks and tongue-rolling, and they write quite precisely with words and everything. And then it's funny, often the tempo is not written. You know, sometimes they forget the tempo… and then, this is the interesting part, the musician comes in and of course he or she doesn't know how fast it goes. And they ask: "So, how fast is it?" Usually, maybe these kids in Japan are very shy, they say nothing or 'I don't know'. So I just ask the musician: "Ok, why don't you just start playing at the tempo you think it is?" And then, he or she starts playing and immediately the kid says: 'Not that fast', or 'No, that's too slow'. So, my point is that I really think that kids really know exactly what it shouldn't be, you know? Then I ask them: 'So maybe you want to add that to the score?' what kind of tempo it is, and so on. And of course the musicians, -and this is exactly how all the musicians who visit here, or my collaborators for my music-, they all say that this is not different from how they work with me. And sometimes they come and say: "Ok, here I can do a staccato like this, or like that, which one do you prefer?" And it's amazing, that all the kids always say: 'That one, not that one'. Once, I remember that there was a boy who was writing a piece for drum kit. And this child that was playing his piece, said one of the typical things that you actually hear in a professional rehearsal, thought that the rest was too short for the stick changes. And how many times do we hear this in orchestra rehearsals? "This is too much, we have only one beat rest and then you have to change the sticks". "It happens all the time" I replied. So then, they (the child composer and the child percussionist) began to figure it out.

So, I believe it's important that, for my project, that the kids lead their own composition. I don't teach them, I just introduce these sound-worlds, what can be done on these instruments, weird things, strange things, that they don't

have to do, or they don't have to write the notes even, but then often kids just ask the instrumentalists: "can you do it?" or "why can't you do it?" or 'why is your voice so quiet?'
But it's all notated! So, yes, because of conventional notation, western notation, I think it really shows exactly how the kids want the musician to play. Musicians that they never met before. This does not happen with graphic notation. So that is why it was important for me that in this class all the kids are in the orchestra.

SC: There is a lot of debate as to what improvisation is. How do you think improvisation can be approached within music classes and what is the role of improvisation in your own work?

DF: Well, I think that improvisation is a really, really wonderful thing. But for me, I don't know why, but for my own class, this class, I just thought I want to do different things instead of improvisation for the reason that I already explained. And I thought it is quite interesting that the person who made the music doesn't perform, that's what I found interesting. But don't you think that we all have this problem, even over emails, even with your friends? You say something and then the other person completely misunderstands and gets angry, and I think we all know this. But it's not too difficult I think, how to make the other understand what I mean, and what I want them to play. So hence, I thought that it was interesting to do it in a composition format, for this particular project.

SC: Is there such thing as writing music for children?

DF: Ah, actually, yes it's a very good point. But unfortunately I don't really have many pieces that I specifically wrote for children. I just finished my second opera; it's called The Goldbug. It's from Edgar Allen Poe's short story, but it is for children to watch, not for children to play. That was basically a request from the Basel Theatre. I don't know why, but they told me that in Switzerland it's quite difficult to engage boys, more than girls. They think girls can sit during an opera and watch the show, and engage in it. I don't know much about children's opera, but quite often it's to do with princesses or princes, or all those things. And they can't contain, "control" the boys. They're bored, they don't want to watch, so they asked me: "Dai, can you come up with a topic which has something attractive for boys?" I know it's a generalisation, but that's what I was asked for by the team from Basel.
And then I searched and found the *Goldbug*, I thought it was perfect because it's basically about finding the pirates' treasure. In the original story we have three middle aged men looking for the Goldbug, and then the Goldbug leads to the treasure; in my opera we changed it quite a lot, and we have child roles, and so on.
So, another thing that is a problem. At least, I find it's a problem with my music, and maybe new music, with the contemporary music world - all this new music, including mine, it is just too difficult to play. Too difficult to

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perform, I don't know… I think it's a problem. I keep doing my best, but I wish there was music that children could actually perform. So I think that's probably one of the reasons there's a big gap between the old music today and much of the new music. Modern new music is too difficult.

FL: It seems there is a blurred line between being a performer and being a composer. Many people nowadays perform and compose their own music. How do you imagine the musician of the future? What characteristics do you think musicians should have and what should be practice with children?

DF: Well, I think things are getting better, because I remember when I was in music college, and I'm 40 years old, so 20 years ago, I remember that some instrumental teacher was forbidding their student, my friend, to play my music. Because they thought that no good music comes after, I don't know, Shostakovich or something. So I had to go to each teacher, and say 'what you're doing is wrong, students should play any kind of music that is suitable to play, including that of the beginning composer, especially the composer they're friends with'. And collaborations with musicians and composer are very important. But that was 20 years ago. I think that now students play all kinds of music. I have always collaborated with musicians, pop musicians, jazz musicians, and so on, and I have learned an enormous amount from those musicians. Especially the ones who don't read music, because their ear is incredible. Here I am worrying that 'this F is a bit out of tune' and so on, but they, those jazz and pop musicians say things like 'I don't know about that, but don't you think it's the whole sound balance that is completely wrong?' I'm just think 'wow!' because I'm just focused on the pitches, and harmony and so on, they say 'who cares about that? The whole sound balance is wrong!' It's like a new way of listening to music. For me, at least, I learned things I couldn't have learned from classical music.

I strongly believe that the music is collaboration. Collaboration between the person who writes music, the person who performs this music, and the person who organises the concert, because without organisation there's no concert. Organisation is a very important thing. And then, the audience who listens to the music. So, four elements. I mean, this a very simplified version, but if any of those 4 elements are lacking there would be no music. The music has sound, you know, I always joke that the notation on the paper, is just dots on a page. It means nothing. Music is something that we have to hear. And to be able to hear the music, there are so many things involved, I think. I mean, this is different from painting. You paint something, and then you can look at it, bring your friends and to see it. But if you write, let's say G, for 1st violin. I mean, to hear that note can you imagine how many things you need? You need musicians. Where do you rehearse? Do you need an orchestra? Do you need a conductor? How much do they cost? A lot of things. I'm sure that 20 visual artists, 20 people can make one artwork together, I'm sure that kind of thing is possible. But it's quite an amazing thing

> that kids and people from all kinds of backgrounds can be in one place, to play music together. To make one sound together. I don't know of any other art form where you can make art in that instant. I understand the movies and so on, which also involve collaboration, scriptwriters and actors and directors and so on. But the thing about music is that it's happening at this moment. And if you are playing music from the past, it's quite also an amazing thing that some guy, maybe an Austrian guy from the 18th century for example, wrote this note, and 200 years later these people from all over the world, they are here in this place and they're at one, making that sound together. I think that's a kind of incredible art form.

SC and FL: Dai, thank you very much.