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Performing beginnings; Performing bodies

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This part constitutes a rupture with ordinary academic forms of writing. As explained earlier, instead of employing conventional forms of argumentation, with coherent units and clear-cut meanings, Part III favours incompleteness, risking an open, unending and fluid exposition of ideas. Pictures, quotations and emphasis on specific words or phrases enable a poetic engagement with text and its potential significations. Openness, unfinalisation and fluidity should not lead to meaninglessness, however. Quite the contrary; they are an invitation to dialogue, resisting imposition of closed meaning(s). Or so we hope.

In this part, we explore what might be learned about how as newcomers we engage in making a start with new knowledge, how we grasp a beginning in a new territory. We enter into this exploratory task by means of utilizing bodily, earthlike and material based actions for inventing musical and mathematical patterns.

To some, the co-existence of mathematics and music may be interpreted at the level of reading hidden, embedded mathematical structures in music, and analysing sound and sound structures as acoustical phenomena or locating tacit aesthetic pleasures in doing mathematics (Benson 2007, Loy 2006). Although interesting, such perspectives remain at a level which eliminates human subjectivity, and

instead of unsealing common grounds, departures and arrivals or unravelling complexities and multiplicities, they stress difference. Often, attempts on a dialogic encounter amongst experiences with art and science remain at the level of naive comparisons and simplified observation of shared regularities, or 'hidden' truths.

Both mathematics and music education have been highly loaded domains of school knowledge. Despite serious efforts to establish egalitarian attitudes in both music and math education, there is still (both at the level of public consciousness and at that of educational practice and ideology) a persistent tendency to stress the talented, the gifted, the genius and thus encourage the construction of the 'different' child. And, even worse, such attitudes have been thought of (and still are in many practices) as a self-evident truth, as 'natural' tasks.

By means of mathematics and music, a small selected minority of individuals, children or adults, can as a consequence, be discerned. A small minority that manages to prove that they have of an almost divine, gracious 'gift'. Performing music is about cultured competences concerning picking tunes by ear, harmonizing, improvising. Performing mathematics is about solving problems, performing calculations, utilizing algorithms, or modeling real and virtual life. Knowing how to handle delicate

performative shifts amongst a variety of positions such as oral and written examinations, testings, innovative tasks, creating innovative projects, inventing new ideas are still, considered as special gifts for the chosen few, the task of education being simply to identify and nurture these 'natural' geniuses. Moreover, institutionalized modes of evaluation and assessment create a competitive context which is based on rather narrow sets of criteria which, exactly because they base their 'truthfulness' on the naturalness of the gift, they obscure the social basis of ensuing inequalities.

Performing mathematics and performing music are not seen by the majority as everyday activities. They are not even regarded as 'normal' activities. They do not belong to the sphere of 'bodily' or 'hands on' realities. Although the making of both mathematics and music utilizes materials in the form of artifacts or tools, both mathematical and musical performances are idealized and are mainly inscribed on a meta-physical sphere. As such, the 'gracious' gift of musical or mathematical ability is bestowed by God only upon a few selected individuals who can accept it.

How then can we imagine an entry to mathematical and/or musical practices? How might we be able to think of performing a beginning? What might this process involve? Could this process-beginning as process-be possible at all? Is it not the case that the belief that mathematical and musical skills belong only to those few talented and gifted ones subverts the very possibility of performing a beginning? Therefore, why bother with investing time and energy into a task that its failure has already been doomed to failure?

Our workshop, on which this text is a reflection, invited us to enter into a process of thinking how this situation might be countered and also of imagining new directions. It invited us to start thinking that performing a 'beginning' is not only possible, but possible for all. Not only for those identified as talented and gifted. But also for those labelled as unskilled or overqualified, weak, aged, not civilized enough or perhaps over-exposed to a 'civilised' life etc.

This workshop is based on work that resolves around musical improvisation in such a way that participants can start appreciating music as a much wider and deeper phenomenon -an issue of being part of the world. Thus we begin with a musical practice systematically and continually devalued by elitist conservatory music education as 'primitive'. But, maybe exactly because of this, improvisation offers the promise of stepping out of institutionalised forms of music making, and moreover, of problematising issues that within 'education-proper' are taken for granted or not addressed at all: When and how noise becomes music? What is the role of perception in achieving coherence? What is 'coherence'? What constitutes a 'skilled' performance? Where is the threshold of (in)competence? And is it unambiguous? What is the value of intuition? What is the value of intuition in collaborative work? In **other** words, how do minds meet? How might intuitive use of mathematical thinking in creating material patterns be transformed into a springboard for making music? How might looking at might be transformed into listening to?

Along with musical instruments, all sorts of artifacts and materials can be utilized for sensing sound(s) and shape(s). Check this out:

Fold the paper, refold it, let it drop. Did you listen? Did you see? Did you feel? Can you repeat? Can you repeat with precision? What did you make? How can we proceed from a falling paper to a sound shape? Or a sound shape? Imagine . . . think . . . try it out. . . listen. Listen again.

Fold the paper, refold it, let it be. What did you make? Did you see? What memories come through? What do you sense? Can you repeat? Can you repeat with precision? What did you make? How can we proceed from a folded paper to a shape? Imagine., think ... try it out... listen, see, sense.

The presence of others might be a springboard for new beginnings. Let us begin exchanging noises, exchanging shapes, exploring how out of intention to discover sound *shapes* or *sound* shapes we forge the shapes of relationships. Sensing sound(s) and shape(s) can produce an opening for performing 'beginnings'. Using our senses through our bodies can lead to our minds and souls. Our senses can provide a bridge amongst lived-in-fears, exclusionary boundaries or forbidden territories and dreams, aspirations and imageries.

'Mathematics is a unique language of symbols used by science to unite its practitioners, to exclude the uninitiated, and carry information. When children are identified as understanding the mystery of numbers, they are encouraged to study more mathematics and science. A child with a weaker initial grasp of numbers and their meaning is often channelled away from disciplines that depend on mathematics. Because fewer are initiated into the mysteries of mathematics, it carries more power and prestige that translates into physics being the 'hardest'

science of all. Biology is not quite so 'hard' because it is thought to be less mathematical. Stratification of individuals and disciplines is played out with and through the symbols named mathematics' (Bauchspies, Croissant, Restivo, 2006, p.50J.

As mentioned before, art and science come together mostly as a means of either celebrating the hidden mathematical nature of artistic works or glorifying the aesthetic dimensions in mathematical entities. Our endeavours to revisit our joint efforts in this workshop depart from such considerations. We are not interested in comparing these practices, or seeing the one as part of the other. Our primary concern has been, instead, how subjects and objects, humans and nonhumans come together and join efforts towards making steps and performing beginnings. Chaos and order, objects and ideas, senses and logic then come together and their boundaries are starting to become blurred, fluid and movable. Performing beginnings as part of music making or mathematics making becomes materialized, starting from our own bodies, souls and minds linked together. Towards exploring the performing of beginnings music and mathematics can be allies.

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Thinking in shapes

Thinking in sounds, in symbols

Turning shapes into musical patterns

Turning shapes into other shapes

Turning chaotic noise into expressive musical gestures

Turning symbols into other symbols

Turning shapes into symbolic gestures

Turning symbolic gestures into shapes

Working with musical gestures as a means of communication

Working with symbolic gestures of shapes and numbers .. .

Relieving music making from the burden of talent-possession

Relieving maths making from the burden of genius-possession

Moving away from possessing skills towards inventing relationships

How do you begin to make up a pattern? How do you decide that you have actually invented a musical pattern? How do you treat your failures?

How do you begin to note a pattern? How do you make a pattern? How do you decide that you have actually invented a mathematical pattern? How do you treat your failures?



[...] I ask the question. 'What makes a scientist?' Activities with objects provide some answers: building and sorting, play and vision, the way we use objects to model the world (Turkle, 2007)



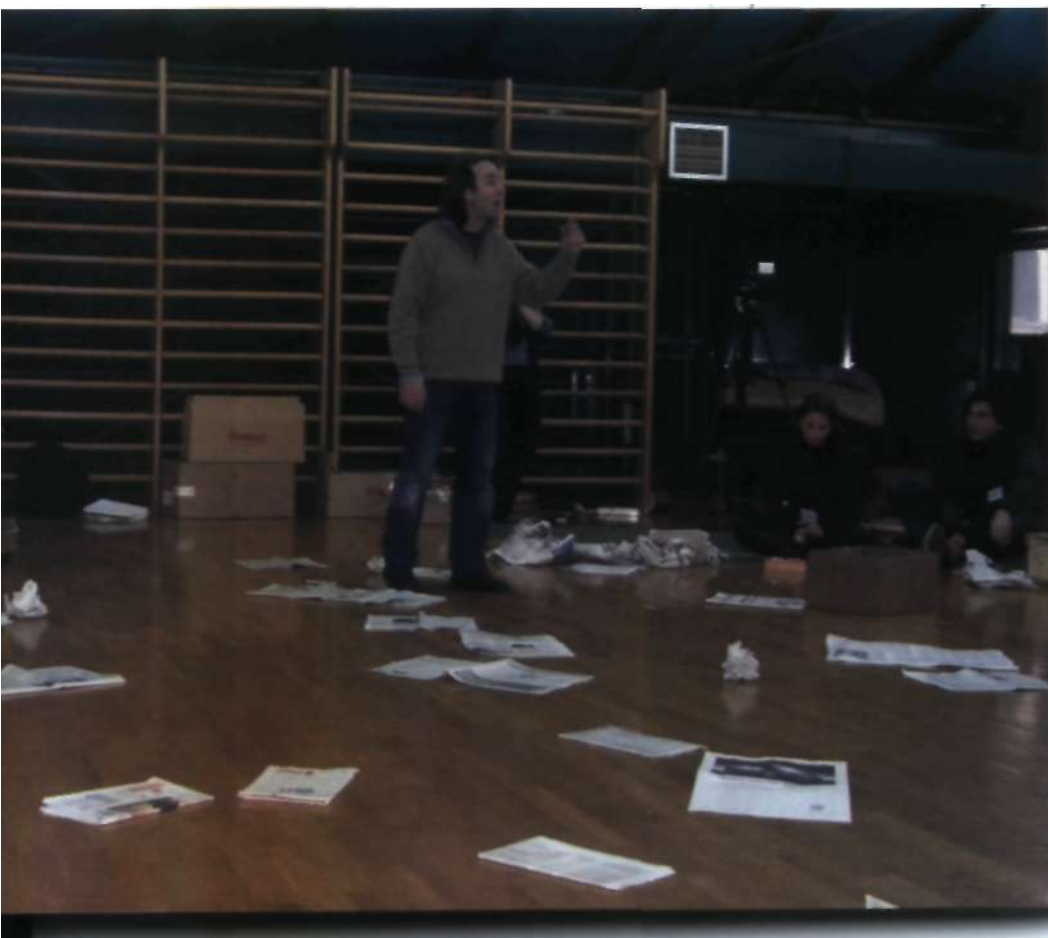
Imagine, imagine, imagine what happens

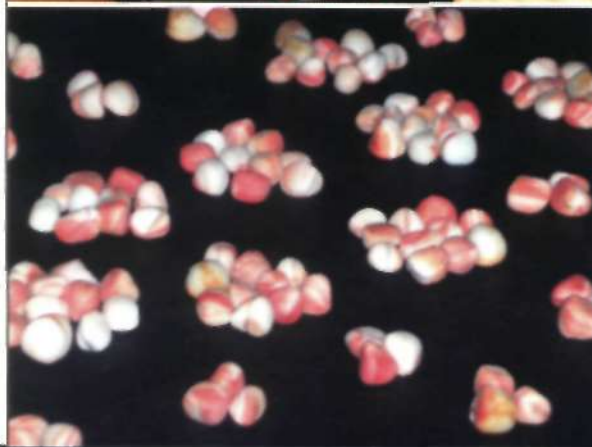
when you bang two things together, a ruler on a table, for instance...

All you need then to make sound, sound, sound, sound is something that vibrates



Imagine what happens when you bang two things together, a ruler on a table, for instance. Now a table is elastic-more elastic than, say, a block of concrete-and the force of the ruler hitting it moves the table-top; it moves only very slightly, but it does move and the air around the table receives a jolt... a fraction of a second later, the air jostles our ear drums and we hear the sound. All you need then to make sound is something that vibrates. You can't shake your hands fast enough, but a hummingbird's wings... (Russell-Smith, 2007)





Chaos is the ultimate depth of *being*;

more, it is the bottomless depth of being; **it is the abyss behind everything that exists.**

And it is precisely through **the** creation of forms, qua determination, **that Chaos** is always present also as **cosmos**, that is, as organized world in the broadest sense of the term, as order'.

(Castoriadis, 2007)

Bodily action is not just a result of thinking and nor does it just effect the quality of sense experience. **In** a way, it **is thinking**.

Spinoza already noted that **when one moves** one's hand along a round object, **the movement belongs to idea of a circle**.

Mutatis mutandis, one thinks about music in playing an instrument. The hand also thinks, not just the brain' (Mdattdnen, 1999)

'tis mutandis, one thinks about mathematics in using
instrument. The hand also thinks, not just the brain.



How
do you
begin?

'... there is the inner **time** in which the flux of the musical **events** unfolds, a dimension in which each performer re-creates in **polythetic Steps** the musical **thought** of the (possibly anonymous) composer and by which he is also **Connected** with the listener. (Schutz, 1971)

"... **making music together** is an event in outer time, presupposing also a face-to-face relationship, that is, a community of space and it is this dimension which unifies the fluxes of inner time and warrants their synchronization into a vivid present" (Schutz, 1971)



To play for the other and by the other, to exchange the noises of bodies, to hear the noises of others in exchange for one's own, **to Create, in common**, the code within which communication will take place. The aleatory then rejoins order. Any noise, **when two people decide to invest their imaginary** and their desire in it, becomes **a potential relationship, future order'** (Atalli, 1985)

An **error** may be only an unintentional **Tightness**
Do not get too fussy about how every part of the thing sounds. **Go ahead.**
All processes are at first awkward and clumsy and "funny." Do not be **afraid of being wrong; just be** afraid of being uninteresting
(Whitmer, 1934)

"the art **object**
by itself is neither
art nor nonart;
it only becomes
one or the other
because of
the **attitudes**
and **feelings**
of human
beings towards
it... musical
symbols have
no meaning until
they are **shared**"
(Blacking,
1979).

Objects inspire a passion
for the particular. Children
discover the stubborn
complexity of soap bubbles
and **aSK** what **kind of** sand
is best for building castles. In
doing so, they may come **to**
Wonder at our **Earth**, not only
as a frontier of science, but as
where we **live** (Turkle, 2007).



Artifacts thus **reform the body** and the **experience** of embodiment and in enabling humans to transform the real and *communicating in more elaborate codes* via technological media, they also reconstitute the embodied experience of time and space (Burkitt 1999).



The **body** is an **open materiality**, a set of potentialities which may be developed into dispositions and capacities through **the habitus** - that incorporated history which generates *bodily styles*, *habits* and *practices* (Burkitt, 1999).



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