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Analysing the first spontaneous musical behaviour: a pedagogical and anthropological objective

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Abstract

Everybody knows that a young child (from 3 months) can be interested, and sometimes fascinated by a sound he produces, often by chance, thanks to his own gestures. It is the begining of a "circular reaction" which consists in repeating the gesture that produces the sound. After about 7 months of age, the baby is able to change a little the gesture he repeats in order to obtain a succession of sounds slightly different. So, he produces a sequence by repetiton and variation which can be regarded as a first form of musical invention.

This behaviour is typical of the sensori-motor period of development. It is probably a universal background on which musical activities develops, later, in different ways, according to the cultural context.

It is also the starting point of a pedagogical project which consists in helping the young child to increase his musical imagination and sensibility by creating sound sequencies and later compositions. Children are invited to search by themselves instead of learning by imitation.

That is why 55 children, aged fom 10 to 36 months, were filmed in such a situation of solitary sound exploration. Other « set-ups » help to favour other musical conducts and enables the children to get other "musical experiences"

How it begins?

The study which we are going to present, and which is the result of a piece of group research, has an anthropological perspective. For the last forty years or so, since we have come to know many types of world music, often differing greatly, numerous researchers have asked the question "What is music?" or "How musical is man?". As a contribution to a possible reply, we are asking another slightly different question: "*Why* does man have the sort of behaviour we call 'musical'?" which consists in producing, with his hands or his voice, sounds which have no obvious use, and giving a meaning or a symbolic value to these sounds, and organizing them. Why do people do that? What are they looking for in behaving that way? What interest or pleasure do they find in the production of sound?

One way of replying to this question is to observe how it begins. Not: "how it began in the history of humanity", but "how it begins in early childhood". The first question (how it began in the history of humanity) is of great interest, but hardly amenable to empirical enquiry. On the other hand: "how the first behaviour that might be the origin of musical behaviour appears in the child" is a question that is perfectly open to observation.

At the moment there are two major fields of study in the ontogenesis of musical behaviour. One of them is the voice, the vocal intonations and pre-verbal modalities of communication, notably between mother and baby, which use sound. The second is the exploration of sound sources, which can be the voice, the mouth - which produces very interesting sounds... - but it can also be any object which comes to hand and which produces sound. This second line of enquiry has, curiously, so far been rarely explored from a musical point of view. I say "curiously" because for a musician who is interested in the process of invention in music, it would seem fairly obvious that invention in music derives directly from the explorative behaviour of early childhood. That is what I want to explain, and it is on this hypothesis that a large part of the programme of observation that we are going to present is built[1].

[1] See Delalande (Ed.) and others, 2009.

From circular reactions to the process of invention

The exploration begins in the first year of life in the form of sensori-motor behaviour known as circular reactions. It is a process of discovery that involves several successive stages:
- the child makes a chance gesture that gives him an agreeable sensation, for example, a sound,
- he feels curiosity and interest,
- so he wants to do it again,
- he starts again, but (from a certain age, about seven months) he restarts but making changes, to maintain curiosity and interest.

It is in this last case, where there is repetition and variation, that I will say there is exploration.

This sequence of chance discovery and exploration of its possibilities is closely linked to the process of invention in general, and particularly in music. What is a "musical idea" ? It is a sound form, found by chance, that is retained because it has something original or new[2]. The musician is attracted by this sound configuration that he has discovered – by actually producing it, or by imagining it in his head – and he wants to use it. It can be a theme, a rhythmic pattern, a timbre … I will say "a sound configuration". In order to find out how to use it, to extend its possibilities, he repeats it, but altering it slightly, introducing variations. This process of invention, which takes place during the weeks of composition, or in the real time of an improvisation, follows the same path as the circular reactions of the seven or eight month old child who finds, then exploits, his discovery by repetition and variation.

In this process, how much is universal, biologically determined, behaviour and how much is determined by culture? The first sensori-motor features, like sucking, are obviously universal. The same is true of grasping, and a whole range of basic sensori-motor features. But circular reactions enrich this range through contact with the environment. The environment is, on the one hand, the physical surroundings, that which comes to hand, to which the child must adapt his gestures, by assimilation and accommodation, and also, on the other hand, the human factor, which can reinforce positively or negatively. This temporal sequence, which consists in discovering, repeating and altering, is probably universal, but

[2] Delalande 2007 and 2001.

what is discovered, what is chosen to be repeated or altered, obviously depends on the physical and cultural environment.
The same can be said of the other facets of the behaviour we call "musical". Using sound for representing, expressing, or symbolizing seems universal, but what we represent, express or symbolize depends on culture. Giving ourselves rules of organization is general, but the rules that we give ourselves are specific.

An example of a "discovery"

To illustrate this behaviour of discovery and exploitation of the discovery, let's consider Giulia, who is 25 months old. It's the second time she has explored the zither. The first time, two months earlier, she first reproduced the gesture which had been shown by the adult, that is, rubbing the strings with a spoon. After about a minute, when the adult had left her on her own, she happened to touch a string with her hand, and that gave her the idea of touching the strings, not with the spoon, but with her fingers. So she discovered pizzicato.
Now, two months later, the adult brings her into the room and again rubs the strings with a spoon, which produces a loud ringing sound. But that is not what interests Giulia. What interests her, once she is alone, is to reproduce what she had discovered on the first occasion: pizzicato sounds. We can see how in the course of the session she improves the control and variety of her gestures. (Example[3]).
Several points need to be made:
- it's a very good example of variation within repetition, that's to say the development of a discovery.
- we can see that on the second occasion the little girl takes up what she had found the first time: it's a process of capitalization which contributes to the creation of a style.
- what interests her is what she found herself (pizzicato), not the ringing sounds that the adult had shown her.

[3] Examples con be found in the two DVDs in attachment to the book *La Nascita della musica* (Delalande, dir. 2009)

A word about method

On the video recording you can see a "time code". This allows a second by second transcription, noting all the sound gestures that are made. Here is a piece of the transcription of Giulia's session.

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TEMPO	*COMPORTAMENTI NON SONORI*	*ESPLORAZIONE SONORA*											*NOTE SUI GESTI-SUONI*
		BATTERE		STROFINARE						PIZZICARE		RIMBALZARE	
		m.s.	m.d	m.s.		m.d.		m.s.	m.d.	m.s.	m.d.	gesto-suono	
				>	<	>	<	><	><				
1'20													
											v		
											v		
1'30													
											vv		serie di suoni delicati nell' acuto…
											v		…tirando la corda con l'indice
											v		(verso se)

Like all transcriptions there is obviously some loss. You can notice in the left-hand column a brief description of non-sound behaviour, and in the right-hand column a description of some specific sounds. In the central column are four types of sound gesture – hitting, rubbing, plucking, and bouncing an object on the strings. We noted what we thought would be useful for the comparisons that had been planned in the observation project that Silvia Cornara will talk about later.

It is easy to count the sound gestures and follow their development. However, counting sound gestures is not the only way of measuring the level of activity. Sometimes we see one child hitting the zither very rapidly, for example striking the strings twice a second, and another producing only one sound every three seconds, listening carefully to the

resonance. Can we say that the first is exploring more actively than the second, even six times more? In fact, it isn't the same type of activity, and the second interests us at least as much as the first. In addition, we have often used another variable. There are moments of "pause", during which the child interrupts his exploration. We consider that a pause begins when the child has not produced a sound for more than five seconds. The time really devoted to exploration can then be calculated by subtracting the pauses.
I would like to make an aside to point out that even the measurement of an indicator like the level of activity is based on an interpretation. We want to quantify the level of activity, but what form of activity? That of the child who strikes while being carried away by his gesture, or that of the one who listens attentively? The construction of the variable depends on an interpretation which is first of all qualitative. This research has been constantly guided by the complementarity of qualitative and quantitative, the measurements and statistical treatment giving precision to the qualitative observations.

Some "set-ups": various "musical experiences" and pedagogical use

So far, I have only talked about one situation: a child enters a room accompanied by the adult and finds an instrument: a zither or a pair of cymbals. After one or two minutes, when the child feels secure, the adult leaves the child on his own, and it is then a solitary exploration which is filmed. Fifty five children were placed in this situation twice.
But we would like to have some idea about what happens in other situations. We suppose that if instead of a single instrument, ten or so were placed in a semicircle in the room, the exploration would take different forms. It would involve movement: the child would go from one instrument to another. This is what we call a "set-up": a physical organization of the space, a choice of instruments, which is a way of encouraging – consciously and deliberately – a type of behaviour.
The semicircular arrangement can be further complicated if instead of making a single child enter the room, we bring in two to discover the instruments together. What do we observe? Obviously interaction between the two children, and this can take different forms.
- first, imitation in the movements: one child follows the other one, from one instrument to another.
- then, imitation of gesture. One strikes, the other strikes.

- this imitation of actions and gestures brings about imitation of sounds. One of the children produces a rhythmic sequence, the other child imitates it on another instrument. (Example).

Imitating each other, responding, is a very different type of "musical experience" to the solitary exploration which leads to extending discoveries, but it is just as important from a musical point of view. We have to remember that much of our serious western music calls for imitation. It is true of the simplest canon that you sing as a child, but it's also true of the art of the fugue. These imitations which are often played by a solo instrumentalist, on an organ, for example, were first imitations of one musician by another: I sing this, you sing the same thing an instant later. So, we are here witnessing a process which is widespread on the face of the earth, and which consists of replying and imitating, first in behaviour, then in sound. It is a second "musical experience", not to be confused with the first that I talked about, and which consists of discovering, alone with an instrument, a "sound configuration" and developing it by repetition and variation.

I would like to mention a third: a child 36 months old, is left alone in a room with a big drum and several drumsticks. First he strikes softly, then gaining confidence, accompanies his arms movements with movement of the shoulders, and gives himself up to the production of increasingly loud sounds. When the adult comes back after eight minutes of solitary playing, a conversation begins and the child explains to the adult: "when I hit hard, I feel it in my tummy". This "musical experience" is different to the first two.

We can see several distinct types of musical experience appearing. The individual development of a sound discovery by repetition and variation, which can be the origin of a process of invention. Imitation in a game between two individuals. Strong sensations which are felt when certain sounds are produced.

Listing the different forms of experience that we call "musical" and observing them appearing in early childhood is one of the current objectives of musical anthropology. Rather than trying to define music in an abstract terms, we set up a typology of the types of experience that distinguish the sorts of behaviour that we call "musical" from other activities producing sound.

It is also the basis of a pedagogy. These experiences are those that have to be maintained, prolonged and made to live for the children. This must be done with deliberation, by inventing "set-ups" which encourage them.

References

Delalande, F., (2001). L'invention musicale chez le compositeur et chez le jeune enfant : observations sur le développement ontogénétique de l'idée musicale , in (collective) *Analyse et création musicales*, (actes du 3° congrès européen d'analyse musicale, Montpellier, 1995), (pp. 359-375), Paris, L'Harmattan,.

Delalande, F., (2007). Toward an Analysis of Compositional Strategies, *Circuit, Volume 17 n°1*, (pp. 11-26), Montréal.

Delalande, F. (Ed.), (2009). *La nascita della musica : esplorazioni sonore nella prima infanzia*, Milano, Csmdb/FrancoAngeli. [French edition: *Naissance de la musique*, Rennes, Ina/PUR, 2015]