

UNDERSTANDING MOVEMENT FROM DANCE AND MUSIC

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Resumo

Tanto na música como na dança os aspectos expressivos tendem a ser reconhecidos como inefáveis e a sua compreensão como dependente da experiência cinestésica do performer. Este trabalho explora os processos psicológicos, através dos quais a experiência da performance musical pode ser transferida para a aprendizagem dos aspectos expressivos do movimento na dança através da prática metacognitiva aplicada à performance musical e kinética em paralelo. Para este fim, a investigação é abordada a partir de uma metodologia auto etnográfica colaborativa pela qual se estuda a experiência pessoal de um dos autores que constrói uma narrativa que permite tornar visível e analisar determinados aspectos cruciais ao nível da construção do conhecimento na sua experiência.

Abstract

Expressive features tend to be considered as ineffable, both in the field of music and dance. They are faced as depending on the performer's kinesthetic experience. This paper inquires into psychological processes involved in the transfer of musical experience to expressive movement learning in dance realm based on metacognitive resources applied both to music and kinesthetic performance in parallel. Research is approached from a collaborative autoethnographic methodology going deep into the personal experience of one of the authors. From this, a narrative is developed in order to visualize and analyze some crucial features of the knowledge built over the course of the experience.

Palavras-chave: *Dança e Música; Músico de dança; Experiência cinestésica; Autoetnografia colaborativa; Qualidade dinâmica do movimento.*

Key-words: *Dance and Music; Dance Musician; Kinesthetic attention and experience; Collaborative Autoethnography; Dynamic movement quality.*

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I, Alejandro, have been a dance musician for 20 years. My work consists of creating in real time the music that accompanies rehearsals and dance classes. My experience is gathered in works on multiple settings, but predominantly I have treasured it in the context of the training of dancers at the Lisbon Higher School of Dance. To fulfil my task, I follow the instruction given by the choreographer or dance teacher to the dancers, I attend to all indications, I watch carefully all their movements and then those of the dancers. In recent years, already as a researcher, I have been working on the communication problems which exist in this context between the teacher, the dancers and the dance musician (Laguna, 2013). I have been able to notice that many of these problems have to do with inconsistencies between verbal (propositional) messages that teachers provide and non-propositional sound, visual and kinesthetic information musicians and dancers receive.

In addition to being a musician, I am a dancer. I danced tango even before I dedicated myself to music for dance. For more than ten years now, I have started taking formal dance classes, delving into some technical aspects of academic dance. Currently, I am taking dance technique classes from the perspective of a muscular expansion system known as *Gyrotonic* with the famous French teacher, principal dancer of the National Dance Company, Barbora Hruskova. In my experience in dance, I have been able to verify that communication problems are more complex than what can be derived from those inconsistencies I mentioned. Specifically, many aspects of movement are actually aspects of embodiment, if we understand as such the subjective experience that one has of one's own body. Therefore, often much of the experience teachers want to communicate to their students is not translated (as one would initially expect) into clearly identifiable movements by an observer who, although expert, is still another subjectivity. The problem of communication is then a problem that goes beyond observation and imitation and is clearly linked to the *Theory of Mind* to the extent that this embodiment is part of the internal states of the subjects in interaction.

Particularly, I will narrate here my journey to understand subtle details of the physical expression Barbora was trying to communicate to me, and that her words, due to the previously mentioned limitations, inevitably left out. In that regard, the narration arises from a metacognitive exercise which, thanks to my accumulated experience in the three fields (musical performance in dance, dance itself and scientific research on these subjects), I was able to carry out in real time during my dance classes. In this way, many

aspects of understanding Barбора's intention and my physical responses, can be viewed as epiphanies at key moments of learning.

It was in learning and perfecting a *Demi plié en relevé* exercise (here in after *Plié*) where these insights which I dare to present here as epiphanies occurred. The deepening of the metacognitive effort which allowed me to close the process arises from the encounter with another researcher, Favio Shifres, who not only contributed with self-inquiry through questions and reasonings that allowed me to find new data for my analysis, but also with the same analysis of the data I present in narrative form about the development of my classes and my thoughts. In collaboration we managed to combine the *etic* and *emic* perspectives both in the collection and classification of data and in its analysis and the drawing of conclusions. In that regard, this work can be framed in the *Collaborative Autoethnography* methodology (Chang, Ngunjiri, & Hernandez, 2013), although the field of inquiry is clearly psychological, more than socio-cultural. Thereby, although this narrative, in order to gain clarity while reinforcing methodological rigor, is in the first person, the work itself is the result of such collaboration.

The experience I am going to narrate took place over 5 consecutive classes taken at the beginning of 2016, and refers to fragments of about 10 minutes of duration in each of those classes in which we worked on the *Plié* exercise. But firstly I would like to elaborate briefly on general communication issues in the context of interaction I will relate with the intention of clarifying the nature of the problem.

Some general communication issues in dance

In music, the information regarding tempo, metric and articulation which is essential to start a performance is presented through what is known as *an upbeat gesture* or simply *levare*. This gesture also informs the type of beginning, that is, the location of the first strong beat (downbeat) in the musical phrase. Accordingly, in music performance, the director elaborates a gesture that carries the visual, spatial and kinesthetic information the instrumentalist understands in terms of the tempo the performance will keep, the intensity of the attack, the features of the *metric structure* (Lerdahl & Jackendoff, 1983) of the music to be played, the kind of articulation required (legato, staccato, etc.) and particularly the exact moment in which he has to start playing. Conversely, in the context of dance practice, that same function is accomplished by what

in jargon is called *counting*: the same kind of information acquires a verbal or, more specifically, numbering format. I linger on this explanation because this modality crossing (the musicians who exchange structural and expressive information in a visual modality through a gesture and the dancers who exchange structural and expressive information in a sound modality through counting) accounts for the complexity of this key moment in the intersubjective encounter in performance, and in addition to the way in which musicians and dancers are permanently forced to *produce, translate* and *interpret* information in formats that widely exceed the limitation of the areas of greater experience (sound for musicians and movement for dancers). In this context, the dancer gradually becomes accustomed to match his movements to the musical information perceived taking into account the multiple physical variables (the use of muscular force to emphasize the intention and the control of balance against the force exerted by gravity on the body) and aesthetics variables to which he is subordinated. As we verified in a study we carried out on the dancer's subjective experience in synchronization (Shifres & Laguna, 2005), the synchronization strategies that are put into play usually fall outside the conscious plane. For their part, the musicians in dance synchronize with a movement that, unlike those derived from the orchestral conducting gestuality, are not formalized but are linked to those physical and aesthetic variables mentioned. Thus, to correspond movement to sound, is not the same as to correspond sound to movement.

As previously mentioned, one of the main tools used by the dancer to instruct and communicate the rhythmic-metric-articulatory structure and the expressive intentions of his movements is what is technically called *marking the exercise*. This has two components: the verbal *counting*, which is the sound component, and the *mark* which is the visual-spatial and kinetic component. The counting consists of the verbalization of demarcations in time through the pronunciation of numbers (we speak of *a series of numbered beats* - SNB) that serves both to present *the order* of physical actions and to link them with the metric structure of the sound-musical context (Laguna, 2012). In other words, the dancer uses verbal sound counting to help distribute his physical actions into regular units of time. Beyond that data, the rest of the relevant information to define key aspects of expressive movement is left to the interpretation of expressive particularities of the sonorous stimulus.

Moreover, as I will demonstrate further on, even the question of temporal distribution of physical actions is impoverished in the verbal content of the count. As far as my knowledge goes, and through my experience in the field, I understand that there is no unified theoretical system in dance which promotes the communication of such expressive aspects between dancers and between them and musicians (particularly in terms of movement quality and articulation).

Dancers have an implicit theoretical system that comes from a *kinesthetic experience* (Sheets-Johnstone, 2012) which is qualitatively different from that of the musician. For this reason, we speak of two different epistemological perspectives. Dancers do not use the theoretical categories that musicians use and musicians usually also do not know the metalanguage of dance. Nevertheless, the sound and gestural experience of dance and music has too many expressive connections for its communicational aspects to be rationally separated. This separation, produced mostly by the frameworks of formal education in dance (on the one hand) and music (on the other hand), generates two ways of conceiving movement and time, unrelated in their theoretical formulations, and, therefore, to the need to establish reliable translations between the two. A typical problematic example is the following: If we have a sequence of movements identified by the SNB *one - two - three* - it would be logical to think that the synchronization will arise by matching the goal of the trajectory (that is, the point at which the “visual-spatial indicator” of movement, for example the heel - reaches velocity 0) (Laguna & Shifres, 2011) and attack of the voice (*one-two-three...*) which describes it (Laguna, Shifres, Pires, & Pinto 2018). However, in practice, the instructions given by the teachers do not always convey that the goals (velocity point = 0 of the body indicator) and the attacks (of the voices in the count) must be synchronized in a certain way. To achieve this idealized synchronization, it would be necessary for the count to allow the movement to begin before (metric expectation) I produce the sound attack. If I give the instruction in this way, then I will provide information about the specific of synchrony I intend, linking, in this case, the closure of the physical action with the verbal attack. In the instant in which both things occur a *multimodal point of meeting or synchronicity* take place.

Reciprocally, I identify the multimodal asynchrony with the circumstances in which the counting and the marking do not coincide in a common point of the temporal elapse and thus noise is produced in the communication. Furthermore, the omission of

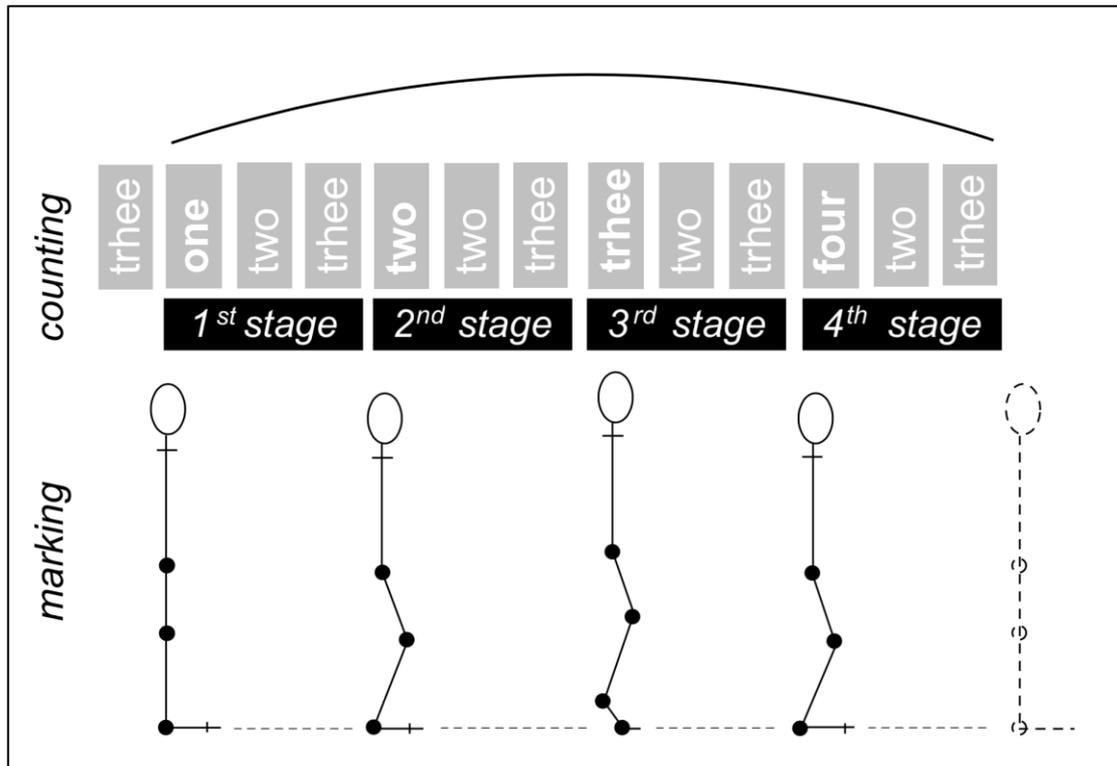
verbal cues from other metric levels (for example the beat division) in the *counting* and its clear relationship with points of the marking, can make the rhythmic-metric-articulatory details of movement present themselves in a more confusing manner.

An exercise and a problem

In one of my regular private dance technique classes, Barbora suggested working on *Plié* movements. As usual in her classes, my teacher demonstrated the form of the exercise while explaining (verbally) some details. This demonstration happened in two stages. Firstly, she showed the movement sequence focusing on the *tempo* and on the number of beats in which each of the physical actions that made up the exercise should be distributed. Here, the verbal information consisted of the counting the beats. Secondly, Barbora emphasized the dynamic quality of the movement (Sheets-Johnstone, 2012). Here the emphasis on the word's prosodic aspects was remarkable, thus suggesting an analogy between those prosodic aspects and the expressive quality of movement in terms of articulation, flow and temporal precision. Consequently, the description that I am going to make of the exercise is the result of my own inference from the visual-kinetic-verbal narrative of Barbora's didactic strategy. Furthermore, this *modus operandi* implies that the characteristics of tempo, metric and articulation - understanding *articulation*, in the context of dance, as the quality of movement in terms of the union and separation (lapses of stillness) of the actions that make up the sequence - were not explained before the demonstration itself, but that all explanations were given during the demonstration.

The *Plié* exercise, as I worked it with Barbora, consists of four stages, of three beats each (at an approximate tempo of 48 bpm) as shown in figure 1. A metric structure with a minimum temporal level (demarcated by the verbal counting *one-two-three*) is thus established as well as a level that subsumes it given by the sequence of movements that I describe below:

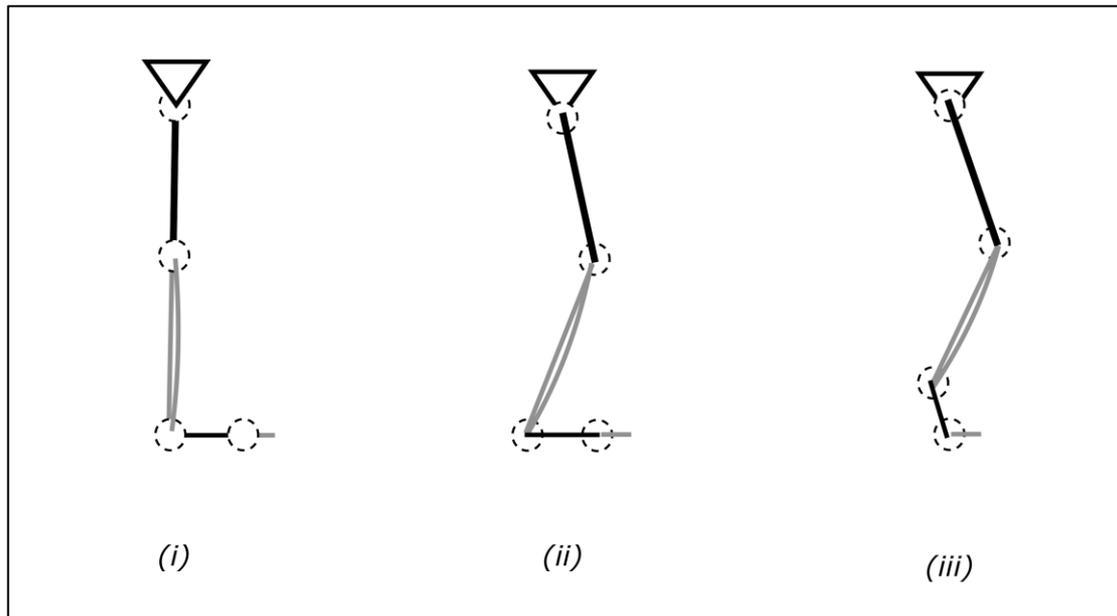
Figure 1. Relationship between the visual spatial marking and the verbal counting. The human figures in profile plane show the visual-spatial locations at the initial moment of the 4 stages. (1st) Vertical elongated position, (2nd) demi pli  ; (3rd) demi pli   in relev  , (4th) demi pli  . The vertical numerical row corresponds to the verbal counting of the meter and tactus level. The horizontal row represents the duration of each stage. The upper arc shows the hypermeter level and the complete phrase of the exercise.



Font: Authors

In the first stage, starting from a vertical position, with both legs extended and the body weight equally distributed on them, the lower limbs begin to flex. This involves the simultaneous flexion of three joints: hip, knee and ankle. Although the movement of *Pli  * is usually thought of as the action of flexing the knees, it is worth bearing in mind that this flexion also necessarily involves flexing the hip and ankles simultaneously. Otherwise stated, although the knee flexion is visually highlighted, the three flexions are simultaneous and it is necessary to develop an awareness of it. When performing this flexion, the longitudinal axis of the body must be kept perpendicular to the floor until it is no longer possible to keep the heel supported. In other words, from that point on, you will feel (at the level of the tendons and muscles) that it is not possible to continue flexing your knees without lifting your heels off the floor. This situation can be observed in detail in figure 2 (ii).

Figure 2. Details of the 3 positions of the joints involved in the *Plié* exercise movement and which define the unions separations of the 4 stages. Inverted Triangle: Hip. The dotted circles (from top to bottom) represent the hip, knee, tibiotarsal and metatarsophalangeal joints. Vertical line in bold: Femur; double line: Tibia and Fibula; horizontal lines in bold (from left to right): Calcaneus-Cuboid-Metatarsal, Fine line in grey: Foot Phalanges.



Fonte: Authors

In the second stage, maintaining the final position of the previous stage, the toes of both feet begin to gradually flex (metatarsophalangeal joint, which is formed by the articulation of the metatarsals with the first phalanges of the toes of both feet) to the extent allowed by the flexing capacity of the muscles and tendons that act on this joint. At the end of this stage, the entire body weight will be distributed over the ten phalanges of the feet. In dance this positioning of the joints is called half point (figure 2 (iii)).

In the third stage, maintaining the flexion of the knees, the contact of both soles of the feet with the floor is progressively and fluidly sought until the heel is fully supported or the metatarsal-phalangeal joints are extended (Figure 2 (ii)).

In the fourth stage, the joints of both lower limbs (knee, heel, hip joint) are again progressively extended, returning to the initial position of the first stage (see also figure 2 (i)).

Performing the exercise

When Barbora had finished giving the instruction during the demonstration, I began performing the exercise. I positioned myself and Barbora invited me to start with a kind of “numeric *levare*” (“one-two-three”). While carrying out the exercise, I was remembering its shape fluidly distributed in time and attempting to reconstruct the expressivity I had noticed in the demonstration. During the exercise, Barbora observed me closely and intervened on the progress to bring about certain adjustments in my movements through verbal indications, tactile manipulations and new and partial demonstrations, adding in the end a (verbal) statement in response to what she had observed. After this feedback, I repeated the exercise for approximately ten minutes.

In a longer-term perspective, this work sought to develop a greater *kinesthetic awareness* of the *quality of movement*, seen as a relevant part of studying of the constitution of the experience of time (Sheets-Johnstone, 2011). A kinesthetic experience of temporality where “on the basis of time we understand movement, and on the basis of movement we understand time” (Fink 1968, apud Sheets-Johnstone, 2011, p. 133).

For this, the exercise works on (i) the elasticity of the fibers that make up some muscle groups; (ii) mastering the time flow of physical actions; (iii) the temporal precision of the separation-union of each of the physical actions (fluidity of the sequence); (iv) the muscular-skeletal alignment during the continuity of movement. This implies in the first place to overcome the physical difficulty of fluidly distributing the four stages of the *Plié* and regulate them at a remarkably slow tempo (48 bpm) from the beginning to the end of each of them. In general, for this, dancers use the strategy Barbora provided me: divide that interval (here in 3 smaller units, see figure 1). It is interesting to note that Barbora counted by lengthening the final vowels of the numbers, *oneee-twoooo-threeee* (legato) in order to emphasize the fluidity of movement within each stage. In addition, she remarked that the change of trajectory of each stage always takes place at the beginning of the *oneee*.

Here it is important to consider the kinematics of movement. The stages of the *Plié* exercise have the same duration (isochrones) but the distances traveled by the different body parts are not equal. To better observe this question I measured the displacement of the knee and the calcaneus in my own body. I observed that the front part of the knee (center of the patella) moved 23.5 cm forward during the 1st stage, and that

the calcaneus was raised 15 cm during the 3rd stage. This shows that different velocities of movement arise from executing different spatial distances within the same durational category (metric level).

Secondly, the achievement of the stated objective implies learning to generate changes in movement direction without stopping the flow of internal movement at the beginning of each stage on the count of *oneee*. While looking for this quality, I *felt* that the velocity of my body varied at the beginnings and ends of each trajectory. Barbora told me "you have to get to the end of the movement [of the stage] and stretch it even more like a line towards infinity and change [the movement] with the breath on the *one*". It should be noted that from this moment on the teacher began to emphasize the relationship between the respiratory rhythm (inspiration-expiration) and the rhythm of the movements of the exercise. Inspiration had to happen during beat three and expiration during beats one and two. This observation added important metric data to the movement quality of the execution. Inspiration prepared and anticipated (as movement) one beat the change of trajectory (see figure 3).

Still, she noticed some inaccuracy at the moment of the change of trajectory in the *plié* movement, remarking that something "inside my body" was not preparing that change. Thinking about that observation, I concluded that "if she takes her movement to the end, producing the change in question with precision, it is because she prepares the change in a previous fraction of time not explicit in her counting". But also, it was necessary to prepare the change of direction of the trajectory muscularly without this internal movement cutting the main movement, how to move "inside" without it being visible?

When the dancer's body moves, the internal elongations and contractions of the various muscles are not equal. The aim is to generate elastic forces by deformation, to generate variations between the potential energy and the kinetic energy in order that the movements *are not cut* due to a lack or drastic decrease in energy. In dance, this ability to produce contrary forces is deliberately exercised. Certainly, this energy has a kinetic correlate in the quality of movement. This means that this regulation was necessarily involved in the expressive demand of the exercise. With these ideas in mind, I measured the difference between the longitudinal extension of my body and the extension of the movement of flexing my knee. I observed that between the beginning and the end of the first stage, the patella (knee) drops 6.5cm but the total height of the body drops 5.5cm. In

other words, the total longitude of the body (head-feet) does not vary to the same extent as the descent of the kneecap.

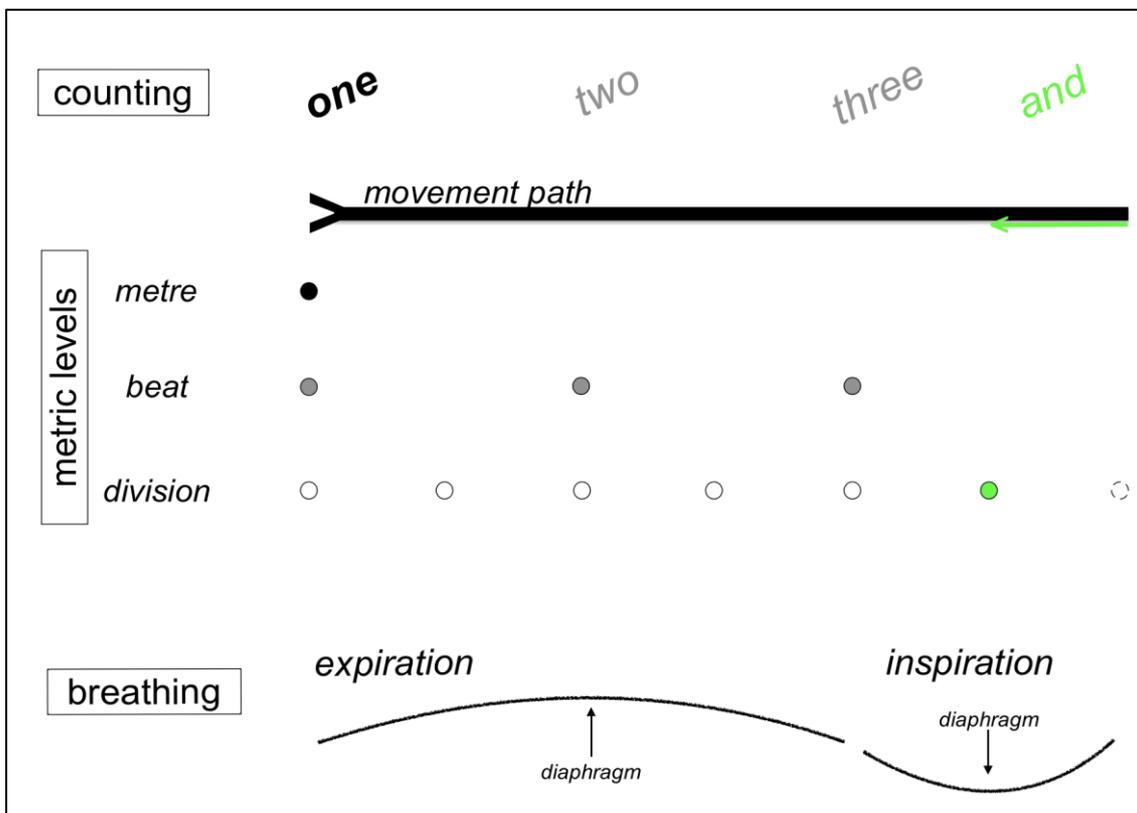
These two notions - muscular control and management in space-time and *contrary movement* ("counterpull" according to Kassing & Jay, 2003, p. 116) - were key to raising awareness of the nature of the difficulties I had in understanding the relationship between the expressive articulation of movement and the exercise's metric structure.

Reflecting on the difficulties of carrying out the exercise, I could gradually notice that the quality and articulation of movement was closely linked to the ability to distribute muscle action in a controlled manner and in several directions over time, a temporality that in this case was limited by the metric structure. This muscular control requires a series of complex skills involving strength, resistance, elasticity, flexibility and the ability to coordinate internal movements which spread in opposition and different directions.

For example, Barbora asked me for precision in "movement changes using time fully". But ¿what does that mean? ¿how is the change of direction in movement accomplished without losing continuous flow? Although she never linked it to the metric question, my experience as a dance musician led me to an increasingly accurate intuition that the problem involved exercising a conscious control of this sequence of movements within the framework of a rhythmic-metric-expressive structure that was detached from her counting, as described before, with all its load of formal and expressive information. Starting from this relationship, I was able to consider how the quality of the sound (in particular the rhythmic and metric gestuality) could be felt in terms of quality of movement (rhythmic-metric-articulatory aspect of the movements). I believe there is a deficit in dance pedagogy regarding the ways of communicating that relationship. For example, according to the technical description of the exercise given above, the changes in direction of each stage of the *Plié* begin on count *one* and finish at the end of count *three*. This description lead me to think that in each stage of the exercise the body moves in a single direction within the three beats. In this regard, the verbal information Barbora provided me through her counting did not thoroughly reflect the gestuality she exhibited in her marking. The information provided by the counting was the usual One-two-three; Two-two-three. This verbal information was not enough for me to understand how to achieve the articulation she asked for in order to join and separate each stage, a quality of movement "for the changes in direction of the movement that must be carried out in the three beats", which are very internal, almost invisible at the level of form but that her

trained eye could notice in the quality of the observed form. Barbora's verbal instruction was clearly translated into what was observed at the level of form: the change of direction of the trajectories in the 4 stages is carried out with precision at the beginning of each count of *one*. However, something was missing from that information, something invisible to the naked eye is not seen which shapes the fluid expression of the change in these trajectories: a clear and precise definition of "how and when" to begin preparing changes in direction in each of the 4 stages. By considering the problem in this way, I could see that the desired expressive quality was determined by an opposite movement - a muscle group that begins working in the opposite direction of the main movement taking place - that occurs in the second part of beat three (this countermovement is also known as rippling). In order for this quality to be precise, it was necessary to become aware of a metric level subordinate to the beat level (division level) when entering beat three. I schematized the referred metric embodiment in figure 3.

Figure 3. Internal opposite movement representation. Representation of the body movement from left to right occupying three beats (black line). The inspiration on the third beat serves as *levare* for an internal right to left movement (green arrow) which begins in the second division of the third beat and becomes 'visible' in the next beat of one. (below) Rhythm and Breathing pattern.



Font: Authors.

While I am going up, there is another muscle group that starts to contract in the opposite direction (movement in the opposite direction). Furthermore, I had to do it with a rippling (Hsieh, 2007) movement quality, which evokes, as internal action, the movement of a whip: an undulation of a leather rope produced from the handle in which the movement of the handle and the movement of the end of the rope are opposite. It is, therefore, an opposite movement that, without cutting the trajectory of the main movement of each stage, works as if it were an internal brake, something that near the end of the trajectory of each stage begins to pull in the opposite direction of the initial movement. This physical mechanism is essential to create muscular oppositions within the body and to unite and separate the stages. The physical production of this muscular undulation is directly linked to the quality of movement. There are small timing variations in the progression of muscle flow that determine the expressive way in which we produce the form of the movements (see figure 3).

Only then did I notice that when I said I did not understand "how to distribute the duration and the changes of direction within the three beats", I was referring to the timing and metric position in which that internal muscular opposition -that opposite movement- should take place. While Barbora counted, I tried to go from one stage to another according to the count of three. However, there was something I could not control with precision: the temporal regulation, not of the movement itself, but of the *muscular preparation of the change* from one stage to the next. When she asked me to "change before ... now you are late ... now you are early ... you have to *suspend* on the three", it required a level of precision that I could not bring to the control of my body. There was something special about timing, which was translated into gestural quality, in the change from one stage to the other. Faced with my insistence on locating that particular moment in which the change of direction was beginning to be prepared at each stage, Barbora added a barely pronounced *and* to the counting, at the level of tactus division, after the *three* (see figure 3).

From the musician's to the dancer's knowledge

Now I had a formal understanding of what Barbora was asking of me. However, the theoretical knowledge about rhythm and musical metrics and my experience of playing the guitar were not enough to elaborate the physical response, as she showed and

required. I knew I had to produce the *opposite* (internal) *movement* necessary to go from one stage of the exercise to the other, but I didn't know how to do it. Barbora's impeccable demonstration was not enough to elucidate the problem. I was missing something. Something from the felt quality of movement perception which was implicit not in *what* she asked of me but in *how* she asked me. Something that was in the expressivity of her instruction. I couldn't imitate deeper aspects of her movements beyond their form. So I did the exercise and she corrected me; I still couldn't understand what she was correcting despite her efforts and the way she used her body and voice.

My experience in movement for sound production is perhaps the strongest aspect of my work as a dance musician. For over 20 years, I have dedicated myself to composing and performing music for dance technique classes playing guitar and percussion. My work led me to connect with the main codified dance techniques (J. Limón, M. Graham, M. Cunningham, M. Fulkerson, S. Paxton, L. Horton, W. Forsythe, among others) and with other dance experiences through the collaboration with notable dancers such as Antonio Carallo dancer of Tanztheater Wuppertal Pina Bausch. Furthermore, already as a researcher, I worked in collaboration with many of these dancers in documenting the communicational processes involved in the sound-movement connection, in the context of dance. And, fundamentally, I have been able to exchange daily with dance teachers, performers, choreographers and dance masters in daily activities with dance students. Through this experience, I have been able (i) to *sound* together with someone who dances and takes the music I make *sound* as their metric rhythmic reference; (ii) adjust and regulate the timing of my actions in a unique, participatory doing of the dancer-musician dyad; (iii) *read* independently the movement instructions that a teacher gives his students; (iv) be, in this way, a privileged observer of the processes that emanate from this particular construction.

If I could understand the interiority of the other's movement as a musician ¿why couldn't I understand Barbora's movement and regulate my own when acting as dancer?

Until that moment, I thought dance was the body making shapes and that the quality of movement emerged *from very close to the skin*, being a spatially visible attribute. This somewhat rudimentary conception of the problem contributed to two basic ideas which usually are present in the relationship between musicians and dancers and which may be the seed of some communication problems between them: firstly, that hearing and seeing *to play music* is not the same as hearing and seeing to dance; secondly,

that assembling involves a series of agreements, reciprocities and negotiations between the rhythms of the movements of playing and the rhythms of the movements of dancing, as a priori independent.

But pondering on these ideas, I suddenly remembered what a dance teacher with whom I shared my work for 4 years at the Lisbon Higher School of Dance used to tell me: “your eye can see in movement almost the same things I see (...) this is only seen by someone with a trained eye”. So I told myself: “If you watch Barbora move and put yourself in the role of dance musician, you will be able to *atune with* the expressivity of the movement Barbora is asking you”. I realized I could *think the characteristics of movement through music, my music*, thinking of both as the same thing.

Thus, when during my next class with Barbora, she explained again how to improve my *Plié* performance, I left my place as dance student and dedicated myself to seeing and following Barbora's movements as if I had to accompany them with my music. I imagined two drumsticks in my hands and musically interpreted the movements she was performing. And while doing this, I was selecting in my internal music aspects of its execution related to the metric rhythm, the distribution of the strong and weak impulses, the articulations and the dynamics of her *Plié*. Now I was able to observe the qualities of my own movement while making the music that accompanied Barbora's movements and tried to explain them to myself in terms of the main concepts she taught me throughout her classes.

Specifically, Barbora was enabling me to understand my movement from a dynamic interiority "which one does not see and cannot touch". It is about accessing movement as a way of thinking related to muscle actions which impact joints, bones and generate a felt sensation (pleonasm is deliberate) of the postural and balance conditions of our body at every moment of movement. Accordingly, I gradually understood that each of the stages of the *Plié* exercise can be prepared from the *center of the body* as a whole. In the technical work we were doing, I felt the need to “create the movement” from the area of the abdominal muscles, located between the pelvic floor, the hip bones, the lumbar region of the spine and the lower part of the ribs. The sensation of a movement which has a beginning and "metric" preparation started to arise in the center of the body as well as a pulsating muscular action throughout the body. It is as if the body is simultaneously stretched down, up and sideways, traveling from this region and especially towards the body region that *moves the most*, which in the *Plié* is the flexion and extension of the

lower limbs, and towards the least visible, the elongation of the torso in the opposite direction of the lower limbs.

Consequently, for the first time, I started to think about the movements I make when playing based on those ideas. The strategy proved to be useful. I could think of my *musical movements* differently. So I used them to *speak (without words)* and I asked her while moving my arm in an orchestral conducting gesture (according to the exercise's metric structure): "¿is this the quality, rhythm and articulation you are asking me for?" while I *described* counting expressively, trying in that expressivity of my voice to be as faithful as possible to what I thought she was asking. At that moment we both felt a powerful stream of empathy between us !! She found in my kinetic and sound gesture what she wanted in the exercise. She said: "I am very happy! That's it!"

If I could clearly see the relationship between Barbora's body gestuality in the exercise and the sound gestuality of my music, and from there see the relationship with the physical gestuality of my musical performance, I had to be able to bring it to my own body, dance and thus close the circle.

Then I tried to transfer the conducting gesture from my arm and my hand *into my body* in order to transpose its felt sensation to the *center of the body*. For the first time I could feel from the center of my body the succession of the stages of the exercise and the precision in temporal regulation.

Nowadays, every time I do the exercise, I feel the great qualitative leap that derived from this insight. From that moment on, I felt that the form of the exercise's form lost importance in favor of a more *internal physical process*: a body awareness which materialized in a feeling-the-interior-doing in real time. This allowed me to modulate the energy with greater precision each time I practiced the movement and, above all, I saw as I moved that I could *observe my sensation* in the doing. When Barbora said "Ah, I see quality there !!", my body, like an expanding elastic mass, made less effort and seemed to move less. In this way, I was able to replace the features of the outside by the experiences of the inside in a physical-temporal-musical globality. As I moved from the center of my body, I recognized the rhythm and the metric positions through which my movement was passing. I was able to close the circle by reconceptualizing my felt movement in temporal-spatial (metric) terms.

CONCLUSIONS

This experience has had powerful implications in my work, both in dance and music. The key point is the insight of transferring the movement from *playing* (to which I am accustomed) to *dancing* (to which I am less accustomed). This *kinesthetic attention* mode (Ehrenberg, 2015) allowed me to link what Barbora expressed as quality of movement with theoretical concepts that allowed *me* to explain that quality to myself.

Such an insight was not a magical occurrence, it was the outcome of the adjustment and accommodation of theoretical and empirical knowledge I had been building throughout my experience. For example, in my work as a researcher, I have been part of interdisciplinary biomechanical teams. The knowledge collected here always accompanied my dance practice. Therefore, the learning of the sequences and the problem of the movement quality benefited from the theoretical study of the specific muscle groups involved in the different types of movements, the engaged bone structures and the types of joints, as well as the mechanism of breathing, and the functioning of all these structures from a biomechanical perspective. Thus, I could notice that the more I theoretically understood the body mechanisms involved, the better I could perform the exercises Barbora asked me, and her feedbacks confirmed it. I also felt much more confident and aware of what I was doing.

Going through this particular experience now allows me to affirm: *The phenomenological experience of the quality of movements* which are similar in the field of dance and in that of musical performance is also very similar although it clearly differs in the magnitudes of force used. The *Plié* exercise opened my awareness of the embodiment involved in musical performance according to the sound result that is sought. For example, in the production of a *legato*, the ear guides the modeling of my movements oriented to a certain sound goal: I move to achieve that specific sound result. In dance, the goal itself *is* movement. I manage and control the movement based on the desired movement itself. Thereby, for example, the phenomenological experience of the *sound that lasts* in a *legato* can be translated into that of the *muscular fiber that lasts*. Although the mass, velocity and trajectories involved in performing those movements in the desired time are significantly different, there is an aspect of the experience that is similar. From this it follows that it is possible to think of two different dimensions of movement. One which concerns what can be observed and measured externally, the other that concerns the experience of activating a muscle fiber that belongs to the body as a whole.

Throughout the classes I mentioned, I also performed the exercise on a Gyrotonic system machine designed to offer greater resistance to one's own weight and therefore promote greater awareness of what we are doing or need to do. In working with the machine, the differences in weights forced me to adjust a number of kinematic magnitudes to achieve the adjustment to the exercise's metric structure. During those moments, I thought about which movements would be necessary to play a music with that quality and tried to copy the sensations. Although the kinematic effort was absolutely different, I could understand that both qualities could be connected as if they were the result of proportional magnitudes. In terms of energy, the movement + sound of the music equation could be equivalent to the energy of movement in dance (Friberg & Sundberg, 1999).

Gestuality as movement oriented to the communication of internal states

The communication I was able to establish with Barbora was much more successful when I understood the advantage of moving from verbal language to gesture, especially when I began using typical conducting gestures in which I emulated the shape and quality of body movement added to an *expressively* synchronized verbalization (Laguna & Shifres in press). By *expressively synchronized* I'm referring to the temporal correspondence of prosodic and expressive aspects (accentuations, lengthening, articulation emphasis, etc.) of the verbal statements with features of the movement sought.

I noticed that the mastery I had, through my musical experience, to modulate the expressivity of certain movements as a resource to modulate the expressivity of the sound result, could be transferred to intermediate gestural forms (such as that of the conductor's gesture), or more indirectly engaged in sound production.

The expressivity of the verbal instruction and the information which it is able to carry

Interpreting the instruction provided by the dance teacher or choreographer implies going far beyond mere semantic content. There is a wealth of information which lies *between the lines* and that, as in music, is expressed through sound variables of dynamics, timing and articulation. A paradigmatic example is that of counting. The dancer uses the vocal count to clarify the distribution of his physical actions in regular

time units. However, according to my experience, the dancer verbalizes through his counting only some elements of the movements he is marking. Many other elements that configure the movement as a whole are left out of that type of verbal description enunciated in the instruction. On the other hand, this verbal statement, although considering the regularity of counting, does not take into consideration other levels of the metric structure (division, tactus, meter, hypermeter, etc.) which provide important details in a description of the movement as a whole and therefore are essential to mentally reconstruct and configure it. In this way, metric relationships, which in music usually appear clearly in organizations of *strong* and *weak* impulses, appear definitely blurred in marking. The *depth* of movement is thus lost. Many of the movements musicians do spontaneously, which usually accompany the performance (their own and foreign), such as hitting the foot (Laguna, 2017), walking (Laguna, 2018) or the basic gesture of the baton contain that metric information which configures which depth of movement, which does not lie in the counting.

The experience we share here reveals a path to bring to the sphere of dance education physical experiences which come from experiential fields mostly attended by students and therefore *more sensitized*.

I have appealed to my experience as a musician bringing awareness to the transmodal link between sound and movement. But all people have primary transmodal experiences (from early childhood, such as the experience of affective attunement, according to the concept of Stern (1985)) which serve as basis for this conscious realization. Thus, finding and using them can effectively contribute to the communication of the least verbalizable aspects of learning the dance technique.

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