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Movement and the Practice of Meaning in Song

Favio Shifres,^{*1}

**Faculty of Fine Arts, University of La Plata, Argentina*
¹favioshifres@sacom.org.ar

ABSTRACT

This study intends to provide some evidence about the body involvement in the meaning production in song performance. It analyzes body actions that are not basic requirement for sound production, during the elaboration process of an interpretative performance of a work. These actions are observed in relation to structural and emotional-expressive content of the piece. A professional soprano sang an opera aria four successive times (as a rehearsal), making both technical and expressive adjustments and delineating a personal interpretation along the repetitions. Performances were filmed and micro-movements were analyzed assisted by Diglo 12.0 system.

The analysis of the climax phrase of the aria reveals: (i) the first two performances with the singer's movements showing particular common features on the highest and longest tones in the passage (always associated to some sort of *expansive* action); (ii) these features are elaborated and incorporated in the following trials; (iii) *Expansion* is not always elicited with the same gesture (as it is understood as both the shape and the physical resources of the movement), but it is identified in different axes and body parts; therefore, (iv) it is not a stereotyped gesture emulating a given feeling or dramatic content; on the contrary, (v) as its *expansive* qualities remain while the gesture itself is always different. Observed actions are discussed as pre-conscious and sub-personal. The singer's intentionality does not focus on them. The action refers to a particular expressive content of music. It is a particular way of feeling. Thus, meaning come to light from non-conscious bodily movements and perceptions. Intended meaning comes out from the way in which the body shapes (feels) the dynamic qualities of the performance.

I. INTRODUCTION

Music is an unfailingly bodily experience. During centuries, intellectual Western tradition -founder of a speculative musicology- has separated music from the experiencing body. In that way, the former has remained tied to the later only by the thick thread of performance (such thread is extremely thick if it is compared with the wider ties that link music with other multiple aspects of experience).

Currently, there is an important thought line that finds in the body the keys to understand the meaning creation of human experience (Gibbs, 2006). In this context, movement and other embodied forms of thinking are reevaluated as essential in the study not only of the world of emotions and feelings but also of the realms of thinking, reasoning and judgment. This renouncing of the western musicology and music practice to the body (Molino, 1988; see Shifres, 2007) is probably an obstacle for the ceaseless discussion about music meaning.

At the present time, numerous scholars are speaking about the necessity of thinking the meaning of the human experience in non-propositional terms from the idea that *meaning* is something deeper than concepts and propositions. Although the most rooted perspective in Western philosophy leads to think meaning as a *word* issue, the common-sense notion of

meaning use to go beyond the propositional thing. According to Mark Johnson (2007) the notion of meaning linked to the propositional contents is an *impoverished perspective* that is deprived of important issues. Particularly, this perspective prevents considering circulation of meaningful non-propositional contents (since propositions are understood as the most conspicuous basic units of thinking and meaning) as patterns, images, qualities, feelings (besides concepts and propositions). Such a traditional perspective does not accept that patterns, images, qualities and feelings, being non-propositional, may be considered as attributes of cognition or ways of thought. Facing the tradition that strongly links meaning to propositions, a new perspective sets out to a much wider platform for the practice of meaning beyond the linguistic tradition, including the "*nonconscious aspects of a person's ability to meaningfully engage their past, present, and future environments*" (Johnson, 2007; p.10). From this perspective the embodied theories of meaning have appeared. For them the human meaning is (i) *situated* - it has to do with the character and the consequences of the interactions of the person with environments and periods (past, present and future) -; and (ii) *relational* - it emerges from the particular relationships among the things. Investigating the meaning of something implies to appreciate the consequences that such a thing has for the experience, the way in which this hits in the experience of the human being in mind and body. For that reason, the meaning of the human experience is directly and inevitably related to the body (Johnson, 2007).

This paper aims to investigate the relationships between a set of explicit body movements, elaborated and preserved throughout the time with the structural and emotional content of the musical experience in the course of performance. Even though it may seem obvious to emphasize the role of the body in music performance, is not so evident its participation both in the creation and the communication of the musical meaning. In other words, it is usually accepted the role of the body as a vehicle to communicate contents, but nevertheless, it is not usual to appreciate its role in the genesis of those contents, in which body movement in interaction with the environment would be crucial. By moving, experience becomes meaningful, because it allows a direct bonding between us and our environment. When feeling the qualities of our movement in our environment, we perceive the quality and the dynamics of the surrounding world. This knowledge constitutes the base of psychological and moral concepts that derive from it. For that reason, Johnson (2007) upholds that movement takes precedence over other embodied (and perhaps more abstract) modes of meaning.

According to Lotte Meteyard and Gabriella Vigliocco (2008) theories on embodied meaning assume that meaning creation makes use of low level sensorimotor processes that would have to be unvarying through different tasks in which those meanings emerge. Thus, for example it would be possible to

conjecture that if the process of meaning related to a musical piece makes use of low level sensorimotor processes, then these would have to be unvarying through different performance manners of the musical piece.

These authors differentiate between strong and weak embodied meaning theories. Strong embodiment theories are characterized by not only the proximity with, but also the activation of the sensorimotor processes. To be exact, if an embodied practice of musical meaning exists in song, it has to trigger certain movement “manners”, providing the sense to the particular features of the song expression. On the contrary, weak hypotheses of embodiment say that the activation of the sensorimotor processes is not necessary at least once the representations become stable. Therefore it would be interesting to observe the complete process of meaning creation happened, for example, throughout the rehearsal and preparation of a piece of music. Consequently, this research aims to provide some empirical evidence about the relation between thought and movement throughout the elaboration phases of an expressive music performance.

A. Movement and Meaning

Thought emerges from an essentially qualitative world, that is to say, that impresses by its qualities. We know it by those qualities. Felt qualities involve more than things that can be structurally discriminated through concepts. We also thought through a nonlinguistic dimension of the experience, which works as a “felt sense” of the situation (even though that situation involves words). The notion of “felt sense” was suggested by Eugene Gendlin to refer the way in which meanings are working - and they are perceived like “embodied sensation” - even before we have either conscious awareness or a propositional exegesis of them. Generally, we use sense-making processes broader than logical deduction, given by the current experience. According to Gendlin felt sense consists of an ambiguous bodily state that works like a direct reference of the experience, and is the focus of our attention when we are in contact with a target event. In that way, a private meaningful experience arises. That meaningful interaction with the event is the core of the implicit meaning of the experience and is able to become into an explanation (Gendlin 1995) or, as we propose here, some form of expression. Accordingly, propositions and feelings are not split aspects of the experience, but two dimensions of only one activity of meaning practice, - one is intrinsically related to the other. The felt-sense is a bridge between experience and concepts, a “direct reference” (Gendlin 1997). It is a sort of symbolization that emphasizes an experienced fact: We experience something, and our bodily experience, in some way, highlights or emphasizes it. Thus, a movement may be a “direct reference” to a “musical idea” emerged from the very experience of singing it. As experiencing by movement exceeds its own sphere and modifies the thinking. In music performance the experience of playing or singing modifies the concept of which is played or sung and its meaning. In agreement with this relationship between concepts and experience, we have the idea that meanings are added as we are playing. At the same time, the meaning modifies the experience by felt bodily changes (Gendlin 2003). Therefore, meaning does not emerge simply from thinking with concepts, rules,

and/or conceptual distinctions. On the contrary, it is created from the experience complexity (Gendlin 1997).

This notion of practice of meaning is compatible with certain musicological perspectives: For example, according to Molino (2000) a non-representational semantics of music exists. It is a “*rhythm-affective semantics*, which involves the body, its movements, and the fundamental emotions that are associated with them” (p.170)

In this particular way of practice of meaning the non-propositional *felt* aspects are not loose. On the contrary they are extremely tight, just because they are related to action and movement patterns.

“The body implies what we want to do and say.

Therefore sophisticated linguistic and philosophical details can make our bodies uncomfortable. From such a discomfort the body can project (imply) finely shaped new steps to deal with such a situation. Our bodies shape the next thing we say, and perform many other implicit functions essential to language.” (Gendlin, 1997; p.28)

Then, *felt sense* is responsible of transforming the expectations generated by our own body to those things that we do and we say: our bodies imply our future words and actions and impel our situations towards ahead.

B. Body, Action and Expression

Certain knowledge would be playing a crucial role in the generation of those expectations at bodily level. An important part of this knowledge integrate ours *body schema*. Shaun Gallagher (2005) remarks the relevance of differentiating the notion of *body schema*, from another one, which often appears in literature with fuzzy boundaries, namely, *body image*. According to Gallagher (2005; Gallagher and Zahavi 2008) body image is a set of intentional states -experiences, attitudes, and beliefs- whose target is the own body. On the contrary

“... the concept of body schema includes two aspects: (1) the close automatic system of processes that constantly regulate posture and movement to serve the intentional action; and (2) our pre-reflective and non-objectifying body-awareness. So, on the one hand, the body schema is a system of sensorimotor capacities and activations that function without the necessity of the perceptual monitoring. Such processes (... are) sensorimotor functions that continue to operate, and in many aspects operate best, when the intentional object of perception is something other than one’s own body. On the other hand, however, the body scheme (...) also includes our pre-reflective, proprioceptive awareness of our bodily action.” (Gallagher and Zahavi 2008, p.146)

The body schema does not involve the continuing perceptual monitoring of the body as an object. On the contrary, the body tends to go unnoticed. As we gain awareness of our own body we take information for ours *body image*. Consequently the set of movements that serve the intentional action constitute the body schema although may not be consciously done.

In this paper an exploration about the embodied practice of meaning in music performance is proposed. However, if, as it was said above, we start from a strong embodiment hypothesis of meaning in which the sensorimotor processes involve in such a practice would have to be ostensible. But, logically, any activity of music performance – regardless any practice of meaning - consists of observable sensorimotor processes.

Therefore, it is necessary to differentiate *instrumental and locomotive actions* from *expressive or communicative movements* (Gallagher, 2005). In music performance, instrumental actions (actions that technically make the performance possible) can be automated. On the contrary, expressive movements cannot be automatic (since they confirm the emotional involvement) even though they are not conscious (Gallagher 2005). Thus, expressive movements -concerning their faculty to communicate experienced or intended meaning-, can be both intentional and non-intentional.

Another aspect to consider is the type of adjustment of the movement with respect to its target in a given space configuration. Cole and Palliard (mentioned by Gallagher, 2005) distinguish between the *morphokinetic* aspects and the *topokinetic* aspects of movement. The former have to do with the form of the movement regardless its location. The later are related to the location of movement and its adjustment with respect to the location of the target object. Interestingly, instrumental actions require great topokinetic adjustment, whereas the expressive movements require rather greater morphokinetic clarity. It is possible to assume, therefore, that movements identify with an expressive intention have clearer and more defined morphokinetic characteristics than topokinetic aspects.

Finally in their studies on the gestures that accompany the spoken speech, Gallagher and his colleagues identified three factors that allowed to explain the gestures' timing in terms of such a speech: (i) *Prosodic feedback* associates gesture timing to accent features (emphasis) of the speech; (ii) *Semiotic Feedback* links gesture timing with the idea (topic) of the speech - therefore the speech units tend to match the meaningful gesture units, and (iii) *Pragmatic Feedback*, that associates timing to the particular environment characteristics of the speech context, such as tempo of the speech, relationship with the interlocutor, etc. It is possible to assume that expressive movements in song display a timing controlled at least by some of these factors.

C. The Body in Song

Specifically in relation to song, Jane Davidson (2001) widely studied the role of the body in expressive voice performances. In a sequence of studies on her own and other singer's performances she identified: (i) movements oriented to itself, as a way of self-stimulation or to be more comfortable; (ii) movements oriented to the expression of both text and musical structure aspects; (iii) learned movements associated to performance techniques and procedures; (iv) movements oriented to support and coordinate the performance of the ensemble. Consequently, she used a 5-category system (*display, adaptor, regulator, emblematic, and illustrator*) to explain the movement associated to each phrase - as a whole - of the musical piece. Importantly, Davidson emphasized that movements involved in the bodily experience in song have a threefold origin. Consequently she identified biomechanic, individual and cultural-determined. Important evidence coming from neurophysiology (Gallese 2001, Rizzolatti and Sinigaglia 2006) exists to suppose that these kinds of movements also take part in the experience of the observers-listeners helping to their own practice of expressive

musical meaning and therefore fulfilling a crucial role in the social bonds that performance promotes.

Nevertheless, Davidson did not study the traits of the movement that compose the gesture as a whole. That is to say, she did not describe independently and in detail the movements of the different parts of the body in each time of the gesture. On the contrary she took the bodily movement as a whole. Therefore, the observable movements of the singer may give, from a more detailed analysis, some evidence of a deeper link between the movement and the practice of musical meaning, which is out of the mentioned categories. For this, it is necessary to observe the different moving parts of the body that conform the gesture as a whole. In addition, it is hypothesized that each moving components of that whole is out of the awareness during the performance. Accordingly, bodily experience originated in that gesture remains predominantly implicit during the performance, but organizes its expressive sense.

II. AIMS

This study intends to provide some evidence about the body involvement in the creation of meaning in song performance. It analyzes body actions that are not basic requirement for sound production, during the elaboration process of an interpretative performance of a musical piece. These actions are observed in relation to structural and emotional-expressive content of the piece.

III. METHODOLOGY

A. Subject

A professional soprano, cast member of the Buenos Aires Opera House (Colon Theater) participated in this study. She knew the piece and she has performed it some time ago.

B. Stimuli

The aria "*O mio babbino caro*" from the Giacomo Puccini's opera *Gianni Schicci* was chosen for this study. This piece is particularly interesting for this inquiry since: (i) it presents an attractive combination of large melodic intervals (jumps) that determine both a considerable involvement of vocal ability and a marked expressive sense, with a relatively slow *tempo*, which allows to observe in detail each movements in synchrony with every tone of the melody separately (not as a pattern); (ii) it is a key point in the course of the dramatic development of narrative, showing the nature of the character (Lauretta, the Gianni Schicci's daughter) and her dramatic transformation with great expressiveness.

The aria as a whole can be considered as an antecedent - (double) consequent structure (Berry, 1986; Caplin, 1998), followed by a coda. Both the antecedent and the consequents are binary (they are constituted by two sub-units), and each one of the smaller components comprises two measures. The double consequent occurs as a result of a deceptive cadence (V- vi), which "deviates" the ending of the first consequent.

The selected phrase for the local analysis (bars 17 and 18, see figure 1) is the first sub-unit of the second consequent, after the arrival to the V-vi deceptive cadence at the end of the previous phrase. This point is crucial for the expressive and dramatic course of the piece: the second consequent finishes

with the disclosure of the true mood of Lauretta (which is different from the emotional state that she pretends at the beginning of the aria). At this point, she says her father that if he persists in his desire of setting off, she will go to *Ponte Vecchio* to throw herself to the Arno's waters. At the selected phrase (second consequent), she discloses that she suffers and is depressed. Because of that, she would prefer to die. Interestingly, in a first listening of the piece, when Lauretta says that she would go to the *Ponte Vecchio* is creating expectation related to the first strophe, where she tell her father that she are going to do something lovely (to buy her wedding ring), with a happiness feeling and kind character. But exactly on the deceptive cadence she closes it with the change of mood (anguish), which is the beginning of the true dramatic content of the aria (a content that was concealed, even restrained, during the first part of the piece). Thus, the deceptive cadence allows Puccini to extend the strophe with the second consequent, in which he shows the true dramatic quality of the scene. In other words, when Lauretta says "*Mi struggo e mi tormento ...*" she cannot restrain her anguish longer. Consequently, an explosion of the internal anguish has place there.

From the melodic point of view, the variation of the contour of the first consequent -with the highest tone, as insisting on it- precipitates the change, and anticipates the ascending jump (perfect 4th) towards the F₅, (bar 19; the longest tone of the piece), with an intense dramatic quality. Notice that the dramatic tension of the passage is accomplished by effect of the melodic contour since harmony is very simple. Finally, the expected cadence on the tonic completes the phrase.



Figure 1. Melody of G. Puccini "*O mio babbino caro*" (bars 17-20) with roman numerals corresponding to the surface harmony

C. Procedure

The soprano was asked to sing the aria four consecutive times in one *like-rehearsal* session on a recorded orchestral track. She was invited to try expressive resources and elaborate her interpretation throughout the four trials. Thus, instructions aim the singer was showing her interpretative ideas (as practice of meaning) in a more consolidated way as the trial by.

The four performances were filmed by two cameras to 90° (from the front and the side) at the same height (1.20m) and at the same distance (2m).

IV. RESULTS

The videos were analyzed according to two different levels of analysis: overall and local analyses. In every case both the categories and measurements of analysis of the movement were applied considering the musical discourse. Both levels were dealt with different analytical models according to their respective necessities.

A. Overall Analysis

The level of *Overall Analysis* includes the general examination of every observable movements in real-time throughout the complete performance. The eight shoots -4 from the front and 4 from the side- were analyzed according to a system of *ad hoc* categories configured throughout successive observations. Main categories were based on some types proposed by Rudolf Laban (Newlove and Dalby 2004; Español 2008) for the analysis of expressive movement in dance: *Space* (it refers to the direction of the movement in the space), *Form* (it refers to the sense of the movement in relation with planes defined by the previous category), *Body* (it refers to the part of the body in movement, focus of the observation) and *Flow* (it refers to continuity of the observed movement). Two judges observed the videos and categorized the singer's movements with and without sound in successive observations of the videos. The observations were made assisted by software. The program (Diglo 15) allows regulating the play-speed. The analysis of the 8 shootings was in a random sequence and in one independent session for each of them, in order to avoid biases or reciprocal influences among the analyses. The comparison of the judges' categorizations showed an acceptable agreement (77%). Where they differed, the agreement was accomplished in "inter-judges" sessions.

Although the focus of this paper is on the local analysis, some of the most relevant observations of the overall analysis are presented here as a frame for it. For this, the descriptions of movements according to the observation categories were organized in terms of the organization of the musical form of the piece. Specifically, sections, phrases and semiphrases were identified and movement was considered segmented according that structure. Likewise, the description of movements was referred as a whole to such units. Although in general the analyses describe movements as a whole (as a unit), for some phrases, some more detailed observation are reported.

Considerable similarities were identified along the four trials. Nevertheless, it was possible to find some differences. Table 1 summarizes the main commonalities and differences between shootings (mainly referred to the phrase focus of the *Local analysis*).

B. Local analysis (note by note)

The analysis displays the "*local analysis (note by note)*" run about the phrase analysed above (bars 17-18). In it, the sequence of movements observed for each one of eight notes composes the movement phrase. In that way movement is observed in relation to the production of each sound. This analysis was attended by the software DIGLO 15.1 (Azzigotti 2008) that allows to make a manual tracking of selected points of the image and to analyse their location throughout the sequence of frames. As a consequence, it is possible to draw the trajectory of the movement and accurately to identify (as precises as the frame duration) changes in its direction. The selected tracked points were different for front and side shootings but were conserved throughout the four trials. In the side view the tracked points were on: left shoulder, elbow and forefinger, in addition to points on the forehead, the chin and the left cheek. In the front views the tracked points were on: left and right hands, elbows, shoulders and cheeks, in addition to a point on the upper limit of the forehead. These points were

selected from the overall observation that detected that in general the movement was *guided* by these points.

Table 1. Main commonalities and differences among the four trials according to the overall analysis

Commonalities	Differences
<p>(i) The movement tends to occur more on sagittal than on horizontal and/or vertical planes. This movement on sagittal plane tends to go forwards matching the point of metrical and prosodic accents.</p> <p>(ii) The forwards movement of the arms seems to compensate the backwards one of the head (always on the same sagittal plane).</p> <p>(iii) The two first notes of the selected phrase seem to be <i>impelled</i> by forwards movements for each of them.</p> <p>(iv) In general each note of this phrase seems to be more “marked” (by each movement) than the other phrases of the piece.</p> <p>(v) The third note is always accompanied by a new kind of movement, marking a change regarding the two previous notes.</p> <p>(vi) The last note of the phrase <i>closes</i> it with a firm circular closing movement (like a closing gesture in orchestral conducting) which prepares the beginning of the following phrase. The movement seems to set the limits of the phrase.</p>	<p>(i) Shooting 1 begins with the arms in a low position to the flanks of the body whereas in the other three trials begins with the forearms in horizontal forwards position, in right angle regarding the arms.</p> <p>(ii) In trial 2 the singer brings the arms towards her chest, maintaining them in contact with it the rest of the phrase (in clear reference to the text: “<i>mi struggo e mi tormento</i>”).</p> <p>(iii) In trial 3 she puts her hands together, exploiting the resource of put them together and take them apart (close-open) suggested in trial 1 (left in trial 2)</p> <p>(iv) Trial 2 shows <i>screw</i> rotating movements the torso, replacing the movements on sagittal plane.</p> <p>(v) Trials 1 and 4 show parallelism (the same movement) between notes 1-2 and 5-6. Nevertheless in trials 2 and 3 this parallelism does not appear.</p> <p>(vi) In trials 1, 3 and 4, show a analogue parallelism between notes 3-4 and 7-8. This does not appear in trial 2, since she brought her hands close together towards the chest.</p>

The most relevant descriptions from the collected data are presented here. In general arm movements -with the forearms extended forwards- on the sagittal plane have predominated. These movements showed a sort of complimentary, compensatory head movements. Interestingly, the first trial seems to pay attention to each note drawing a profile according to the profile of the melodic contour (matching with each pitch) as figure 2 shows (upper line of stills).

In the second trial, movement is not on the vertical plane. Rather, it is on the sagittal one. At the highest note, (Ab₅) there is an expansion movement, consisting of extending herself, in a similar way to the previous trial, but this time on other plane (sagittal). In that way, she does the expansion movement again -remember the Laban’s *Form* category which links the notion of extending-contracting with the basic opening-closing positions in breathing-. See the second row in figure 2 how she extends her arms forwards. During the second part of the phrase, the movement is constrained by the hands position on the chest (as a clear reference to the text; notice that she put her hands together on her chest when singing “*mi tormento*” – a reflexive pronoun -) Here the sagittal plane is contracted, but the vertical plane is extended on the syllable *men* (Ab₅) and

extended. The new here is the replacement of the extension movement by the torso rotation.

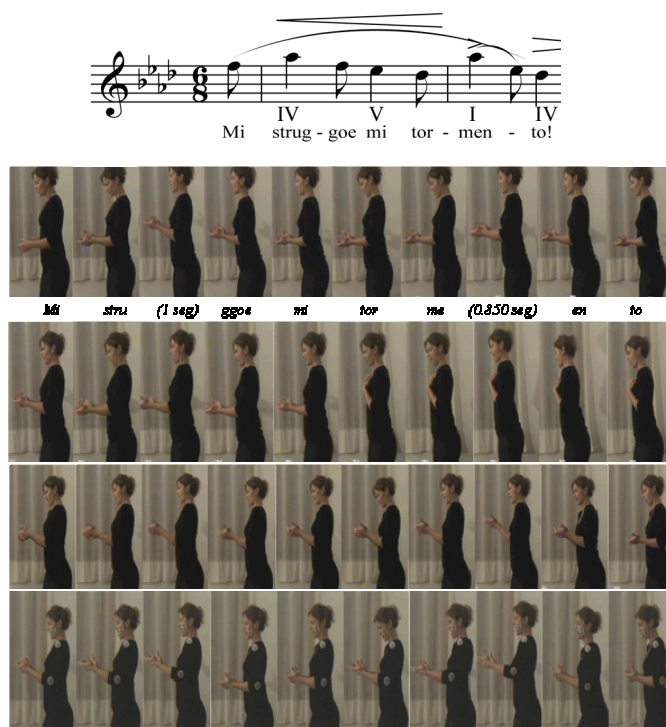


Figure 2. Local Analysis (stills) of the four trials (from top to down; the top row corresponds to trial 1, the bottom row corresponds to trial 4), from the side camera.

In trials 3 and 4, some interesting observations arise. Firstly, the forearm-elbow-arm angle seems to become stabilized. That is to say that the hands position, -lightly forward and upward – is kept during both trials. Secondly, movement seems to be steadier in general during the trial 3, with less displacements and expansion on the different planes. However, during the 4th trial she takes some extensive gestures from the trial 1. Notice, therefore, that she goes including different details throughout the successive trials: trial 3 shows rotations of the upper body, or twists (Laban used the word *screw* to categorize movements combining horizontal and sagittal planes), towards right and left, as in the second trial. In turn, trial 4 shows both extensions on the vertical plan, as in trial 1, and contractions (toward her *kinesphere* centre) as in trial 3. Movements of rotation of the trunk seem to be absent in this trial. However, the analysis of the shootings from the front will show an interesting elaboration of this movement.

It is important to remark that the greatest extension point (whatever be the plane) on the long tones Ab₅ takes place after the onset, on a point during it. As a result, the singer’s body expands itself during those sounds. Nevertheless, remarkably such a most expanded point is in trial 1 about 1 second after the onset. On the contrary, in the other 3 trials, this goal is reached about 500 msec. after the onset. Therefore, the singer reaches more quickly the climax (culminating point) of the spreading movement in trials 2-4, after the, slower first proof in trial 1.

In the shootings from the front more details of this can be observed. As the most noticeable contributions of this perspective occur at the second half of the phrase, only data concerning that unit will be presented here (figure 3).

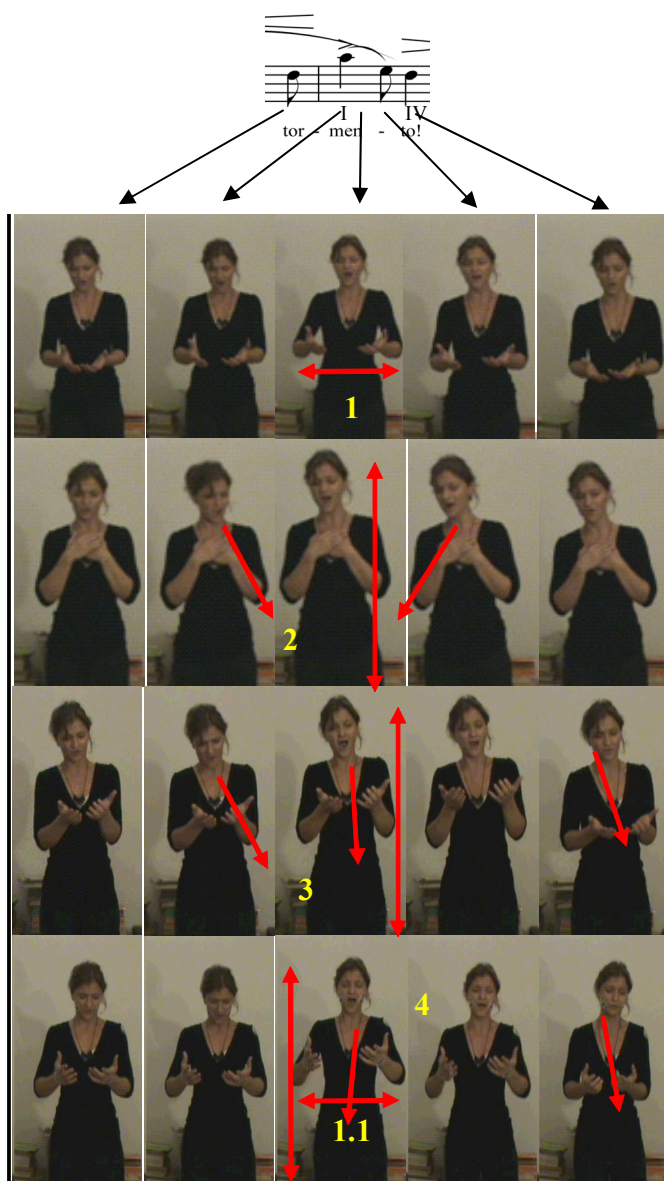


Figure 3. Comparison among the four trials (front perspective) of the Puccini's aria -bar 18 with its upbeat-. One-tip arrows indicate orientation of body or head (towards left or right). Two-tip arrows indicate the *spreading* movement on one plane (vertical or horizontal)

Firstly, number 1 in figure 3 indicates that in trial 1 a significant spreading movement is realized at the Ab₅ but, here on the horizontal plane (remember that from the side perspective this point seemed much more enclosed than the Ab₅ of the first half of the phrase). A similar expansion is accomplished in trial 4 (point 1.1). It is possible to emphasize that this trait will be elaborated in the following trials: it appears together with some new traits that will be appearing in

trial 2 (rotation) and in trial 3 (hands position at a halfway position with respect to hands position in trials 1 and 2).

Secondly it is clearly observable that the torso *screw* movements, towards right and left, are very ostensible in trial 2 –when they are incorporated- but then, in trials 3 and 4, they are *smoothed*, faster and integrated to more complex movements – see above -. Regarding the integration of a given trait to more complex movements, notice that y trials 3 and 4, the *screw* movement are not involving the upper body but only the head. Finally figure 2 shows a opening hand movement in trials 3 and 4 that are a sort of a halfway position between trials 1 and 2, as if she would have found a more comfortable arrangement after the previous trials.

Therefore, movement in trials 3 and 4 characterize a sort of progressive elaborations of movements rehearsed in trials 1 and 2. For example, as it was seen in figure 2, trial 1, the hand movement reflects the melodic movement. We have also seen that, on the contrary, the singer put her hands together on her chest in trial 2, this time reflecting the text content rather than the melodic one. In trial 3 (i) her hands keep on forward (like in trial 1), but this time, they are put together (like in trial 2, showing that she really *has got* the suffering); (ii) the extension movements are accompanying the course of the melodic contour, but such an expansion appears on any of the three planes; and (iii) the *screw* of her upper body is integrated to the other movements. As a result, it is clear that trial 3 is a sort of elaboration of the movements experimented and rehearsed during the previous trials. After this, trial 4 will be useful to fix these movements. A more outstanding characteristic of this elaboration seems to be the horizontal position of forearms and hands with the palms slightly rotated upwards that was fixed in trials 3 and 4, all through the phrase. It is useful to tell here that she rehearsed different positions: (i) in trial 1 her hands began the phrase being downwards, with palms and forearms on the vertical axis, and just on the first note sound she put her hands on the horizontal position, as *holding* the melody up; and (ii) in trial 2 she started with forearms on the horizontal plane, but them, she put her hands together on her chest (experimenting a new position).

V. DISCUSSION

This paper aimed to contribute empirical evidence of the bodily processes involving in the practice of meaning of the music performance experience of a singer. For it we firstly studied the relationships between a set of elaborated and upheld explicit movements of the body all through four successive trials (filmed on video) with the structural and emotional content of the performance. In order to establish possible correspondences between them, two different levels of analyses were approached assuming that such relations will have different characteristics and implications on each of these levels. In addition, such relationships are described by different conceptual tools in each of both levels.

For the first level, *overall analysis*, a observation categorical system was *ad hoc* developed from the Laban's analysis system for dance. This analysis revealed that a number of traits of the movement were kept all through the 4 trials. At the same time, other apparently divergent qualities characterized the four trials as independent performances (*non-replica*).

Nevertheless, in the light of the *local analysis* – performed in second place- some of those differences showed to have a deeper entailment. Mainly, we could see how the singer try some features of the movements (positions, forms, planes, etc.) during successive trial, which are then, during the following trials, incorporated and subtly integrated to the movement as a whole. For example, a *spreading* movement, associate to the performance of the highest and longest notes of the passage (Ab₅) was noticed. Interestingly, this spreading does not occur in the same way all through the trials, but it is developed on different planes (horizontal, vertical and sagittal) by different parts of the body. For example, firstly is the height of the hands position what is spreading (this sort of *rising* has place in from the average height of hands during the performance), subtly accompanied by a rising of the head. During the second trial, the spreading happens on the horizontal plane and it refers to (i) the location of forearms and elbows with respect to the upper body, and (ii) the hands movement forwards on the sagittal plane. Outstandingly, during the 3rd trial, the singer's movements experimented in the previous trials, begin to fit together both on horizontal and vertical planes. Finally they appear completely combined in the fourth trial. Likewise, the *screw* of the upper body, experimented during the second trial as a consequence of keeping an expressive gesture putting the hands together on the chest, keeps on the following trials (3 and 4) but subtly refined. Therefore, this movements is not simply expressing (in the sense of “showing” or “displaying”) a feeling, but it is given account of a way of feeling (Stern 1985). For that reason, the gesture – understood as the *form* and the physical resources (the part of the *body*) of the movement - is always different but its (e-motional) quality remains.

If the observed movements were instrumental (the technically necessary movements to produce the vocal sounds), following the hypothesis of Gallagher (2005) and his colleagues they would have to show better *topokinetic* adjustment. On the contrary, the singer's movements seem to be more consistent as regards as their *morphokinetic* adjustment, showing a both similar *form* (according to Laban's categories) and progressive refinement all through the trials.

Moreover, these findings allow seeing the nature of the expressive movements' timing. Firstly, it was possible to identify some *prosodic feedback*, since both contour and accents of the movement fit with structural features of the piece. But it was also seen that movements fit with some dramatic-textual content (for example, the reflexive *me struggo*), a sort of *semiotic feedback*. It is important to notice here that movements derived from this *feedbacks* are not “stereotyped” but variable according the context and the progressive experience with them all through the trials. Following Gallagher's suggestions (2005; Gallagher and Zahavi, 2008) it is palpable that those movements happen as a consequence of an intentionality that is not specific –directly referred to those movements themselves-. In other terms, they are pre-conscious, sub-personal performances that the singer is putting into operation with certain intentionality that does not focus in them, but intentionality that talks about the musical content in an expressive particular mode.

In short, we can see here certain control of *body schema*, which is improved, refined and adjusted all through the successive trials. This *body schema* allows her “to hide her

body” in order to focus on the musical expressive content. The singer does not pay attention to her body. On the contrary, it “hides itself to her”, at the service of certain dramatic intentionality applied to a particular note, or group of notes. In spite of “being hidden” the body carries out the action and offers the necessary physicality to support that dramatic quality. We “are not in the habit of attending to theses subtle, nuanced feelings of (time, space, causal, logical, etc.) direction and relation” (Johnson 2007, p. 97). Nevertheless, the evidence gathered here contributes to hypothesize that the body is not only attending but only articulating and reflecting those subtle changes. The singer does not notice them, but her body does. Thus, the dramatic expression of each note is directly related to that subtly elaborated body movement. In other terms the dramatic intention is embodied.

The results of the observations presented here, would suggested a strong embodiment hypothesis (Meteyadr & Vigliocco, 2008) for the practice of meaning in song, whose condition is not only the proximity, but also the real activation of sensorimotor processes. We could see that some *forms* of movement were activated in the course of the successive performances creating meaning related to expressive traits of the performance. However, as movements go being less ostensible all through the four trials (the singer seem to need less explicit movement as the trails go by), we could propose a weak embodiment theory, for this kind of processes.

Likewise we learn to apply a given force in order to move a particular object, or to move ourselves, feeling different degrees of force (Johnson 2007), the singer unconsciously experienced and learnt the necessary force, direction and trajectory (*form*) for “moving” each note and the phrase as a whole with the intended dramatic expression throughout the elaboration of the movements observed all through the four trials.

But at the same time, the very movement provides the sense of the object that we move (as *we feel* the force we are applying on it). As Johnson says, “movement is one of the principal ways by which we learn the meaning of things and acquire our ever growing sense of what our world is like.” (2007; p. 21). The sense of every sung note and phrase is practiced by the singer by the movements she is doing. By them, she goes understanding the piece and configuring a way of expressing those comprehended contents.

Thus, meaning emerges from unconscious bodily perceptions and movements. The intended expression takes place from the way in which the body is configuring (feeling) the dynamic qualities of the meaning. These qualities have to do with the own body but also they have to do with the music that the body is making. And also they have to do with the environment in which that body is moving. In this way the “felt sense” of the musical piece extends the individual and subjective sphere. The “felt sense” is in the world and for that reason it is shared.

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