

# “DES PAS SUR L’INVISIBLE”

## THE OCTAVE SPACE AND THE SELF-MULTIPLICATION PROCESS

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### ABSTRACT

The purpose of this paper is to describe the process, from a composition standpoint, from which my piece *Des pas sur le invisible* (2016) for clarinet or solo saxophone, was composed. This work is part of a PhD in music in which I propose a model of composition based on a self-multiplication process, and was created within the context of the Frederico de Freitas Interpretation Prize, Universidade de Aveiro (May 2016 edition).

Starting from a pre-composing point of view, we will consider the octave musical interval as a metaphor for the self-multiplication process. This reflection allows us to think the octave as a space and therefore, how the attribution of this extended dimension can be rethought in music, leading us to new approaches of the composition practice.

The piece *Des pas sur le invisible* will show how this approach can be accomplished, serving to illustrate a thought that takes place outside the proper world of musical elements and considerations that can be decisive in the musical discourse. It will show how the principle behind the conception of this work can develop perspectives for the composition notation practice and for future research.

### 1. INTRODUCTION

In this reflection we consider the temporal extension of the compositional reality, in order to represent it through a set of practices that rethink some of the compositional resources and parameters, which can also serve the theoretical necessity that manifests itself in the contemporaneity of this practice.

From the composer’s standpoint, compositional reality originates from the encounter with the other, and it is projected in a movement from the exterior to the interior. Therefore, there is the possibility of the conception of a gesture to be seen not as the materialization of an idea but, precisely the opposite, as an immersion in the space of conscience, which places the idea itself in the horizon, i.e. the limit.

This piece explores that thought from the concept of unison: a metaphor of the encounter, a starting point to think about self-multiplication, considering the octave as

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representation of the extended unison. Therefore, a treatment is developed and applied to the musical discourse that consists in filling that space, raising some questions about musical notation.

### 2. THE OCTAVE: SELF-MULTIPLICATION METAPHOR

It is from a musical gesture that we construct the self-multiplication metaphor, precisely because this self to which we refer is consciousness itself. Consciousness can only be thought from time, and more pronouncedly, from movement. But time cannot be stopped or even fixed, leading us to take the unison from the musical tuning point of view as an ephemeral or even non-existent reality: a paradox. Consequently, the self to which we refer is a reality impossible to fix in the unity of the instant. The self is multiple, existing, from the temporal point of view, in succession.

*“The vigil fullness takes place in man when he appears: before others, before himself. So he is with others because he is with himself. He lives in the present that is being present, being sustained in this present that is reiterated in uninterrupted acts: he succeeds himself.”<sup>1</sup>*

The succession to oneself has a direct correspondence with the multiplication process. It happens to itself, multiplying itself: unit that happens multiplying because it intends to fix itself at every instant.

*“Unity is indifferent to production, and generates (engenders) nothing but itself. Unity either divided or multiplied will only create another unity.”<sup>2</sup>*

In this context, we find a way to speculate about the self-multiplication process, since in order to realize this phenomenon - the multiplication - consciousness needs to unfold, to see itself from the outside. It is therefore essential that a principle of reflection be given to it.

*“The spirit, therefore, is the idea that in its return to itself seeks to be fully realized, no longer as a negative of pure exteriority, but taking place in a free world, that is, second nature. The spirit appears concretely in man, for he is the thinking being capable of producing another nature. The spirit, as a man, puts his world “as something reflecting upon itself,” takes from nature the character “of another before him,” and makes it, rather than something opposite, something made by him.”<sup>3</sup>*

The correspondence that we find between this second nature of consciousness, according to a reflective principle, and the octave phenomenon, whether it is or not an abstract

<sup>1</sup> ZAMBRANO, M. Pp. 32.

<sup>2</sup> RAMEAU, Jean-Philippe. P. 86.

<sup>3</sup> SOUZA, Roberta Bandeira. Pp. 280-1.

convention, leads us to rethink seriously the very notion of musical interval. The octave is the recognition of the extended unison.

*"The proportion of the whole to its half or of the half to the whole is so natural that it is the first to be understood. This should predispose us in favor of the octave, whose ratio is 1:2. The unit is the source of numbers, and 2 is the first number; there is a close resemblance between these two epithets, source and first [Fr. Principe and premier], which is quite appropriate. Likewise, in practice, the octave is characterized by the name "replicate", all replicates being intimately connected to their source (...)." <sup>4</sup>*

It is through the central role of the octave, which manifests itself as extension and duration, that we propose to describe the creation of a limited space by polarizing sounds formed on the basis of this interval. In this sense, this is a space that is distributed in height planes representing different cosmos, which are distinguished precisely by the differences of thinking and consequently of representing it, of (re)producing it.

### 3. THE UNISON AND THE INVISIBLE SPACE OF THE OCTAVE

*"Furthermore, the octave serves as a limit for all intervals, so that everything generated by the division of the source, after having been compared to this source, can also be compared to its octave. (...) It is thus manifest that every number multiplied geometrically always represents the same sound, so to speak, or rather gives the replicate of that sound which is its root." <sup>5</sup>*

It is because of the impossibility to fix the space between two precisely equal sounds - in unison - that we choose to take the space delimited by the octave as a space that is unfixed, and in an extended sense, unrepresented. In fact, we are actually considering it as a space that exists but, it is not represented, it is invisible. It is a space that has to be covered, but the way to fill it is not defined, and therefore, it is indeterminate, timeless. In order to do that, we will have to fix it somehow and establish references to do so: we have to make sense of it. It is this need for meaning that makes it an interior space: being a space in between, makes it an interior space.

*"When the temporality ends, the human being closes itself and opens, thus opening up within him cracks that do not correspond to the different planes in which the vigil unfolds, we would say, in combat formation. The spiral coils on itself and the consciousness then appears in some special point cutting off what is together in the vigil, separating what is united, mixing what is separated according to the images and, what is even more decisive, in function of time itself." <sup>6</sup>*

The octave is a sort of shell, a skin, because it is a limit. On one side, the exterior space, on the other, the inner space. Both are considered. We take as reference the various octaves from the same sound (harmonics), that is, their multiplication, for the formation of distinct planes. Each

plane represents a new dimension to be explored, precisely from these sounds that will act as polarizing sounds.

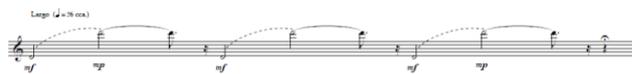
*"No experience appears alone, disconnected like a lone star. The one that appears on the horizon of consciousness is the center of others that revolve around it or accompany it paling in its light or illuminating in its flicker." <sup>7</sup>*

We take the polarization concept as reference. It is the time passage, which allows the fixation and crystallization of events in our memory, so that they can be used in the future. Therefore, the space of the octave is opened, being also a space of freedom, since it unfolds conceptually to infinity for the return of a constructive idea.

### 4. DES PAS SUR L'INVISIBLE

Originally, the idea of exploring the octave space arises with the desire to write a piece for overtone flute: Fujara. This instrument, without finger holes, and tuned to a fixed frequency, only allows to control harmonics of a fundamental sound through the intensity that is blown into the tube. The main challenge would be to go through these sounds by sweeping the space and by varying the fundamental parameter of intensity.

Afterwards, this same thought process was extrapolated to another composition work for transverse flute. The first challenge here was the definition of the fundamental note, because in this case there is no longer the same rigidity of the overtone flute. The interior of the octave itself can be traveled with greater definition in terms of heights, since it is a chromatic space.



**Figure 1.** Initial gesture of *Des pas sur l'invisible* for transverse flute.



**Figure 2.** Final gesture of *Des pas sur l'invisible* for transverse flute.

Later, came the opportunity to write for clarinet or saxophone and the possibility of continuing to explore the initial idea, but now with the added challenge of using these transposing instruments. This piece introduces, at the composition level, a new thought over the conception and writing of time and heights, introducing some indeterminate elements, thus giving freedom to the performer in its interpretation.

The three pieces adopt the same name: *Des pas sur l'invisible*. They all have the same starting point idea and take the limit of the octave as the principle of composition, also with the same point of arrival as the main focus: there is always a movement to approach this limit, since the notes that confine it are polarizing notes. But it is above all, a continuous movement because once this limit has been

<sup>4</sup> RAMEAU, Jean-Philippe. P. 82.

<sup>5</sup> Ibid, Pp. 9-10.

<sup>6</sup> ZAMBRANO, M. Pp. 93.

<sup>7</sup> Ibid, Pp. 79.

reached, it is transformed and gives us precisely a new challenge that comes from overcoming it.

We will then, as a result, analyze the work *Des pas sur l'invisible* for clarinet or saxophone. The piece was written to be performed by clarinet or saxophone but also by any instrument of those families. This feature that precedes the conception of the work, allows us to return to the speculations mentioned in the previous chapter, since we have considered that the space of the octave is unregistered and therefore, an indeterminate space.

## 5. DES PAS SUR L'INVISIBLE FOR CLARINET OR SAXOPHONE

The score comprises of three staves, corresponding to three main polarizing sounds: D4; D5 and D6 (transposed sounds); respectively, the fundamental frequency, the 2nd harmonic and the 4th harmonic. This way of representing the different sounds underlines the importance of the octave interval between them, on the one hand, as the limit of a space to be filled or traveled, and on the other hand, as an intensive space: where different tensions, movements and temporalities are generated:

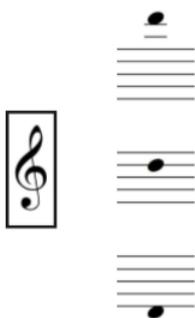


Figure 3. Octave space.

To the space of each octave is initially assigned a particular atmosphere. As we traverse the three planes of the piece, the instrumental timbre changes, as the heights become less defined by the type of explored articulation.

### 5.1 First Space

The lower octave is the origin, it represents the first plane to be presented, and it is the plane of the fundamental frequency, the deepest plane, where all possible "selves" potentially exist. The musical material consists of a polarizing sound - D4 - and it is chromatically manifested according to the interval module of Bb3 to Ab4 (minor seventh). It is not a complete octave and due to its incompleteness, the fact that it is an incomplete space turns it into a space of unfolding, of transcendence – the will to leave itself. It is characterized by measured vibratos, trills, air sounds, sung sounds.

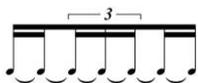


Figure 4. Measured vibrato.



Figure 5. Sung sound.

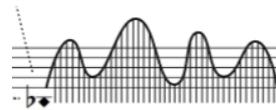


Figure 6. Air sound.

### 5.2 Second Space

The intermediate plane represents the first octave of the fundamental frequency as a polarizing sound - D5 - corresponds to the plane where the self temporarily affirms, interrupting from time to time the sound of the fundamental frequency, containing sounds that do not correspond exactly to a tuned octave and using quarter tones and tremolos to fill the space. The interval module to be explored is B4 to F5. Because it lies between two planes, a lower one and higher one, it is a compressed zone whose tension is precisely created by the use of microtones and by the range of an augmented fourth as the limit of the musical module.



Figure 7. Quarter tone.



Figure 8. Tremolos.

### 5.3 Third Space

In the third plane, with the polarization displaced one octave above the anterior plane - D6 - the idea of opening, expansion and transcendence is again manifested, where the musical module now appears from G5 to G6, a complete octave. In this space it is also reached the extreme of the highest register to be explored. However, although this space is the most complete, because it comprises chromatically the interval of the octave, it is an unstable space, of impermanence, of transcendence. This feature of space is explored in terms of timbre by the use of glissandi and staccato.

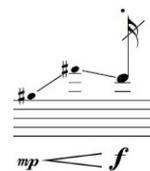


Figure 9. Glissandi and staccato.

### 5.4 Time, continuity, duration

"Seen from the timelessness of the dream, time is overture, a way of access and way to walk."<sup>8</sup>

The indications concerning the time durations are distributed in several ways. First and foremost, there are blocks of durations indicated below the score. These are general durations, moments. Each moment represents a formal variation that occurs in the discourse. These blocks are a representation of the very structure or shape of the piece, divided into four parts, as shown in Figure 10. It is up to the performer to manage the time of each section according to the characteristics of each sound space.

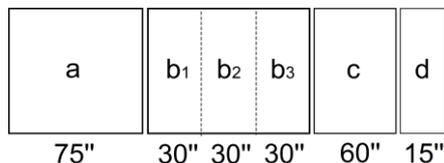


Figure 10. *Des pas sur l'invisible* form.

### 5.5 Section a

Duration: 75 seconds.

First Space: The same sustained note (fundamental sound) with measured vibrato variations.



Figure 11. Measured vibrato variations.

Second Space: First space octave with microtonal variations of quarts of tone. They are interruptions of sustained notes but of shorter duration.



Figure 12. Microtonal variations.

Third Space: Very short attacks on forte that intend to leave outside the previously presented plans.

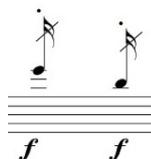


Figure 13. Short attacks.

### 5.6 Sections b1, b2, b3

Duration: 90 seconds.

First Space: What previously corresponded to the measured vibrato develops in the sense of a greater sound activity with the trill of minor second ascending and groups of demisemiquavers decelerating. It culminates with the arrival of a space of transcendence, lower than the previous polarizing note D4. This note is now Bb3 and is reached through the timbric dissolution of the instrument's sound, consisting now of a sung sound: a glissando from D4 to Bb3.



Figure 14. Measured vibrato development.



Figure 15. Glissando from D4 to Bb3.

Second Space: We continue to hear the punctual microtones, which in B3 hold for longer, but now on the glissando note sung in first space. A gesture presents a succession of tremolos within the scope of augmented fourth. This zone pretends to be a space of simultaneity and conflict, mixing the two planes.

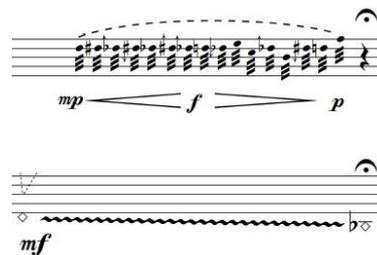


Figure 16. Tremolos succession over a glissando sung.

Third Space: The same short staccato attacks are now articulated with small glissando gestures at increasing intervals between the b three subsections, as an affirmation of the non-permanence of this register. This is a more unstable and also less defined register zone, although these characteristics give it a greater timbric elasticity.

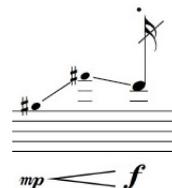


Figure 17. Small glissando gestures.

<sup>8</sup> Ibid, Pp. 76.

## 5.7 Section c

Duration: 60 seconds.

The growing movement created in each space, precisely because it signifies the register overture, culminates in the emptying of the identity of each plane. The same gesture is graphically explored for each polarizing note. The microtones are no longer heard, and all the D's are reached with appoggiaturas formed by the notes of the extremes of each interval. The whole speech tends to merge into a single gesture, which ends with the enlargement of the total space reaching the low and high extremes of the register. This originates the arrival of a new fundamental frequency - Bb3 - the motto for section d of the piece.

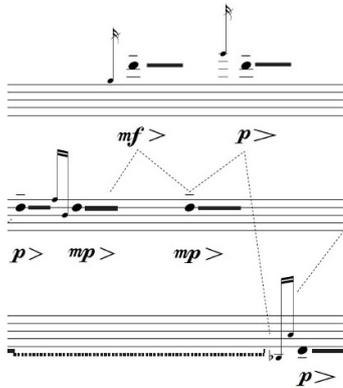


Figure 18. The register overture.

## 5.8 Section d

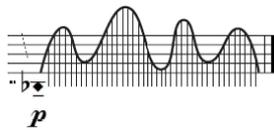


Figure 19. Air sound.

Duration: 15 seconds.

Section d, the smallest, summarizes the whole movement of the piece. It represents the opening of an oscillatory space over a fundamental sound. This sound that emerges stabilized as such in the end of the piece (B3), is also a detuning of the initial sound (D4). As if through movement there was also a descent or fall, a consequence of its own gravity, the non-permanence and ultimately, the ephemerality of the instant.

## 6. CONCLUSIONS

Although we consider the polarizing sounds, its boundaries and connections by octave intervals, it is when we traverse through this space that we give it an identity, we crystallize it, even if it is done in an imperfect, circumscribed and temporary form. The space of the octave results in an archetropé of the unison idea – metaphor for encounter and instant too.

These moments transform the space into movement or, if you prefer, into blocks of movement - modulation of

time - time of consciousness and affirmation of the singular, the instant, the self. The "I" that can only be thought from an interior space - the space of consciousness. Only what is in consciousness actually exists.

The piece *Des pas sur l'invisible* is a way to conceive an indeterminate space, an inner space, a space in between, in constant reformulation by the search to know and to fix its own limits. This boundary lies on the border between outer and inner, which is also the border of the visible and the invisible.

It is up to the subject/spectator/performer of the real to analyze this visible and implied in order to formulate the invisible as it seems/appears to him.

## 7. REFERENCES

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