

The Acoustics of Ancient Theatres Conference  
Patras, September 18-21, 2011

## **METER MATTERS: EMBODIED RHYTHMS AT STAGE AS A CHALLENGE TO THE ACOUSTICS OF ANCIENT THEATRE**

Marcus Mota

University of Brasilia, Brasilia, Brazil,  
e-mail: marcusmotaunb@gmail.com

### **Abstract**

As documents of aural events, remaining texts of Ancient Greek Dramas present different kinds of organization of sound data.

Metrical design is one of them. It indicates play structure, body movements at stage, vocal performances, and instrumental rhythmic guides. There were more aural events than speech communication: choreographic activities (steps, clapping hands, body percussion, vocal percussion) and musical instruments accompanying. And all of them were replied by a sometimes noisy audience, projecting into the acoustic space of the theatre a shared, collective sound experience.

The aim of this paper is a methodological approach to contextualize performative aspects of greek meter in order to subsidize further propositions of new objects e researches in Acoustics of Ancient Theatre.

So as to do that I present a metrical analysis of opening anapaests of Aeschylus' *Suppliants* and it's choreographic and percussive reconstruction. Tensions between metrical and tonal accents generate aural distinctions that inform choral performances, producing links between beats and bits: sequences of weak and strong syllables manipulates psychoacoustic parameters) by acumulation of temporal and loudness modulation. Choral performances organize sound that occurs at the same time and in sequences.

### **Keywords**

*Meter, Rhythm, Body Percussion, Sound Perception.*

## 1. Introduction

According to Aristotle, sound production and reception are connected to percussive gestures: actual sound requires something that strikes and something being struck (*De Anima* II.8.)

This preliminary aural phenomenology projects movement and bodies in contact as determinants of sound events.

The choral activity of ancient greek dramas presents the elements described by aristotelic sound phenomenology: an ancient greek chorus is a group of bodies that interacts with itself and with the audience producing many sounds.

To access this choral sonority there are two basic ways: following sound references in the content of plays and analysing metrical design. My focus in this paper is on the second way.

In order to to that, let's procede to a close reading of first entrance of the Chorus (parodos) in Aeschylus' *Suppliants* and its aural simulation.

## 2. Methods and material

Aeschylus' *Suppliants* opens with a chorus of women fleeing to escape a forced marriage. They arrived at argos seeking for refuge. The first part of the parodos is organized in recitative anapaests. This is metrical analysis of the parodos in *The Suppliants*:

Ζεὺς μέ-ν ἄ-φίκ-τωρ / ἐ-πί-δοι προ-φρό-νωσ	2 an
-     u   u   -   -   -   u   u   -   u   u   -	
στό-λο- ν ἡ-μέ-τε-ρον / νά- ι -ο-ν ἀρ-θέντ'	2 an
u   u   -   u   u   -   -   u   u   -   -	
ἄ-πὸ- προσ-το-μί-ων / λεπ- το-ψα-μά-θων	2 an
u   u   -   u   u   -   -   -   u   u   -	
Νεί- λου. Δί-αν / δὲ λι-ποῦ-σαι	paroem
-   -   -   -   u   u   -   -   //	
(5) χθό- να σύγ- χορ τον / Συ-ρί-α φεύ-γο-μεν,	2 an
u   u   -   -   -   u   u   -   u   -	
οὔ-τι-ν' ἐ-φ' αἴ-μα-τι / δη-μη-λα-σί-αν	2 an
-   u   u   -   u   u   -   -   u   u   -	
ψή-φω πό-λε-ως/ γνωσ-θεῖ-σαι,	paroem
-   -   u   u   -   -   -   -   //	

Based on contrastive duration (long, short), the anapaests systems are associated with physical movements of choirs in their entrances and exits. Its time ratio exhibits a balanced proportion 2:2 - two moras (a long or two shorts). Each sylabe has a temporal profile. Regular and recurrent time expresses regular and coordinated movements.

But duration is just one of multiple aspects of metrical design: tonal accents marks volume, intensity, adding new values to physical actions on stage.

Thus temporal regularity (pulse) is redefined by accent variation. Time and intensity marks are non simultaneous phenomena. The assynchrony between time patterning and intensity is exploited in the text to display suppliants ambivalences. In musical notation noncoincidence of time and intensity is better represented as follow:

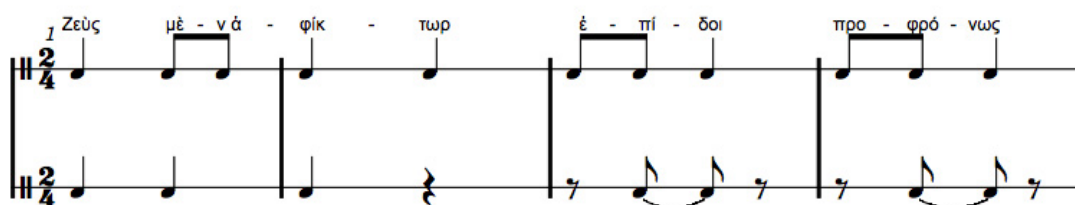


Figure 1- music notation

Figure 1 shows two systems: the first is a transcription of metrical scansion in a traditional rhythmic notation; the second, a transcription of melodic accents that mark volume increase.

This notation was reprocessed in a Digital audio workstation (DAW) and sound files were generated. Hand claps' sounds were assigned to the first system, and acoustic bass drum sounds were applied to melodic accents.

When this sound files are listened, it's possible to perceive how anapaestic rhythm is organized by tension between convergent and divergent orientations. In *The Suppliants* the contrast between recurrent time and non-coincidental time and accents movement amplifies not only the ambivalence of the character's situation (rape vs. salvation), but also the character's ambivalence (object of violence vs. inflict violence). To the audience this ambivalence is proposed since the beginning of the play by acoustic procedures. Listening up to metrical and accent relationship simulated by sound files is an alternative to interpret aural experience of an ancient greek tragedy.

After that is necessary go beyond sound simulation. Because, as sound in classical era has a percussive, a bodily definition, sound files should be vinculated to performative contexts.

In two experiments I have submitted *The Suppliants* parodos' sound files to dance students in order to see how they answer to aural stimuli. In the first experiment dance students were exposed only to sound, without any knowledge about Aeschylus' play. They were asked to answer physically to sound files. And they have performed a march: in line, they walked as a military group, as the suppliants called themselves, *stólon ... váion*. So knowing just rhythms they were able to connected sound and movement in embodied performances. Of course they did not dance the same choreography that was danced centuries ago. But they face on the same situation using the same method. Exposed to organized sound, they have produced organized movements.

In the second experiment dance students could read the text using information about the play. After this preliminary stage of instruction, they were asked to perform again an exercise based on what they learnt about *The Suppliants* and the sound files. The results were totally different. There were no marches, but just stylized movements based on contemporary dance aesthetics. They were more interested in the visual than aural dimension of the performance.

### 3. Conclusion

In conclusion, I'd like to emphasize that how urgent is going back to texts and overcome dichotomies between metrics and rhythm in order to achieve approximations to aural dimensions of ancient greek plays.

### Acknowledgements

I'd like to thank Cinthia Nepomuceno for help me out in dance experiments with her undergra students at Brasilia Federal Institute.

And I'd also like to give thanks to Marcello Dalla who has been my advisor in digital workstations always as I need.

And, finally, to Brazilian National Research Bureau (CNPq) for supporting my research.

### References

- [1] BREGMAN, A.S. Auditory Scene Analysis. The MIT Press, 1990.
- [2] SCOTT, Musical Design in Aeschylean Theater. University Press of New England, 1984.
- [3] MOTA, M. The Musical Dramaturgy of Aeschylus. University of Brasilia Press, 2009
- [4] LEY, G. The Theatricality of Greek Tregedy. Playing Space and Chorus. University of Chicago Press, 2007.
- [5] KAIMIO, M. . Characterization of Sound in Erly Greek Literature. Societas Scientiarum Fennica, 1977.
- [6] GENTILI, B. & LOMIENTO, L. Metrics and Rhythmics. Fabrizio Serra Editore, 2008.