

Zoomusicology

The wisdom of living sound (1st part)

João Manuel Marques Carrilho (Jonas Runa)

Universidade Católica Portuguesa

CITAR: *Centro de Investigação em Ciência e Tecnologia das Artes*

jonasruna@gmail.com

Abstract— The sound emissions from animals are currently studied in two ways: 1) from the point of view of communication (ethological studies) 2) the acoustic nature (anatomical and psychological studies). Both approaches refuse the aesthetic hypothesis. We thus introduce the scientific field of Zoomusicology, which extends the musical phenomenon well beyond mankind. After a brief conceptual contextualization, we discuss the contemporary concept of Zoomusicology, as presented by the composer and musicologist François-Bernard Mâche. We argue that it is a field with enormous potential for rigorous investigation, which has not been developed because of deeply rooted prejudices. Assuming the new conceptions would imply a radical redefinition of the role that music plays in the dialogue between mankind and nature.

Keywords— *zoomusicology; zoosemiotics; music & myth; nature & culture;*

I. INTRODUCTION

Ibn al-Haytham was an important arab philosopher and scientist, who wrote a “*Treatise on the influence of melodies on the souls of animals*” more than 1000 years ago. Although now lost, this treatise is believed to contain instructions for controlling animals through music (e.g. speed up the pace of camels, persuade horses to drink, fool reptiles, influence the actions of birds, *et al.*).

Musicology is divided in three branches: historical, analytical and critical. However, this classical distinction would only apply to European art music, while the music of other cultures was the specific domain of ethnomusicologists. With the birth of classical electronic music, musicology has suffered a vast earthquake from which it has been unable to rise from. In fact, all the classical methods of analyzing music – always centered on the musical score – fail when confronted with an apparently infinite universe, for which there is no score, but only sound.

In electronic music, sound itself is always the basis for composition, since it is irreplaceable and unique, unlike an “A” notated in paper, for Oboe, which can be played by any oboist in the world. This situation is very much as the ancient times, when a systematic notation for sounds was not developed yet. However, the new electronic art of sounds is not a setback, but instead a reunion.

Since classical musicology (or even ethnomusicology) has been completely shredded by the aesthetic revolutions of the XXth century, including electricity, it seems that now is a

fantastic opportunity to rethink and rebuild these fields of study by incorporating a wider and more contemporary view, which could be consistent with the current scientific thought.

Ibn al-Haytham made important contributions to the scientific method in general, and specifically in the fields of optics, astronomy, mathematics, philosophy, and so on. While modern day science focuses mainly on reductionist approaches, leading to super-specialization, al-Haytham studied the world as a whole as much as possible. From this point of view, it is quite natural to ask if the *instinctive foundations of music* that all humans share could also be found, to a large degree, in other life forms, such as animals.

According to François-Bernard Mâche: “*If it turns out that music is a widespread phenomenon in several living species apart from man, this will very much call into question the definition of music, and more widely that of man and his culture, as well as the idea we have of the animal itself*”. [1]

II. FUNDAMENTAL AXES

A. Myth: crossing nature & culture

For Claude Lévi-Strauss [2], the passage from the raw to the cooked was just a pretext for studying a much wider context, namely, the transition from nature to culture in its early stages. Hard as it may seem to the contemporary mind, there were perfectly reasonable interpretations of the world before the rise of western scientific rationality. These other modes of thought can be said to be mythological. The *myth* provides a complete *Weltanschauung*.

Perceptions are constantly entering our sensory organs, many of which do not “rise” to the conscious level. This implies that they must be processed by some other structure of the psyche: the unconscious, which can influence the whole. As Jung has theorized, the collective unconscious exists not just in humans, but in all life with nervous systems.

In addition to external perceptions, imagination acts from inside – not in the world of experience, but in search of conditions for the possibility of existence.

Mythic music is rooted in the quest for other modes of thought, perpendicular to western rationality. Its main premise is that “*music is a cultural construct based on instinctive foundations, with myth functioning as a substitute for, or as a mental projection of instinct*” [3].

Mythic music assumes mythic archetypes (much like the archetypes of Jung) – universal models that flourish from a spontaneous function of the mind. A very clear case of crossing nature and culture is to consider the case of natural harmonics. On one side (nature), the ears themselves generate *aural harmonics*, for any frequency. On the other (culture), most orchestral instruments are built on harmonic series. According to Henry Cowell, the progression of the history of music has been to emancipate more and higher natural harmonics, from Gregorian chant to dense piano clusters. [4]

B. Sound – Music – Language

For musical semiotics to exist, it is not compulsory to assume that music is a language, as long as one can show that music functions as a language. This was demonstrated, for example, by musicologist Jorge Lima Barreto [5].

Sound signals are sometimes studied from the point of view of communication, as simple variations of other systems. This hypothesis (Zoosemiotics), is generally accompanied by a rejection of the aesthetic hypothesis. However, from the point of view of Molino, there are three levels in the analysis of animal sounds (*poietic*, *neutral* and *aesthetic*), of which the *neutral* is studied very little, although extremely connected to the notion of *musical work*. [6]

According to Giles Deleuze [7], one should not focus on a quest for “*universals of communication*”, as J. Habermas proposes. Art is resistance, and each animal has its own “affects”, to use spinozist terminology. And since there is no feeling without thought, and no thought without feeling, the perceptions/thoughts will be co-dependent on the force of imagination, acting on that psychic material.

If music is not assumed as a language but functions internally like one, there must be some instinctive agents, which operate to realize those kinds of structures. The assumption that music, although not being a language, is structured like one, is much like assuming the collective unconscious. We assume a bridge between nature and culture, a continuum in which all life has psychic roots.

III. ZOOMUSICOLOGY

Zoomusicology fully accepts the aesthetic hypothesis of animal sound emission. This implies a radical redefinition of the concept of music, as well as the concept of art and life itself. The anthropocentrism, which we inherited from ancient Greece and further from Catholicism, must be abandoned in favor of mythologies that place life (in general) and consciousness (not just human) as a very special phenomenon

in the universe. The “observer effect” is well established in Quantum Mechanics. In music, the same thing happens: in its aesthetics, it depends on a large degree on the multitude of interpretations of an external observer. This polysemy is essential

A. *Random Zoomusicological Remarks (from F.B Mâche [7])*

- The ratio of songbirds to the total number of bird species is 50-100 times higher than that of professional musicians to the total population of France.
- Male spiders of the species *Lycosa* engage in complex drumming on dead leaves to attract females.
- The musical structure, memory and imagination of some animals is highly complex. The marsh warbler, for example, can fluently imitate about forty other species. It also combines this knowledge to create new song models, which bear no resemblance to the material on which they are based.
- Male spiders of the species *Lycosa* engage in complex drumming on dead leaves to attract females.

REFERENCES

The main source for Zoomusicological studies is the book *Music, Myth and Nature*, by François-Bernard Mâche.

- [1] Mâche, François-Bernard, *Music, Myth and Nature or The Dolphins of Arion*. Contemporary Music Studies: Volume 6. Harwood Academic Publishers 1992
- [2] Lévi-Strauss, Claude, *The raw and the cooked: mythologiques vol. 1* University of Chicago Press, 1983
- [3] Mâche, François-Bernard, *Music, Myth and Nature or The Dolphins of Arion*. Contemporary Music Studies: Volume 6. Harwood Academic Publishers 1992. Pg. 95
- [4] Cowell, Henry *New Musical Resources*. Cambridge University Press 1996.
- [5] Barreto, Jorge Lima, *Estética da Comunicação Musical - A Improvisação*. Tese de doutoramento em Comunicação e Cultura, Universidade Nova de Lisboa, Faculdade de Ciências Sociais e Humanas, Lisboa, 2010.
- [6] Nattiez, Jean-Jacques. *Music and Discourse – Toward a Semiology of Music*. Princeton University Text. 1990
- [7] *L'Abécédaire de Gilles Deleuze* (Documentary Film). Interviews by Claire Parnet. Director: Pierre-André Boutang. La Femis/Sodaperaga Productions. France. 1996
- [8] Mâche, François-Bernard, *Music, Myth and Nature or The Dolphins of Arion*. Contemporary Music Studies: Volume 6. Harwood Academic Publishers 1992.