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Considering Anisochronous Meters and Polymeters in Afro-Brazilian Music: Analytic and Didactic issues

ABSTRACT

Background

Despite an important ethnic mixing between the populations (native Indians, slaves, settlers), the analysis of Afro-Brazilian music reveals the presence of musical paradigms, also called 'characteristic devices' (Pressing, 2002), similar to those observed in numerous Sub-Saharan music performances, in particular in West Africa. Kubik (1979) is convinced that these paradigms, and especially 'time-line patterns' (N'Ketia, 1961), are a stable element in African music history, already present in the 16th century, and earlier. A good example is given about a Ghanaian war dance, where 'every act of drumming, singing, and dancing is timed in accordance with the recurring musical phrase played on an iron bell or gong' (Locke, 1984, 114).

A similar principle seems to be present in a lot of Afro-Brazilian music and dance traditions (Mukuna, 1979, Kubik, 1979, Sandroni, 1997; Fonseca, 2002), called here 'non-isochronous meter' (London, 2004) or 'anisochronous meter' (Guillot, 2016) which can be explicitly materialized or appear by emergence. For example, in the *candomblé*, the *loas* (praises) are learnt by singing the lyrics, and by simultaneously playing the time-line pattern on a bell called *gã* or *agogô*. In the *samba*, the major part of the performance follows, more or less, at least one specific pattern (Sandroni, 1997).

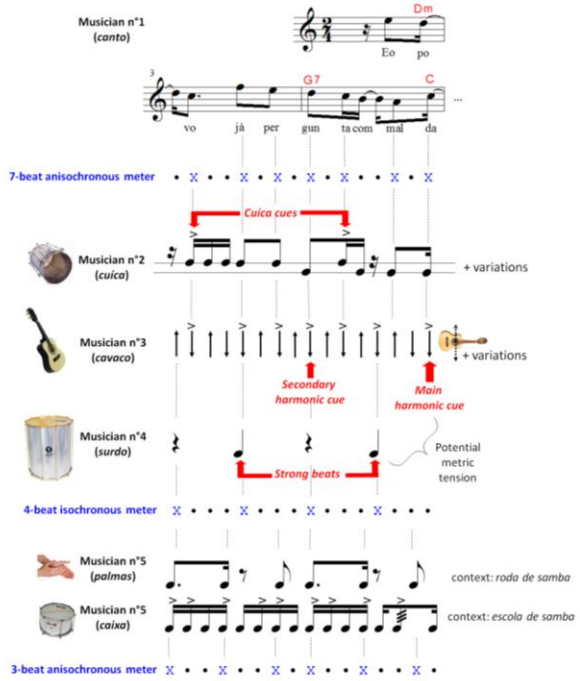

Fig. 1. Diagram showing how some instruments of *samba* are 'linked' to anisochronous and isochronous meters. Each musical part is a standard pattern, generally varied in music performance. Meters are notated with Kubik's (1999) technique.

Aims and repertoire studied

This study focuses on a corpus of 3 widespread Afro-Brazilian music traditions: *samba*, *maracatu de baque virado* and *coco*. A dense description of each tradition, if indeed such a thing is possible, is out of the focus of this paper.

This study puts forth the hypothesis that these anisochronous meters, in coexistence with isochronous meters, form a polymetric network (Fig 1.), a statement that induces analytic and didactic issues:

From an analytical point of view, although Agawu (2003) denies the existence of polymeter for African and Afro-Diasporic music, Waterman (1952, 79) already defined the concept of polymeter in African music as 'the interplay of two or more metrical frameworks'. A similar idea is expressed as 'simultaneous multidimensionality' (Locke, 2009). Based on these proposals and inspired by my 25 years' experience of playing and teaching several Afro-Brazilian music styles, I argue that most, perhaps all, of Afro-Brazilian music is organized as a polymeter.

On their side, didactic issues emerge when some Afro-Brazilian music is taught to Western students: on an extended view, it questions the cultural specificity of metric organizations and their 'communicability', a problem which could potentially shed a new light on the domain of interculturality in music education.

Methods & results

The proposed method brings together views from ethnomusicology, cognitive psychology and music education. It is divided into several steps: firstly, each Agawu's (2003, 79) criterion is analyzed in front of recent literature:

1. 'Each functional component of the texture, [...], is said to expose a distinct rhythmic pattern within its own metric frame'. Naveda et al. (2009) show that 3 levels of metric layers are embodied by a *samba* dancer.
2. 'Constituent meters [...] persist in the background, creating a kind of metric dissonance', a concept today theorized (Krebs, 1999; Berger et al, 2014) and fully applicable to Afro-Brazilian Music.
3. 'Philosophically, polymeter indexes coexistence', a fact now verified (Naveda et al., 2009; Graeff, 2014).

Secondly, the applicability of the related concept of 'polycentrism' (Günther, 1969; Welsh-Asante, 2001) coming from the dance analysis domain, at least, to some kinds of *samba* (Graeff, 2014) is discussed.

Thirdly, a circular diagram inspired by previous works (Toussaint, 2002) is designed to model such a metric organization for a given piece of music, or a music style (Fig. 2). The meters share the same subdivisions and are synchronized between themselves.

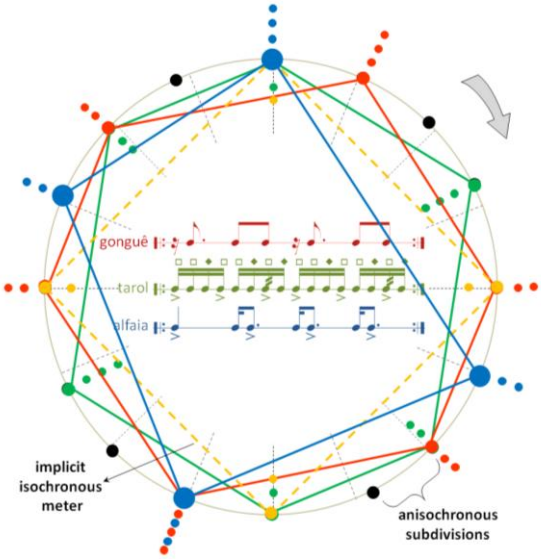

Fig. 2. Model of the complete polymeter of a standard piece of *maracatu de baque virado*, using the pattern *arrasto*. It is divided in 16 (themselves anisochronous) subdivisions (black dots on the circle). The meters are represented as polygons. Each subdivision is weighted in function of its metrical importance in each meter (Lerdhal and Jackendoff, 1983): from 1 (low weight) to 3 (strong weight) aligned dots. A given pulse can have multiple weights.

Implications

Two kinds of consequences are considered.

Analytic issues: the analysis of Agawu (2003) criteria and the evaluation of the concept of polycentrism allow to make new statements which strengthen the idea that Afro-Brazilian music is polymetrically structured by the coexistence of explicit/implicit isochronous/anisochronous metric structures, with a relation of 'collaborative concurrency' (Guillot, 2016) between them. Such an organization of the musical time could be considered at the same time as a kind of kinetic space of intrinsic metric tension with kinesigenic properties and as an audio space in which the musician can do a weighted, dynamic polysynchronization. Nevertheless, the related literature (*e.g.* London, 2004) generally states that a musician can only dynamically switch his/her focus on a specific layer of a polymetric system. Although such a claim seems very challenging, some methods have already been developed in order to answer polymetric hypothesis (Magill and Pressing, 1997; Poudrier et al., 2012). If the polymetric organization hypothesis is verified on a perceptive point of view, I propose to define a 'degree' of cometricity/contrametricity (Kolinski, 1973) of a given musical event relatively to each meter.

Didactic issues: Guillot (2011) shows that an exogenous perception of the teacher –and potentially, of the student– can deeply disturb a teaching-learning situation. It is probable that a similar phenomenon can occur with meters if we consider that, most generally, a given piece of Western music is structured with a unique isochronous meter.

Developing interculturality in music education remains a philosophical and political goal that require a real consideration of the involved musical organizations.

Considering alternate ways to 'think' time could allow a more general, more phenomenological, and so, more efficient technique to teach students about meter.

Keywords

Polymeters, Anisochronous meters, Afro-Brazilian music, analysis, cognitive psychology, didactics

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