

Typo-morphological procedures in the analysis of traditional Bantu music

1. Introduction

The ultimate purpose of this project is to develop a method for analyzing the traditional music of the Bantu people. Western Music theory takes a limited set of musical forms for granted, and describes what happens within those boundaries. In this paper we would like to suggest that the analysis of different music cultures requires an approach to the musical performances not unlike linguistic approaches to language known as data-driven or empirical linguistics where a set of concepts and syntactic rules are derived from the structure of the language under investigation.

Each of the Bantu languages has a musical genre associated with it, often with a specific set of instruments. It's common to Bantu music to combine these genres in long jam sessions, where segments of each genre are blended either in the form of traditional melodies or rhythmic patterns, or the arrangement of instruments. Looking at the musical form of such a session, we come across patterned changes in rhythm or harmony. In order to isolate and analyze their structure, we will combine two approaches, namely Morphopoiesis (Kokoras 2005) and the Generative Theory of Tonal Music (GTTM) (Lerdahl and Jackendoff 1996) and adapt them according to our needs.

2. The project -background and goals

Morphopoiesis describes the way one sonic identity is combined with another through transformation. The approach assumes four levels of analysis. The highest level deals with music cognition and perception, the next level with Motion, Texture and Gesture, while the level we are most interested in deals with Identification, Classification and Description. The basic level serves to describe transformational procedures as sound process, thus constituting the basis for the classificatory level. Morphopoiesis allows to draw a clear parallel between morpho-syntactic processes known from the analysis of language and typo-morphological music procedures that specify sound material in that they establish relations between classes of sound units where the latter are not unlike morphemes and phonemes in language analysis. Sound pattern can be classified according to their intrinsic and extrinsic attributes (Schaeffer 1966), using parameters such as harmonic timbre, dynamic and grain. In our project we deal with the classification of Bantu sounds. In the initial phase we distinguish the comparable from the incomparable, the discrete from the continuous, the short from the long pattern, to just name some basic distinctions. General criteria will then be developed following Morphopoiesis approaches. Such criteria are Differentiability, Similarity, Duration, Linearity. With a special focus on

the time and frequency domains, we are able to describe phenomena that occur in Bantu music, which is characterized by its intricate poly-rhythmic patterns.

A Generative Theory of Tonal Music, or GTTM, (Jackendoff & Lerdahl 1983) is a linguistic method that combines musical theory with generative linguistic approaches. Its focus is on western classical music styles. Each chord is marked by which role it plays relative to the tonic, and a hierarchy is built that determines which chords carry more musical 'meaning'. In this way it is possible to reduce the piece to a few chords that produce the same harmonic tension. GTTM offers a method for abstraction over music performance that in our view can be combined fruitfully with the more general method of Morphopoiesis. In such a way the basic sound units and their relationship and transitions can be described as transformational rules which replace the standardly assumed fixed set of modality and harmonic structure used to analyze Western Music.

Assuming generative Morphopoiesis, as sketched here, we hope that our approach not only will do justice to the Bantu music genres, but in addition will allow us to draw interesting parallels between musical typo-morphological and linguistic morpho-syntactic structure. After analyzing a corpus of jams and traditional songs, we will describe the minimal pairs that distinguish each genre. Looking at musical rhythm alone, for instance, it's tempting to draw parallels to phonological rhythm in the associated language. These observed similarities, however, don't necessarily indicate that there is any connection between the language and music. An analysis of basic sound units and their structural and transformational dependencies, as suggested here, will allow to formulate such a relation, as we hope to demonstrate.

References

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Lerdahl, Fred and Jackendoff, Ray (1996). *A Generative Theory of Tonal Music*. MIT Press.

Schaeffer, P. (1966) *Traité des Objets Musicaux*. Paris Edition du Seuil.