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ANTHROPOLOGICAL AND HISTORICAL RESOURCES OF MUSIC ANALYSIS

Susanne Fürniss

One might consider it odd to find an article on an old thing like music analysis in a book dedicated to “Recent Trends and New Directions in Ethnomusicology”! If one looks at the programmes of the major international conferences – ICTM and SEM – it looks as if the formal analysis of traditional musical forms belongs to a past practice of ethnomusicology. And yet, since 2010, there has been a reaffirmation of this particular ethnomusicological approach. The association “Analytical Approaches to World Music” (AAWM) is dedicated specifically to music analysis. It publishes an online journal¹ and organises a conference every other year. Volume 8 of *Res Musica* (2016) on traditional multipart music also highlights music analysis. On the one hand, many of the ethnomusicological contributions to AAWM are based on music analysis from the point of view of the musicians, *i.e.* those who reflect on their own practice or the musical grammar of a specific musical idiom they are playing. On the other hand – and this is the main point of this article – music analysis may also contribute from an outsider's view to make formal identities visible. These formal elements that characterize a music culture can then be further used in order to study various issues, under the condition of being integrated into the cultural and social contexts of musical practice (Fürniss 2014a, Grupe 2016). This current approach and its theoretical and methodological environment make music analysis increasingly interesting for research that places musical forms at the service of broader questions in anthropology and history.

Being involved in research on music in Central Africa, I shall present these questions from the perspective of African music research. As far as African traditional music is concerned, music analysis today is often discredited in the context of postcolonial studies as serving still ongoing colonial research perspectives, as Kofi Agawu, for example, discussed in his book *Representing African Music* (2003). Rural African traditions are less and less topics of ethnomusicological studies in favour of more modern urban forms of music, that are increasingly present in Africa and widely considered as the main representatives of African music. Nevertheless, rural traditions still exist and remain crucial cultural references for modern and globalized music.

The purpose of this text is to present an approach that places the analysis of traditional music in its cultural context. This implies necessarily to question also [p. 148] musicological criteria, but without rejecting them as a matter of principle. The concrete aim is to examine music as a sound idiom within its social and symbolic framework and to work out the relationship between its internal organisation and its social and symbolic meaning.

SIMHA AROM AND THE EMERGENCE OF A FRENCH SCHOOL OF AFRICAN ETHNOMUSICOLOGY

Implicit rules

In the last two decades of the 20th century, a branch of Africanist ethnomusicology developed in France, which was founded by Simha Arom and to which the author of this text belongs among others². It is based on a method that is strongly influenced by linguistics (cf. Alvarez-Pereyre 2003).

¹ <http://aawmjournal.com>

² Julien André, Vincent Dehoux, Nathalie Fernando, Sylvie Le Bomin, Fabrice Marandola, Luciana Penna-Diaw, Hervé Rivière, Olivier Tourny, Xavier Vatin.

The premise of an anthropologically relevant study of music systems is the statement that music in societies with oral tradition is based on implicit rules. They are not systematically verbalized, but become visible – audible – when someone makes a mistake.

The coming to the surface of implicit categories through formal identities can be illustrated with an example from the kitchen, based on an anecdote experienced by the authour. She is of German origin living in France, daughter-in-law of a Moroccan family. When she came to France, she had already noticed that carrots were cut differently from her mother's in Germany: they were cut into slices, while in Germany they were cut into small cubes. The first time she helped her sister-in-law in Paris to cut vegetables for a couscous, she applied herself to cut all the carrots into slices. This causes her sister-in-law's amazement and she exclaimed, stomached: "Oh no! Now I don't have any carrots any more!" Not having known this dish before, the authour did not know that a couscous required leaving the carrots whole or cutting them into long thick pieces. The entire gustatory and visual identity of the dish was jeopardized by the false cutting of the carrots. Slices were simply inconceivable, but this formal rule was totally implicit. Fortunately, the neighbour could help out with carrots...

[p. 149]



Figure 1. Different ways of cutting carrots (Photos S. Fűrniiss)

Data collection. Music analysis

In the domain of music, the difficulty is to obtain the recordings that allow for shaping out these rules, within which the musical practice evolves with constant variations. The problem is even greater in the case of polyphony and polyrhythmics. How does one obtain the different parts independently and in their relationship to each other? Grupe (2016) has examined various techniques for their advantages and disadvantages and contributed himself to their development. The adequate technique depends on the research perspective pursued: are you interested in basic structures and in variation principles or in the dynamic interaction of the musicians during a performance? Multi-track recording – which nowadays can also be made outside the studio – is certainly a good device for the second question. But it is not always sufficient for the analysis of basic structures, because a good performance of African music is based on the variation of the pattern. The re-recording method developed by Simha Arom (1976) in the age of stereo tape recordings allows for the analysis of basic rules in collaboration and discussion with musicians. The validity of the analysis cannot be achieved without the “cultural identity judgement” (Arom 1991b), in close interaction with the musicians. While recording, the ethnomusicologist musters his/her aural comprehension, the planned transcription and anticipates the analysis. Through the back-and-forth between what is heard and what is played, the analyst can acquire the certainty that s.he “got it right”. By establishing an analytical dialogue between researcher and musician, S. Arom introduces the notion of cultural relevance, one of the major advances in the discipline. The re-recording method based on the successive recording of the different parts of a polyphony or polyrhythm has the advantage over a multi-track recording of isolating one single part at a time and of [p. 150] clarifying the patterns on which the variations are based directly with the musicians. It can be

implemented in a simplified way in a stereo recording by asking the musicians to step in or out individually³. The transcription of these analytical recordings makes it possible to access the underlying rules of the music.

The modeling of these rules in orally transmitted music requires first the separating of the parameters to be analysed, then a paradigmatic approach that allows for shaping out the different constituent characteristics of a given musical object. These principles are developed in *Polyphonies and Polyrhythmies of Central Africa: structure and methodology* (Arom 1991a), a large-scale work presenting a typology of African polyrhythmic processes, as well as the conceptual and technical tools for their study. Arom makes a fundamental distinction between metrical organization and rhythm and brings to evidence the irrelevance of the Western beat concept for African music. Therefore, it is important to point out the absolute necessity of recording the beat, which is a fundamentally cultural factor. Western musicians are often completely mistaken in their perception of the interlocking of metrical structure and rhythm. This method, which is logically excellent for investigating the relationship between model and variations (Arom 1991b), is the starting point for the case studies presented below.

The first methodological step in approaching a musical culture is the systematic analysis of music. The method has to be adapted to each new musical object and the analyst must remain vigilant towards any new emerging criteria. Objects change, perspectives change, and the relevance of the analytical criteria must be checked at all times. As an example, the study of Baka polyphony obliged the author to introduce the notion of “tessitura” in the definition of a polyphonic vocal part (Fürniss 2016). The rigour of the analysis is the condition to be able to go beyond systematics in a broader anthropological perspective. It allows musical forms and their practices to be placed in the cultural context that conceived them and manipulates them according to the symbolic representations and aesthetic canons of the bearers of the tradition. Again, it is important to underline that the musical rules that apply to a particular society are part of its cultural identity. The analysis of the musical system can therefore serve as a starting point for understanding a society. This sounds terribly banal, but it must first be worked out and proven. This is a lot of work if one does not want to fall into Eurocentrism or speculation.

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The already mentioned parallel with linguistics could allow us to say that in the last decades of the 20th century the question was: “How are musical languages made?” Once the method of musical systematics had been developed and well established, the question can then be: “What do musical languages tell us?” This reorientation gives the starting point a broader scope: the description of a musical system is no longer intended to prove its existence, but to serve a broader perspective. It thus becomes a means of considerably deepening the knowledge of a given culture.

The Categorisation of Musical Heritage in Oral Tradition Societies

An article (Arom *et al.* 2008) currently being translated for the online journal *Translingual Discourse in Ethnomusicology*⁴ shows how the comparative analysis of all musical forms within a musical culture gives access to social fundamentals. How does a society organize its musical heritage and how does music systematics reflect key principles? This is where the cognitive activity of categorisation comes in. In an African, orally transmitted context, musical practice is based on genres or repertoires that, from a cultural point of view, form practical categories that are bound to certain contexts or functions. Musical categorisation is a matter of making visible the coherence between musical material and the cultural significance of a

³ The exciting relationship with Central African musicians experienced by the author while applying this recording technique is described in Fürniss (2020).

⁴ <https://www.tde-journal.org>.

practice. This requires data of various kinds, of course sound recordings – both conventional and analytical – but also linguistic and ethnographic data and the transcriptions and analyses of all the collected material.

Musical objects can be described and compared with three types of music parameters: internal, external and non-musical ones. The internal parameters can only be heard and must be worked out through music analysis: on the one hand metrical structures, rhythms, tone system and their combination into melodies, on the other hand the relation of the different parts to each other, as they are expressed in the global form of a piece and through polyphonic techniques. The external parameters can be seen: musical instruments, the composition of the musical ensembles, but also the morphology of the instruments and the materials used to build them. Finally, the non-musical parameters that indicate the context in which the music is made: occasions and functions, certain social or ritual groups. This also includes terminology that may (but does not have to) be specific to the language in question.

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All these elements make it possible to describe all repertoires within a musical culture and to present them in a synoptic table. Such a table contains socio-cultural information (context and names of the repertoires) and the above mentioned parameters, the values of which are marked for each of the repertoires. Such a table provides information on different perspectives, each of which mobilises different parameters. Information may be obtained about the instruments and vocal techniques used, about specific rhythms or scales, about the connection between music and dance, or about the distribution of song lyrics among the various groups of singers. The comparison of all repertoires makes it possible to identify the specific feature that distinguishes and identifies each repertoire from all the others, thus making it a musical category.

The experience that in most African traditional heritages repertoires are also differentiated on the basis of musical criteria confirms that musical thinking is relevant to the symbolic systems, even if musical criteria are not conceptualized as such. This is a great advance in anthropological methodology, because the endogenous and exogenous points of view converge and the contrast between ‘them’ and ‘us’ is relativised. The frontier between emic and etic becomes blurred⁵. The musical categorisation shows an intersection where the two systems of representation overlap and where the researcher and the musician – even if they do not speak the same language – understand the same components of musical grammar and their relevance for the meaning of life. Indeed, this approach makes music tangible in that it makes it possible to detect the relevant feature that is indicative of the meaning of a given musical activity. This is an important topic in ethnomusicology as part of anthropology. It will be illustrated in the next greater section.

What one says and what one does

Musical categorisation makes it possible to see the musicians’ discourse about their music and the formal side of the music system as two complementary facets of musical identity. Therefore, it is essential to treat the discourse on music and the formal musical expression as two independent ensembles. The need to separate what musicians say and what they do is a direct consequence of the categorisation. The perspective of these two expressions of a different nature allows for a differentiated look at the cultural specificities conveyed by the musical system and the use made of them by the bearers of the tradition [p. 153] (Arom & Fernando 2002). The rules that underlie the musical construction are indeed as much the specific product of a culture as the discourse itself. These are two complementary ways of implementing cultural identity (see the initial anecdote on carrot cutting...).

⁵ See further Alvarez-Pereyre and Arom 1993.

RESOURCES

It is obvious that this method of parameterization is a powerful tool that can be applied to any research object and to many ethnomusicological or other problems. The search for the characteristic musical feature can be applied to the repertoires within a culture (as in Fernando 2007, Penna-Diaw 2016, Martín-Vivaldi 2018), but also – at a higher level – to the whole musical heritage in the perspective of distinguishing one culture from another (Olivier and Fűrniiss 1999, Fűrniiss 2014a). The categorisation is also profitable in the investigation of dynamic developments, be it in a relatively short-term perspective, such as the adoption and mixing of musical forms (creation and borrowing; Fűrniiss 2008) or in a long-term perspective (Le Bomin *et al.* 2016).

Anthropological interpretation of the musical world of the Aka

As an illustration of how musical categorisation can serve anthropology and how it enables the analyst to penetrate deeply into the investigated society, let us go back to the categorisation of Aka music in the Central African Republic (CAR) and look at it from an anthropological perspective. Each of the repertoires listed below (Table 1) can be identified by a specific set of musical features (details in Arom *et al.* 2008: 282-283).

[p. 154]

Repertoire	Context	Repertoire	Context
<u>zòbòkò</u>	Before net hunt	<u>bòndó</u>	Divination for disease and misfortune
<u>ndàmbò</u>	Before spear hunt	<u>kóli</u>	Lamentation
<u>sápá</u>	Call back men from the hunt	<u>ngbòlù</u>	Funeral
<u>nzòmbì</u>	Way home from a successful hunt	<u>mòkòndi</u>	End of mourning; installation of a new camp; Forest Spirit Ezengi
<u>mòbiò</u>	Announcement of a successful elephant hunt	<u>mòbómá</u>	Lullabies
<u>mònzòli</u>	After the elephant hunt (expiation)	<u>ndòsí</u>	Mother again pregnant
<u>mòmbénzélé</u>	After a good hunt; Rejoicement	<u>màásá</u>	Twins' ceremonies
<u>kóbá</u>	After hunting a White-bellied duiker (expiation)	<u>mòzó</u>	Children's games
<u>èsà</u>	Successive misfortune in hunting	<u>disàò</u>	Tale-songs
<u>mbèlà</u>	Trapping	<u>mòbàndi</u>	Before honey-collecting
<u>mòpòndi</u>	Capture of a first game	<u>yòmbè</u>	Rejoicement
<u>èngbítí</u>	Cohesion of the group		
<u>bògóngó</u>	Marital love		

Table 1: The repertoires of the musical heritage of the Aka⁶

An analysis of the contexts with which the musical categories are connected reveals two fundamental characteristics of Aka society: the immense importance of hunting (left column) and the attention given to the individual person as an indispensable pillar of community (darkened cells). Among 24 repertoires, the upper 11 repertoires of the left column are directly related to hunting. Two others are indirectly connected to it. One recognizes a network of technical, symbolic or social relationships around this activity that provides meat, *i.e.* the highest valued food. The musical repertoires distinguish music for different hunting techniques: the game is caught with a net, with a spear or with a trap. [p. 155] Some music is made before a hunt, others afterwards. Some repertoires identify animals that are particularly highlighted: the elephant – a fundamental animal in Aka religion and the only one to be attributed a spirit –

⁶ Aka is a tone language. The accents indicate high or low pronunciation of the syllables. Open vowels are underlined.

and the White-bellied duiker, a forest antelope whose white patches represent the color of evil spirits. Finally, one identifies the indispensable spiritual cooperation between husband and wife, which also contributes to the success of hunting by promoting the safe capture of game.

The musical heritage highlights that a particular attention is paid to the individual. The capture of his first animal means for a young man that he can get married, as he has shown the necessary skills to feed a family. The same concern is expressed in the *ndósi* category, which is intended for a toddler who is not yet weaned and whose mother is pregnant again. The corresponding song assures him of the affection of his family and encourages him to dance to the point of fatigue, so that he forgets his pain at losing his position as the benjamin by the arrival of the future child.

Based on the very technical musicological analysis described above and its connection with knowledge about the Aka society coming from other domains (Thomas *et al.* 1981-2018, Bahuchet 1995), it was possible to make visible here how a music practice and the specific musical features it implements reflect some of the very fundamental concerns of this society.

Similar results have been obtained by the analysis of the heritage of the Banda from CAR. Le Bomin brought to light that “there is among the Banda Gbambiya, more or less implicitly, a maternal musical language, accessible through activities involving the mother, and a paternal musical language accessible through activities specific to the male domain”. The repertoires of the male world are distinguished from those of the female world by features such as instrumentation, periodicity, subdivision of the beat, and modality of alternation of vocal parts (2017:42).

Music as provider of knowledge of history and culture contact

The ethnomusicologist working at the intersection between the social embedding of music making and the technicity of music and musical instruments provides specific knowledge not only in the domain of ethnomusicology or musicology, but also to other disciplines, such as for example history. Investigating music of oral tradition in a historical perspective is a study of cultural change in which the music itself and its practice become sources for information about the history of the society.

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The historical dimension is already part of the very first research activities in ethnomusicology (Schneider 1934; Schaeffner 1936; Sachs 1943). The foundation in 1967 of the ICTM Studygroup *Historical Sources of Traditional Music* concerned in the beginning particularly European traditional music through the study of written sources, iconography and artefacts (Ziegler 2010). In 1986, the European Seminar for Ethnomusicology opened the question to extra-European fields and to cultures of oral tradition (Lieth Philipp 1989). It was only in 2005 that the first fundamental text has been published on the music of oral tradition and its historical dimension by Tim Rice. The perspective is clearly announced, it is the history of the music and its styles which are in the center, *i.e.* the history of the changes orally transmitted music may have gone through and the events or motivations which have led to these changes. The conference in 2008 on the link between memory and history in the music of oral tradition – whose papers are published in the 2009 *Cahiers d’Ethnomusicologie* – changes the perspective. It is the “historical function of memory and the orality of music” which are in the center (Aubert and Charles-Dominique 2009). In other terms, several music heritages of oral tradition are investigated as support for social and collective memory. Still, most of the articles ask questions about the historicity of the musical styles and the authors investigate the function of the practices, of the instruments, of the contexts and the world views expressed through the lyrics of the songs. Rare are the authors who work on the musical system itself and even more rare those who use music analysis as a tool for the reconstruction of the history of populations in an interdisciplinary perspective. Voisin and Cloarec-Heiss (1995) cross ethnomusicological and linguistic data concerning the xylophones of the different Banda people in the Central

African Republic. Le Bomin *et al.* (2016) combine ethnomusicological and phylogenetic methods in order to reconstruct kinship between the musical heritages of the main populations in Gabon and to respond to questions of migration, common origins and culture contact.

The history of the migration of Aka and Baka⁷

The author's research on music of the Aka from the CAR and the Baka from Cameroon (Fürniss 2012) presents the contribution of musical data to the knowledge of the common origin of these two societies. In 1986 the linguist Jacqueline Thomas and the ethnologist Serge Bahuchet published a first joint [p. 157] study that has shown that these two societies, who today live separately and speak different languages, were one society about 500 years ago and migrated together westwards from the eastern part of the Democratic Republic of Congo. Bahuchet (1992) dedicated a detailed study to this question.

I have contributed to the knowledge about the common origin of these two societies by comparing the music and its contexts, as well as the musical instruments and their morphological features. The latter shall be illustrated by two very brief examples of instruments which are not played by their respective neighbours. The comparison is based on the same method of interlinking linguistic information and formal analysis, in this case of morphology and rhythm.

Both societies have a two-stringed musical bow – *èngbítí* in Aka, *língbídí* in Baka – played by women with a very particular playing technique: the upper horizontal string is struck, the lower diagonal string is plucked, and the chin is used to shorten the horizontal string to produce the five tones of the underlying pentatonic scale. However, some details clearly distinguish the users and make it possible to predict their origin (Table 2).

Although it is definitely the same instrument and general playing technique, Aka and Baka make a differentiated use of it in terms of the material of the string and the resonator, of the position of the resonator and its connection with the base of the bow, and of the position of the player. These differences strongly resemble what Jean Séguy (1973) calls “the double function of the dialect” and which serves both as a marker of similarity and differentiation. The exclusive use of the two-stringed bow by these two Pygmy societies binds them inseparably without erasing their particularities.

The second example are drums. In this concern, the most enthusiastic fact is that the indicator of a common origin of Aka and Baka lies not in the instruments themselves or in their playing contexts, but in the names of the Baka instruments that change in highly symbolic playing contexts. This connection was only possible to reveal through rhythm analysis. Most polyrhythmic formulæ are based on the combination of two drum rhythms to which rhythms of other instruments may be added. So one needs two drums. In the Aka language, the generic name for “drum” is *mòkíndá*. The drums are tuned so that one drum sounds higher than the other. The instrument with the lower sound is then called *ngúé-wá-mòkíndá* (“the mother of the drum”) and the instrument with the higher sound becomes *èndòmbà-wá-mòkíndá* (“the small one of the drum”) or *íkúbù*. These are also the names of their respective rhythmic parts. In the Baka language, the general term for drum is *ndùmù*. The system is the same as in the Aka language: there is a “mother” (*nyéè ndùmù*, lower sound) and a “child” [p. 158] (*lè ndùmù*, higher sound). But the instruments playing for the Forest Spirit’s ritual *ejengi*, have proper names: *mòkínda* and *kubú*⁸, thus providing another solid link between the two cultures and an evidence for the longlasting use of drums in these hunter-gatherer societies. The *ejengi* ritual which also exists among the Aka under the name of *mòkóndí*, is the most important one in the religion of both societies. The reinforcement of this link through an identical naming of the

⁷ The following is partly based on Fürniss 2012.

⁸ Baka language has three tones: low (ò), high (ó) and medium which is graphically not marked here (o).

differently shaped drums has been brought to light thanks to the re-recording technique with which all Baka rhythms have been recorded systematically⁹.



Aka	String material		Baka
	Aerial root of a <i>Vanilla</i> vine	Brake cable	
	Material of the resonator		
	Maranthacea leaf and a cooking pot	Cooking pot	
	Position of the resonator		
	Opening upwards	Opening downwards	
	Connection between the resonator and the bow		
Base of the bow in the pot	Base of the bow on the base of the pot		
Position of the player			
Sitting on a stool Instrument placed on the knees	Sitting on the earth, legs spread on either side of the pot Pot on the ground		

Table 2: Comparison of the playing techniques of the two-stringed bow (Photos S. Fűrniiss)

⁹ For these analytical recordings, see “Fonds Fűrniiss” of the online platform Telemeta CREM, <https://archives.crem-cnrs.fr>.

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It goes without saying that the re-recording gave also access to the rhythmic material. In most repertoires based on polyrhythmic accompaniment – often called “a dance” or “a rhythm” in Africa – the same polyrhythmic formula accompanies all songs that belong to a same repertoire. It is wide spread that each repertoire has its own specific polyrhythmic formula. Among the Aka and Baka, each instrument has also its own rhythm. The “mother”-drum has a [p. 160] different figure for each repertoire. The “child”-drum and the other rhythm instruments have a limited number of figures that recur in several repertoires. Arom (1991) calls them “peregrine rhythms”. Table 3 shows these shared rhythmic figures that can be found both in Aka and Baka music.

	Aka		Baka	
	Instrument	Repertoire	Instrument	Repertoire
<i>(1) Rhythmical groupings by 2 or 4 values versus metrical groupings () by 3 :</i>				
			Rattle <i>ligbègbè</i>	<i>múkó</i> <i>mangélebò</i>
	high drum <i>èndòmbà</i>	<i>mònzòli</i> <i>mòmbé̇nzé̇lé̇</i> <i>ndàmbo</i>	high drum <i>lè ndùmù</i>	<i>ngàngà</i> <i>ejengì</i> <i>gbelé yéyi</i> <i>màwòso</i>
<i>(2) Rhythmical accent (>) being systematically shifted off the beat () :</i>				
	high drum <i>èndòmbà</i>	<i>yómbè</i>	high drum <i>lè ndùmù</i>	<i>múkó</i>
	percussion sticks <i>dikpàkpà</i>	<i>ngbòlù</i> <i>yómbè</i> <i>mònzòli</i> <i>mòmbé̇nzé̇lé̇</i>	high drum <i>lè ndùmù</i>	<i>èbùmà</i> <i>àbàlè</i>
<i>(3) The African standard pattern and its augmentation :</i>				
	all	<i>bòndó</i>	machetes or concussion sticks <i>màkèkè</i>	<i>múkó</i> <i>mangélebò</i>
	machetes <i>diké̇tò</i>	<i>mònzòli</i> <i>mòmbé̇nzé̇lé̇</i> <i>yómbè</i> <i>ngbòlù</i> <i>zòbòkò</i> <i>mòkòndí</i>	machetes or concussion sticks <i>màkèkè</i>	<i>gbelé yéyi</i> <i>àbàlè</i> <i>èbùmà</i> <i>màwòso</i> <i>mòkilà</i> <i>ejengì</i>

Table 3: Common stock of rhythms in Aka and Baka music.
The columns indicate which instrument plays the rhythm in which repertoire(s).

[p. 161]

One of the characteristics of these rhythmic figures is that they are built on metric ambiguity. There is either a hemiolic structure between a beat that is divided in 3 minimal values and a rhythm of 2 or 4 minimal values. Or the rhythms are based on systematic contrametrical shifting of the accent of a ternary rhythmic figure against the beat. It may fall before or after the beat. These examples bring to evidence why it is so important to systematically record the beat during an analytical recording. The African standard pattern (Jones 1959) exists also in an extended form both in Aka and Baka music¹⁰. It is doubled in length in a cycle of eight beats. This figure can be found in the vast majority of the repertoires of the Aka and Baka. According to the current state of research it is unknown to the neighbours and must thus be considered as a strong identifying element of a common musical heritage of these two cultures.

Looking at the metrical framework of polyrhythmics (Table 4), one may see that the repertoires dedicated to divination in fire and the search for serious diseases in both cultures respond to periodicities of four ternary beats which are divided into 3 minimal values each. The expansion to eight beats can be found in both cultures in the repertoires linked to mourning, to the contact with the Forest Spirit and to hunting. There is a clear symbolic convergence between the two musical systems.

Number of beats and their subdivision	Aka		Baka	
	Repertoire	Context	Repertoire	Context
4 ternary beats (12 minimal values)	<i>bòndó</i> <i>ndàmbò</i>	Divination for disease and misfortune Propitiation before spear hunt	<i>ngàngà</i> <i>èdiò</i> <i>mangélebò</i> <i>èmbòàmbòà</i> <i>múkó</i>	Divination for disease and misfortune Healing of complicated fractures Funeral Collective rejoicement Twins ritual
8 ternary beats (24 minimal values)	<i>mò.kóndí</i> <i>nghòlù</i> <i>zòbòkò</i> <i>mònzòlì</i> <i>mòmbénzélé</i> <i>yómbè</i>	End of mourning; dance of Ezengi Funeral Divination before net hunt Expiation for the spirit of the elephant After a successful collective hunt Rejoicement	<i>ejengi</i> <i>èbùmà</i> <i>gbélé yéyi</i> <i>àbàlè</i> <i>mòkìlà</i> <i>màwòso</i>	initiation to the Forest Spirit Jengi End of mourning Before spear hunt Before spear hunt Before spear hunt; hunter's metamorphosis Healing of "mystical" diseases
4 binary beats (16 minimal values)	<i>mbèlà</i>	Trapping	<i>mèbàsì</i> <i>ampir</i>	Rejoicement of the young people Rejoicement of the young people
4 unregular beats (9 minimal values)			<i>mbàlà</i> <i>bèkà</i>	Rejoicement Circumcision

Table 4: Compared metrical structures.

The columns indicate which periodicity goes with which repertoire and context.

The repertoires based on binary or irregular beats prove to be adopted by other cultures. This table includes the *mbèlà* repertoire of the Aka played with a mouth bow. This instrument, its construction, playing technique and use, as well as its association with trapping are shared by the Aka and their Ngbaka neighbours. As it is the only repertoire with a binary metre in Aka music, there is a strong probability that it has been borrowed by the Aka. In Baka music, although there is not enough data to corroborate the exogenous nature of *mèbàsì*, the borrowing of the *bèkà* and *mbàlà* repertoires is clearly attested. They are characterised by a rhythm of 2+2+2+3 minimal values. In *mbàlà* music, the metrical organization merges with the rhythm, *i.e.* the overall present hand-clapping of the beat keep pace with the irregular rhythm. The *bèkà* rhythm, however, has been transformed in the course of its integration into the Baka's music system. They set a regular four-beat against the rhythmic formula of nine minimal values

¹⁰ This has been brought to light in Arom (1991) who analyses Aka polyrhythm in detail.

(see details in the next section). This transformation of the adopted rhythm shows how fundamental the cycle of four beats is for this musical culture (Fürniss 2008).

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Divergences: what the Baka say and what their rhythm tells us about interethnic relationships¹¹

A closer look at the rhythm of the *bèkà* circumcision ritual and its origin illustrates the fact that sometimes the results of the formal music analysis tell a different story of interethnic relations than that consciously conveyed in the discourse of the musicians.

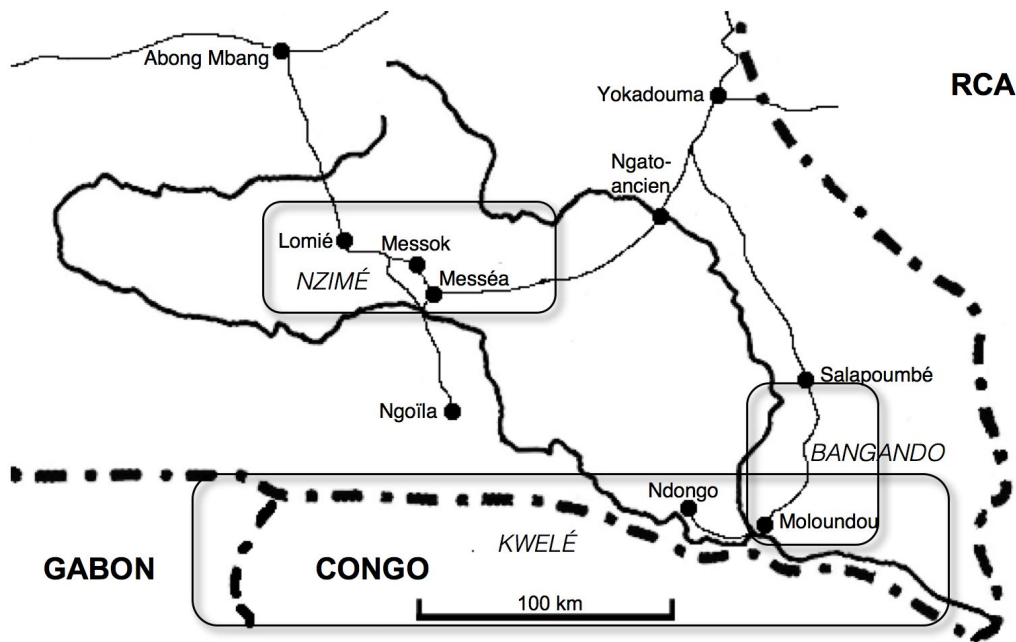


Figure 2. Map of southeast Cameroon

Southeastern Cameroon is an area inhabited by many different ethnic groups. The Baka constitute the majority of the population. They live all over this area in which the other ethnic groups occupy only well-defined areas. Baka live in the same villages as members of the other ethnic groups – usually only one other group per village – with whom they share economic and social activities. In the extreme southeast, the Baka live with either the Kwele or the Bangando. The Baka are largely socially dominated by their neighbours. The inventory of the musical repertoires of all the populations of the region shows that the heritages [p. 163] are quite impermeable. However, some initiation rites are practiced together by two or more groups (Fürniss 2011).

The starting point of this research was the documentation of the borrowing of the *bèkà* circumcision ritual by the western Baka from their former eastern neighbours. It was not the circumcision as such that has been borrowed, but the collective ritualisation of a private operation which had previously been performed without any ritual formatting (Fürniss & Lussiaa-Berdou 2004, Fürniss 2008). Practiced by Bangando and Kwele, the Baka who live with them in the same villages participate in this ritualized circumcision and are co-initiated under the direction of Bangando or Kwele leaders. This is still the case today. This means that the Baka living in the very southeast have their boys circumcised by their neighbours, in a ritual that is unanimously qualified as not being part of the Baka heritage. The Baka are circumcised during a ritual ceremony, but they are not the ‘owners’ of the ritual.

¹¹ The following is partly based on Fürniss 2008 and 2014a.

At the end of the 19th century, some Baka migrated further west into an area occupied mainly by the Nzime (Leclerc 2012:95, 100). As a large proportion of the Baka remained in the Bangando and Kwele areas, family ties were maintained. As a result, this partial migration has initiated regular movements between these areas. Several rituals such as the one for circumcision were ‘imported’ from the east into an area whose foster home is the village of Messea. Thus, the Baka heritage – musical and ritual – finds itself considerably enriched, but also strongly regionalised.

Two drums accompany the western Baka’s circumcision ceremony, each playing a different asymmetrical rhythmic figure.

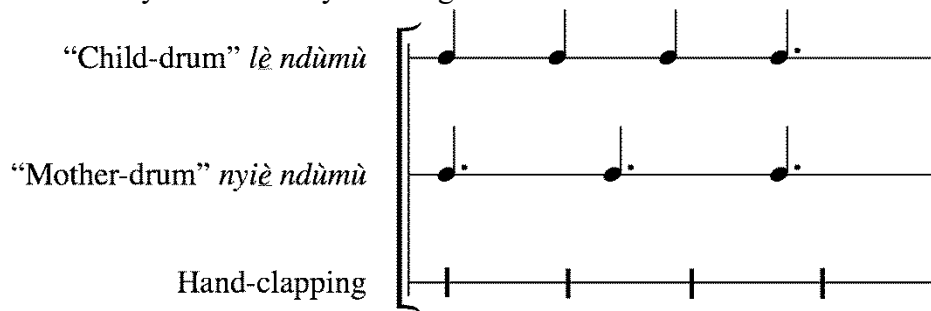


Figure 3. Drum patterns of the western Baka's circumcision music

The “child-drum” plays an irregular rhythm, while the “mother-drum” has a regular pattern. Their combination give rise to the polyrhythmic formula that is emblematic of the circumcision ceremony. Unlike the figure of the [p. 164] “mother-drum”, which is played with a stick and a hand, the figure of the “child-drum” is struck with two wooden sticks. It therefore resonates louder and is sufficient to identify the ongoing ceremony.

The formula is based on nine minimal values on which the singers superimpose four regular beats that correspond to the metric framework that runs through the entire Baka musical heritage. Being isochronous – *i.e.* the time elapsed between two consecutive beats is exactly the same – the four beats do not coincide with the nine minimal values expressed through the rhythm.

This phenomenon is the first indicator that confirms the exogenous nature of this polyrhythmic formula. As could be seen in Table 4, Baka music is usually based on cycles of 4 or 8 beats that are subdivided in a ternary manner, producing cycles of 12 or 24 minimal values. This *bèkà* formula with a length of nine minimal values is therefore incompatible with the founding principles of Baka metrical system. It would theoretically be possible to set three ternary beats on this rhythm of nine values corresponding to figure of the “mother-drum”. However, the fact that, without hesitation and in a recurrent manner, this proposal is rejected and the formula is inserted into a metric frame of four regular beats, clearly indicates that such a metric frame is obviously essential for the proper functioning of Baka music. It seems indeed that Baka ritual music has to follow this principle, whereas recreational music may deviate from it.

To track the origin of this exogeneous rhythm, the ethnomusicologist’s obvious position is to rely on the information given by the bearers of the tradition. Thus, according to the inhabitants of the village of Messea, the maternal uncle of the current circumciser introduced the *bèkà* ritual to the Baka of this village about seventy years ago. Since then, they have passed it on to their children and allies in the region where they live with the Nzime. The *bèkà* would come from the Bangando, as they say: “Alime saw this ritual among the Bangando. He found it well and taught it to the Baka of Messea.”

This statement can only be partially corroborated by observation of what is done, as the comparison of the musical material reveals that the rhythm can hardly be of Bangando origin. The polyrhythmic formula for circumcision played by the Bangando consists of the

combination of three asymmetric rhythmic figures, two of which resemble those of the Baka: the “child-drum” is also irregular and the bell is regular. The internal structure of the figure of the “mother-drum” is identical to that of the bell.

[p. 165]

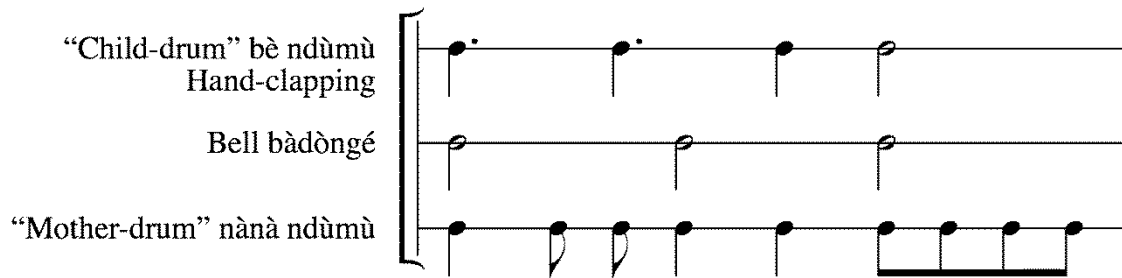


Figure 4. Rhythmic patterns of the Bangando's circumcision music

But there is a fundamental difference, since the rhythm takes place within a cycle of twelve minimal values. This is theoretically an ideal configuration to match Baka metric structures. However, for the Bangando, this formula is based on an irregular, heterochronous beat, since it follows imperatively the shape of the rhythmic figure played by the “child-drum”.

The metric and rhythmic structure of the *bèkà* rhythm does not corroborate the Baka’s discourse as to the Bangando origin of this rhythmic formula. However, other ritual elements such as hierarchy and denomination of the protagonists, as well as management of space and even some songs and their words show an obvious filiation from the Bangando version of the ritual (Fürniss 2008). So the question arose from where this visibly foreign polyrhythmic formula that found its way into the Baka version of the circumcision ritual may have come.

The reader will not have to follow the paths and dead ends of southeastern Cameroon’s forests here, as details can be read in Fürniss (2014). The fact is that a formula corresponding to the Baka’s is played by a subgroup of the Kwele even further south in order to accompany the same circumcision ritual *bèkà*. Spread over three instruments and hand-clapping, the Kwele-Djako’s formula is built from two rhythmic figures evolving in a metric framework of nine minimal values:

[p. 166]

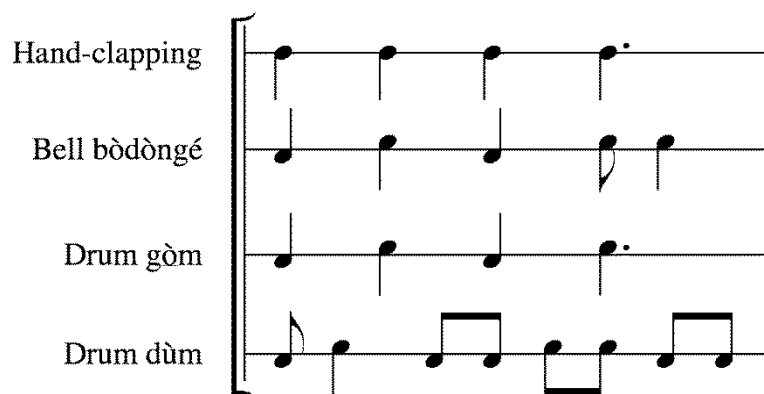


Figure 5. Rhythmic patterns of the Kwele-Djako's circumcision music

The first one is played by the bell, the drum named *gòm* and the hand-clapping. On closer inspection, the second figure, played by the *dùm* drum, is derived from the first one in terms of duration as both consist of 2+2+2+3 minimal values. The Kwele-Djako polyrhythm is therefore entirely based on a single rhythmic figure carried out simultaneously in two different ways. Comparison with the Baka formula reveals not only the same metric framework, but also the same asymmetrical rhythm, which is emblematic of the circumcision ritual in both cultures.

The formal rhythm analysis reveals a contact axis between Baka and Kwele-Djako that is not expressed in the discourse. Indeed, during my many stays with the Baka of Messea, I heard about recurring contacts between Baka and Bangando, but never about relations with the Kwele. However, the proximity of Baka music with Kwele music can be confirmed in terms of other parameters. The metric structure is quite similar, though it has a greater variety among the Kwele. While other important internal parameters (scales, polyphonic techniques) vary considerably, external parameters – particularly musical instruments – reveal a rather striking parallel with the instruments usually attributed to Pygmy populations in the region. Indeed, the Kwele distinguish several types of struck beams, use wooden sticks to strike an autonomous rhythmic part on the sides of the drums and have a specific type of monochord harp of Pygmy origin (Fürniss 2012b). Like the Baka – and unlike the Bangando – the transition between two songs of the same repertoire is realised by a vocal rhythmic pattern. In terms of repertoires, it is likely that the Baka also borrowed the *ampir* entertainment repertoire from the Kwele.

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By attempting to corroborate the musicians' discourse by means of the musical material, music analysis revealed a patchwork that doubled the borrowing process and that would not have been suspected without this approach. The fact that this musical element was identified in contradiction to the explicit and repeated discourse of the musicians shed new light on the complexity of interactions between populations, clans and individuals in southeast Cameroon. Indeed, this specific rhythmic formula and its ritual context are perfect indicators of the multiple individual and collective movements of both the Baka and their neighbours along the main land and river routes. Thus, in every single circumcision ceremony, the rhythm updates a broader cultural network in which musicians are anchored through their alliances within Baka society and through pseudo-kinship with members of the neighbouring societies.

Starting from the observation that musical rules are implicit, the research presented here is based on three approaches: music analysis, categorisation and the separation of discourse and practice. Three case studies have illustrated different applications of this method. They supplied evidence for 1) the relationship between the repertoires of the Aka's musical heritage and fundamental elements of their society, 2) the musical indicators of a common origin of Aka and Baka, and 3) musical indicators of a non-conceptualised culture contact. These are some examples from the author's research that underline the effectiveness of music analysis for broader information on anthropological and historical issues in societies with oral tradition. They corroborate the social and symbolic signification of formal musical elements and convey them as a marker of identity. They illustrate the complexity of interethnic relationships and of the dynamics underlying these fully alive traditions through musical markers of migration or contact. Thus, such an approach strenghtens the emancipation of music analysis as a supplier of markers in the same way as linguistics or technology.

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