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TUBS Transcription of the *Bakks* of Rambax MIT

African music includes diverse instruments, styles, and purposes. Some styles, such as Malian cora playing, emphasize the creativity and virtuoso of a single performer, whereas others, such as Ghanaian polyrhythms, focus on the juxtaposition of multiple fixed parts. Thanks to commercial and academic offerings in world music, African music is also played in a variety of contexts and adopted by nontraditional performers. The necessity and nature of a notation for the music varies drastically depending on the nature of the music and the needs of the performer.

During my second year drumming with the Senegalese *sabar* ensemble Rambax MIT, I decided to transcribe our music for the benefit of the drummers preparing for our upcoming show. I chose an unconventional method of transcription based on the Time Unit Box System (TUBS), Microsoft Excel, and a labeling style used by Rambax co-founder Prof. Patricia Tang. My experience revealed aspects of both the transcription process and the utility of the finished product. I will discuss my decisions in terms of the needs of the performers and nature of the music of Rambax MIT, explore the transcription methods used by authors of instructional and ethnographic texts on various types of African music, and finally examine the benefits and shortcomings of my transcription.

Rambax MIT is a *sabar* drum ensemble begun in the fall of 2002 by Tang and visiting Senegalese *griot* Lamine Touré. Based on like lifelong experience drumming *sabar*, Lamine teaches the twenty-odd MIT students a series of musical phrases, or *bakks*, which are often based on spoken phrases in Wolof. The drum strokes are vocalized using Wolof onomatopoeia, with different syllables representing particular strokes with the dominant hand (holding a stick) and the non-dominant hand (hitting the drum head directly). With the non-dominant hand, for

example, a bass stroke is vocalized as *gin*, a tone as *pin*, and a slap as *pax*. Lamine directs both rehearsals and concerts, providing verbal, visual, or musical cues to guide the group while embellishing the *bakks* with solo improvisations and, in a concert, engaging the audience in clapping or singing activities. The rest of the ensemble plays no improvisational parts, but spends most of its time repeating a *bakk* until Lamine gives a cue to transition to the next *bakk*. A few drummers are assigned particular accompaniment rhythms rather than the main *bakk*.

In contrast, a women's *sabar* drumming group called Teugoum Djeguene, taught by Serer *griot* Zak Diouf at the Alice Arts Center in Oakland, California, does incorporate some degree of improvisation among the drummers. Typically, drummers are taught one or two embellishments for a rhythm or a *bakk*, which they can play individually at any time, while most of the drummers repeat the main *bakk*. Also, unlike Rambax, the role of the accompaniment rhythms is assumed by different drummers essentially at random, usually switching at transition points between *bakks*. Relative to Teugoum Djeguene, the style of Rambax MIT requires less information to be transcribed. The majority of the drummers only play one repeating part at a time, so a transcription for these drummers only needs to include the *bakk* and one accompaniment part, typically the *mbalax*, which sets the tempo of the other parts. The fixed nature of our performance also makes it a better candidate for transcription, because there is no risk of stifling the creativity of an improvisation by providing a fixed score.

There is no standardized system for transcribing *sabar* music, likely because *griots* in Senegal successfully play *sabar* without written aids. In fact, the use of aids can be frowned upon as a Western crutch that a true *griot* ought not require[i]. Because *sabar* is performed at a variety of social occasions, from political gatherings to street parties, a *griot* hears drum rhythms daily, and might grow skillful at interpreting such familiar sounds.

In Rambax MIT, the majority of the drummers are graduate students who have some background in Western music, but have dedicated their studies to science and engineering. None are Senegalese. Only a handful have taken beginning lessons in Wolof, and fewer have visited Africa. As far as daily exposure to drumming, we content ourselves with tapping our feet inconspicuously during lectures that fail to hold our attention. We practice drumming as a group one to three times per week, but when busy with school, can go as long as a week without hearing drum rhythms. Increasingly often, Lamine reminds us, "You have to know what's coming," asking that we transition smoothly between *bakks* by memorizing their sequence and timing—a challenge for those of us unaccustomed to learning by oral tradition alone. Many of us invent a private notation to map out the *bakks* for our own understanding and memory. We even used a written "program" on-stage in the spring of 2004, while drumming for a *Simb*, or lion dance. It seems that in the context of MIT and Boston, Lamine is willing to accept the use of transcription as a tool for analyzing, practicing, and organizing *bakks*.

I decided that my notation should provide information about the strokes, timing, and sequence of the *bakks* for drummers who are likely to have played them before, but might have forgotten details, like the order in which we play the *bakks* or the exact sequence of strokes. Since all the drummers have played the *bakks* before and are generally familiar with *sabar*, the transcription need not provide instructions about how to play—only *what* to play. Furthermore, the drummers should remember at least some of the *bakks* from rehearsing them previously with Lamine. Based on the similarities between the *bakks* performed by Rambax MIT and Teugoum Djeguene, other *sabar* groups might also find our repertoire familiar enough to understand the notation.

Authors of both instructional and ethnographic texts face the challenge of transcribing for an audience with an unknown level of experience with the music. Some transcribe African music using Western staff notation, whereas others use TUBS, in which a fixed unit of time is denoted by a box containing a symbol that represents a sound. For example, a general instructional text on percussion music and an instructional text written specifically about bell patterns used by the Ewe people of Ghana and Togo use transcription methods that are virtually identical[ii,iii]. Some instructional texts use notation similar to TUBS to introduce simple rhythms, but revert to staff notation to transcribe complicated pieces. For a example, a text on Vodou rhythms in Afro-Haitian music begins with photographs of hands playing the different strokes, uses TUBS-like rows of numbers of convey a few basic drum patterns, but uses staff notation to show up to six drum parts interacting in more complicated rhythms[iv]. In a more ethnographically oriented text on the flute and trumpet music of the Berta people of Sudan, transcription methods begin to resemble TUBS. Although the notation clearly derives from staff notation in terms of the symbols and format used, the lines are divided into units of equal time, with measurements of the tempo provided (in hertz) beside each line—a form that draws from the concept of TUBS[v]. Another ethnographic text on Ewe music uses staff notation to transcribe drum and bell patterns, but also uses a TUBS-like system of plotting symbols against time in order to show the time-progression of pitch in a Ewe song[vi]. This transcription bears no resemblance to staff notation. However, it is not intended to be instructional, but rather analytical: the graph of pitch is not designed so that the music could be read and reproduced for artistic purposes. The overall trend in the literature seems to favor staff notation for more instructional purposes, and TUBS notation for more analytical purposes.

My decision to use a TUBS-based transcription is partially due to my own unfamiliarity with transcribing in staff notation, but also related to the particular needs of the Rambax drummers and conveniences of the MIT student. In most of the *bakks* that we played, the beat could be broken down into either three or four sub-beats, and all of the strokes of the *bakk* fall on one of the sub-beats. Only in a few places was the succession of strokes was so rapid that I had to place multiple strokes in the same box. Some rapid successions of strokes in *sabar* are treated as a single, extended stroke. Common examples are *rwan*, a rapid succession of *pax* and *ja*, and *sa-bin*, a rapid succession of *ja* and *gin*. In many cases, a pair of *gin* strokes, vocalized as *gi-gin*, seemed to fall on essentially the same beat. The time between these successive strokes did not seem to change noticeably when we played the *bakks* at different tempos, which supports the idea of treating them as single strokes. Excepting these cases, the strokes generally fell on a sub-beat, and the number of sub-beats between strokes could be counted in order to determine the box in which to place a particular stroke.

Unlike in many forms of Western music, *sabar* improvisations do not, in my experience, include an element of shifting the rhythm of the solo slightly off the beat of the main part, as a Western singer might extend her syllables, or a soloist his notes, so as not to coincide exactly with the main rhythm. Lamine's solos occasionally included parts that place the emphasis off of the downbeat, but the strokes still coincided with a simple set of sub-beats, and always returned to the main rhythm by the end of the solo.

In this sense, *sabar* improvisations could be compared to percussion in Indian classical music. Musical virtuoso, especially in the Dhrupad style of Indian classical music, comes from the ability of an improvised part to assume unlikely offbeat rhythms and patterns that seem to miraculously return to the original beat. A pattern of "playing with off beats and syncopations

deliberately composed to sound counter to the regularity of the *tabla* beat" is referred to as *layakari*[vii]. The solo part in *sabar* can sometimes exhibit a similar sort of temporary offbeat improvisation. In general, the *bakk* and the accompaniments emphasize the downbeat in some way—often by playing the stroke of the downbeat more loudly, or in the case of the *mbalax* accompaniment, playing a more audible, high-pitched *pax*. Since my goal was to transcribe the *bakk* and one accompaniment, rather than the solo part, I was able to emphasize (by using a bolder font) the stroke on the downbeat in my transcription, without worrying about shifting the emphasis to some other point in the rhythm.

Another comparison between *sabar* and Indian percussion is the use of onomatopoeic vocalizations to represent the type and emphasis of a stroke. For example, in MIT Prof. George Ruckert's description of a *chakradar tihai* performed on the tabla by father and son Ustad Alla Rakha and Zakir Hussein: "the performers sometimes change the syllables as they recite, but this is done only for sound and accent—the strokes are essentially the same"[viii]. Lamine varies his vocalizations even less than these tabla masters, changing the syllables slightly (e.g. *rwan* to *rwa* or *gin* to *bin*) but generally maintaining a consistent correspondence between stroke and syllable. Thanks to these consistent vocalizations, the syllables can be used in transcription to accurately and intuitively represent strokes, as with many other forms of African percussion. Tang uses the first letters of these syllables as labels for notes in staff notation, and then defines the syllables with a physical description of a corresponding stroke[ix]. Like Tang, I used letters as labels for strokes in TUBS by placing a letter in a box corresponding to the time of the stroke. I have not yet learned to adapt my TUBS transcription to convey the Wolof oral poetry, called *tassu*, which can be chanted to the time of the *bakk*[x]. This might be more easily accomplished with staff notation. However, I did find that TUBS allowed me to place Lamine's verbal cue for a

transition, usually the syllable *am*, in time with the *bakk* after which the cue is given. Because tempos can change from *bakk* to *bakk*, my transcription of the transition contains some ambiguity in timing, but drummers have reported that they still found the transcribed transitions helpful.

My earliest transcriptions were pencil-shaded boxes on grid paper. I quickly found this method both tedious and inconvenient, because a mistake on my part or a change on Lamine's part required erasing and re-writing the *bakks*. In addition to being a time-consuming and frustrating process for me, this format would render the transcription fixed when provided to the other drummers as a photocopy. I wanted to create a transcription that could evolve by easy modification and re-distribution by any member of the ensemble.

I arrived at the decision to use Microsoft Excel because of the power of the Copy and Paste commands. These allowed me to quickly correct mistakes, shuffle the order of the *bakks*, and orient the *bakks* relative to the *mbalax*, or timekeeping rhythm. Orientation of the *bakk* was perhaps the most challenging part of the transcription process, and was carried out primarily by trial-and-error. I would transcribe and make repeating consecutive copies of both the *mbalax* and the *bakk*, and then drag and drop the *bakk* until it coincided correctly with the *mbalax*. While drumming the *bakk*, the sound of the drums immediately surrounding a drummer tends to drown out the *mbalax*. Bits of the rhythm can be heard only in the silent intervals between strokes of the *bakk*. The drag-and-drop method allowed me to align the gaps in the *bakk* with the audible portions of the *mbalax*; some arrangements provide the correct *mbalax* segments in some gaps but not in others, but trial-and-error eventually yielded an arrangement that seemed to align correctly to all of the gaps in the *bakk*.

This is certainly not the method that a master drummer would have used to align the *bakk* to the *mbalax*. My treatment of the *bakk* during transcription was initially quite divorced from the accompaniments that define its time and tempo, whereas the interplay of the parts is key in a rehearsal or a performance. Nonetheless, such independent treatment of the *bakk* made the transcription process far faster and easier for me. I numbered the sub-beats of my transcription with the number one on the downbeat, to make it clear how many sub-beats I used to define the unit of time in each box of the spreadsheet. After adding the *mbalax* as a sort of ruler running parallel in time to the *bakk,* I was able to see what was happening at any given instant, which, at last, gave me a spatial intuition for the time course of the *bakk*.

The transcription might have been more useful had I used a metronome to calculate the tempo of each *bakk*, and correlated that with the unit of time corresponding to each box. Confusion about the tempo of the *bakks* was the primary complaint I received from drummers who used my transcription. Those with a musical background would have strongly preferred staff notation, because they would have found the reading faster and "more intuitive." Staff notation might also have provided a more precise way of defining rapid successions of notes, which, as I mentioned, were at times placed in the same box of the TUBS transcription in order to avoid breaking down the beat into too many sub-beats.

In spite of these shortcomings, I think the main advantage of the TUBS-based transcription is its spatial nature and its versatile medium. The correlation of time with space created by assigning boxes of a fixed size to a fixed unit of time provides a spatial map of the *bakk* for people with little musical background. The use of letters to represent syllables of the *bakk*, including the cue syllable *am*, allows a reader to vocalize the *bakk* in the traditional way taught by Lamine. In a first read-through, a drummer might vocalize the *bakk* at such a slow pace

as to render it unreadable, but as he re-reads more quickly, the drummer recognizes the *bakk*. The efficiency of this method relative to the reading of staff notation depends on the drummer's musical background.

As for the medium, a Microsoft Excel spreadsheet can be sent by e-mail in a form that is easy to modify and edit. I think the drummers could get the greatest value from the transcription by opening it up and playing with it: correcting a mistake they found, making a change to the repertoire, or perhaps even composing their own rhythm or *bakk* using the TUBS system.

The transcription process has provided me with a valuable intuition about how the *bakks* fit together and progress in time, not to mention improving my memory of the *bakks* for the upcoming performance. Although TUBS is not necessarily the most efficient transcription system for sharing with a group, it may be the most versatile in terms of efficiently changing the ever-evolving repertoire. And without a doubt, the transcription process itself is a valuable learning tool for a drummer with little other musical background.

References

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[viii] Ruckert, George. *Music in North India: Experiencing Music, Expressing Culture*. New York: Oxford University Press, 2004. pp. 48.

[ix] Tang, pp. 165.

[x] Tang, pp. 223.