PLAYING TECHNIQUES OF THE *NNANGA* OF BUGANDA

by

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The *Nnanga* performance tradition

The *nnanga* is a bowed-neck harp found in the Buganda kingdom, located on Lake Victoria in southern Uganda. At one time groups of musicians resided in the king's royal enclosure, called the *lubiri*, to perform for the king. Of these musicians, the player of the *nnanga* had the most candid access to the king. He was the only musician allowed to play privately for the king and his wives. The harp player was also a vocal improviser and poet, and through his song texts he was able to advise and critique the king. The *nnanga* player was also arguably the sole figure among the court musicians who could produce the repertoire played on all the court instruments.

Explorers, historians and musicians alike have praised the status and beauty of the *nnanga* throughout the Buganda kingdom; the *nnanga* was one of the most celebrated instruments of the Baganda (Trowell and Wachsmann 1953: 397). The employment of a harpist, or *omulanga* (pl. *abalanga*), was a privilege enjoyed not only by the king but also by those select few with the requisite economic and social capital (Wachsmann 1956: 24). Despite the historical regard for the *nnanga*, its gradual decline began before the downfall of the *kabaka*, and has continued because of political turmoil. After the king lost his power during in the late 1960's, the *nnanga*'s popularity would not recover. After a political coup and the dispersal of the royal musicians from the king's court, only two *abalanga* remain in Buganda.

An *ennanga* performance is a unique combination of instrumental dexterity, vocal ability, and poetry. Any performance of a song is decidedly different from the last—even by the same performer—and in fact, the same song performed by two different *abalanga* might be unrecognized as such. *Abalanga* are skilled performers and composers who work within a very structured paradigm to create a distinctive performance. Although many musicologists have written about the *nnanga* in the larger context of Buganda court music, and P. Cooke (1970) specifically provided a rigorous study of the intricate relationship between song text and composition, only a handful articles have dealt with *ennanga* music in detail (Kubik 1960; De Vale 1984; P. Cooke and Katamba 1987; A. Cooke and Micklem 1999). I hope that this contribution will add depth to the body of knowledge about the rich tradition of Buganda court music through the lens of the *ennanga* and spotlight the intricacies of the relationship between the vocal melody and

the harp melody. This article aims to describe the playing technique and components of the overall style of an *ennanga* performance, using the historical *ennanga* song, "Gganga alula," as the primary analytical material. After a brief discussion of the instrument and a description of the notation style used throughout the document, there is detailed explanation of the structure of an *ennanga* tune and its components: the ostinato pattern played by the harp, the vocal melody, the vocal poetry, and the improvisation techniques used within each of these three categories.

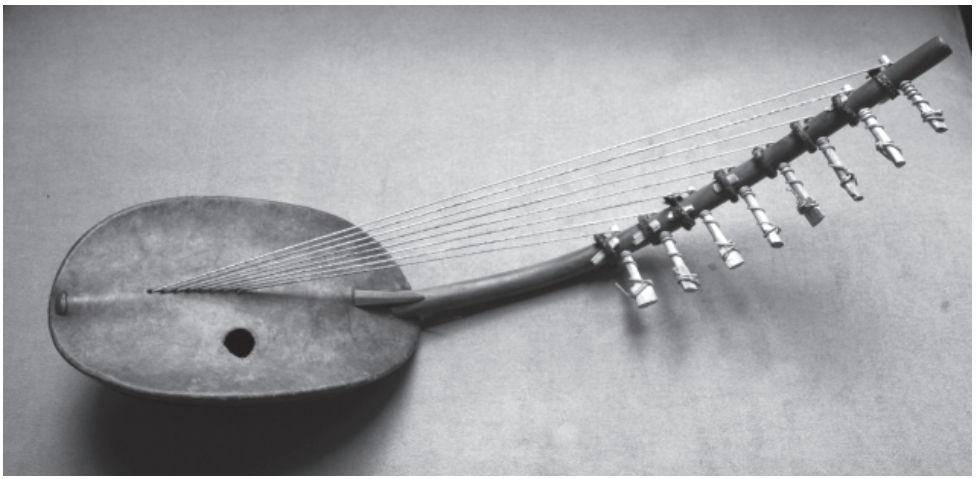

Figure 1. The *nnanga*. Photo by author.

Organology

The *nnanga* is an arched harp of the type Klaus Wachsmann characterizes as "spoon-in-cup." This refers to the position of the bowed neck: the neck rests in the sound bowl and passes through a hole in the sound table (Wachsmann 1964a: 86). The *nnanga's* resonator is an oval bowl made of wood and covered with cow skin that is attached with cords to another skin on the underside of the bowl. The harp has eight strings, now made from cow or goat hide (see Figure 1), although in the past these were constructed from cow's back tendons (Trowell and Wachsmann 1953: 396). The strings are attached to the bowed neck with tuning pegs, and moveable rings of lizard skin with banana fibre woven into them are kept in place by a wedge of wood placed just under the rings. The vibration of the strings against the rings amplifies the sound of the *nnanga* and creates a buzzing timbre. The rattling also creates a "physical experience of rhythm" (Wachsmann 1952: 56).

The *nnanga* is placed in the player's lap, usually while seated on the ground with crossed legs, but sometimes in a chair. The bowed kneck is pointed away from the player, who places his hands on either side of the strings with the palms facing each other. The thumb and forefinger of each hand pluck the strings, and the little fingers

wrap around the back of the bowed neck where it meets the resonator in order to steady the instrument. The right and left hand rapidly play two different tone rows, creating an interlocking pattern or tone cycle while the harpist sings melodies extracted from the resultant pattern. The *nnanga* is tuned to an equidistant pentatonic scale (Wachsmann 1950). The three highest strings and the three lowest strings have octave relationships: strings one and six, two and seven, and three and eight are pairs of octave tunings.

The components of an e*nnanga* piece

Ostinato pattern

An *ennanga* tune is made up of a tone cycle (author's term) and a vocal melody line. A tone cycle which can be made up of eighteen to seventy-two notes (Anderson 1968: 142), is repeated as many times as the performer wishes, and can be varied by note substitutions. This cycle is created by interlocking two tone sets, each note alternating between the performer's hands to create a hocket effect. The pattern played by the right hand is called the *okunaga* ("to start"), the pattern played by the left is called the *okwawula* ("to interlock"), and the vocal part is called the *okuyimba* ("to sing")[1]. The key text that comprises the vocal melody is the model for the construction of the tone cycle. In addition to the melody associated with the key text there are emergent patterns that may loom up from the rapidly performed tone cycle. Gerhard Kubik, writing about the *amadinda*, which also features the same tone cycles in its performance practice, referred to these foregrounded patterns as "inherent rhythms." To avoid connecting these patterns solely to sung melodies, which is not the exclusive means by which they can be perceived, and to discourage conceptualizing them solely as rhythmic phenomena, I will from here on refer to them as emergent patterns.

Notation system

Published *amadinda* xylophone transcriptions have been written in Western staff notation (Anderson 1968; Kyagambiddwa 1955) and in cipher notation (Kubik 1969); *ennanga* repertoire has been notated in Western notation (Kubik 1966/7) and TUBS notation (Cooke and Micklem 1999). In order to notate *ennanga* repertoire in this work, I have chosen to use a combination of cipher and TUBS notation (Time Unit Box System) (Koetting 1970),[2] similar to that used by Cooke and Micklem (1999) and by James Koetting (1984).[3] This notation system is made up of a series of boxes or units

[1] *Okunaga*, *okwawula,* and *okuyimba* are all infinitive forms of the verbs, "to start," "to interlock," and "to sing" respectively. It is common to use the infinitive form of these verbs to refer to the parts of *ennanga* and *amadinda* pieces.

[2] The TUBS notation is associated with the musicologist James Koetting, who applied the notation extensively in his work (1984, 1970); however, the system was initially developed by Philip Harland in 1962 for ensemble work at UCLA.

[3] In Cooke and Micklem's article (1999), the authors used the TUBS system with cipher notation. Koetting also used this system (1984: 95). Cooke and Micklem offered the notation for the basic tone cycle on one line and then notated each line of sung melody below. I have used the same

that each represent the duration of one note on the harp, or one *mora* (the short syllable of a word in Luganda). The cipher system that I have adapted to use with the TUBS grid is similar to that used in Kubik's *amadinda* transcriptions and Cooke and Micklem's *ennanga* transcription (Cook and Micklem 1999).

The notation for the *okunaga* and *okwawula* parts in this system uses numbers that correspond to the degrees of the pentatonic scale: the number 5 corresponds to the highest note of the scale and the number 1 corresponds to the lowest note of the scale. These pitches are performed on the *highest five strings* of the harp. The tone cycle for the tune "Gganga alula," if represented on one line and read left to right, would be represented in TUBS notation as follows:

			x					x					x					x					x					x				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
5	5	3	5	5	2	4	1	3	5	2	1	3	3	2	5	1	1	4	1	3	5	2	1	4	4	3	5	2	2	5	2	2	5	2	1

Figure 2. "Gganga Alula" tone cycle as one line.

Because there are two parts that interlock in a hocketing technique, I have chosen to represent them on two separate lines. The top line represents the tone set played with the right hand *okunaga* part and the bottom line represents the tone set played with the left hand *okwawula* part. The numbers are staggered to reflect their alternation.

			x					x					x					x					x					x				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
5		3		5		4		3		2		3		2		1		4		3		2		4		3		2		5		2		2	
	5		5		2		1		5		1		3		5		1		1		5		1		4		5		2		2		5		1

Figure 3. "Gganga alula" tone cycle split into *okunaga* and *okwawula*.

The vocal line is notated in the same fashion as the harp line: each number represents the pitch that corresponds to the highest five strings on the harp. A number with a comma to the left (",5") indicates that the singer sang an octave *below* the sounding of the harp string, and a number with a carat next to it ("^5") indicates a pitch an octave *above* the corresponding harp string.

The pitches in the vocal line are sometimes sung simultaneously with harp notes and sometimes sung immediately before or after the harp notes.[4] The pitches of the vocal line are notated directly under the harp line, and the lyrics are written directly above the notated vocal pitch. Each tone cycle is inserted into a grid featuring a line

idea, but created a more prescriptive transcription that details each note of the harp part (when audible) and notated the vocal line below. This provides a closer look at the relationship between the harp part and the vocal line. I also added to Cooke and Micklem's notation by adding symbols that indicate an octave above or below the highest five strings of the harp.

[4] Many of the instances when a note in the vocal line and a note in the harp line were not sounded simultaneously were only audible when the recording was slowed down substantially. These rhythmic changes were so slight they could be attributed to the demands of singing the text or nuances in a singer's style.

for each part. From top to bottom the lines designate the following parts: the *okunaga*, the *okwawula*, the lyrics and the vocal melody, resulting in a diagram with four rows of thirty-six columns.[5] Note that this number of units (thirty-six) is due to the tone cycle length of "Gganga alula" and varies from song to song. Figure 4 is one of the nuclear texts from the song "Gganga alula" provided by Peter Cooke in his text *Play Amadinda* (2006). The phrase begins in unit twenty-one and continues into the following cycle from there: *Ganga'lula Baamutemaak'engal'ebitundu*.

			x					x					x					x					x					x	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
5		3		5		4		3		2		3		2		1		4		3		2		4		3		2		5		2		2	
	5		5		2		1		5		1		3		5		1		1		5		1		4		5		2		2		5		1
ga	l'e		bi	tun		du										Aa!				Gga		nga		lu	la			Baa		mu	te	maa		k'en	
5	5		5	5		4										1				4		2		4	4			2		2	2	2		2	

Figure 4. Examples of the four rows using the new notation.

Metric structure

A tone cycle is metrically organized not only by the harp tones, but also by the characteristics of the Luganda language. The subdivision of a tone cycle is made up of syllabic units or morae. Luganda contains two kinds of syllables, a long syllable (two morae) and a short syllable (one mora). Six morae make up a "clap beat," and though there may be four, six, eight or more clap beats in a given tone cycle, depending on the song (Cooke and Micklem 1999: 50), "Gganga alula" has six clap beats in its thirty-six-pulse tone cycle (i.e., 6 x 6). The clap beat can of course be clapped or played by the *empuunyi* bass drum in ensembles where it is used. The clap beat (*empuunyi*) is not explicitly played during an *ennanga* tune, but nonetheless is part of the structure of a piece. Therefore, the text and rhythm of the vocal line is also organized within this metrical system.

Below is an example of the opening lines of the song "Gganga alula" in my modified cipher-TUBS notation. Each box is a unit of time that represents the duration of one mora (or one harp tone), and as I have mentioned, this particular song has thirty-six units in a tone cycle. There are four lines of notation for each of the tone cycles: the first line is the *okunaga*, the second line is the *okwawula*, the third line is the text sung to the melody, and the fourth line is the vocal melody. These four rows are read left to right (i.e., columns 1 to 36), and the next tone cycle begins directly below with another set of four rows. The four rows are separated by a bold line to demarcate the beginning of another tone cycle.

[5] This being the length of the cycle of "Gganga alula." The cycle length would likely vary in another tune.

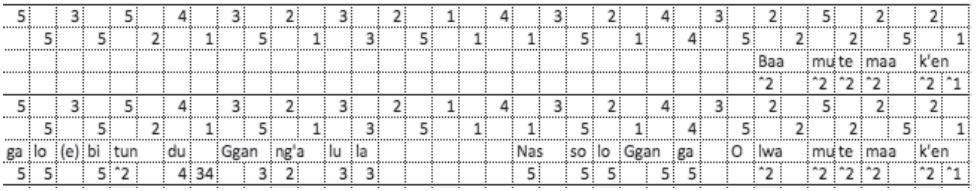

Figure 4. Example of modified cipher/TUBS notation taken from the first lines of Temutewo Mukasa's "Gganga alula."

The clap beats in the previous examples are indicated with an "x" above the numbered boxes. These beats organize the cycle and are associated with a certain recurring position in the tone cycle, but there is no definitive starting or ending point within a cycle. The tone cycle can begin on any given note, even though there are a few common starting points. This also means that the clap beat is not necessarily the first beat to start a cycle, but is defined rather by distinguishing the appropriate note based on the internal melodic relationships of the ostinato pattern. I have organized all of the transcriptions of this piece with the same starting point, which is not necessarily normative but I have done so for the sake of uniformity for the comparisons that will follow.

"Gganga Alula"

In order to understand the performance practice of an individual *omulanga* and the playing techniques that have passed from generation to generation, I have conducted a comparative analysis of five performances (by different *abalanga*) of one song, "Gganga alula." A standard *ennanga* piece, "Gganga alula," has the greatest potential for this type of analysis because there are commercial or archival recordings available of this song by Kasule (1950), Temutewo Mukasa (1952) and Albert Mwanga Ssempeke (Sr.) (1988). I also have two more recent recordings of this song: one field recording of Albert Bisaso Ssempeke Jr., and a recording of Ssalongo Majwala (given to me by him) playing the selection in the 1990s. I more recently came across a sixth recording by Evaristo Muyinda, but the quality of the recording was such that I could not transcribe the song with enough confidence to use it in comparison with the other recordings. Using transcriptions of the first five performances, I will compare the playing techniques of these five *abalanga*, excluding the Muyinda recording because of the unreliable data it would generate.

I have transcribed four of these pieces and reproduced a transcription of the fifth, with a few corrections to the rhythmic structure of the vocal melody and the text (a transcription of Temutewo Mukasa's performance) available in the Cooke and Micklem (1999) article already mentioned. Two of the song texts I used are available in published works. The first is the text sung by Mukasa, available in the Cooke and Micklem article (1999), and the second text, sung by Albert Ssempeke Sr. on the album *Ssempeke!*, is available in the album liner notes (Cooke 1988), as well as in Susan Kiguli's master's

thesis (1996). I have borrowed from the analytical frameworks provided in the studies of *ennanga* by A. Cooke and Micklem (1999), Kiguli (1996), P. Cooke (1988), and P. Cooke and Katamba (1987), as well as the work of Kubik (1960, 1964, 1966/7, 1969, 2010), who studied the *amadinda* (the Kiganda xylophone) and published an extended comparative study of *amadinda* pieces (1969).

The story of Gganga

The text of this song refers to a court harpist, Gganga, who attempted to 'steal meat' from the princess. As punishment, Gganga lost one of his fingers, or in some versions of the song, a few of his fingers. These events, as chronicled in the text, are metaphorical. In fact, Gganga was castrated for having an affair with the princess, daughter of Kabaka Mutesa I — the Baganda rarely refer to sex explicitly. Incidents of transgression by the *omulanga*, followed by corporeal punishment administered by the *kabaka* (king), were apparently quite common (Roscoe 1911, 35); the *omulanga* had access to the king's family, including the princesses, and the Baganda kings were known for being jealous.

Tonality

Kubik's findings

Gerhard Kubik spent some time elaborating on the use of Kiganda intervals and labeling them. He identified the span between five notes (i.e., the first scale degree and the fifth scale degree), approximately 960 cents, as a Kiganda seventh, presumably because of its proximity to a Western minor seventh, 1000 cents in equal temperament. Kubik also identified the distance between the first and second note in the scale (around 240 cents) as a Kiganda second (Kubik 1969: 27), and the interval between three notes (e.g., the first scale degree to the third scale degree), approximately 480 cents, as the Kiganda fourth, again because of its proximity to a tempered Western perfect fourth (500 cents). The inversion of the Kiganda fourth, the Kiganda fifth, is the interval between four notes, approximately 720 cents (compare to an equal-tempered perfect fifth at 700 cents) (Kubik 1960, 1969).

This system of labeling intervals according to their proximity to Western intervals in an equally tempered scale and preceding the name of the interval with "Kiganda" in order to account for the discrepancy of 20-40 cents, is confusing at best. I believe that Kubik chose this labeling system so that he might also include in his work a discussion of consonance and dissonance, which are more understandable to the Western reader by way of interval naming using a seven-note octave species. However, the etic terms of consonance and dissonance do not further an understanding of Kiganda music. Therefore, I will refer to the intervals of a Kiganda scale according to their position in the Kiganda pentatonic scale: the distance between the first two pitches is a second, the distance between the first and the third pitch is a third, and so forth. Table 2 provides the names of each of these intervals and the distance between them, as well as a comparison with the closest interval in an equally tempered Western tuning system.

Kiganda interval	Cents	Equal Temperament	Cents
Second	240	Major Second	200
Third	480	Perfect Fourth	500
Fourth	720	Perfect Fifth	700
Fifth	960	Minor Seventh	1000

Table 1: Intervals (approx.) on the *nnanga* compared to equal temperament.

In his study of tonality across Kiganda *amadinda* songs with different cycle lengths and in all five *miko*, Kubik noticed immediately that in the resultant pattern there was a general avoidance of pentatonic seconds and fifths in favour of thirds and fourths (2010: 267). Kubik categorized this kind of tonality as "consecutive consonance," amplified by "durational overlapping of notes," which are a byproduct of the music's fast tempo (2010: 267). Kubik's article outlined the most common and uncommon combinations of notes, played in succession, in any given song cycle. He distilled the information to the following factors that composers (as he posits) took into consideration:

(a) A desire for consonant sound [in a Western sense] and clarity of the (implied) text lines;
(b) The importance of the inherent-pattern phenomenon and the verbal textual associations it calls forth;
(c) The desire for two or more tonal steps within a cycle, which is satisfied by the creation of 'segments of consonance';
(d) The need for the vocal melody to be contained in the instrumental versions of a song, though it is not necessarily sung while playing;
(e) Requirements of form, for example the bipartite organization of many musical pieces;
(f) The need for certain melodic 'signals' (routine melodic passages) to appear in the total pattern. (2010: 271–72)

Kubik claimed that these factors all had to be balanced in an *amadinda* composition. The use of thirds and fourths (e.g. the difference between the first and third key and the first and fourth key) is certainly a preferred feature, and although Kubik argues that these are the only "consonant" intervals in the system, it is impossible to know whether a sense of consonance is what drives this preference. When Kubik wrote that the parts were composed so that they might interlock in thirds and fourths, he meant that each part of the song is composed so that when they interlock there is a succession of thirds and fourths. Kubik also found that tucked between groups of intervals of thirds and fourths were short melodic runs made of descending tonal steps (2010: 273).

Cooke problematized Kubik's method of analyzing Kiganda music, arguing that, "to study the resulting instrumental sound patterns solely by analysis of their intrinsic qualities without searching for the route by which both music and speech through song have been realized in physical terms by striking, blowing or plucking instruments is to

ignore what I consider to be the real issue—one closely connected with fundamental processes of music composition" (1970: 62). In response, Cooke used a new approach to understand Kiganda music, in which he endeavored to, "demonstrate that the instrumental structures are closely related to the musico-phonological structures of the songs" (1970: 62).

Cooke argued that songs were composed by first creating a text, using the text to create a song melody, and later filling in the tone cycle. He came to this conclusion because the melody line of Kiganda song is closely correlated with speech patterns. By analyzing the relationship between the rhythm and melody of key phrases in Kiganda songs, Cooke concluded that the rhythmic structures in song melodies are determined by basic syllabic structures and phrase lengths. Melodic contours of speech are also preserved in the song, and "the first *mora* in each 'prominent' syllable is always reproduced" (71). What is more, Cooke discovered the significance of those notes that do not correspond with the structure of the spoken melody (ancillary notes), arguing that often descending seconds and thirds are used to express the low tones in the beginnings of words that might not be realized in rapid speech. Finally, he argues that larger intervals used as ancillary notes are also used to "isolate prominent syllables from preceding syllables" (72) and break the auditory streams into rhythmic shapes and punctuate text patterns in the melody (80).

In order to better understand the relationship between text and melody we must examine the most important phrases in the song, or as Cooke referred to them, "nuclear themes" (1970: 67). Cooke wrote that these "nuclear themes, together with the repeated choral response and the general melodic similarity of other solo phrases, give each song its identity" (1970: 67). I would like to briefly demonstrate Cooke's theory using one of the nuclear texts and the *amadinda* accompaniment that he provided in his booklet *Play Amadinda: Xylophone music from Uganda* (2006). I have identified this phrase as nuclear theme A.

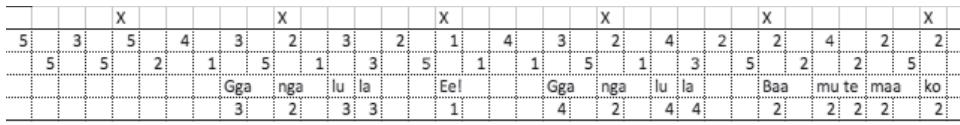

Figure 6. Nuclear theme A on *amadinda* (Cooke 2006, 14).

It is easiest to begin with the explanation of the rhythmic structure. In the example above, the word *Gganga* takes up three *morae*, and the second half of the word lands on a clap beat. Therefore it should be assigned 3 rhythmic units—in the TUBS system, 3 boxes. However, because the words *Gganga* and *alula* are elided to *Gganga'lula*, the last syllable of the word *Gganga* is assigned two *morae*. In this line there is a rest and the interjection *Ee* that falls on the clap beat followed by a repeat of the phrase *Gganga'lula*, which has the same relationship to the clap beat as the first repetition of the phrase. Finally, the prominent syllable *Baa* enters on the clap beat and is given two rhythmic

units to account for the lengthened vowel, and the next two syllables *mu* and *te* are each assigned one rhythmic unit. The syllable *ma* is stretched to two units so that the final syllable in the word, *ko*, can be sung on the clap beat.

Moving on to the melodic structure of the phrase, if it is a given that the melodic structure follows speech patterns to some degree, then one must account for the notes that fall in between prominent syllables. In the phrase *Gganga alula*, or as it is sung *Gganga'lula*, the sung notes are supported by xylophone accompaniment. The "5" that follows the "3" at the beginning of the phrase makes the other syllables more prominent so that the listener might isolate the notes that are associated with the text. The "1" played after the second syllable is a perfect example of a low tone being used to express the unvoiced *a* at the beginning of *alula* that is lost in the elision of the two words. The last word in the phrase, *Baamutemako* is not quite as clear as the beginning of the phrase: the accompaniment does not quite line up with the sung melody. Although all the notes are present in the accompaniment, the "2" that should be aligned with the syllable *mu* is played during the second *morae* of the syllable *Baa*. Here still, the ancillary notes "4" and "5" break up the melodic stream to lend prominence to the sung melody sung exclusively on "2."

If Cooke's argument about Kiganda song composition is correct—that text for these nuclear themes was composed first, that the melody line was composed to closely reflect the melo-rhythmic patterns found in the text and that ancillary notes were added to bring out these themes—it would follow that the themes that are correlated to the harp part were some of the first composed. However, Cooke further insinuated that *omulanga* might improvise using different melodic streams that exist in the instrumental part, meaning that newer phrases would also closely correlate to the harp part (P. Cooke 1994: 476). By closely examining some of the nuclear themes, I will demonstrate this concept.

I would first like to illustrate some of the nuclear themes demonstrated by Cooke (1996) that are common in the *amadinda* versions of the tune. The first is the call (*Baamutemaako*) and response (*Gganga alula. Ee! Gganga alula.*) illustrated above.

			X				X				X				X					X				X	
5	3	5	4	3	2	3	2	1	4	3	2	4	2	2	4	2	2								
5	5	2	1	5	1	3	5	1	1	5	1	3	5	2	2	5	1								
			Gga	nga	lu	la		Ee!			Gga	nga	lu	la		Baa	mu	te	maa	ko					
			3	2	3	3		1			4	2	4	4		2	2	2	2	2					

Figure 7. Nuclear theme A taken from Cooke (2006).

The second nuclear theme (Nuclear theme B) that Cooke illustrates (Figure 8) is another call and response of a different length. In this example, the call is longer (*Baamutemako engalo bitundu*), but the response is identical to the second half of the response above.

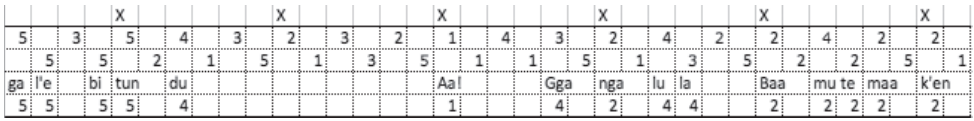

Figure 8. Nuclear theme B in Cooke (2006).

Finally, Cooke's third nuclear theme (C) in Figure 8 takes up the entire basic tone cycle:

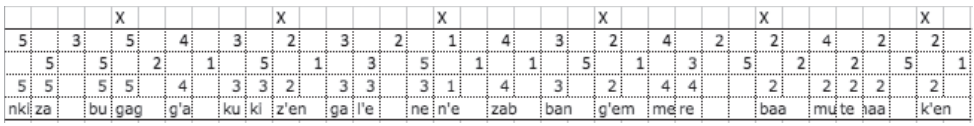

Figure 9. Nuclear theme C in Cooke (2006: 14).

In all three of these examples, about 80% of the notes are sung in unison with the *amadinda* accompaniment (Figure 7: 78%; Figure 8: 80%; Figure 9: 81%). This makes it clear, then why these nuclear themes give the song its identity: the text can be "heard" without ever needing to sing the melody (Cooke 1999).

My findings

With these concepts outlined by Cooke and Kubik in mind, I am interested in further exploring the relationship between vocal melody and accompaniment, but within the harp repertoire. I was first fascinated by the prospect of a tonal center in a piece or even the reliance on a specific pitch or two in a given piece. In order to explore this idea I identified the frequency with which each degree of the scale was played and the major trends in the intervallic relationships between the harp and voice for each performance (i.e. harmonic intervals). I compiled this information by inputting the transcriptions into a spreadsheet, and creating a formula to measure the frequency of each scale degree in both parts. Because the lowest three strings on the harp (with one exception in Kasule's harp solo) are played only to double the highest three strings, these pitches were not considered in the tally. Note that the tally includes all of the pitches played and sung, rather than the theoretical prescribed notes for a performance. By taking into account everything that was performed I was able to consider variation (as well as mistakes) into the overall picture of the performance.

In all five of the performances that I included in this analysis, the most frequently played tones were the second scale degree and the fifth scale degree; in three of the performances the second scale degree was the most frequently played, and in two of the performances the fifth scale degree was the most frequently played. A tally of all the performances showed that twenty-seven percent of all the pitches played on the *nnanga* were on the second scale degree and twenty-five percent of all the pitches played were on the fifth scale degree. In most of the performances, the most frequently sung pitches

were the fifth scale degree and the second scale degree, and when the pitches in all five performances were averaged, the most frequently sung pitches were the fifth scale degree and the second scale degree.

The predominance of the fifth and the second scale degrees suggest that these two pitches are particularly important for the piece, though one must also consider the effect of different techniques on the use of a single pitch: the fifth scale degree is often sung repeatedly over the span of many phrases in "recitative-style" passages. However, the second scale degree was also a predominant vocal pitch. This can be attributed to one of the key texts in the piece "Gganga alula," illustrated in Figure 10, which centers on the second and fifth scale degrees.

Figure 10. Key text sung by Ssemepeke Sr.

The recitative-style vocal passage in this example explains the prevalence of the fifth scale degree in the vocal line, but not in the *nnanga* parts. Not only are these two pitches the most commonly played in this piece, but also the fifth and second scale degrees are often repeated in succession. The frequency with which these two scale degrees were performed over the five performances in the *nnanga* part alone supports the idea that these are central tones in this piece, perhaps because they are convenient reciting pitches.

The harp and voice

Since the performance practice of the *nnanga* as a solo instrument offers extraordinary potential for variation, I am interested in further exploring the relationship between the harp ostinato pattern and the vocal lines in a given *ennanga* piece. The single *omulanga* is afforded more opportunity to manipulate this relationship than three *amadinda* players coordinating three tone sets on the xylophone. The correlation between the vocal line and the *nnanga* line is usually quite clear; many of the notes sung in a vocal melody are found in the harp tone cycle.

There is a clear relationship between the vocal line and the instrumental ostinato pattern in an *ennanga* tune, and, in fact, many of the sung melody lines can be almost pulled from the ostinato pattern. However, there are portions of a song melody that are not so clearly supported by the harp ostinato patterns. Examples of these phrases include recitative passages, like the excerpt in Figure 11.

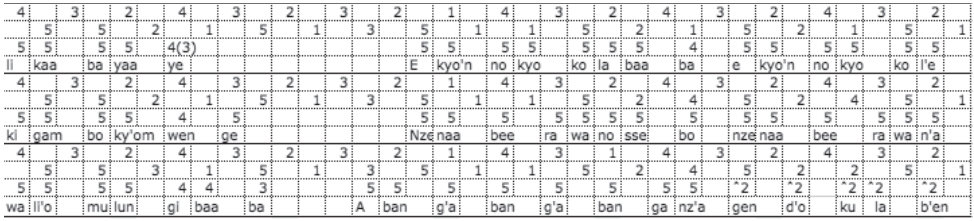

Figure 11. Excerpt of recitative sung by Ssempeke Sr.

Recitatives and others like these that cannot be readily extracted from the tone cycle are certainly not common. However, the melodies that are not sung in unison with the ostinato patterns are an important part of the piece, precisely because the *omulanga* uses them to create variation, as well as to subvert the listener's expectation of the vocal line (Cooke and Katamba 1987: 61–62).

Improvisation techniques

Gerhard Kubik did not consider variation and improvisation in *amadinda* playing,

> […]because it is comparatively rare, and secondly because in this music some variations, especially when musicians perform *okudaliza* or *okusia ebyondo*, go deliberately against the normal interlocking relationship of the two basic parts. By temporarily suspending the accepted 'rules of behaviour' tension is created. (Kubik 2010: 267) [6]

This tension-creating effect seems to be well suited for the techniques of variation that are applied to *ennanga* repertoire, particularly given its formal cyclical elements. As a result, I am interested in the nature of the improvisation techniques used in *ennanga* solos that occur in between vocal lines and whether they are meant to create tension, foreshadow a melody or highlight an inherent rhythm.

Accenting

I have been able to identify a few techniques that an *omulanga* might use to improvise variation in the tone set. Often *abalanga* manipulate the resultant and emergent patterns created in a tone cycle by accenting groups of notes, or even one pitch in the scale, effectively foregrounding certain possibilities. Because of the fast tempo, it is sometimes difficult to identify whether the accents are agogic or dynamic; however, accenting might include either of these options or a combination of both. In his 1988 performance of "Gganga alula," Ssempeke Sr. introduced an emerging pattern by beginning the piece playing only those notes that he would accent in the harp introduction of the piece.

[6] When Kubik wrote of the kinds of variation and/or improvisation that are possible on the *amadinda*, he spoke of a few techniques that one of the three players (usually the same player) might use. Because there is only one player performing on the *nnanga*, it is easier for the *omulanga* to improvise much more without creating confusion more likely to ensue in a multiple-player setting.

Figure 12 is a transcription of this technique: the first two lines are the skeletal pattern that he accents and brings out as an emerging pattern in the second two lines in the full, interlocking cycle of the song (Cooke and Katamba 1987: 63).

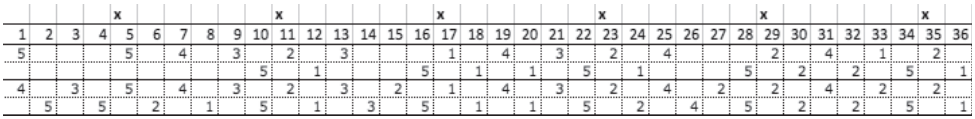

Figure 12. Excerpt of Ssempeke Sr, using the accenting technique.

If one compares this skeletal pattern to Nuclear Theme C noted by Cooke (2006) that spans the whole tone cycle, one finds that Ssempeke Sr. is outlining the vocal melody and punctuating it with rests. Figure 13 compares Ssempeke Sr.'s skeletal pattern and the nuclear theme that he sang later in the performance. Note that the nuclear theme sung by Ssempeke Sr. is almost identical to that outlined by Cooke (shown in Figure 9).

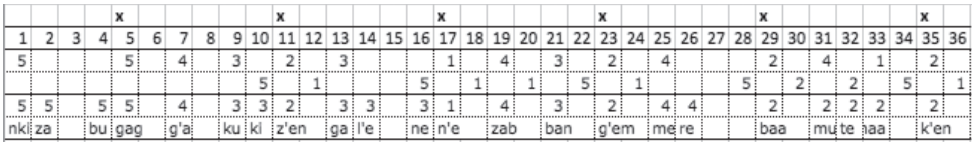

Figure 13. Ssempeke Sr.'s skeletal pattern above his performance of nuclear theme.

Ssempeke Sr. also added a technique in which he stressed the fifth scale degree by plucking the highest string louder than the others. I hypothesize that this common method of accenting is popular because it is the easiest way to bring out a new melody.

Note substitution

Occasionally in a harp solo a new melody line is foregrounded for the listener through note accenting or note substitution before the *omulanga* sings it. Andrew Cooke and James Micklem (1999) transcribed a harp solo that Mukasa played in a different recording of "Gganga alula" and found that he substituted many of the tones in the cycle for the fifth scale degree, creating a harp tone set in which almost half of the tones were the fifth scale degree, presumably to mimic the recitative that he sings in the same song. Figure 14 is an excerpt of two lines of this technique taken from Cooke and Micklem's transcription (1999: 56). The note substitutions are in bold:

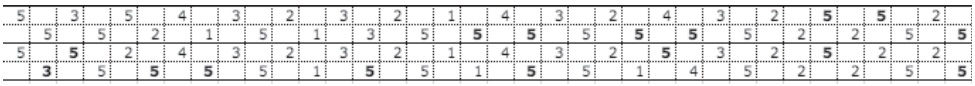

Figure 14. Mukasa's performance that mirrors the recitative.

The second tone cycle in this example contained most of Mukasa's pitch substitutions in the *okwawula* (left hand) part. Mukasa also accented the fifth scale degree in both the *okunaga* (right hand) and *okwawula* (left hand) parts in order to echo the recitative-style singing in the harp ostinato pattern. The technique of using note substitution and note accenting to foreground a desired emergent pattern in the ostinato was a common technique in four of the five performances that I examined.

Amatengezzi

One final *ennanga* performance technique involves simultaneously playing the highest three strings with lowest of the three strings, the *amatengezzi*, which, as I stated before, are tuned an octave below the highest three strings. It is similar to a technique played on the *amadinda* xylophone: when the top two scale degrees are doubled on the *amadinda*, it brings out an emergent pattern called the *okukoonera*, which is basically the pattern created from the lowest two pitches of the scale. This part, played by a third player on the xylophone, literally means to knock or tap (Anderson 1968: 136) and is named for the manner in which it emerges: through the interaction between the lowest two pitches of the scale. The doubling of the low harp strings varies from player to player — some harpists use only one of the lowest three strings, while some use all three. Because this technique can bring out another emergent pattern, its use can change the character of a harp performance. In the performance of "Gganga alula" by Kasule, for example, he plays only the *amatengezzi* during part of the harp solo, a technique that I have not heard any other player use. By playing the lowest register alone, rather than in unison with the higher strings, the *omulanga* can create body and volume with a different technique.

Entry point

The form of an *ennanga* performance is almost always different from one performance to the next because it is affected by small choices in improvisation. Choices as to how many cycle repetitions to perform, where to place and how to perform a harp solo, variations of vocal poetry and their consequent melodic and rhythmic structures all contribute to the form of an *ennanga* tune. In the song "Gganga alula," there are entry points for each of the most commonly sung phrases. The beginning of a phrase is composed so that prominent syllables and words coincide with the clap beats (Cooke 1970). Figure 15 is a transcription of the first two phrases of Ssempeke Sr.'s performance of "Gganga alula" with the literal translation of the syllables. The actual line translates as: "They cut off part of his fingers for stealing meat" or alternately: "And part of his fingers were cut off for stealing meat.[7]" In this example, as in every example of this phrase sung by all five *abalanga*, the word *baamutemako* begins on the clap beat found in unit 29, the final syllable in the word, elided with the next word to form the utterance

[7] These translations were taken from Kiguli (1996: 68) but were originally published in *Ssempeke!* and were compiled by Peter Cooke with the aid of Ssempeke Sr., Miriam Zziwa and Meresiane Musoke.

k'en is sung on the clap beat in unit 35. If an *omulanga* chooses to begin the phrase with another word (here Ssempeke Sr. uses "Nze" which is used as a vocable since its meaning does not fit with the rest of the utterance) the syllable *baa* must align with its designated clap beat.

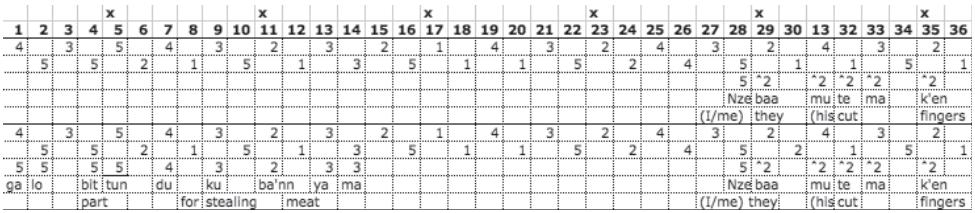

Figure 15. Opening lines of Ssempeke Sr.'s performance.

The melodies in these phrases follow a formula as well; as discussed earlier, much of the vocal melody in a given phrase aligns with the ostinato pattern played on the harp. Cooke (1970) also indicated that syllables that coincide with the clap beat are always sung in unison with the instrumental pattern (73), a fact that is also clear in Figure 15. Because the melody and rhythm are so linked to the ostinato pattern, the same melodic phrases reappear with new text across performances. Figure 16 shows a transcription of Ssempeke Sr. singing the new text, *Naamukolantya mukama wange webale* which translates as "What can I do for my master (*or* how can I help my master) thank you." In this example Ssempeke Sr. sings virtually the same phrase to the words *Naamukolantya* as he sang to the words *baamutemako* in Figure 15. The second half of the phrase differs, however, mainly because the syllables in the phrase *mukama wange weebale* warrant a different rhythmic frame.

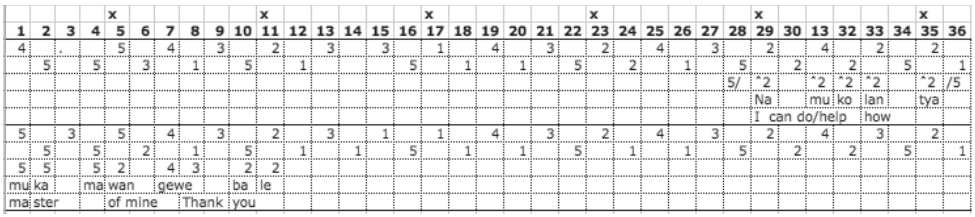

Figure 16. Ssempeke Sr. cycle 12 and 13.

Because so much of the melo-rhythmic (Cooke 1995) material is based on spoken language, the expectation and the manner of listening is culturally acquired — a Muganda is more likely to associate a certain melody with a certain text (Cooke 1999: 79–81). The *balanga* use these melo-rhythmic formulae to create and challenge listener expectations, often creating expectation by singing the established templates and then varying parts of melodies and adding words or phrases at the beginning or ends or phrases. The *omulanga* chooses how to group these units, and whether and how to slightly vary their characteristics to create an affectual moment in the piece.

Conclusion

An *omulanga* may choose from a number of techniques to create a *nnanga* tune from a simple ostinato pattern. He can vary the tone cycle that he plays on the *nnanga*, construct a unique form out of predetermined musical phrases and *ebisoko*,[8] vary harp solos in an otherwise repetitive tone cycle, and navigate through numerous layers of meaning and language to create his own version of a song text. Above all, the *omulanga* must be adept at moulding the text to match the available melo-rhythmic patterns found in the basic tone cycle.

P. Cooke's work (1970) made clear the strong relationship between vocal melody and text; in short, the spoken speech patterns in Luganda shape the sung melody, the instrumental accompaniment is crafted to emphasize the sung melody and the singer has the ability to improvise using the tone cycle as a blueprint for new melodies. The analyses of five different performances of Gganga Alula provided in this article offer a clearer picture of the control that the *omulanga* has over every aspect of the song. He can pair his understanding of song texts and melody with performance techniques to generate endless, intricate variations on a tune. By using variation techniques in the tone cycle he can change the melo-rhythmic patterns that result, and in effect change the vocal line. By working with, and creating new emergent patterns generated through the hocketing ostinati, the *omulanga* can create the illusion that the listener is hearing a vocal melody without even singing. He can use note substitutions to create a call-and-response pattern between the *nnanga*'s "singing" and the actual vocal line. He can also add a syllable at the beginning or end of a phrase, vary one of the sung melodies (rather than a sung phrase) therefore producing harmonic intervals other than the expected unison and octave, or create melody lines that depart from the tone cycle. Finally, the *omulanga* can add syllables to the melody by slightly changing the text (or even change all of the text while maintaining the original meaning of a given line). The proficiency of an *omulanga* lies in the relationship maintained between the harp and the voice through performance, and the ability to utilize a multitude of complex techniques within very specific melodic and rhythmic parameters established through key song texts.

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[8] *Ebisoko* are variations found in Kiganda music in the form of modifications to text and melody (Cooke 1970: 78) and "oral formulaic patterns used by performers of oral poetry" (Kiguli 1996: 5).

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