Variation Techniques in Four West African Lead Drumming Examples: A Comparative Study

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Mysticism, randomness, and exoticism are myths that are often mistakenly associated with African music. Speaking of his experiences teaching in higher education, Jean Ngoya Kidula says that:

> The catalogue usually includes generalizations such as: All Africans make music; Africans have rhythm; African music is simple to learn – folk and primitive; African music involves dancing or movement – always vigorous; Africans understand one another's music and languages (usually dialects); African music has been that way from time immemorial; Africans should/can perform only 'African music'; and Africans had no classical or popular music until Westerners introduced it" (Kidula 2013, 144).[1]

[2] In one generalization, Trevor Wiggins writes that "The parts in drum ensembles integrate in a wide variety of ways and explore the range of rhythmic interaction to an extent unparalleled in Western music. This integration is so complete and at such a speed that it is extremely difficult, if not impossible, for a Western musician to work out what is going on" (Wiggins 45).

[3] In response to situations such as these, Kofi Agawu writes:

> The notion of an irreducibly complex African rhythm has been promulgated by *both* Western and African scholars: Hornbostel, Jones, and Weman are of European origin; Nketia, Bebey and Bgeho are African. It is therefore not simply a case of Westerners (mis)representing African music….What we have, rather, are the views of a group of scholars operating within a field of discourse, an intellectual space defined by Euro-American traditions of ordering knowledge. It is difficult to overestimate the

1. See also: Kingslake (1959, 85); Bebey (1975 [1969], 15).

> determining influence of this scholarly tradition on the representation of African music. (Agawu, 58 2003)

[4] In short, in some cases the available information often perpetuates simplistic ideas of African music as uncomplicated and unchanging, among other things, while in other cases what is amplified is the destructive idea that African music is so complex that "Westerners" cannot understand it.

[5] Despite these complications, some studies of dances have brought to light the cogent, sophisticated, *and* accessibly understandable construction of African music within individual genres, or within fixed, non-varied rhythms used in multiple genres. For example, in his analysis of *adowa*, when discussing the timeline often referred to as the "standard pattern," (with inter-onset intervals of 2212221, not to be confused with the separate timeline which *adowa* is based on), Willie Anku writes that "There are four felt beats in this rhythmic structure, the first of which is externalized as the regulative beat," and Simha Arom writes that "the great majority of forms of African music are based on a strict *periodicity*" and that "Periods are most often subdivided into a constant number of isochronic – i.e., equidistant – pulses" (Arom 2018, 980).[2] Ladzekpo and Pantaleoni provide a detailed analysis of Takada drumming from Eastern Ghana in which, in spite of dividing the standard time line pattern into arguably unwieldy meters such as 5/8 and 7/8, by showing that these meters always fit within 12/8, they display the efficient, perceivable organization of the music (Ladzekpo and Pantaleoni, 1970). In her work on Senegalese *Sabar* music, Patricia Tang writes that "*Sabar* rhythms always have a clear beat; even if that beat may not be externally obvious, it is kept by the accompaniment parts" (2007, 98). While Tang's transcriptions eschew the use of time signatures, her bar lines are always chronologically equidistant, documenting the consistent construction of the music (ibid.). In addition, fixed, non-varied rhythms have been addressed by scholars such as Jeff Pressing, who discusses "five rules of transformation" which are presented as a way to generate West African timeline patterns (Pressing 1983, 52). In his article "Meter and Grouping in African Music: A View from Music Theory," David Temperley addresses fundamental consistencies between the rhythmic constructions of Euro-centric and West-African music (Temperley, 2000). James Burns analyzes fixed, non-varied rhythms in the article "Rhythmic Archetypes in Instrumental Music from Africa and the

2. See also: Anku (1992, 3); For an explanation of the "standard pattern" see Agawu (2006, 1–4).

Diaspora" (Burns 2010). Burns also discusses variation in Southern Ewe dance-drumming in his article "Doing it with Style" (Burns 2011). In addition to his extensive research in Malian Djembe music, Rainer Polak's work with Kelly Jakubowski presented a study analyzing perceptions of asynchronicity and isochrony within individual beats in three different African-diasporic music traditions, according to subjects from different continents and levels of musical expertise (Jakubowski et. al. 2022). These informative studies evaluate either fixed rhythms across genres *or* rhythmic variations, but they do not discuss techniques of organizing *rhythmic variations across genres* from different regions of West Africa. This paper presents one such comparison of four West-African lead drum examples.

[6] As a basis for analysis, I have produced two transcriptions which can be found in the appendices. The performances that I have transcribed are an *agbadza* entitled "Miwua Agbo Mayi" performed by Gideon Alorwoyie, and "Esikesi," a piece of music played at social events, performed by the *Dùndún* Ensemble of Adjarra (Alorwoye and Locke, 2013; Dùndún Ensemble of Adjarra, 1987). To these I add the dances *gahu* and *adowa* which have been documented and analyzed by David Locke (1998) and Willie Anku (1992). By demonstrating similar techniques in the organization of rhythmic variations across these four performances, I aim to illustrate yet another basis upon which the music is coherently constructed, thereby contributing to the argument for rational, accessible organization in African music (Agawu 2016, 156). I also hope that the transcriptions themselves will make these pieces more accessible to those who learn predominantly via written notation, rather than aural communication. These four performances are listed in the table in Example 1.

[7] Through a systematic exposition, I show that all four of these performances share at least four techniques for organizing rhythmic variations. I do this by beginning with techniques presented by Anku (1992), Locke (1998), and Arom (1991), and applying these definitions to the performances listed in example 1. These three scholars present additional techniques as well, the application of which would illustrate overlapping techniques between two or three of the four performances, but to control the breadth of this paper, only the four techniques that are common to all four examples will be discussed in detail: variation by amplification, timing displacement, filling or emptying musical space, and segmentation.

Performance	Performer/Author	CD Title	Track Number(s)	Distributor	Date
Agbadza: "Miwua Agbo Mayi"	Alorwoyie/Locke	*Agbadza!*	2	AMP Records	2013
Dùndún:"Esikesi"	Dùndún Ensemble of Adjarra	*Yoruba Drums from Benin, West Africa*	12	Smithsonian Folkways	1987
Adowa	Anku	*Structural Set Analysis of African Music*	1 – 13 (Emphasis on track 1)	Soundstage Production	1992
Gahu	Locke	*Drum Gahu*	38, 45, 50, 51	White Cliffs Media Co.	1998

Example 1. Table of recordings referred to in this study.

[8] After the systematic exposition, I present basic background about each of the four genres. This background section is presented less systematically in order to highlight striking features of each individual genre, even though each circumstance may not have a parallel in the others. The analysis is presented first to aid in the understanding of comparative statements made about the music in the following sections.

METHOD

[9] Lead drum performances have been utilized to compare variations because well-known and elaborate rhythmic variations are often associated with the lead drum (Nzewi 1997, 50). I did not seek out any specific performances, genres, or traditions, aside from choosing to focus on West Africa in order to manage the size of the project. Rather than seeking them out for this analysis, I encountered the examples in this paper while pursuing a different purpose altogether. All four of the examples explored here were brought to my attention through a course at the CUNY Graduate Center called the "Analysis of African Rhythm," in which the only goal in selecting these four pieces was to present different samples of timelines .[3] Despite the fairly arbitrary way in which these performances were chosen, four, arguably five or six, different common organizational techniques of rhythmic variation

3. See "Acknowledgments."

immediately became apparent. This is an unambiguous reminder of the complete lack of foundation upon which the myths of randomness in African music are based.

[10] In addition to the four techniques of rhythmic variation focused on in this paper, and a number of other techniques as well, Locke includes repetition, which he defines as "choosing how many times to repeat a musical thought" (Locke 1998, 75). By this definition, repetition is implied to be an independent process of variation, and it can be so, but it is also the basis of all four processes of variation discussed in detail in this paper. For instance, variation by amplification depends on the use of a short motive that is repeated at the end of phrases of varying length. Timing displacement relies on the repetition of a single motive which has a varying relationship to the meter, to the pulse or to both. The other techniques have equally fundamental relationships with the process of repetition as can be seen in the examples presented throughout. While repetition does fit the parameters laid out above, and could be analyzed in detail here, to contain the length of this study, it will not be given its own section as a technique. It is hoped that the reader understands the role that repetition plays in these techniques without in-depth explanation.

[11] A complexity that has arisen during the analyses of these performances is that the four definitions of organizational techniques often overlap. For example, variation by amplification and segmentation are related because variation by amplification involves several related phrases, each ending with the same motive, and the same motive could simultaneously be considered a segment of a longer version of the phrase. Another example is that segments of phrases can be used to fill musical space. For this reason, the same examples are sometimes found under more than one heading.

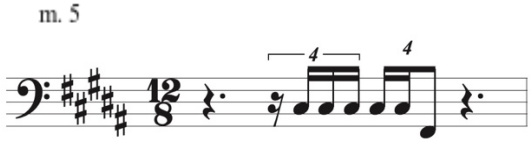
[12] The four different performances addressed in this paper are referred to in two different ways. *Adowa* and *gahu* are labeled by genre because the examples in the publications by Anku and Locke are not titled. "Miwua Agbo Mayi" could similarly be referred to by its genre, *agbadza*. I have not found a label for any specific genre that "Esikesi" belongs to. Rather than labeling genres based on any aspect of the structure of the music, Euba writes that "[t]he different types of dùndún music are identified by the combinations of instruments used for them, and particularly by the instrument which acts as the leader" (Euba 1990, 157). This paper is a comparison between performances rather than a

comparison between genres so the most specific titles available will be used: *adowa, gahu*, "Miwua Agbo Mayi" and "Esikesi."

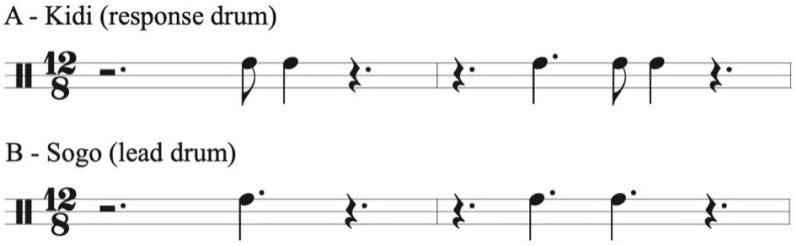
BASIC RHYTHMIC PHRASES

[13] Apart from *adowa*,[4] each of these performances consistently returns to its own basic rhythmic phrase. These three basic rhythmic phrases form the basis of much of the analysis to follow. They are presented here so that they can be easily referred to.

[14] While the pitch material in "Esikesi" is very prominent, and will be returned to later in this paper, it is the rhythmic motive in Example 2 that will be referred to most often in the analysis.[5]



Example 2. Basic phrase: "Esikesi."



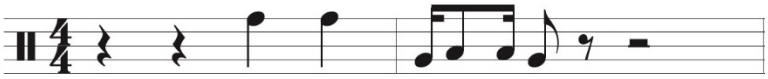
Example 3. Basic phrase: "Miwua Agbo Mayi."

4. Further explanation will follow in the "analysis" section.

5. In my transcription of "Esikesi," I have notated five separate pitches in the lead drum part, centered around the pitch "B." They appear to represent four out of the five pitches in a "B" anhemitonic pentatonic scale (the highest and lowest pitches are an octave apart and represent the same pitch-class). To illustrate this in my transcription, I use a five-line staff, somewhat in the manner of Akin Euba (1990, 474–542). However, instead of using accidentals on each iteration of every pitch to which they are relevant as he does, I have chosen to use a key signature including five sharps. It may appear that the performance is in B major, but such is not the case. It is understood that this piece does not use pitches in the same sort of hierarchical, triadic arrangement that is found in tonal music and there is no intent to impose any assumptions about how pitches relate to each other in tonal music onto the musical language in this performance.

[15] In "Miwua Agbo Mayi," the most prominent supporting drum maintains a two-measure rhythm throughout the piece, shown on staff A of Example 3. These onsets are never relocated in relationship to the meter or the two-measure cycle. The *sogo* (lead drum) continuously plays three of these onsets along with the *kidi* (supporting drum) player, shown on staff B of Example 3, all the while creating variations around them (Alorwoyie and Locke 2013, 23). In this performance, Alorwoyie only occasionally leaves this lead drum figure unadorned, and whenever he does play it without adornment, he includes an anacrusis in beat four of the second measure leading to a variation of the basic rhythm in the next two measure cycle.[6] In this performance there are no occasions in which the lead drum part appears exactly as in staff B, but to clearly show the relationship between the two parts, I have notated the sogo's pattern in an entirely unadorned manner. In the analysis of "Miwua Agbo Mayi," this combination of strokes played by the two drummers will be referred to as the "basic phrase."

[16] In *gahu*, the phrase in Example 4 predominates. The basic phrase is grouped in a way that is not represented by the bar lines.[7] Rather than being felt as though the beginning of the phrase lines up with the down beat of the measure, the two quarter notes on beats three and four are an anacrusis to the eighth and sixteenth note figure at the beginning of the next measure (Locke 1998, 76–77). Notating this precisely requires the use of two half measures, rather than one full measure, which visually complicates the efficiency of the variations. For that reason, other gahu examples are notated starting in the middle of the phrase in order to leave the measures whole.



Example 4. The basic phrase of Gahu, from Locke 1998, pg. 76, ex. 4.2.

6. For examples, see m. 13, 19, 25, 43, 61, and 75, in appendix 1.
7. For examples of groupings see Agawu (2016), 174

THE ROLE OF IMPROVISATION

[17] Originally, I used the word "improvisation" consistently throughout this paper. Unfortunately, the word became a distraction to almost everyone who read it, so I have removed it in order to maintain the focus of this paper, which is the analysis of rhythm, rather than discourse about the many respectable, important and sophisticated artistic practices of improvisation. I present the following thoughts on the topic of "improvisation" in order to clarify that I have no intention whatsoever to disregard it.

[18] "Improvisation" has been defined in many ways. James Burns places improvisation at the opposite end of a spectrum from variation and limits his definition to "spontaneously generated phrases that may not occur again during subsequent repetitions of the pattern" (Burns 2011, 159). This idea of a spectrum of improvisational practice is enticing, but it is incomplete for more than one reason. First, embellishments to previously constructed phrases can be improvisatory, placement of a phrase within a meter can itself be improvised without the addition of any other material, and repetition of a phrase can be its own technique of improvisation. Second, one of the aims of this paper is to make these performances more accessible to people who are trained in the Euro-American academic musical tradition (Song 2013). Some in this community of musicians define "improvisation" more broadly as music that is not predetermined by a composer, but rather, music that is created by a performer in real time (Larsen 2005, 241–42). This much broader definition is useful because it is the one that many in this paper's intended audience are the most familiar with, but this definition begs questions about how much or what part of the music must be created in real time for the music to qualify as being improvised. When writing about improvisation, George Lewis supports an even broader definition than those mentioned previously when he says that "its diversity confounds any single definition," and Bruno Nettl writes that "The phenomena that are called 'improvisation' in music include a vast array of types of creativity, from the choice among two or three ornaments for insertion to presentation of totally 'free' improvisatory performance" (Lewis 2013, 9; Lewis/Piekut/Nettle 2016, 169). According to these viewpoints the word "improvisation" could apply to many other situations than "spontaneously generated phrases that may not occur again." Yet another reason why it is appropriate to understand the techniques of organization presented

in this paper as improvisatory is because the musicians involved consider themselves to be improvising (Alorwoyie and Locke 2013, 13; Locke 1998).

[19] While the improvisatory nature of the music at hand should most certainly be respected as highly skilled, artistically creative and in all ways valuable, this paper is not about improvisation, but rather about comparative analysis of West African timeline musics. Therefore, in order to prevent distractions and maintain focus on the analysis itself, the word "improvisation" has been removed in most cases and will be used only when being quoted from another author's text. The important academic discussion currently in progress regarding improvisation can be much more thoroughly explored via the texts mentioned in the previous paragraph, among many others, than it could ever be in this short paper. For this reason, the phrase "rhythmic variations" will be used instead, often shortened to "variations."

ANALYSIS: FOUR TECHNIQUES OF RHYTHMIC VARIATION

[20] The following four sections present each of the techniques of variation mentioned at the beginning of this paper. They will show that all four performances have these several techniques of rhythmic variation in common.

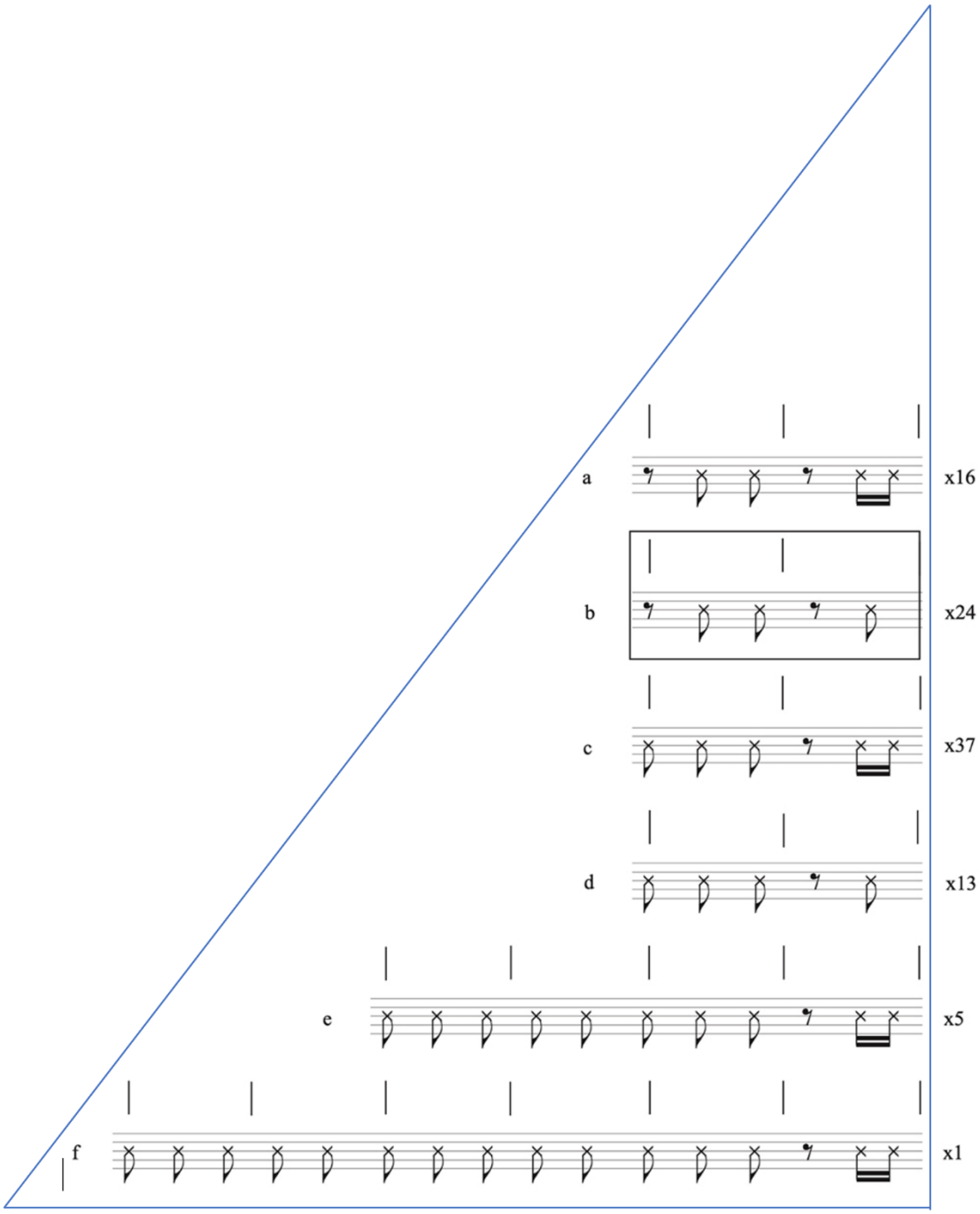
Technique 1: Variation by Amplification

[21] Simha Arom defines Variation by Amplification as follows: "Amplification consists of sporadically developing the rhythmic material of a figure over some multiple of its initial period...amplification works 'backwards,' i.e., the contents of the initial figure always appear at the end of the amplification" (Arom 2004, 262).

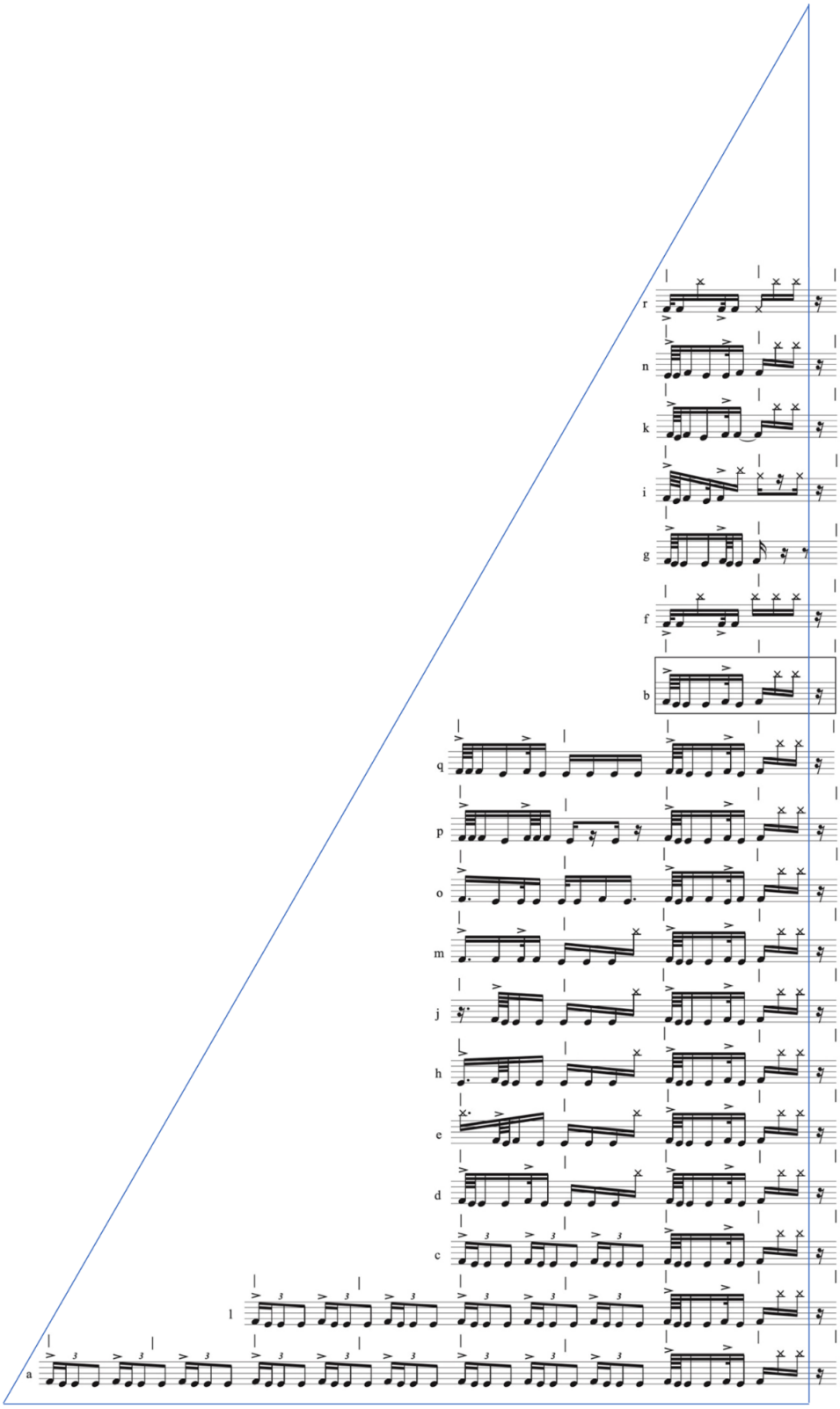
[22] I present variation by amplification first for two reasons. First, there are a great many instances of it, and second, it is an organizational technique that occurs in both Central African and West African music. Although the technique is present in all four of these performances, and can be observed in each transcription, it is not identified as a technique of organization in the analyses of adowa and gahu provided by Anku and Locke but instead by Arom in his study of a Central African tradition. Far from making it less relevant, the use of variation by amplification by both West and Central African musicians points toward the

idea that there are common techniques used between genres of music outside of a West African geographical limitation (Kubik 1998, 308–11; Tenzer 2006, 22–35).

[23] In Examples 5 and 6, I provide two of Arom's charts, which he uses to illustrate variation by amplification in a Banda-Linda ensemble that performs for the *àgā-tə́rúmɔ̄* ritual. The first (Example 5) illustrates supporting drum variations and the second (Example 6) illustrates lead drum variations. In the supporting drum chart, Arom places the phrases so that their final motives align, starting with the shortest phrase at the top and progressing downward to the longest, creating a triangle shaped arrangement. The phrase inside of the box that Arom placed in the example is the most fundamental, and the phrases on the other staves are variations. Each of the variations ends with a similar short figure, and two of the variations include extensions of the pattern leading to the ending figure. I have superimposed a triangle over this and several examples to follow in order to show the durational relationship between the phrases, to show the similarities between the lead and supporting drums in Arom's analysis, and to show how the same structure is used in all four performances analyzed in this paper.



Example 5. Supporting drum example from Arom, *African Polyphony and Polyrhythm (2004)*, p. 262. Triangle illustration added.

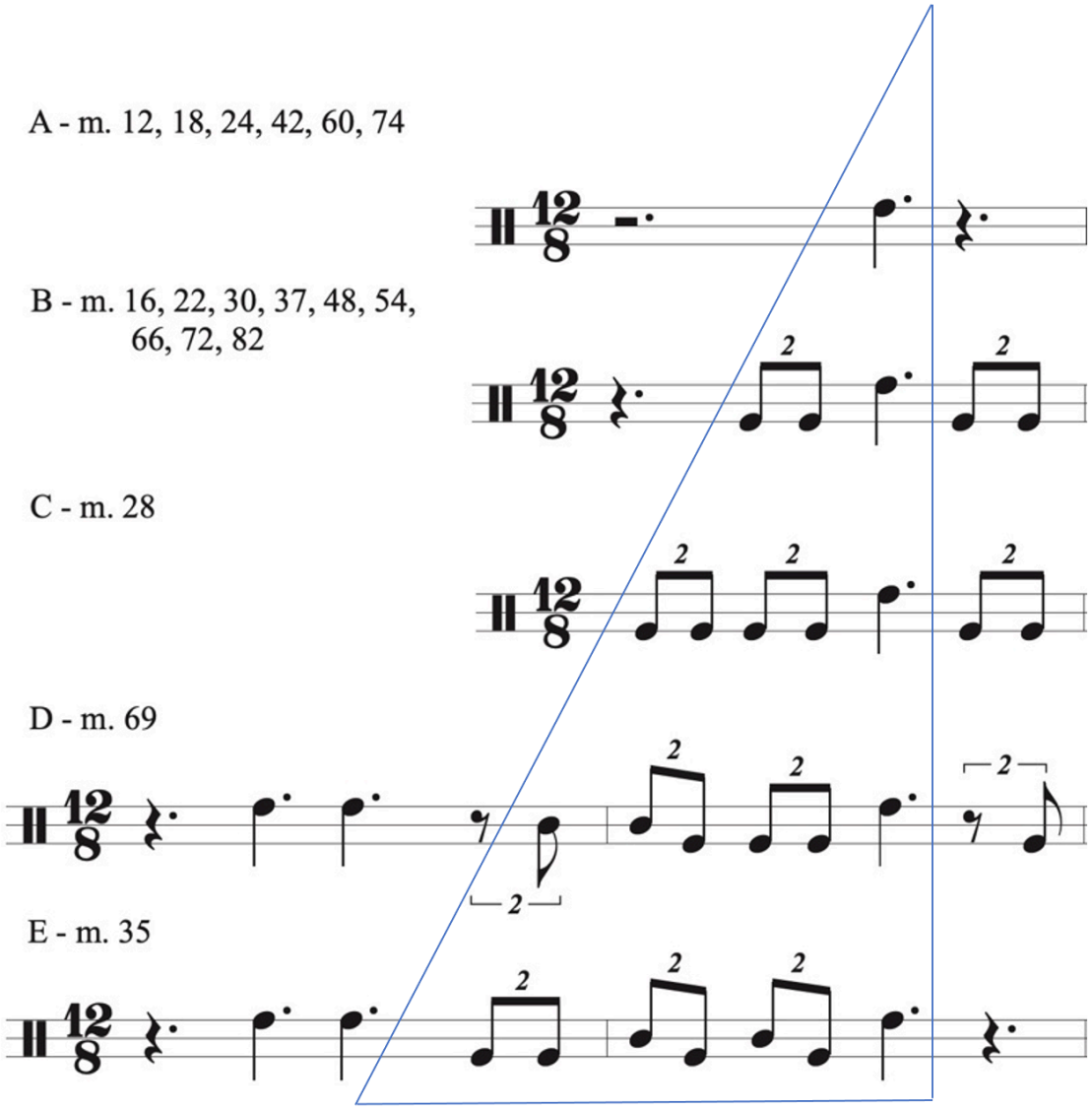


Example 6. Lead drum example from Arom's study of Banda Linda in *African Polyphony and Polyrhythm (2004), 264.* Rearranged and Triangle added.

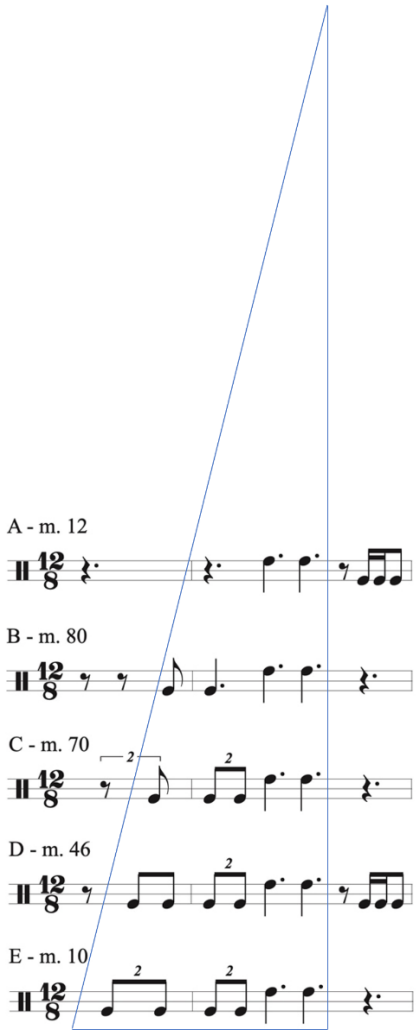
[24] Arom's lead drum example is aligned differently than the supporting drum example, so the relationship between the lengths of the phrases is less immediately clear, but, although the lead drum example involves more variations, the technique is the same, including Arom's use of a box to denote the most fundamental figure and the variations with extensions at the beginnings of the phrase (Arom 2004, 264). To show the similarity between the ways that the phrases in the lead and supporting drum parts are organized and to show the similarities between Arom's examples and the examples to follow, I have rearranged the staves of Arom's lead drum chart by phrase length, resulting in the figure in Example 6. The letter names before the staves are out of order because they reflect the original position that each staff held in Arom's arrangement.

[25] Each of the performances at hand include phrases that can be arranged in the same manner, with the number of variations of each phrase ranging from three to twelve. "Miwua Agbo Mayi" includes examples using both binary and ternary subdivisions. Binary subdivisions are found in examples of variation by amplification leading to ending points in each of the two measures of the basic phrase, as shown in Examples 7 and 8. Ternary subdivisions are found only in variations by amplification leading to the onsets in the first measure of the basic phrase, shown in Example 9.

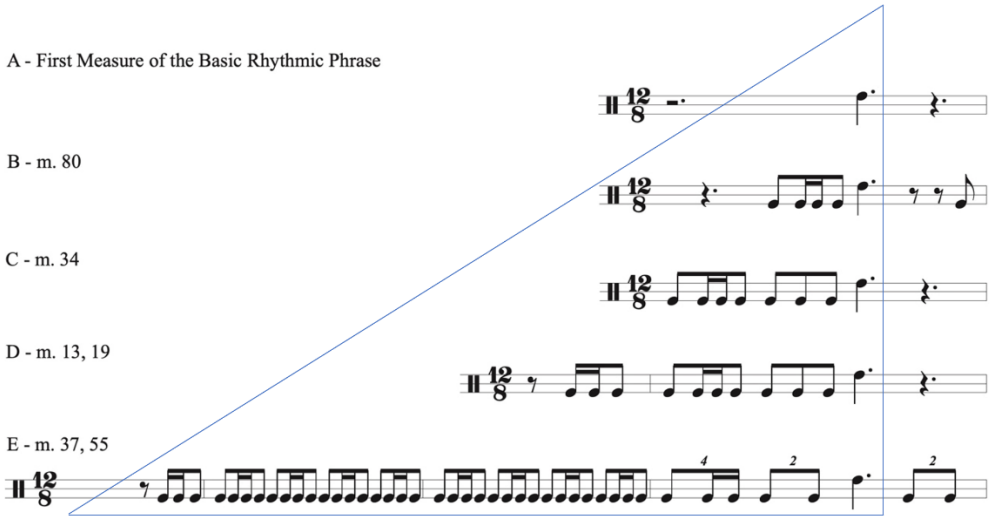
[26] In the case of "Esikesi," the final motive of the variations by amplification is two sixteenth notes followed by an eighth note, all using binary subdivisions within the compound ternary meter. As shown in Example 10, the motive is placed in different locations relative to the timeline, so in these examples the bar lines fall in different places, but the triangle construction remains.



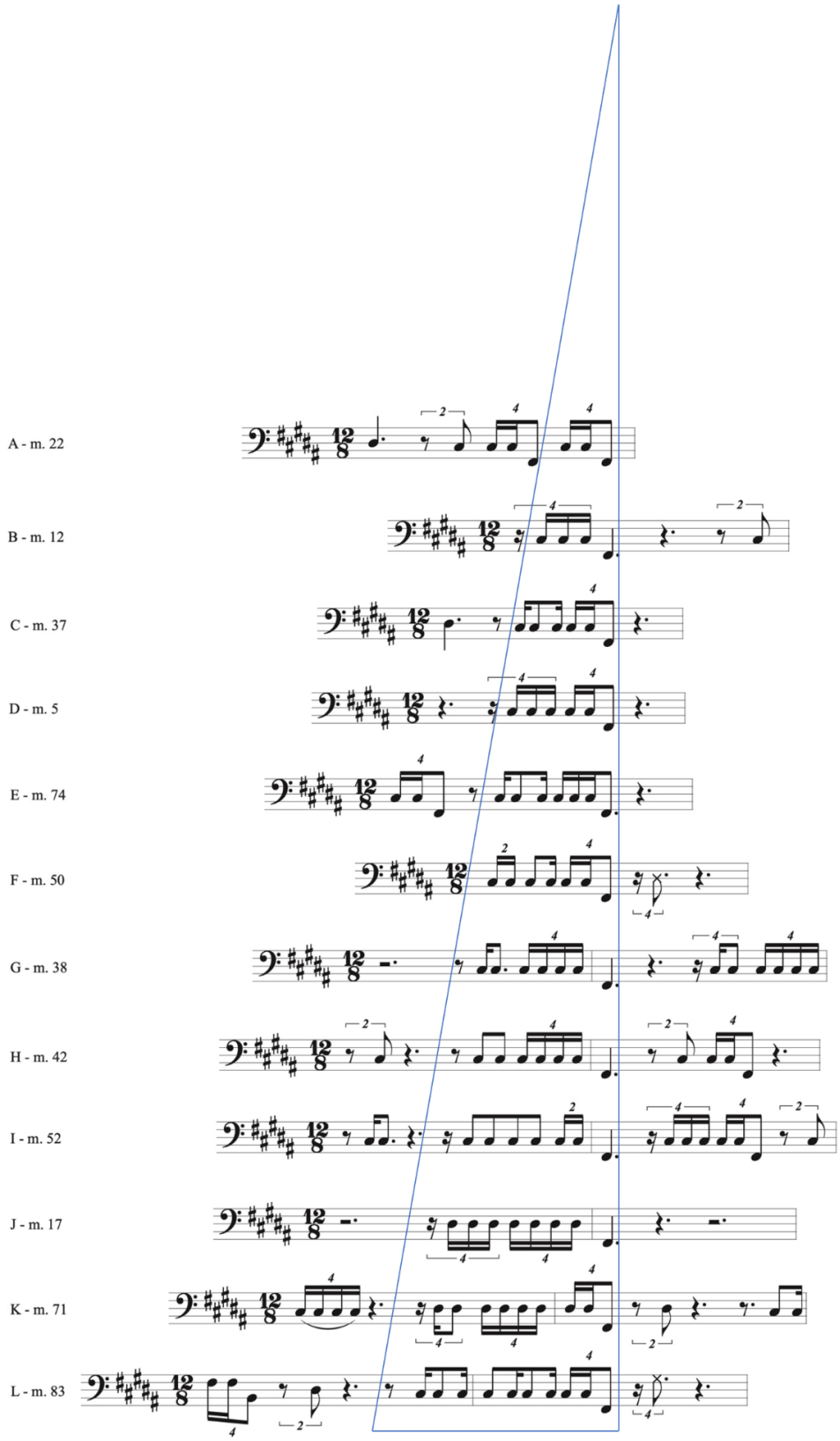
Example 7. Binary variations by amplification leading to the first onset of the basic rhythmic phrase in "Miwua Agbo Mayi."



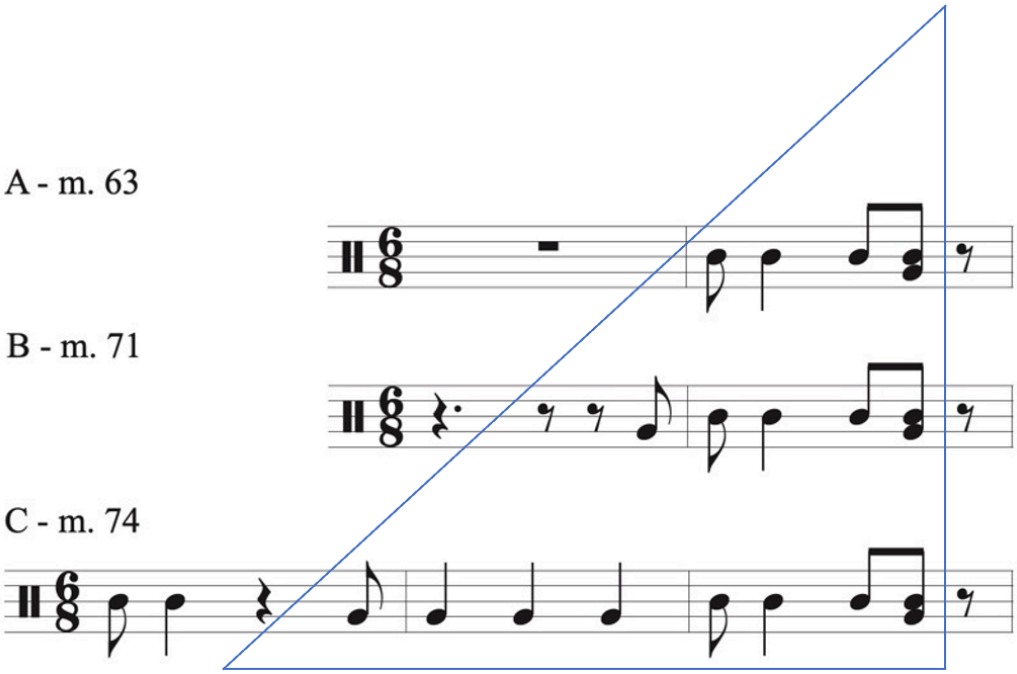
Example 8. Binary variations by amplification found leading to the second and third onsets of the basic rhythmic phrase in "Miwua Agbo Mayi."



Example 9. Ternary variations by amplification found in "Miwua Agbo Mayi" leading to the first onset of the basic phrase.



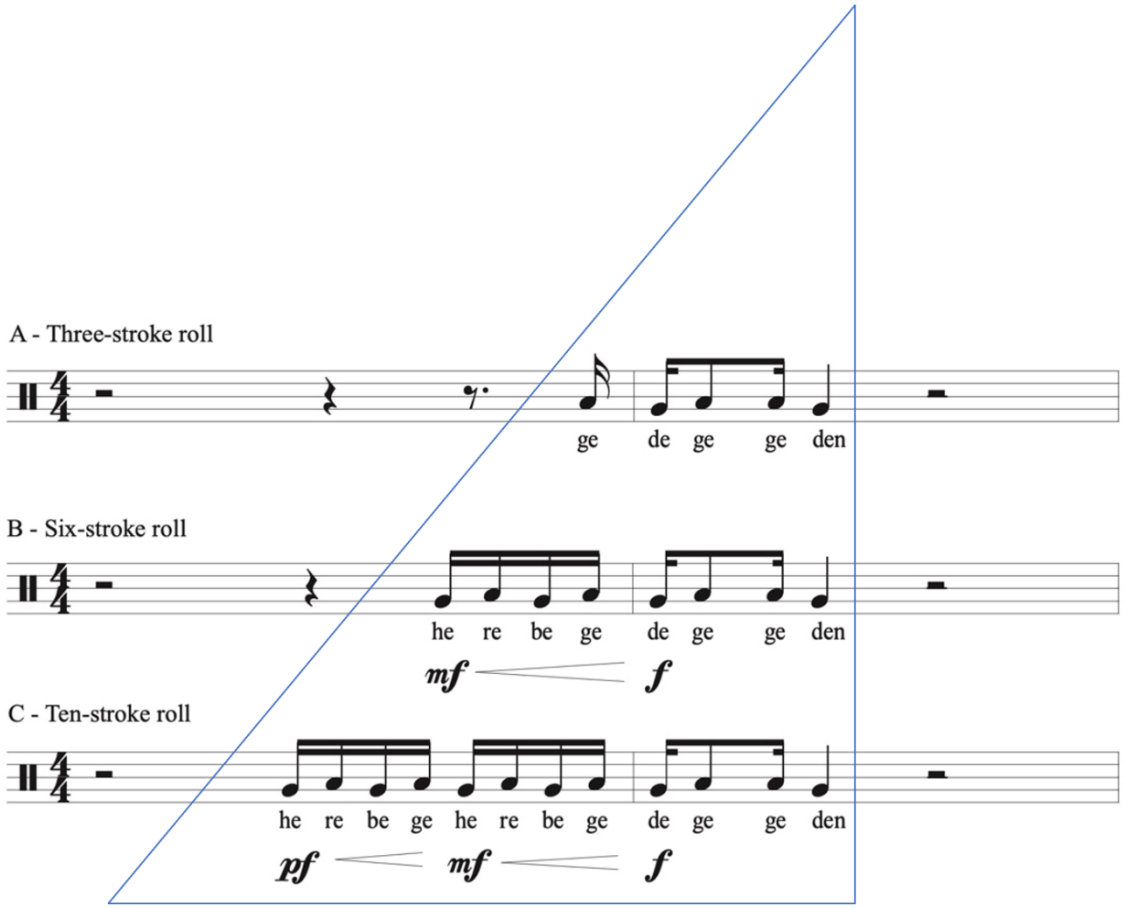
Example 10. Variations by amplification of the motive in example 2 found in "Esikesi."



Example 11. Variation by amplification in the adowa performance, leading to the fifth eighth note unit of the measure.

[27] The variations by amplification found in the adowa study all lead to either the fifth eighth note unit of the measure as seen in Example 11, or the fourth eighth note unit of the measure as seen in Example 12.

[28] According to Anku's description, adowa is based on repetitions of relatively long twelve- or twenty-four-unit patterns varied using bridges, interpolations, and staggered subsets (Anku 1992, 5–6, 8–16). In this respect there is a similarity between this drumming and "Miwua Agbo Mayi." While the basic rhythmic phrase of the latter does not vary, as do the lead drum phrases in adowa, the phrases in both examples are relatively long when compared to the phrases that are elongated through variation by amplification in "Esikesi." The lead drum phrases in the adowa performance and "Miwua Agbo Mayi" are used in a way that differs from "Esikesi" in that they retain a constant relationship to the meter, while the varied phrase in "Esikesi" is placed with changing relationships to the meter. Note that three of the excerpts in Example 12, staves C, D and E, are also instances of filling and emptying of musical space (see technique 3).



Example 13. Locke's example 4.20, "Minimum, medium and maximum length rolling figures." From *Drum Gahu*, p. 93. Triangle figure added.

[29] Arom's definition of variation by amplification is like the technique that Locke describes as "minimum, medium and maximum length rolling figures," shown in Example 13 (Locke 1998, 93). Locke arranges his examples in the same triangular format that Arom uses in his supporting drum example (see Example 5), with the shortest variation on top, the longest at the base and the ending motive aligned.

[30] In summary, variation by amplification is prominently used by all four lead drummers in these performances, (and as Arom shows, in other traditions as well,) but the developed

phrases relate to the meter differently in each case.[8] In both the gahu and adowa performances one constant subdivision of the pulse and one metric placement of the final motive is retained. In "Miwua Agbo Mayi" one metric placement is maintained while both binary and ternary subdivisions are used, and in "Esikesi" both binary and ternary subdivisions are present, along with varied placement of the ending motive within the meter. In "Esikesi" and the gahu, the technique is applied to a short motive, rather than used within longer phrases as in the adowa and in "Miwua Agbo Mayi." Despite these differences in the relationships between the meter, subdivisions of the pulse, phrases, and motives, in all four performances the phrases that are extended using the technique almost never end on the down beat of a measure. The only exceptions to this are found in "Esikesi," in which the relationship between the varied phrase and the meter is variable (see Example 10).

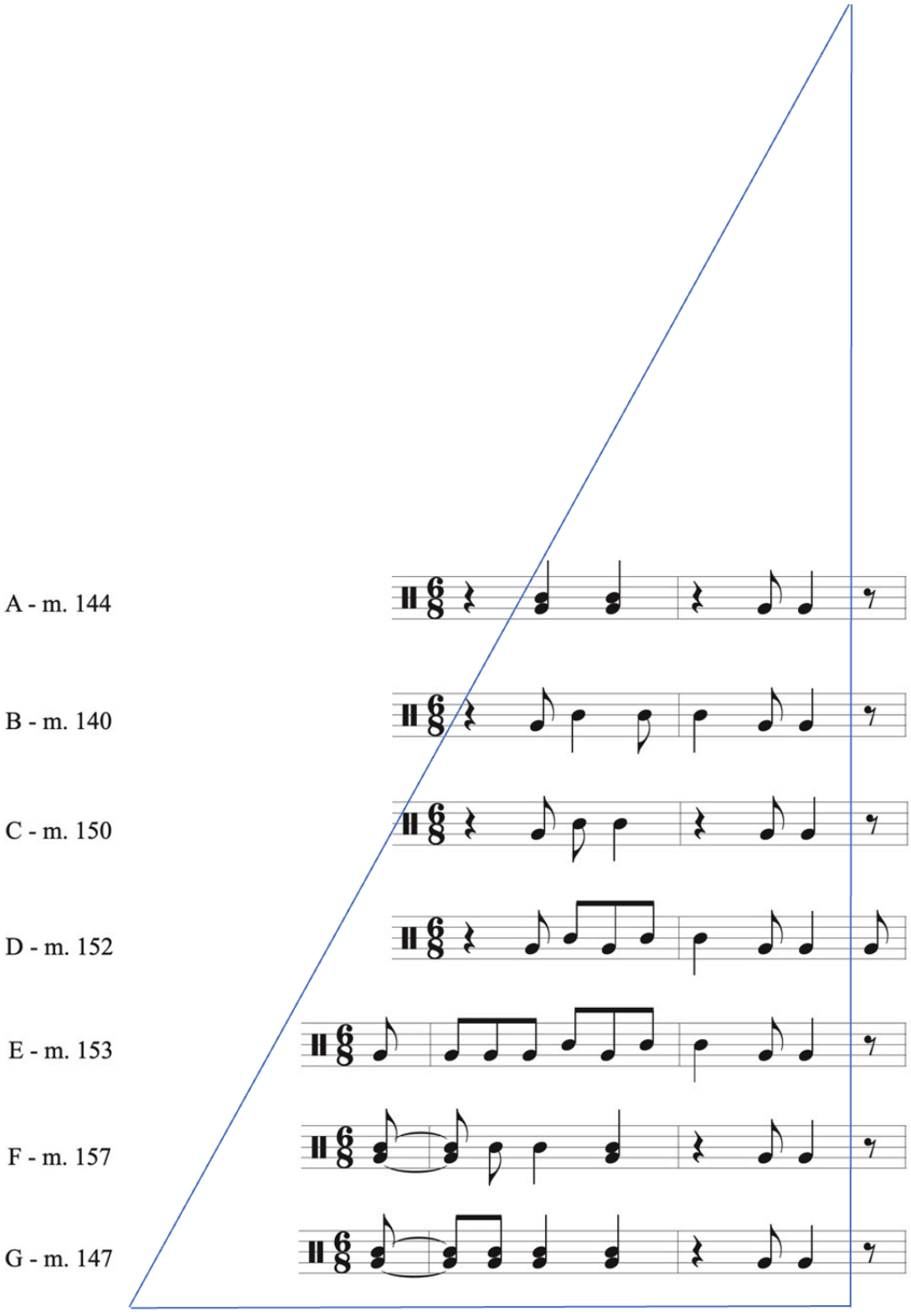
Technique 2: Timing Displacement

[31] Locke defines timing displacement as "keeping a motive intact but shifting its placement within the measure" (1998, 75). The lead drummers in "Miwua Agbo Mayi" and the adowa include timing displacement as an integral part of an agreed upon structural phrase that is used to organize the form of the performance, while the lead drummers in the other two performances use it more freely.

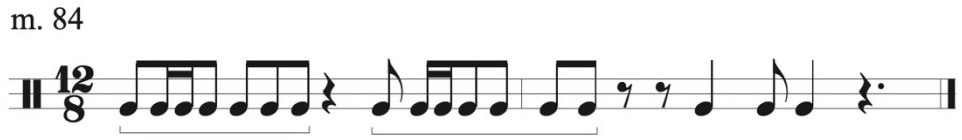
[32] "Miwua Agbo Mayi" includes only one example of timing displacement, used prominently as the ending signal of the piece, shown in Example 14. The rhythmic phrase and its displaced reiteration are each bracketed under the staff. This phrase is also a usage of the motives, or segments, found in Example 28 (See technique 4, "Segmentation").

[33] In "Esikesi," timing displacement occurs much more frequently than in "Miwua Agbo Mayi." For instance, the first iteration of the motive from Example 2 above, bracketed below the staff in Example 15A, is played within the fourth beat of one measure and the first beat of the next, and in the second iteration it is played within the second and third beats of the measure. Later in the piece (Example 15B) it is played within the first and second beats.

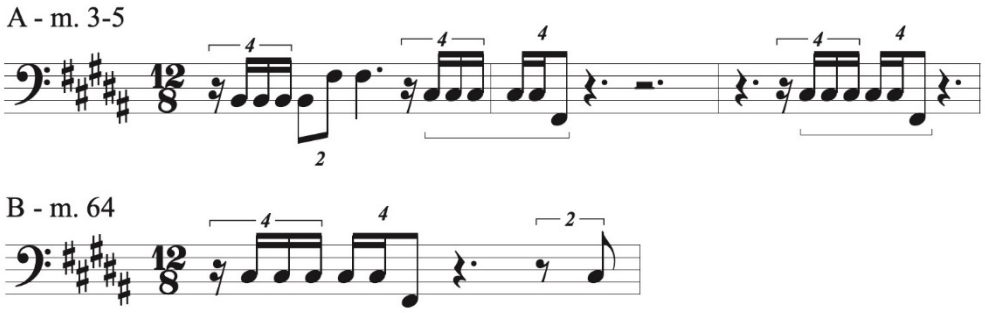
8. While the subdivisions of the pulse are not always the same across these four drumming genres (sometimes binary subdivisions are used, sometimes ternary and sometimes both), all of these drumming genres are in four, including adowa if it is interpreted in the manner of Kongo's transcription in example 33.



Example 12. Variations by amplification in the adowa performance, leading to the fourth eighth note unit of the measure.



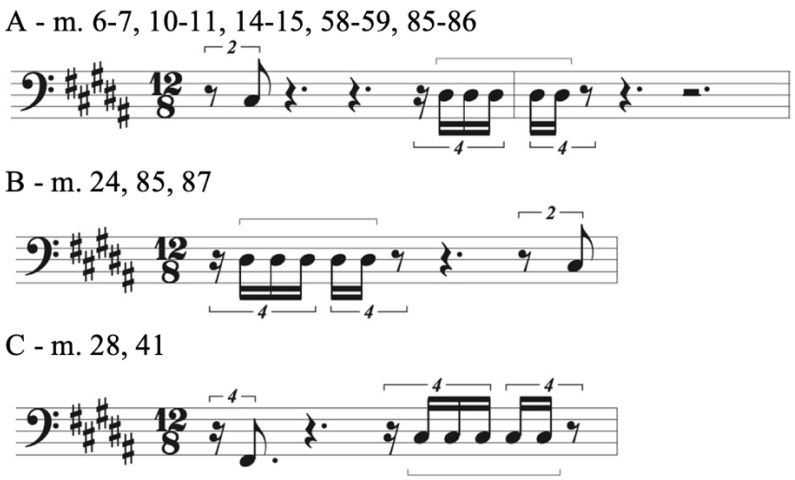
Example 14. Timing displacement in the ending of "Miwua Agbo Mayi."



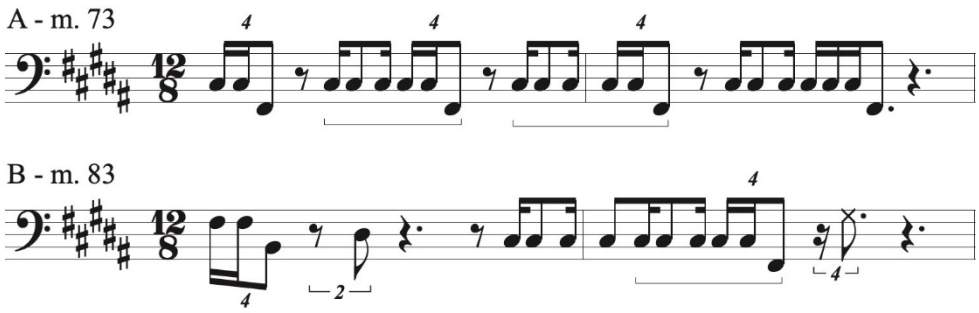
Example 15. Timing displacement of the motive from Example 2.

[34] The motive bracketed above Example 16A is most often played starting in the fourth beat, but it is sometimes displaced as well. In these displacements, the motive begins within the first or the third beats of the measure, shown bracketed in 16B and 16C.

[35] Example 17A includes a variation of the motive from Example 2, bracketed below the staff, which is played twice in succession beginning first within beat two and then beginning within beat four. The same motivic variation recurs several measures later, starting within beat one, shown using a bracket below the staff in Example 17B. This instance also involves variation by amplification.

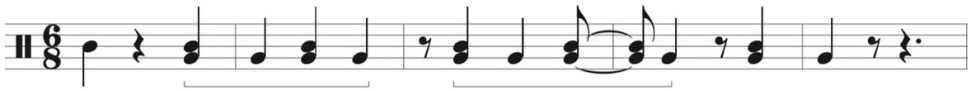


Example 16. Timing displacement of an additional motive from "Esikesi."



Example 17. Variations by timing displacement of a third motive from "Esikesi."

m. 23–27, 27–30, 53–56, 89–93, 135–138, 162–168, 181–189, 215–223

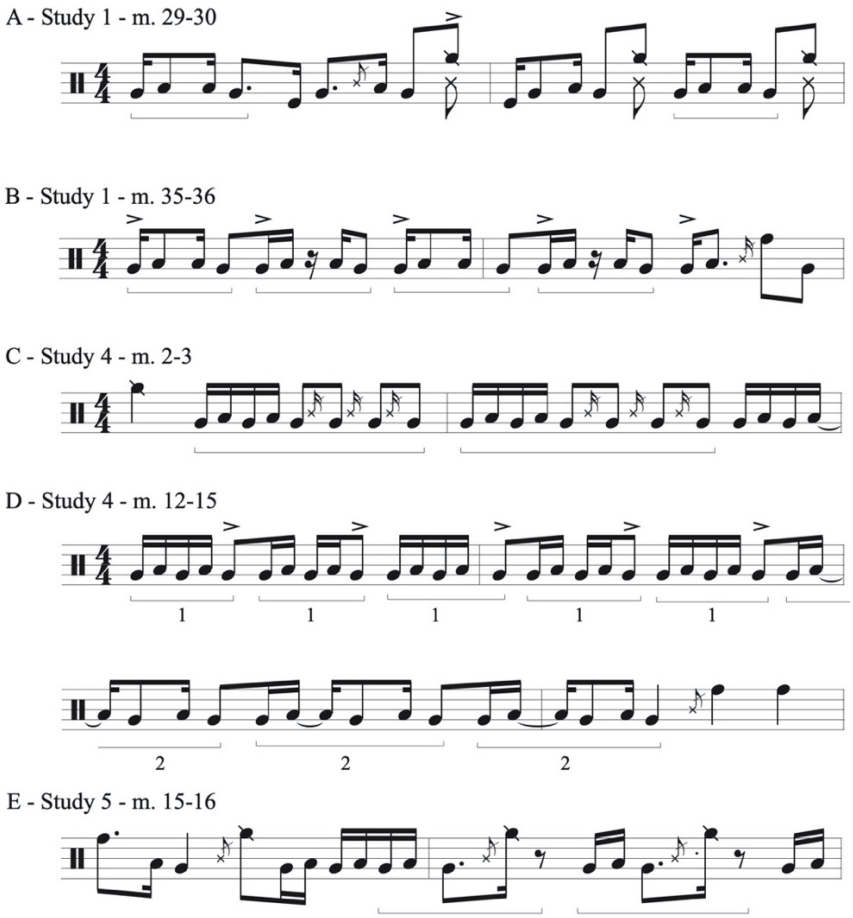


Example 18. Timing displacement in the bridge of the adowa performance.

[36] Although there is only one example of timing displacement in the adowa transcription, shown in Example 18, it is contained in what Anku calls the "bridge," which is used to define the transitions between themes, and which occurs eight separate times in the performance (Anku 1992, 5). The same series of onsets, four quarter notes which are bracketed underneath the staff, are offset, and then repeated with one eighth note of rest between iterations.

[37] In Locke's presentation of gahu, timing displacement is present under various circumstances. In some cases, as shown in Examples 19A and 19E using brackets below the staves, it is realized simply by playing a half-measure-long motive first in one half of the measure, and again in the opposite half, one or more measures later. At other times, a motive is displaced by an interval of time that does not divide evenly into the meter. This is the case in Examples 19B and C, where each motive is displaced by one-and-a-half beats and three beats, respectively. In Example 19D two motives are displaced, labeled "1" and "2." The first is displaced by one-and-a-half beats each time it is played, the other is displaced by two beats each time it is played, and the transition between them is uninterrupted.

[38] Timing displacement can also include a technique that Locke calls "metric modulation" and defines as "expressing cross rhythm or polymeter by using rhythms based on a ternary rather than binary organization of pulse and beat" (Locke 1998, 75).



Example 19. Occurrences of rhythmic displacement found in Locke's gahu study.

For example, while there are four beats per measure in gahu, the displaced presentation of the opening motive every three beats in Examples 19B, C, and D results in both a metric modulation relative to the underlying meter, as well as timing displacements of the motive.

[39] All four of these performances include timing displacement, but the way it is used in each differs. While in all cases the technique is used at the will of the lead drummer, in "Miwua Agbo Mayi" it appears only once as the lead drummer's tool to end the performance. In the adowa, a phrase constructed using timing displacement appears several times without variation, rather than only once at the end, and it is consistently used by the lead drummer to organize the form. Gahu and "Esikesi" both involve displacements of phrases by one half bar, while adowa and "Miwua Agbo Mayi" do not use one-half bar displacements. In "Esikesi" and the gahu, timing displacement is used often and as part of the variance of the music, but the use of the technique in these two performances differs in another way. In the gahu performance, timing displacement usually involves immediate repetitions of a motive, whereas in "Esikesi" timing displacement is most often executed with repetitions that are not conjoined.

Technique 3: Filling or Emptying Musical Space

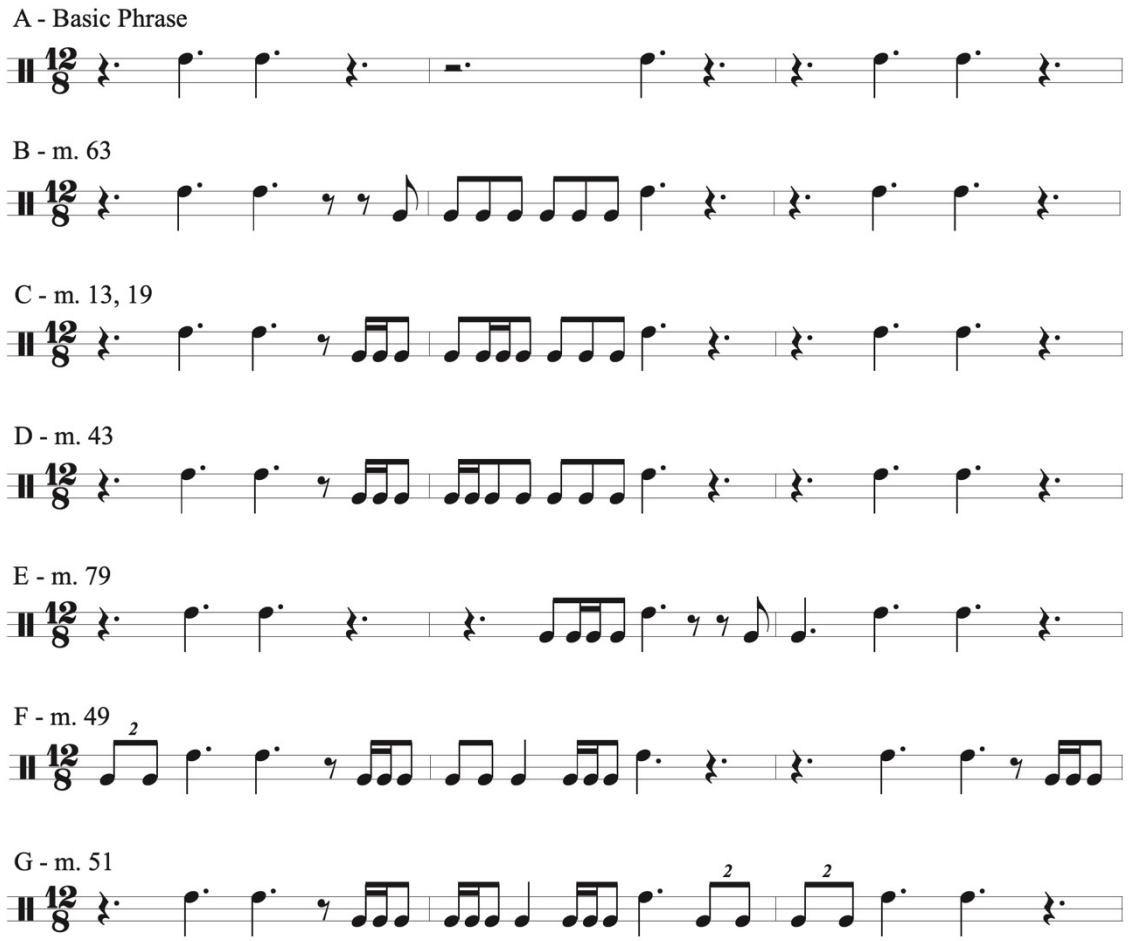
[40] Locke defines filling or emptying musical space as "adding or leaving out notes" (1998, 75). In his more detailed descriptions later in the same chapter, it becomes clear that the intention of his definition is for the onsets added and left out to occur between other onsets which are more fundamental. This is different from variation by amplification for instance, in which onsets are added before a specific ending motive rather than between two or more fundamental onsets.

[41] The basic phrase in "Miwua Agbo Mayi," creates a continuous pattern of onsets that are frequently filled and emptied by the lead drummer. In this performance, the technique is used most often and with the most variety during the first two beats of each two-measure phrase. The seven eighth-note triplets added to the basic phrase in Example 20B can be considered an example of filling musical space. They can also be treated as a *basis* for filling and emptying with additional onsets being filled in between them, as in 20C and 20D, creating two "layers" of filling musical space. In 20E an additional onset is added in beat two

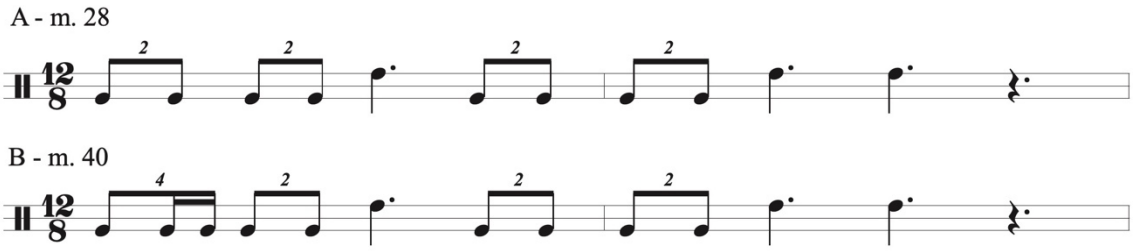
of the second measure, with the onsets in beat one left out. Compared to the basic phrase in staff 20A, filling of musical space occurs in every measure of 20F and G.

[42] In Example 21, filling of musical space is also done in two layers. Shown on staff A, duplets fill the first two beats of the basic phrase, and then those same duplets are treated as a foundation and the first beat is filled in with an additional sixteenth note, seen in the first beat of the first measure of staff B.

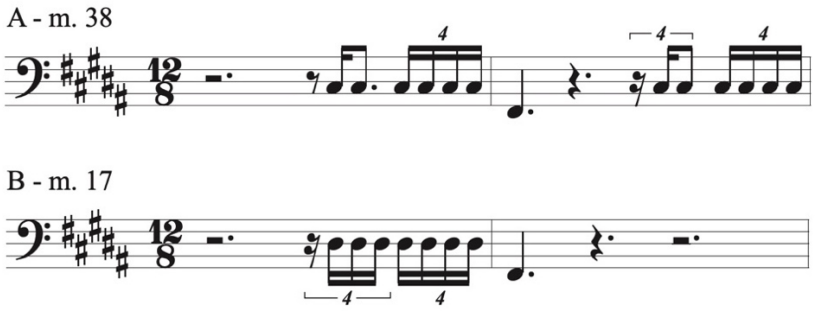
[43] While in "Esikesi" the lead drummer does not maintain one consistent phrase, making the structure of the music less conducive to the filling and emptying of musical space, the technique is used occasionally in variations of short phrases. For instance, a sixteenth note fills in the third beat of the first measure in Example 22B, as compared to the figure in 22A.



Example 20. Filling or emptying of musical space found in "Miwua Agbo Mayi."



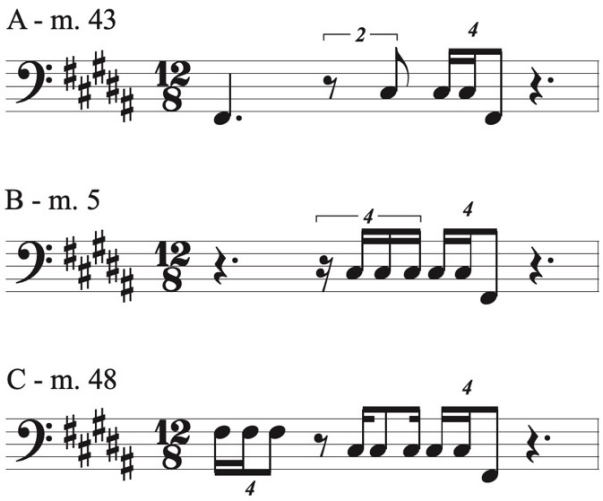
Example 21. Filling of musical space in two layers in "Miwua Agbo Mayi."



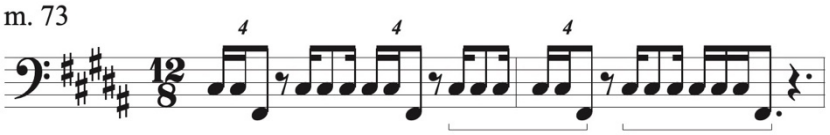
Example 22. Variation of the motive from example 2 using the filling of musical space in "Esikesi."

[44] Of the three phrases in Example 23, the one on staff A is the most fundamental. In the second half of beat two it is filled in using both binary and ternary beat divisions, shown in staves B and C.

[45] Onsets are added to the first bracketed phrase in Example 24 by changing the durations of the onsets in the last beat of the phrase from binary to ternary, which adds an additional onset in the ternary form.



Example 23. Binary and ternary variations of the motive (Example 2) from "Esikesi," both involving filling musical space.

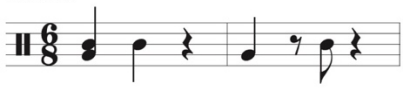


Example 24. Filling of musical space via transformation from binary to ternary embellishment.

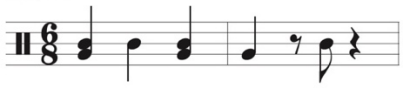
[46] Filling and emptying of musical space are found in shorter phrases in the adowa performance as well. In Example 25, A and D involve filling of musical space, each by adding a single onset to the original phrase. In Example 25B the first phrase is altered in two different ways. The final onset of measure 150 is moved from is placement on the sixth eighth note unit of the measure to a placement on the fifth eighth note unit of the measure, thereby emptying the sixth eighth note unit and filling the fifth eighth note unit. At the same time, the first onset of measure 141 is emptied, as compared to measure 151. In 25C onsets are emptied from alternating iterations of a repeated one measure phrase.

25A

m. 229

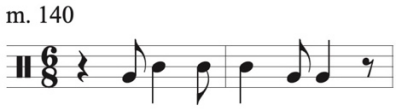


m. 241

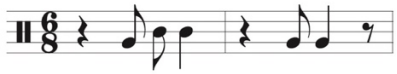


25B

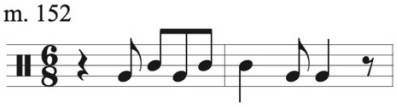
m. 140



m. 150

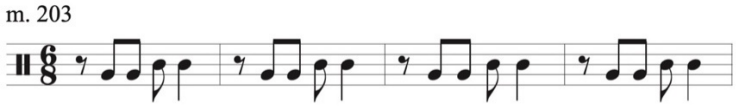


m. 152

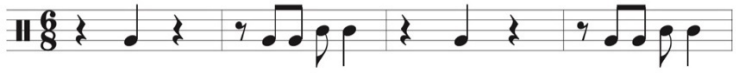


25C

m. 203

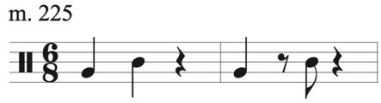


m. 207

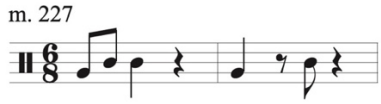


25D

m. 225



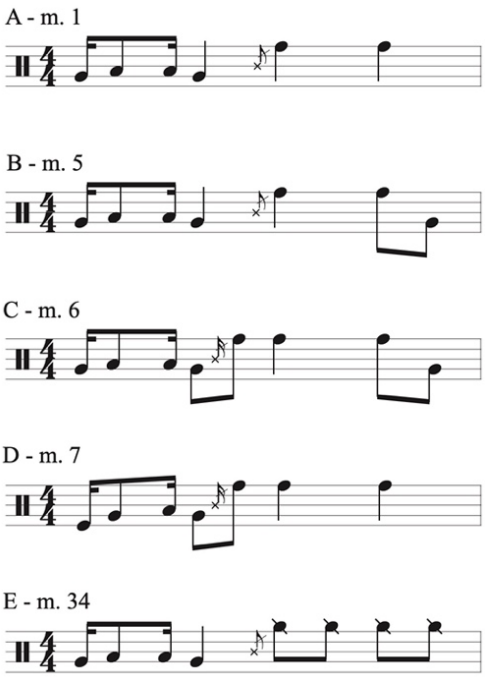
m. 227



Example 25. Filling and emptying of musical space in the adowa performance.

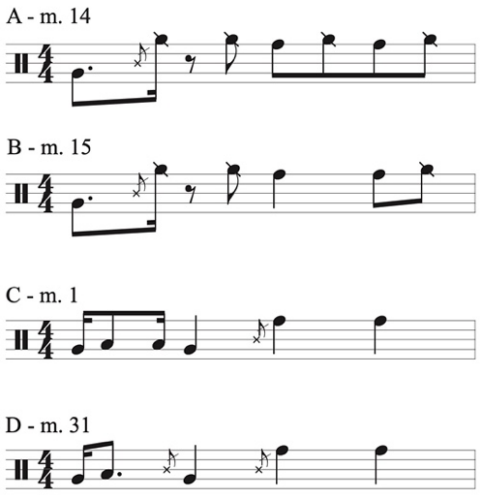
[47] Filling and emptying of musical space are so prevalent in the gahu that it would be impractical to reproduce all, or even a majority of those occurrences in this paper. For a detailed display of the ways in which it is used, I defer to Locke's *Drum Gahu* itself, but two short representative examples are included here. These are found in Locke's "Study 1" (Locke 1998, 85-88). Equally useful examples of this technique can be found in each of the five lead drum studies that are presented in his book.

[48] Example 26 begins with the basic gahu phrase (see Example 4). Compared to the first phrase, each of the others in Example 26 is an instance of filling of musical space. B through E all include added eighth notes which are "filled in" to one or more of beats 2, 3, and 4.



Example 26. Filling of musical space found in *Drum Gahu*, "The Call," study 1.

[49] Example 27 shows two different cases of emptying of musical space in gahu. Comparing staves A and B, an eighth note onset is emptied from beat three, and between staves C and D, a sixteenth note onset is emptied from beat one.



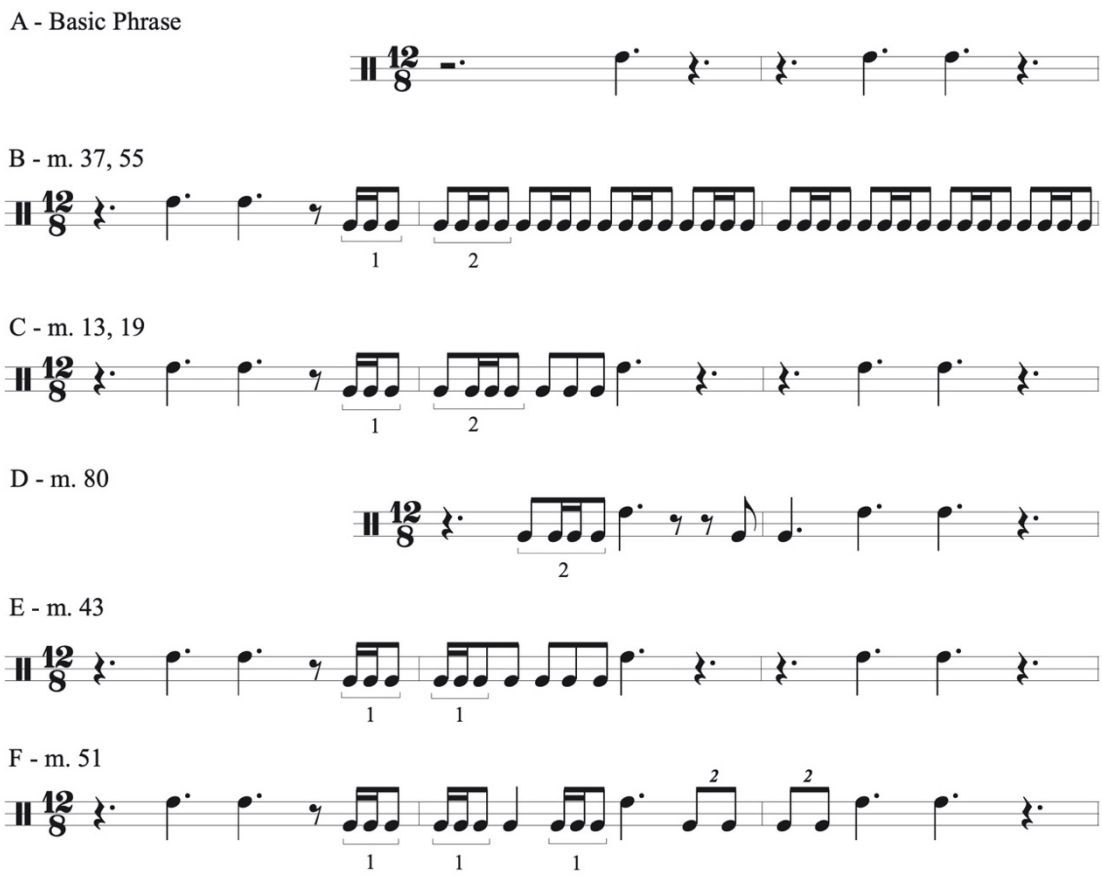
Example 27. Two examples of emptying of musical space in *Drum Gahu*, "The Call," study 1.

[50] Filling and emptying of musical space are found most prominently in the gahu and in "Miwua Agbo Mayi," with the agbadza performance being the only situation in which filling of musical space can be thought of in multiple layers. Gahu and "Miwua Agbo Mayi" are also the two performances in which the lead drummers continually repeat one specific rhythmic idea (with variation in the case of the gahu) without moving it to a different location in the cycle at hand. While still present, the technique is found less prominently in "Esikesi" and the adowa, in which the lead drummers do not retain a single rhythmic phrase throughout their performances. In these four cases there appears to be an inverse correlation between the freedom available to the lead drummer to vary the location of rhythms in relationship to the timeline or longer cycle, and the prominence and complexity of filling and emptying musical space as a technique of rhythmic variation.

Technique 4: Segmentation

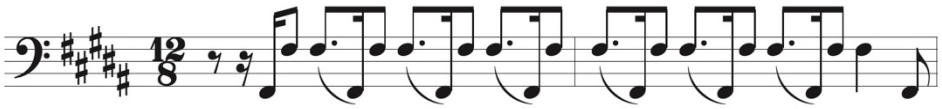
[51] Locke defines segmentation as "parsing the relatively long phrase into shorter motives which themselves then become available for repetition and variation" (1998, 75).

[52] In "Miwua Agbo Mayi," it is used in conjunction with amplification and filling and emptying musical space. Two segments of the rolling figures played in the lead drum part, labeled '1' and '2' in examples 28B through 28F, are used to fill the space between the onsets of the basic rhythmic phrase. Segment 1 is also a segment *of* 2, so segment 1 could be thought of as a motive, and segment 2 an extension of segment 1.

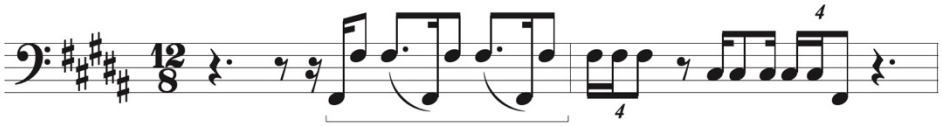


Example 28. Two segments which are used to fill musical space in "Miwua Agbo Mayi."

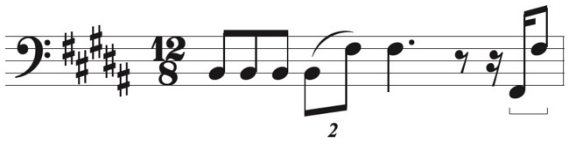
A - m. 29



B - m. 47, 62



C - m. 1

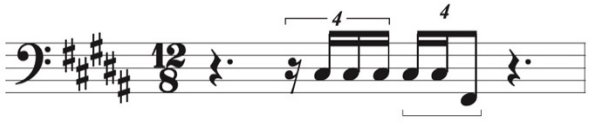


Example 29. Segmentation as motivic development in "Esikesi."

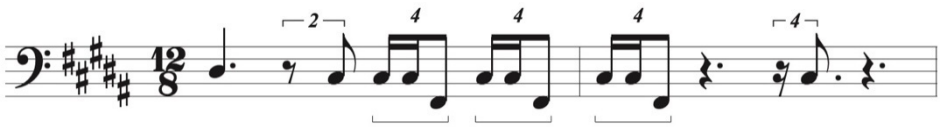
[53] In "Esikesi," segmentation could also be viewed as motivic development. In Example 29 the longest and mid-length phrases, shown on staff A and bracketed on staff B, could be considered extensions of the shortest related phrase, shown bracketed at the end of staff C, particularly because the shortest phrase occurs in the first measure of the performance.

[54] In Example 30 the longer motive appears first, shown on staff A, and the segment (bracketed) appears later in the performance.

A - m. 5



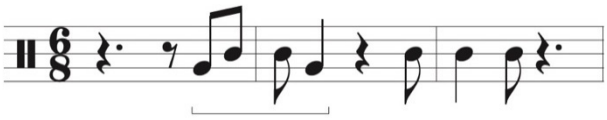
B - m. 22



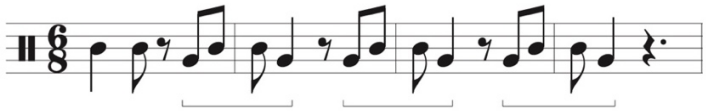
Example 30. Variation of the motive from Example 2 using segmentation.

[55] In the adowa performance, segmentation is used regularly to vary the relatively long rhythmic phrases played by the lead drummer. The first half of the twelve-unit pattern in Example 31A is repeated three times in succession later in the performance, shown in Example 31B. In 31C the same process happens to a different 12-unit phrase but without any interlude, and in Example 31D the first segment of a pattern is repeated without its counterpart. In 31E, phrase segments—shown using a short bracket—envelop three iterations of the original longer phrase, shown using longer brackets. In Examples D and E, the instances of segmentation are also examples of the emptying of musical space. The lone quarter note in each of three measures in this example foreshadows the first quarter note in the last bar shown, which is the beginning of the bridge (see Example 18), creating a particularly seamless transition.

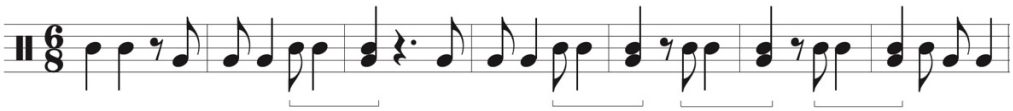
A - m. 5–7



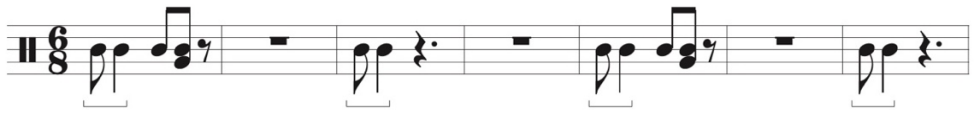
B - m. 11–14, 79–83



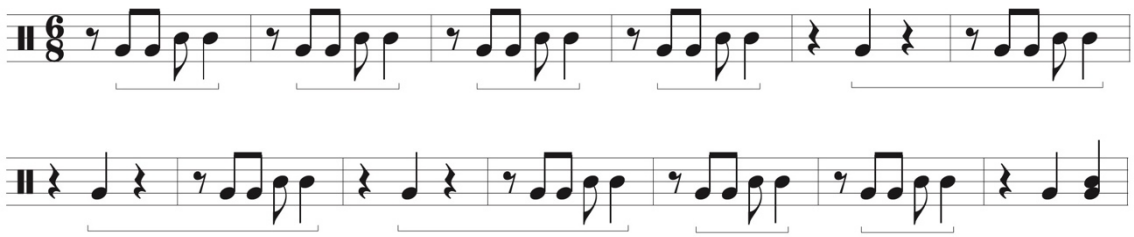
C - m. 39–45



D - m. 60–66, 70–74, 84–88

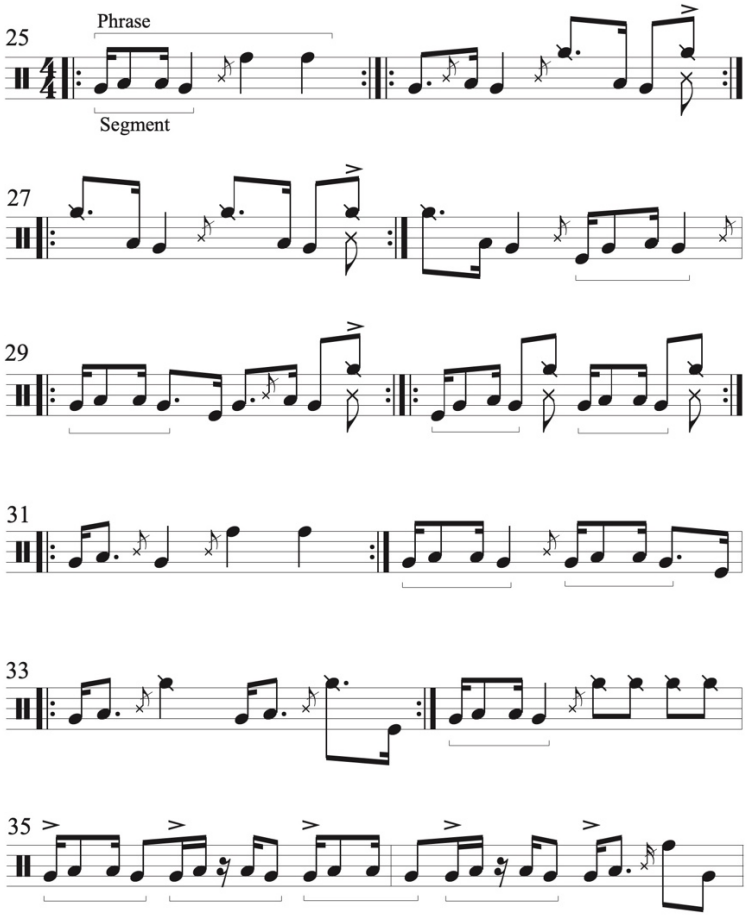


E - m. 203–215



Example 31. Segmentation found in the adowa.

m. 25–36



Example 32. Segmentation found in *Drum Gahu*, "The Call," Study 1.

[56] In the gahu, the most prominent use of segmentation is a parsing of phrase one (Example 4). In Example 32, the segment of the phrase which occurs in the first half of the measure is found again and again as the drumming progresses. In some cases, it is reiterated in its usual metric placement (the downbeat), as in measures 29 and 34, while in others it is used in the second half of the measure, as in measure 28. The segment is used as a replacement for the anacrusis (explained earlier in the paper) in measures 30 and 32, and in measures 35 and 36 the same segment is the basis for the repeated timing displacement and metric modulation, discussed previously in Example 19.

[57] Not only is segmentation used in these examples, but it could often be thought of in reverse, as motivic development. Across the four performances it is at least as likely for a short motive to be presented first and then extended as it is for a longer phrase to be presented first and then segmented. None of these performances use

segmentation as a way of organizing the form except "Miwua Agbo Mayi," in which the ending passage could be considered an extension of the segment found in Example 28. It is the only time in that performance in which segmentation is associated with timing displacement. In the gahu performance, segmentation is sometimes related to timing displacement and metric modulation, and in "Miwua Agbo Mayi" segmentation is used in conjunction with the filling of musical space. In the adowa, segmentation is occasionally used in a way that resembles the emptying of musical space, and in the relatively flexible structure of the lead drummer's part in "Esikesi," in which no single rhythm is adhered to throughout, none of these correlations occur. Although each performance involves the prominent use of segmentation, the way in which segmentation is combined with other techniques of rhythmic variation differs between all four.

BACKGROUND

[58] As I have been moving back and forth between substantially different drumming traditions and referring to non-sequential examples within each performance, it is possible that the formal constructions of these performances may have become obscure to readers. A small amount of background information about each genre is included here, along with descriptions of the forms of "Miwua Agbo Mayi" and "Esikesi." The purpose is to avoid presenting these performances in too single faceted, mathematical a fashion, especially to readers who may not already be Africanists, and to avoid the possibility of accidentally implying that performances from these genres "all sound the same." Detailed descriptions of the forms of the gahu and adowa performances are already provided by Locke and Anku, respectively (Locke 1998; Anku 1992). My intention is to provide a manageable amount of information with which to both contextualize the performances and to highlight the individuality of the genres.

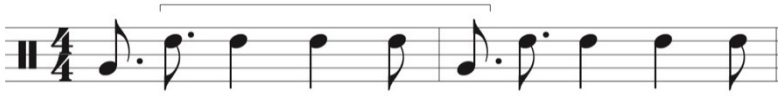
Gahu

[59] Gahu is a West African song and dance-drumming practiced by the Southern Ewe speaking people, which originated in Benin and Nigeria and includes elements of playful satire, along with dramatic display and costuming (Agawu 1995, 103; Locke 1998, 5). Gahu is presented at festivals, during visits by foreigners of importance, and during life cycle

events of members of the community. It is a group dance, carried out in a circular, counterclockwise pattern by both men and women. While the feet of the dancers usually mark the pulse of the music, attention is drawn toward the movements of the hips and shoulders. There are long passages in which a basic step is danced, interspersed with shorter passages that include more intense movements. The two types of dancing are not only reflected in the drumming but directed by it.

[60] The music is in a meter of four beats with quadruple subdivisions and is organized around a five-stroke timeline, shown bracketed in Example 33, beginning on an anacrusis, with IOIs of 34423, in which the final onset coincides with the downbeat of the measure (Locke 1998, 124).

[61] Six to eight instruments are needed to play gahu. The six that are imperative are the double bell *(gankogui),* shaker *(axatse),* and four drums from high to low in pitch (*kaganu, kidi, sogo, gboba).* An additional bell (*atoke)* and another large drum (*atsimevu)* can also be included. The lead player plays the lowest drum (gboba), the players of the medium pitched drums (sogo and kidi) respond, and the remainder of the performers, playing the high-pitched instruments, provide the rhythmic framework. A detailed, specific description of the music and the dance as it relates to the drumming can be found in Locke's *Drum Gahu,* which has been referred to often throughout this discussion (Locke 1998, 8, 107).

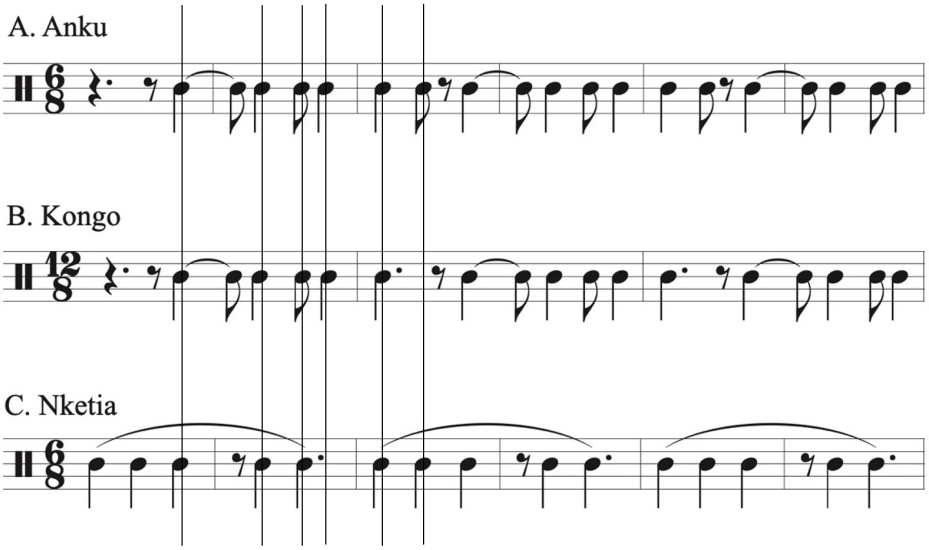


Example 33. Gahu timeline.

Adowa

[62] Adowa, in contrast, is a dance for a soloist or a pair of dancers, rather than for a larger group, originally performed at funerals by the *Akan* people (Anku 2009, 52). In this dance, like gahu, the pulse is marked by the feet of the dancer or dancers, who usually shift their weight to the right foot on the first beat of the bar in a compound quadruple meter. Anku's analysis of adowa is notated in a compound duple meter, which means that, according to the score, the dancer will shift their weight to the right foot at the beginning of every other bar, corresponding with the onset in the timeline that aligns with a downbeat (Anku 1992, 5–16).

[63] It appears to be more difficult to interpret and notate the timeline of adowa than it is to represent the timelines used in the other performances in this analysis. The transcriptions found in studies by Zabana Kongo, J. H. Kwabena Nketia, and Anku show marked variation in the ways that the adowa timeline is felt by each scholar (Anku 1992, 1997; 5–16; Nketia 1963, 91; Kongo 1997, 5). The three transcriptions are presented in Example 34 using vertical lines to illustrate how closely the onsets in each rendering align. The three interpretations present the same adowa timeline in cycles of twelve units which are organized into four beats with ternary subdivisions, and they include almost identically placed onsets, but there are clear differences as well. According to Anku, the timeline in adowa contains six strokes per cycle. The resulting IOIs are 321222. While the vertical lines indicate that the onsets in each transcription are placed in the same locations relative to the meter, they also bring to light two "missing" onsets, relative to the transcription by Anku. One is at the end of the second measure of Nketia's transcription and the other is near the beginning of the second measure of Kongo's transcription. The "missing" onset of Kongo's transcription results in IOIs of 32124 which create a greater emphasis on the downbeat of the second measure. Another striking difference between these three transcriptions is in the grouping of the onsets. According to Anku and Kongo, as shown by their placement of eighth rests, the timeline includes an eight eighth-note-unit long anacrusis which places emphasis on the first stroke of measure three on staff A, and the first stroke of measure two on staff B, which is the same chronological location because of the differing meters. According to Nketia, as shown by his slurs, there is no anacrusis at all.



Example 34. Three contrasting transcriptions of the adowa timeline.

[64] The adowa ensemble includes five or six performers. The timeline is played on a bell called *adawuro* or *dawuro,* the lead drum part is played on a pair of hourglass shaped drums called *atumpan* and three other percussionists fill out the rhythmic matrix, playing the *petia, apentemma* and *donno*. A rattle called *ntorowa* can also be included.

Agbadza

[65] Agbadza is an Ewe song and dance drumming that is often performed at memorial services, funerals, and rituals of chieftaincy, with its lyrics often describing war and battle, heroism and cowardice, life, and death. It is a group dance in which the movements accentuate the torso and shoulders while the feet mark the pulse. The vocals follow the format of call and response, with at least one person singing the call, and a larger group performing the response. The most prominent drum parts are the lead drum *(sogo)* and medium pitched support drum *(kidi)*, which are accompanied by four other musicians playing a bell *(gaŋkogui)*, shaker (*axatsɛ*), clap *(asikpekpe)* and high-pitched support drum *(kagaŋ)*. The lead drummer follows a repeatable form that is in three parts: roll, statement of material, and variation. The kidi plays a specific pattern to match each individual song, which remains constant and unvaried for as long as that song is sung. The consistent pattern played by the kidi is distinct from the timeline used in the music, which is the "standard pattern" mentioned earlier, played on the gaŋkogui (bell). In the performance of "Miwua

Agbo Mayi" that is analyzed in this paper, the consistent pattern played by the kidi is almost always played by the lead drummer as well. The pitch material used in the vocal parts is based on modes of pentatonic scales, both hemitonic and anhemitonic, with the final tone often, but not always, functioning as the pitch center (Alorwoyie and Locke 2013).

[66] The only one of the recordings of these four examples that prominently includes vocals is "Miwua Agbo Mayi" (Locke 1998).[9] The other recordings do not. In fact, studies and resources that are available on African music generally emphasize drumming over song, to an extent that belies the prominence of vocals in African music, and in other recordings of these genres that are now readily available online.[10]

[67] The chart in Example 35 outlines functions that are executed by the lead drummer over the course of this specific performance of "Miwua Agbo Mayi."[11] The first column lists the measure numbers, and the second column includes the number label of the two-measure cycle in the lead drum (sogo) and response drum (kidi) parts. "NA" appears in the first four fields of column two because the sogo and kidi are not being played at those times. In the third column there are four functions listed: "Roll," "Statement," "Unison" and "Variation." "Roll" refers to the rolling figure that is played on the lead drum during the measures indicated in the first column. "Statement" refers to Locke's description of the general form of the agbadza genre which says that "the form of the lead drum part is as follows: Rolling phrase, statement of drum language, improvisation" (Locke 2013, 13). Each instance of the word "statement" on the chart in Example 35 refers to the playing of the phrase in Example 36.

9. In the case of "Miwua Agbo Mayi," the lyrics that are sung on the recording include a discrepancy when compared with the lyrics that are printed in the translation. The word "*sukaviwo*" is replaced by syllables which sound like "ah-fri-dyo." I have left Alorwoyie and Locke's translation as it is at the beginning of the score and included the syllables that I hear in the staves of the notation itself.

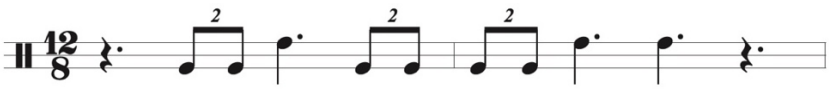
[10] For a description of several songs of adowa, see Nketia (1963), 102-143. Transcriptions of agbadza songs can also be found in Alorwoyie and Locke (2013); For a brief explanation of the prominence of singing in African music, see Agawu (2016), 115-118

[11] Leading an ensemble in a performance requires responsibility for much more than what is shown here, not the least of which is executing the lead vocal part, and I don't intend to imply otherwise. On the other hand, this chart indicates the way that four of the functions undertaken in the lead drum part are organized, and the frequency with which they occur.

[68] "Unison" is used as a label for the situations in which the lead drummer plays as shown in Example 3, executing three of the five strokes of the kidi part, without adding any embellishment, and without playing the rest of the onsets included in the statement phrase. "Variation" refers to the instances in which the lead drummer creates embellishments around the repeating kidi part.

Measure Numbers	**Two Measure Cycle Number**	**Action of the Lead Drum**
1-2 (unmetered)	NA	NA (solo vocal)
3-5	NA	NA (support instruments only)
6-7	NA	NA (Support instruments and vocals)
8-9	NA	**Roll**
10-11	1	Statement
12-13	2	Unison
14-15	3	*Variation*
16-17	4	Statement
18-19	5	Unison
20-21	6	*Variation*
22-23	7	Statement
24-25	8	Unison
26-27	9	**Roll**
28-29	10	Statement
30-31	11	Statement
32-33	12	*Variation*
34-35	13	*Variation*
36-37	14	*Variation*
38-39	15	**Roll**
40-41	16	Statement
42-43	17	Unison
44-45	18	*Variation*
46-47	19	Statement
48-49	20	Statement
50-51	21	*Variation*
52-53	22	*Variation*
54-55	23	Statement
56-57	24	**Roll**
58-59	25	Statement
60-61	26	Unison
62-63	27	*Variation*
64-65	28	*Variation*
66-67	29	Statement
68-69	30	*Variation*
70-71	31	*Variation*
72-73	32	Statement
74-75	33	Unison
76-77	34	*Variation*
78-79	35	*Variation*
80-81	36	*Variation*
82-83	37	Statement
84-85	38	End Passage

Example 35. Actions carried out in the lead drum part in “Miwua Agbo Mayi.”



Example 36. The phrase referred to by Locke and Alorwoyie in "Miwua Agbo Mayi" as the "Statement of drum language." Also referred to as "Statement" in Example 35.

[69] Two patterns regarding variations present themselves. Firstly, many of the phrases that include variations also include anacruses. These anacruses group with the phrases to which they lead, rather than being considered a part of the two-measure cycle in which they are notated. Secondly, it is rare for the statement phrase (Example 36) to be varied by very much. Instead, it is likely for the variations to be based on the rhythm in Example 3, which consists entirely of dotted half notes.

[70] By studying the chart in Example 35, the form of this performance becomes apparent, including four sections delineated by rolls which are followed by a "statement of the drum language," as described by Locke. There are additional statements of the same phrase in each of the four sections, bringing the total statements in each of the sections to 3, 2, 4 and 4. The chart also shows that "statement" and "unison" phrases occur more frequently near the beginning of the performance, "variations" occur more frequently as the performance progresses, and that the length of the final section is by far the longest.

"Esikesi"

[71] "Esikesi" is played by a dùndún ensemble at social events such as weddings. The performance that is analyzed in this paper has an instrumentation that is commonly found among dùndún ensembles. However, dùndún music is played using many other instrumentations as well (Euba 1990, 159, 166).[12] In this case, the ensemble consists of five drummers, each playing a single drum. Most of these are hourglass shaped drums, the heads of which are fitted with tension strings. The tension strings are usually tied so that each drum maintains a single pitch, but in the case of the lead drum (*ìyáàlù*), the tension strings are left untied and then pressed upon by the player to manipulate the pitch. The *kerikeri* can be the lowest drum in the ensemble, but the part can also be played on a drum that is the same size as the lead drum. The highest, brightest drum is called the *gúdúgúdú*, and it is the

12. See also: Lacerda (1996), 28; Theme (1969) 19–26

only one that has one drumhead rather than two. The other three drums can be of similar size, or they can be sized somewhat differently. Rather than being referred to by their pitch, drums are referred to by their function, which can change according to how tightly the tension strings are tied or if they are left free to be manipulated. All four parts aside from the ìyáàlù (lead drum) are collectively referred to as *omele*. The omele are tuned, from high to low, in the following order: *gúdúgúdú, isáájú, ikehin, kerikeri* (Euba 1990, 113–114, 167–178).

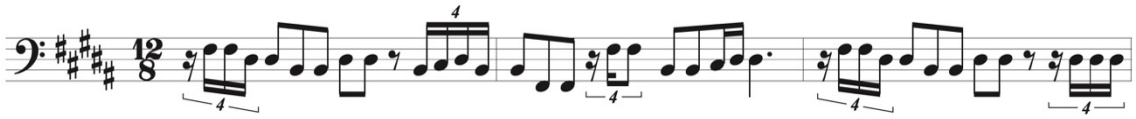
[72] While dùndún music is played in a compound quadruple meter (expressed by the timeline that organizes it—2212221), it is common for the lead drummer to use duple as well as triple subdivisions. This, combined with the reliance on verbal language-based organization rather than a fixed repetitive structure in the lead drum part, results in myriad combinations of sixteenth note quadruplets, eighth note triplets, and eighth note duplets. In "Esikesi" the isáájú player performs the standard timeline throughout the piece, but this appears to be an anomaly. In many other dùndún performances, a timeline is not played by anyone in the ensemble (Euba 1990, 192, 474–542).

[73] Dùndún is fundamentally an instrumental genre. The music does not depend on singing but singing can be found as part of dùndún performances. Sometimes the singing is spontaneous and in other cases it is more organized and sung by specialist singers. A dùndún performance is often processional, as is the dance (Euba 1990, 403–422).

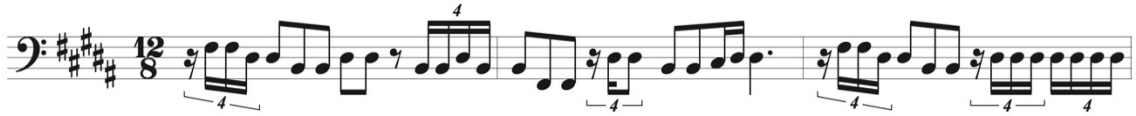
[74] The supporting drums in "Esikesi" occasionally vary their parts, sometimes including additional onsets. For instance, at 1:38 in the recording, the ikehin (mid-range supporting drum) varies the part by adding additional medium-pitched onsets (Dùndún Ensemble of Adjarra, 1987). Another example of the subtlety of variation within the supporting drum parts can be found at 2:01 when the gúdúgúdú (highest pitched supporting drum) increases the number of onsets in the part. This eliminates space in the part by filling it in with regularly spaced onsets that fit within the rhythmic matrix (see technique 3, "Filling or Emptying of Musical Space"). There are additional instances as well. I have not been able to transcribe the details of the various supporting drum parts to my satisfaction but having a basic matrix available with which to compare the lead drum part has been helpful in the analysis of the performance, so it has been included in the transcription, throughout the score, in case it is of use to readers as well. As is the case whenever music is written down, the notation is incomplete.

[75] In the liner notes of the recording of "Esikesi," in reference to the lead drummer, Marcos Branda Lacerda points out that "[t]he player tries to produce only three pitches, and through distinct hits with the drum-stick, imitates the lateral sound 'l' and the retroflexive 'r,' according to Yoruba phonetics" (Lacerda 1996, 26). This statement leads me to question my use of five pitches (including the octave doubling), and it explains why the pitches C# and D# are sometimes difficult to distinguish. Despite this, upon repeated listening, the melody in measure 8 for instance, shown in Example 37A, is precisely pentatonic, and it is repeated with minimal variance starting in measure 19, shown in Example 37B. These melodies use more than three pitches, which does not appear to be an accident.

A - m. 8

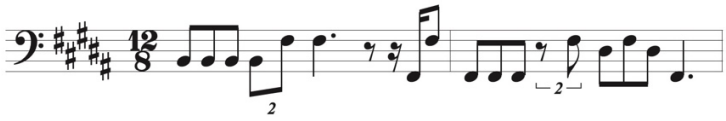


B - m. 19



Example 37. A pentatonic melody from "Esikesi" and its nearly exact repetition later in the piece.

m. 1



Example 38. Another pentatonic melody in "Esikesi."

[76] Example 38 features a transcription of another melody, this one containing four separate pitches, all from the same pentatonic scale as the melody in Example 37.

[77] It is possible that the discrepancy between the description in Lacerda's liner notes and the variety of pitches found in "Esikesi" can be reconciled by replacing the word "pitches"

with the word "tones." Euba describes a series of three tone groups used to represent low, middle, and high speech tones, and he refers to dull, bright, and muted tones (1990, 177, 303). Another possible explanation is his description of "the singing ìyáàlù." He says that "it is able, like the human voice, to produce pitches of clearer definition than those required for ordinary *Yorùbá* speech and can easily cross the boundary between speech and song" (Euba 1990, 150). Yet another possible explanation is Amanda Villepastour's use of the words "three relative pitches" to describe the pitch structure of the music (Villepastour 2010, 81). "Three relative pitches" is a very different description from "only three pitches," which is still quite different from Euba's description of "the singing ìyáàlù.[13]

[78] Instead of being organized according to two measure cycles, the form of "Esikesi" is more "fluid," to use Euba's word, and it is dependent on the order and construction of the melodies that the ìyáàlù (lead drum) player chooses to use (Euba 1990, 334–335).

[79] Example 39 lists the alternations between sections of relatively long melodies and sections that are sequences of short motivic statements in "Esikesi." The first column lists the measure numbers of each section, and the second column lists the length of the section in measures. In the third column, the word "melody" refers to the relatively long melodic phrase that is found in that section. "Motives" refers to the sequence of statements of the motive (shown in Example 2) that is found in that section. In some cases, within a complete multi-measure motivic section, more than two pitches are used, but more than two pitches are never used in any single statement of the motive. To illustrate this, the phrase "1 or 2 (pitches) per motive" is used in column 4 when referring to pitches in motivic sections so that there is no confusion regarding the number of pitches used in a phrase, be it a melodic phrase or a usage of the shorter motive within a motivic section. The motivic sections in measures 32 and 64–65 each include only one statement of the motive so a single numeral

13. Having transcribed this piece, I am gratified to find a statement agreeing with my findings by Kofi Agawu in his paper "Tonality as Colonizing Force in Africa" where he says, in reference to "Esikesi" that, "[w]e can just about infer a distant pentatonic horizon in this recording." (Agawu 2016, 345). I would only add that the pentatonic horizon is quite a bit closer than it first appears. It should be said however that there is no one common scale or pitch system that is found in all pieces in the genre, so a pentatonic pitch structure cannot be assumed. See Euba (1990), 300.

representing the number of pitches will suffice. The single digits in the "melody" rows (in grey) in column 4 label the number of pitches used within that melodic section.

Measure Numbers	Number of Measures in the Chronological section	Melodic Construction of Material Played	Number of Pitches Used
1–3	3	Melody	4
4–7	4	Motives	1 or 2 per motive
8–10	3	Melody	5
11–18	8	Motives	1 or 2 per motive
19–21	3	Melody	5
22–28	7	Motives	1 or 2 per motive
29–31	3	Melody	3
32	1	Motive	2
33–36	4	Melody	4
37–43	7	Motives	1 or 2 per motive
44–47	4	Melody	4
48–53	6	Motives	1 or 2 per motive
54–58	5	Melody	4
59–61	3	Motives	1 or 2 per motive
62–63	2	Melody	3
64–65	2	Motives	2
66–71	6	Melody	5
72–76	5	Motives	1 or 2 per motive
77–83	7	Melody	5
84–87	4	Motives	1 or 2 per motive

Example 39. Alternations between statements of extended melodies and of motives in "Esikesi."

[80] The chart reflects that in this performance the motive shown in Example 2 is prominent throughout the entire piece, interspersed between melodies that are relatively long.[14] Each use of the motive is between one and three beats long (see Example 10) and the shortest of the melodic sections in the performance is three measures long. The ten sections which use

14. It is not always the case that a single motive is continued throughout a dùndún performance. For examples of various forms, see Euba's dùndún transcriptions. Euba, (1990), 474–542

longer melodies are in grey, and if lengths of these sections are listed consecutively, the following pattern arises: 3, 3, 3, 3, 4, 4, 5, 2, 6, 7. Except for the two-measure phrase in the eighth position in this list, the lengths of the melodic phrases continually increase as the performance progresses. The lengths of the sections containing motivic statements result in the list 4, 8, 7, 1, 7, 6, 3, 2, 5, 4. There does not appear to be a pattern in this sequence, but the average length of motivic phrases does decrease, with the first five motivic sections averaging 5.4 measures in length and the last five motivic sections averaging 4 measures in length. This chart also makes clear that the number of pitches used by the ìyáàlù player in each melody section stays consistently high. Listing the number of pitches used in each melody section results in 4, 5, 5, 3, 4, 4, 4, 3, 5, 5.[15]

[81] Even a passing glance at these scores is enough to dissuade any thought of calling them "uniform." Differences abound. For instance, in the lead part of adowa, a 12-unit rhythmic pattern is repeated several times followed by variations, followed by a bridge, followed by a different 12-unit rhythmic pattern with variations, which is followed by another bridge, and so on (Anku 1992, 20-22). The 12-unit patterns are grouped differently between bridges, using anacruses of varying lengths, which is to say that each group of 12-unit patterns can begin in a different location within the meter. By contrast, in "Miwua Agbo Mayi," the lead player varies their playing around one two-measure (24 unit, or two timeline cycles long) pattern throughout the entire performance. This repeated phrase, played by a medium-pitched supporting drum, always relates to the meter in the same way. In gahu each beat is divided into quadruplets (a duplet structure), in adowa, each beat is divided into triplets, and in "Miwua Agbo Mayi" and "Esikesi" beats are divided into both duplets and triplets. The tempi between these pieces are notably different. "Miwua Agbo Mayi" and "Esikesi" both rely on the standard time-line pattern mentioned above, while adowa uses a different time-line pattern, and gahu uses yet another. These are just a few of the differences between the four examples.

15. When transcribing this performance, my ears were so attracted to the melody in measures 8-10 and 19–21 (see example 36) that, until creating this chart, I didn't realize that the same level of pitch variety returns at the end of the performance.

FURTHER COMPARISONS

[82] "Esikesi" and the adowa performance are similar in that the lead drummer does not play a single basic rhythm throughout. The two are dissimilar because the lead drummer in adowa focuses on a particular phrase and its variations within each section of the performance (a section being the time between two separate occurrences of the bridge), while the lead drummer of "Esikesi" utilizes greater variation in pitch and in phrase length (Anku 1992, 5).

[83] "Miwua Agbo Mayi" and "Esikesi" have very different formal constructions, with one being dependent on continuous two measure repetitions of the same phrase and the other relying on the contiguity of melodies and motivic statements in sections of varying lengths. In "Miwua Agbo Mayi" the relentless phrase structure is counteracted by the emptying of the statement phrase to make room for variations, and in "Esikesi" the highly varied phrase structure is balanced by the steady increase in the lengths of melodies and by the consistent use of the main rhythmic motive.

[84] Both "Miwua Agbo Mayi" and "Esikesi" are based upon the standard timeline pattern, and they maintain even tempi which are comfortable for dancing. Despite this, to accommodate the density of the sixteenth notes in the music, the construction of "Esikesi" requires the music to be played at a tempo that is, at a quarter note equals 92 bpm, considerably slower than that of "Miwa Agbo Mayi," which is played at 120 bpm. In "Esikesi," as compared to the timeline, the other timekeepers are in double time, which is especially apparent in the part played by the gúdúgúdú (highest pitched supporting drum).[16] Compared to the gúdúgúdú, the timeline is in half time, and compared to the timeline, the gúdúgúdú is in double time. A precise tempo selection is required so that the relatively fast timekeeping pattern does not get too fast, nor does the relatively slow timeline become too slow to be felt comfortably. When the lead player subdivides dotted-quarter-note beats into duplets or quadruplets, yet another feel is added. This is not to imply that there is more than one meter, but rather that the single meter in this drumming is being realized in three ways at once: slow ternary, fast ternary, and sometimes binary.

16. The *gudugudu* is the only drum played with two sticks rather than one, so it has a greater frequency of repeated notes.

[85] The adowa performance differs from both by using a set bridge to delineate sections, each of which focuses on a separate phrase that is presented and then varied by the lead drummer (Anku 1992, 5-6). The form in gahu is different still. While the notated examples in the gahu study do not represent a single full-length performance, Locke explains that the form of the music relies on the interaction between the dancers and the drummers with the lead drummer playing rhythmic cues, which he (Locke) includes in his examples, to both respond to and direct the dancers (1998, 107-123). Referring to the relationship between the form of the dance and the lead drummer, he writes that "[t]he form should be quickly grasped: play material for the basic "step" for a long time; go to the variation of your choice; return to basic dance material; go to the variation of your choice; and so forth" (Locke 1998, 107). These four performances are each organized formally according to different parameters: fully consistent two measure phrases, alternating usage of melodies and shorter motives, bridges separating different rhythmic statements, or alternations between music for basic dance steps and variations, and yet all the while they have at least four common techniques of organizing variations.

[86] A previously unmentioned possible commonality between these four performances could be found in the in the endings. Anku defines an end passage as "a passage played to signal the end of a drum piece. Each drumming type identifies a signal which is well known by a community of users. The passage is idiomatic, and it is invariably constructed to end on the final regulative beat" (Anku 1992, 6). According to the way that Anku uses the phrase "regulative beat" and the way that he describes end passages, the expectation is that the ending passage of the adowa performance would finish on the first beat of a measure, but in his transcription, this is not the case (Anku 1992, 4).[19] The transcription denotes an ending passage in which the last onset corresponds to the third eighth note unit of a 6/8 measure so it appears that ending passages, while being well-known and idiomatic, need not necessarily end on a regulative beat.

[87] The performances of adowa, "Miwua Agbo Mayi" and gahu all include clear, predetermined, idiomatic ending signals. Unfortunately, the ending of the recording of

19. In Anku's writing "Regulative beat" is referred to in parenthesis as a synonym for "regulative time point," and the chart labeled "Pattern Relationship in adowa" positions the regulative time point at the beginning of a measure.

"Esikesi" fades out, depriving us of any insight into its ending strategy. Euba sheds light by describing dùndún performance endings in the following way:

> Most dùndún pieces end in either of two ways: (i) the íyáàlù simply plays a single low-tone stroke, onomatopoeically referred to as *pà* and the other instruments stop or (ii) the íyáàlù plays a textual motif *òrò kòkò ni gbangba ló nbò* ('words spoken in secret always come into the open'). According to Ládòkun, the textual motif is used when there is a big crowd and a lot of noise. The second type of end signal allows the secondary players time to more neatly round off their parts, and the secondary instruments usually all play a final stroke on the last syllable bò simultaneously with the íyáàlù (Euba 1990, 335).[20]

[88] This description is supported by the endings of tracks in the same album as "Esikesi": these tracks include "Olomelekan," "Jagun Jagun," "Atchoukpa: Ale Ile," "Okele Ladji Ladji," and "Ifa - Oro" (CD. *Yoruba Drums from Benin, West Africa.* 1996). If "Esikesi" is like these other performances in the dùndún tradition, then end passages would be another organizational technique common to all four of these performances.

[89] In contrast to the findings of notable similarity in the "Analysis" section, the "Background" and "Further Comparisons" sections predominantly highlight the many differences between the four performances under discussion, creating balance between the understanding of similarities and differences between them. In this too, the aim is to take some measure to counteract the less balanced tropes associated with African music that have been mentioned at the outset of this paper.

20. Ládòkun is referred to by Euba: "From personal information."

CONCLUSION

[90] Systematically presenting examples from each of four performances from different West African traditions, illustrating each of four techniques used to organize rhythmic variations, I have shown that these techniques are used across all four drumming performances. The ways that they are used within the performances vary, from the almost constant rhythmic displacement and the manifold rhythmic amplifications of "Esikesi" to the all-but unchanging timing displacement in the bridge of the adowa performance, used to arrange chronological sections. The presence of these four techniques in each performance gives a sense of continuity between the traditions, and the different ways in which they are used create a great deal of variety.

[91] It is possible that continued analysis of these performances could result in discoveries of other techniques common to all four performances. For example, instances of rephrasing, which Locke defines as "changing the interpretation of a phrase's beginning and ending," can be found in all of the performances to varying degrees.[21] The reason why rephrasing has not been included in this analysis is that it is present only very rarely in "Miwa Agbo Mayi," so it's usage could possibly be a fluke, even for the individual performer. On the other hand, perhaps it is not a fluke, but a single occurrence of a technique that is used for organizational purposes in other performances of the same genre, in which case, with an expanded sample of performances, the technique could plausibly be included. This could only be determined by further study of Alorwoye's playing, of the agbadza genre, or both, within the context of the comparisons that are being made between all four performances, or perhaps eventually, all four genres.

[92] While the similarities between techniques that have been illustrated here are verifiable and concrete, the fact remains that these four performances are a very small sample. To develop this study, a natural next step would be to transcribe and analyze performances by different lead drummers from each of these four drumming traditions to compare the ways that individual practitioners use, or do not use, these and other techniques of organizing

21. Locke (1998), 75; For examples of rephrasing in "Miwa Agbo Mayi" see the following measure numbers in appendix 1, m. 10, 36, 70; For "Esikesi" see appendix 2, m. 1, 3, 44, 46, 56, 58, 66, 67 and 80; For adowa see Anku (1992) p. 8-16, m. 16-17, 36-37, 113-114, 225 and 229; For gahu see Locke (1998) p.81, 85-87, and 89.

rhythmic variations. It would also be enlightening to include transcriptions and analyses of performances from other sub-regions in West-Africa. Additionally, this study could be developed via the inclusion of techniques of organizing variations that are common to subsets of these four performances.

[93] It is my hope that, in addition to being a pedagogical resource and a contribution toward the understanding of West African music as being thoroughly logical and accessible, this paper will be the beginning of a conversation about the similarities between organizational techniques of rhythmic variation across traditions and the variety of ways in which these similar techniques are used. In the manner of Burns' "Rhythmic Archetypes," mentioned earlier, this conversation could (and perhaps should) include the study of performances from other locations in Africa, and African-diasporic traditions as well.

ACKNOWLEDGMENTS

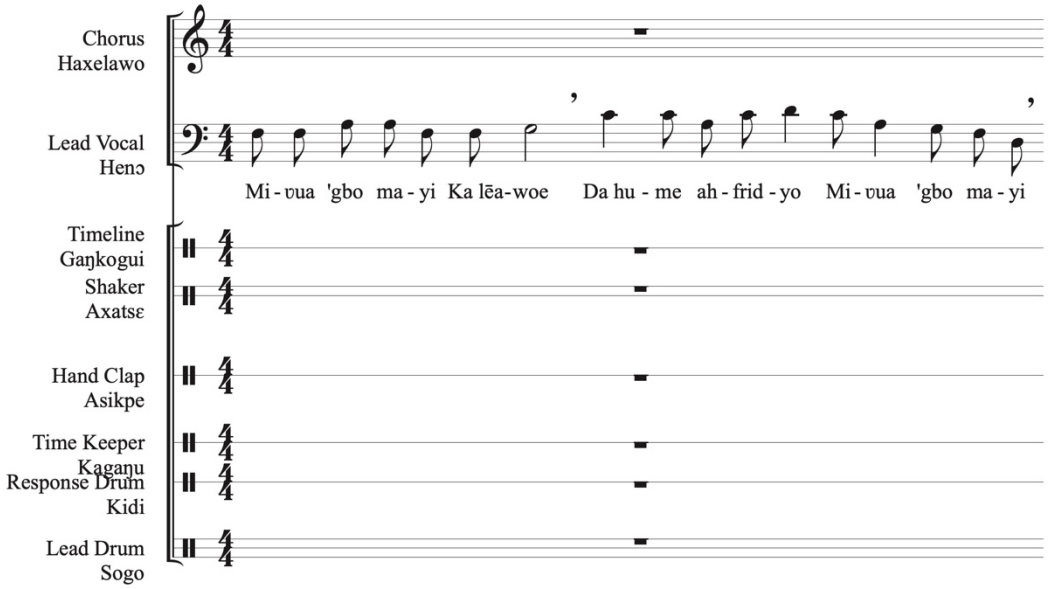
Without the support of Dr. Kofi Agawu, whom I met as a student in his course "Analysis of African Rhythm" at the CUNY Graduate Center, it may never have occurred to me that I could contribute to the body of Africanist music research. I am grateful for his encouragement and the time that he has put into critiquing my work. I am also indebted to Louis Bauzó who has continually encouraged me to participate in the creation of African-diasporic music in his performing ensembles. Lastly, thank you to Lina Tabak for reading and commenting upon this project.

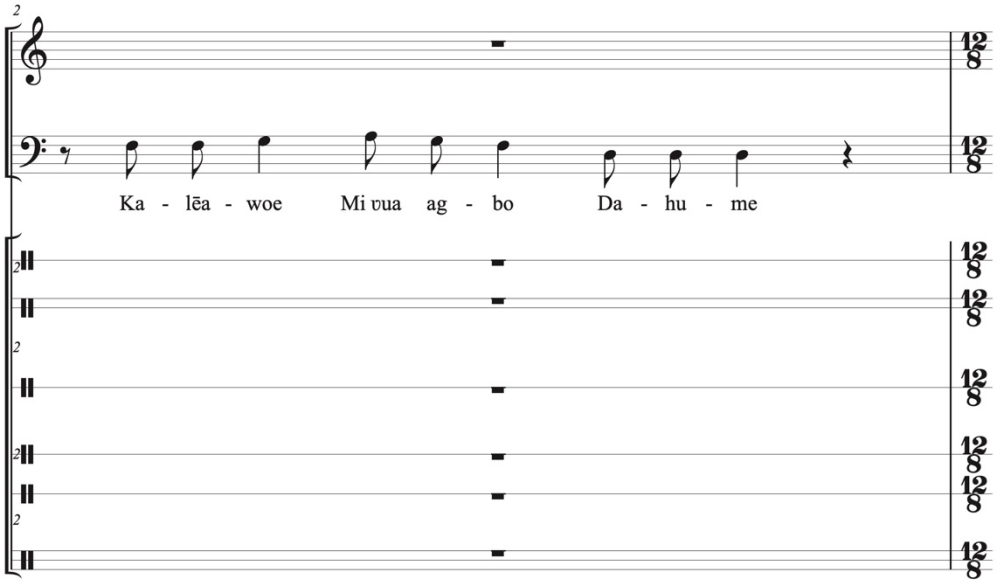
APPENDIX 1

Miwua Agbo Mayi

As Played By Gideon Alorwoyie

Henɔ	*Mivua 'gbo mayi*	You all open the gate, I will go.
Haxelawo	*Kalēawoe*	Brave ones!
Henɔ	*Dahume Sukaviwo*	Dahomey Suka's people,
	Mivua 'gbo mayi	You all open the gate, I will go.
Haxelawo	*Kalēawoe*	Brave ones,
	Mivua agbo mayi Dahume	You all open the gate, I will go to Dahomey.

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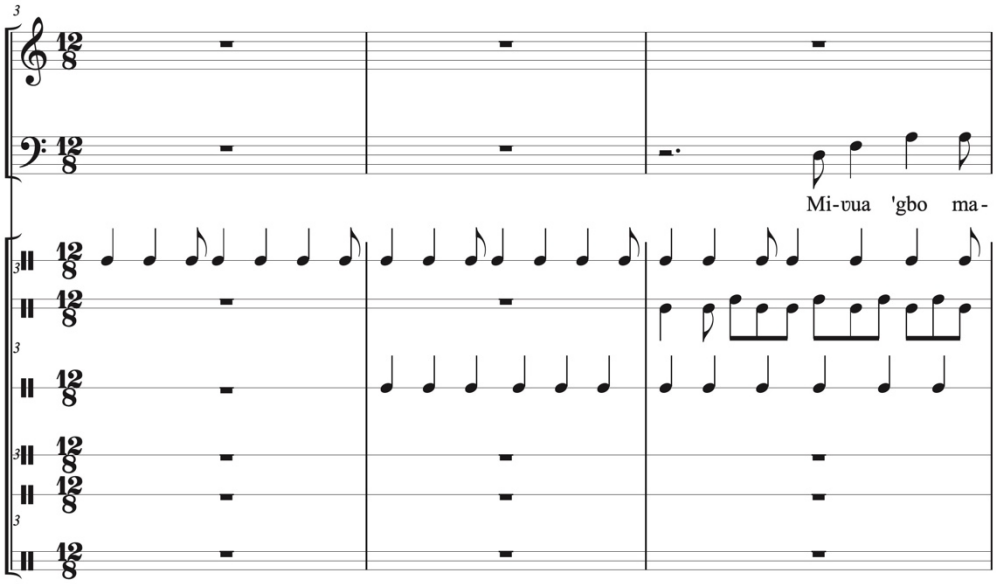
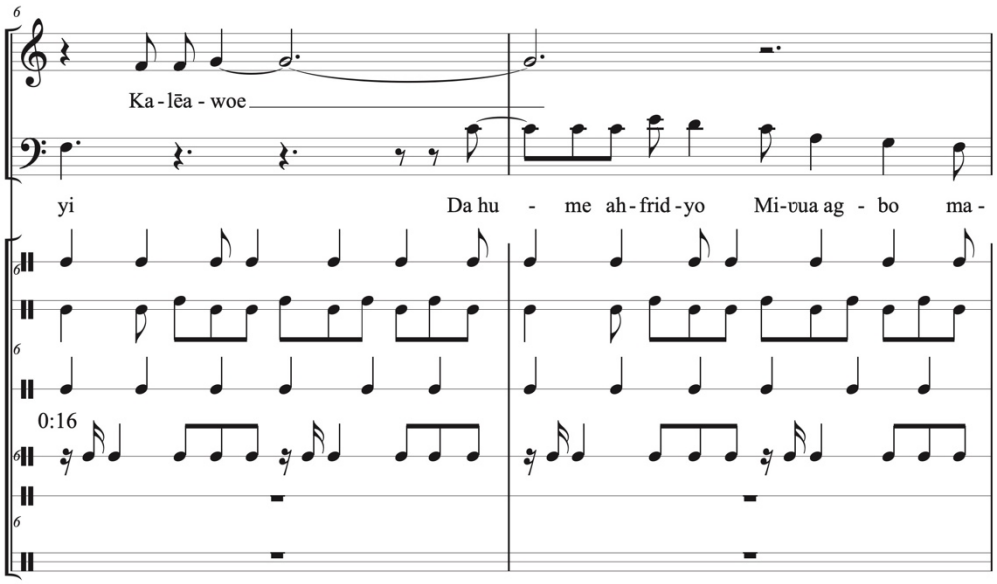
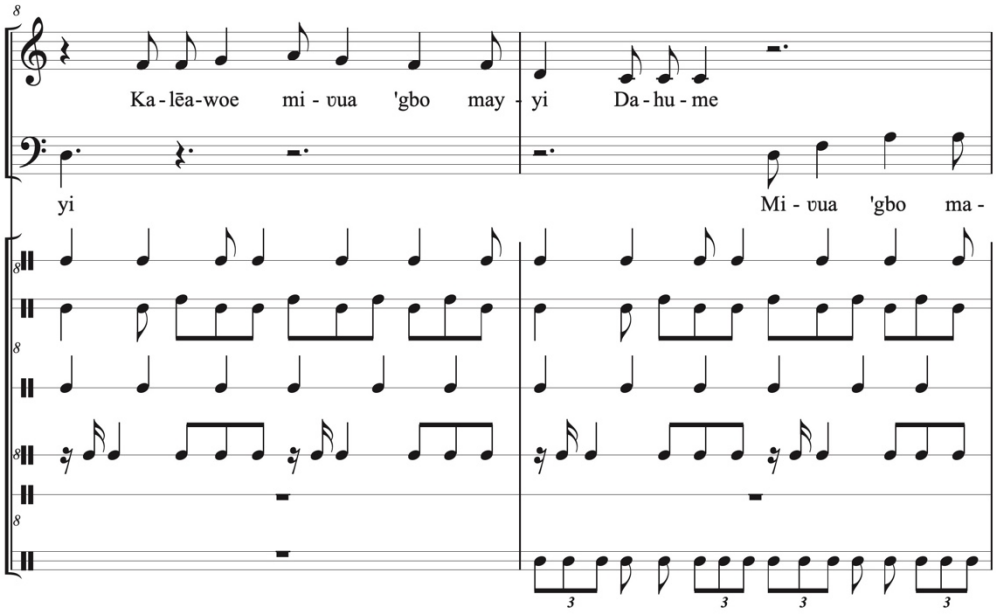

Mi-ʋua 'gbo ma-


Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-ʋua ag - bo ma -
0:16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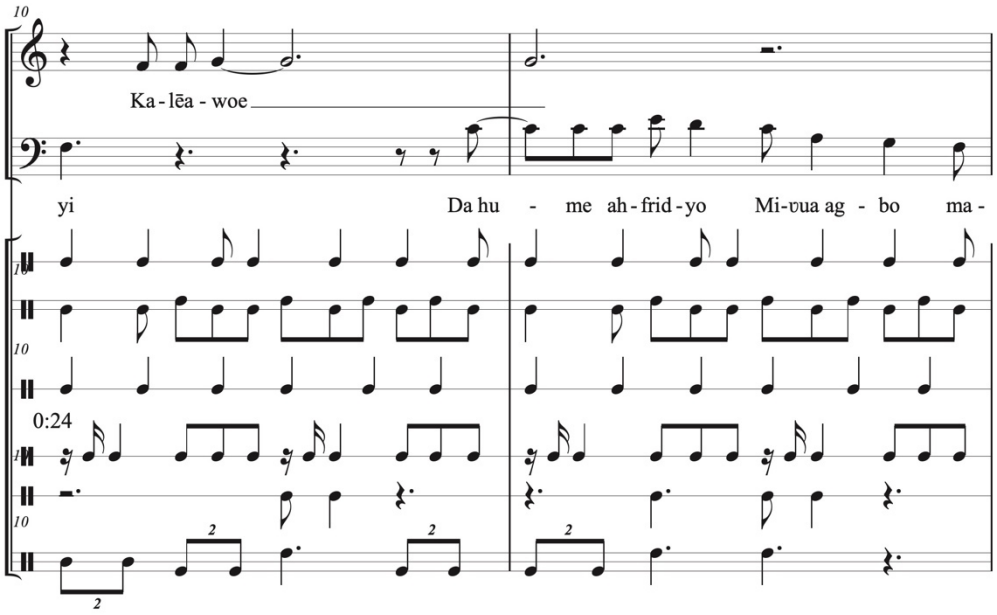
Da - hu - me
yi
Mi - ʋua 'gbo ma -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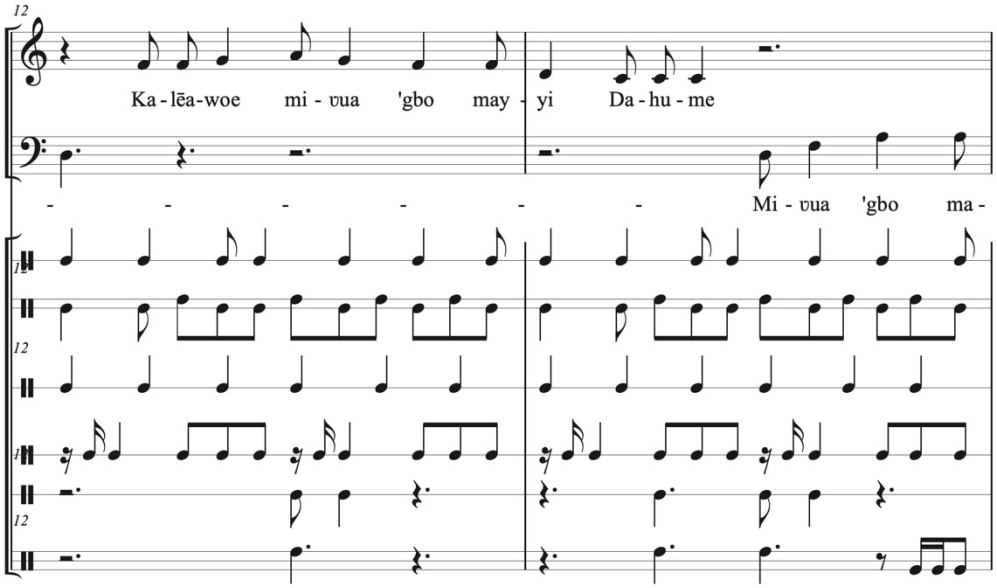
yi
Da hu - me ah - frid - yo
Mi-ʋua ag - bo ma -
0:24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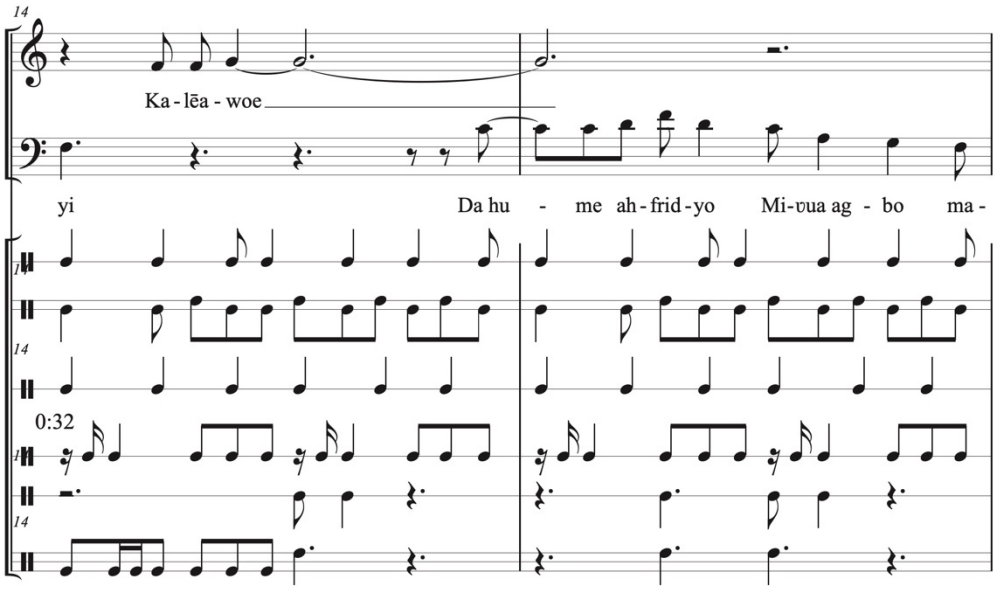
Da - hu - me
- - - - - -
Mi - ʋua 'gbo ma -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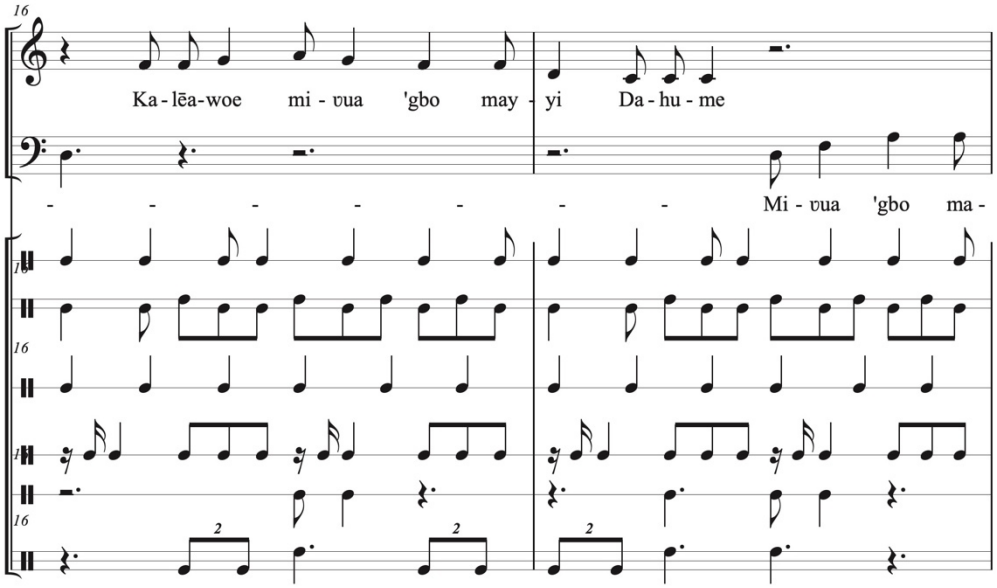
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʋua ag - bo ma -
0:32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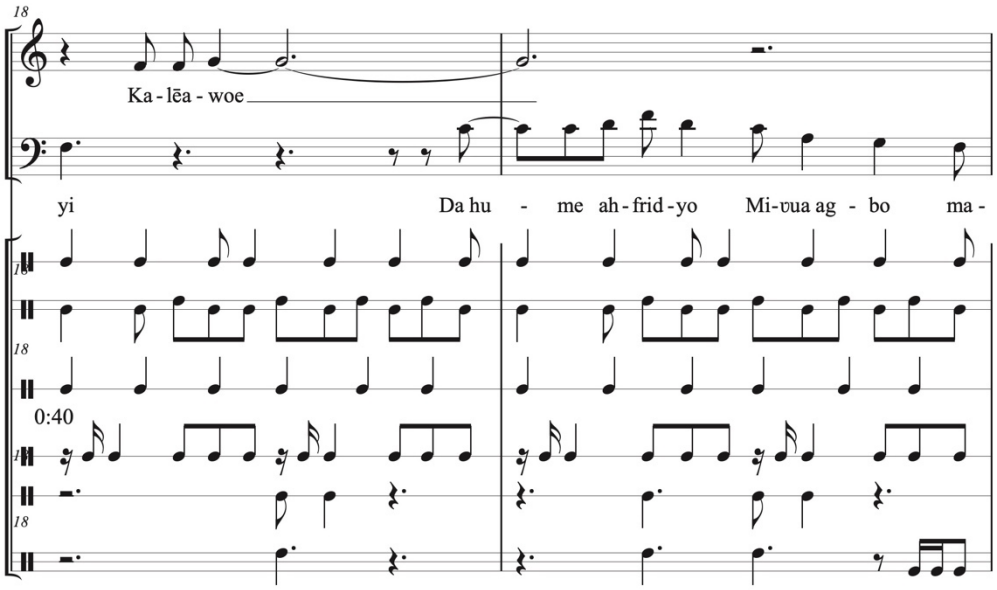
- - - - - - - Mi - ʋua 'gbo ma -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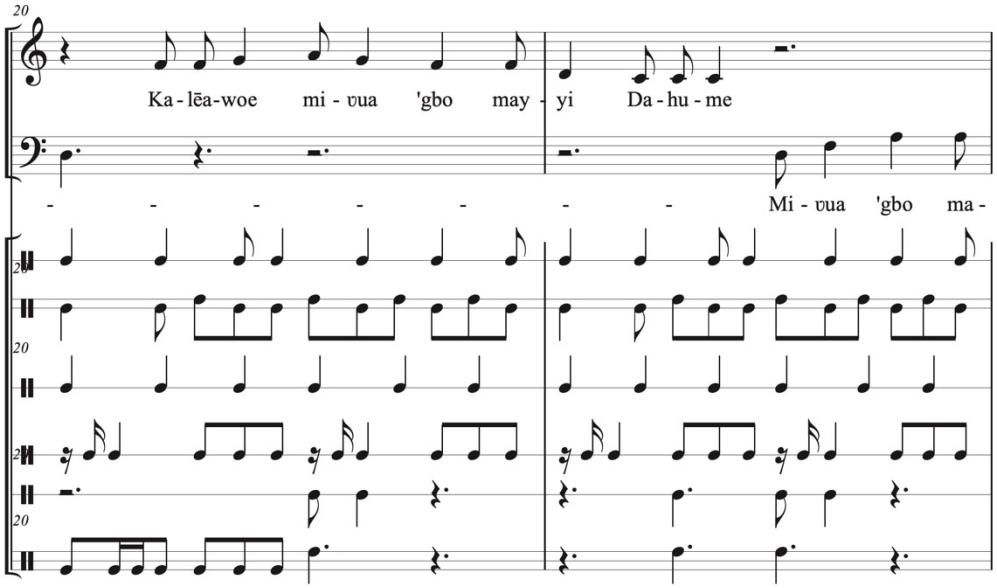
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi-ʋua ag - bo ma -
0:40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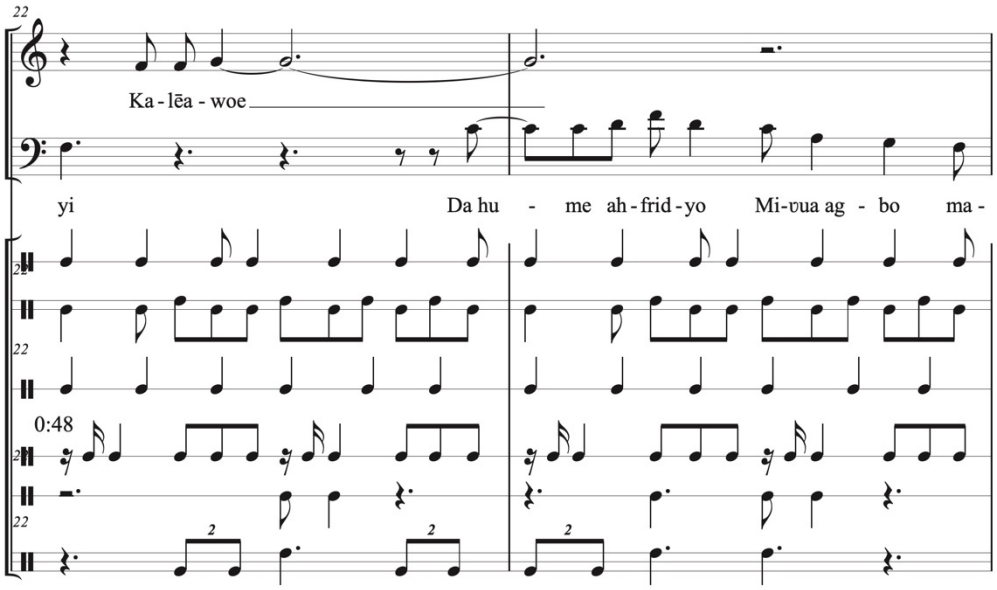
- - - - - - - Mi - ʋua 'gbo ma -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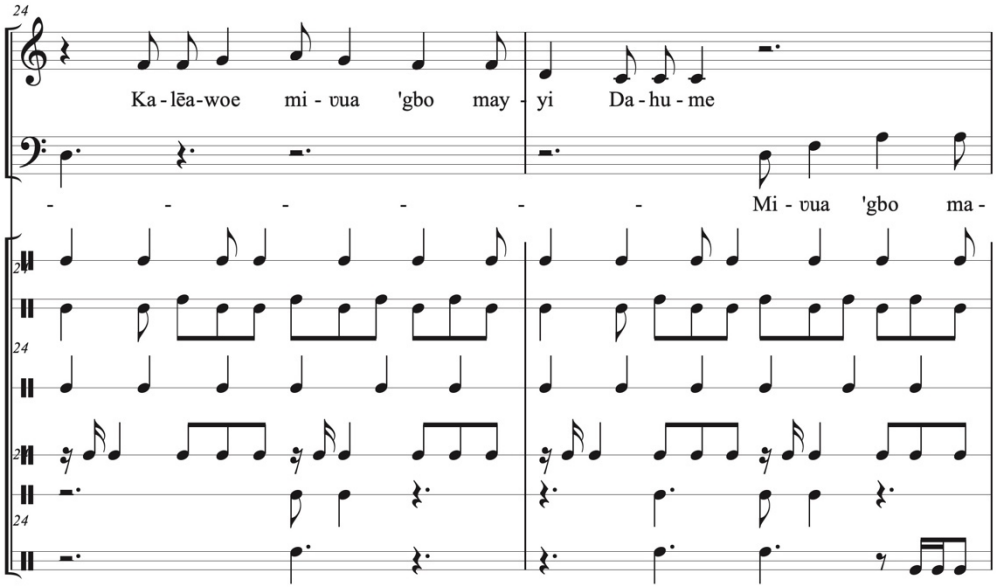
Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-vua ag - bo ma -
0:48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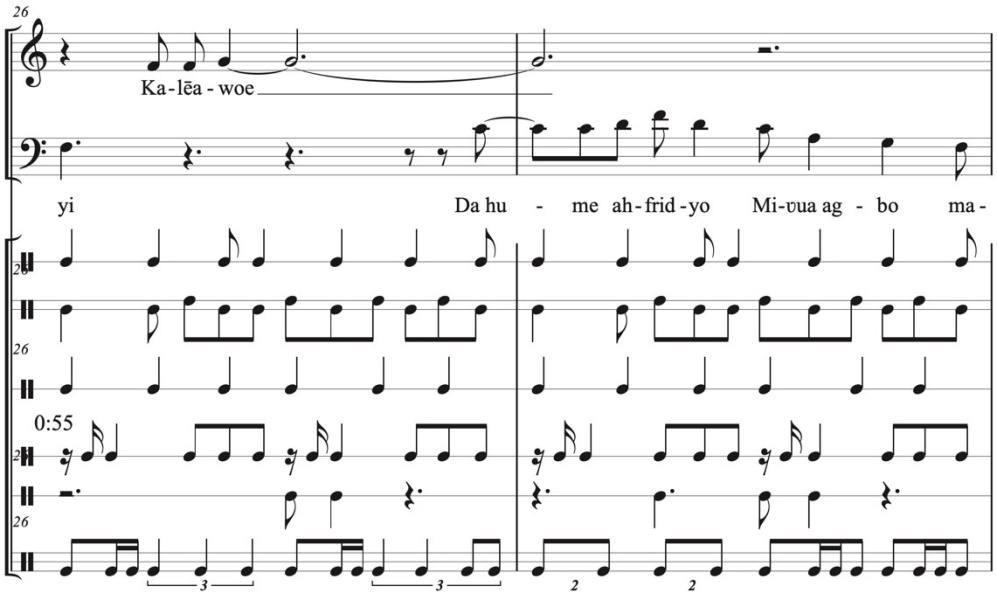
Da - hu - me
- - - - - -
Mi - vua 'gbo ma -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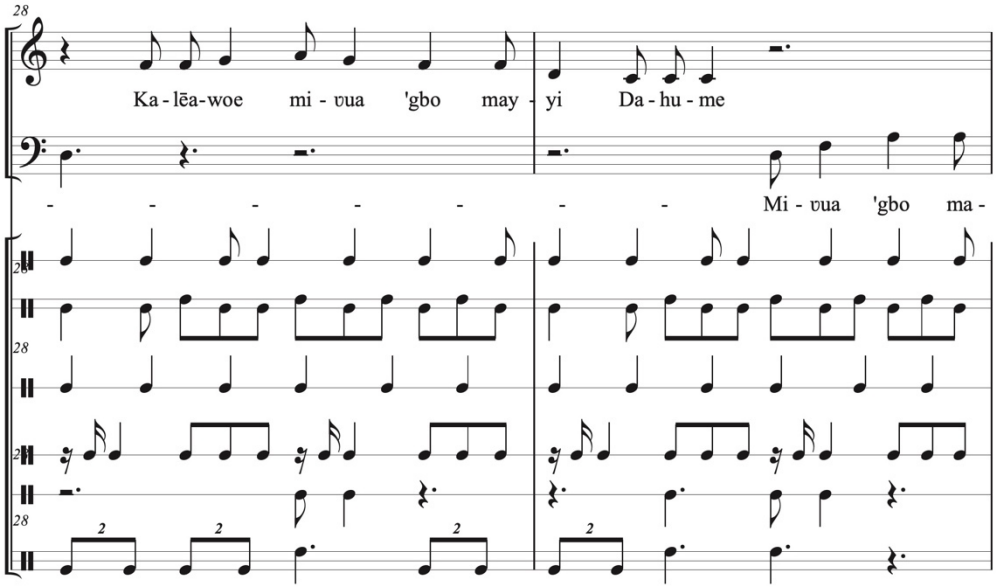
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʋua ag - bo ma -
0:55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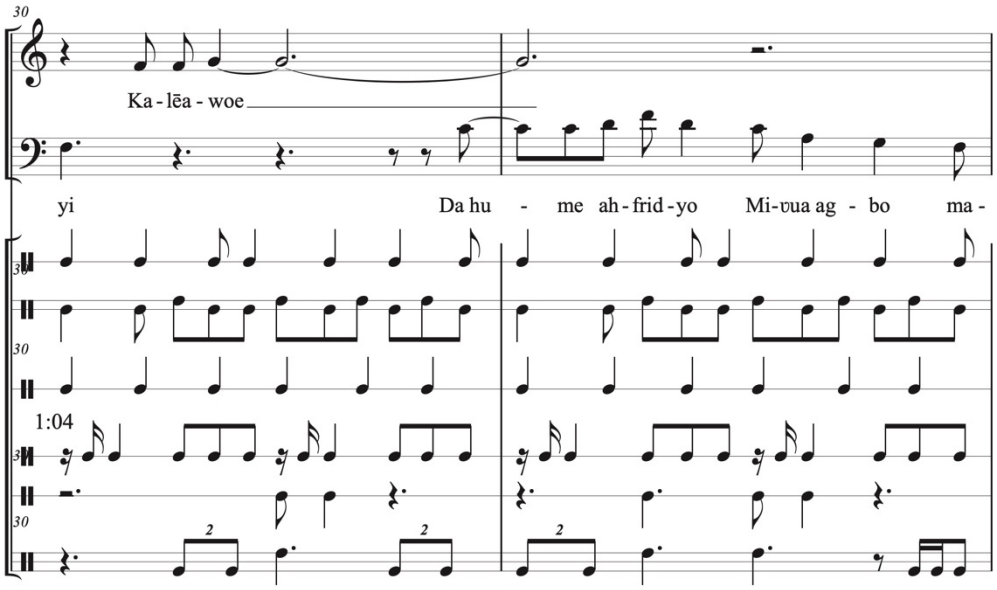
- - - - - - - Mi - ʋua 'gbo ma -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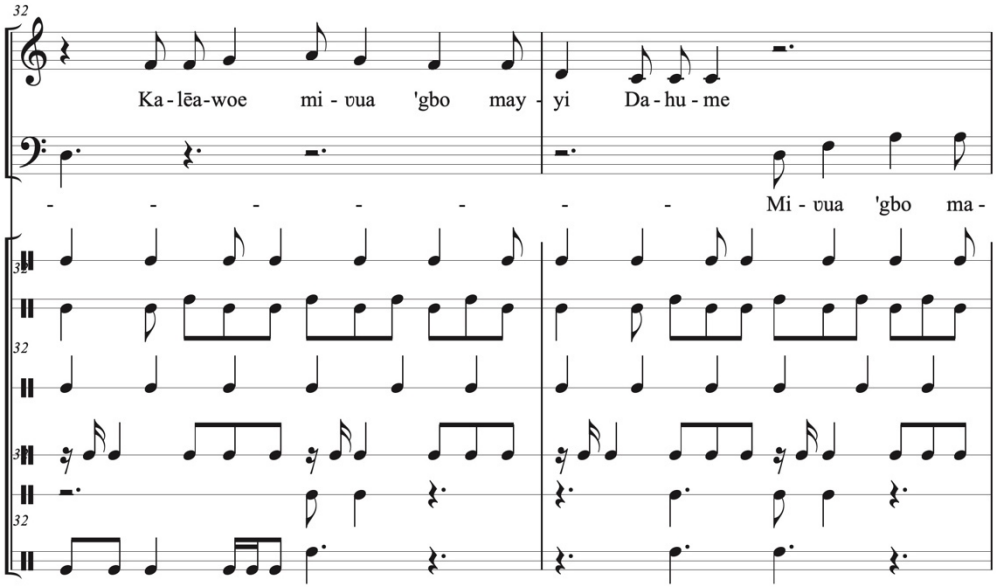
Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-ʊua ag - bo ma -
1:04
2
2
2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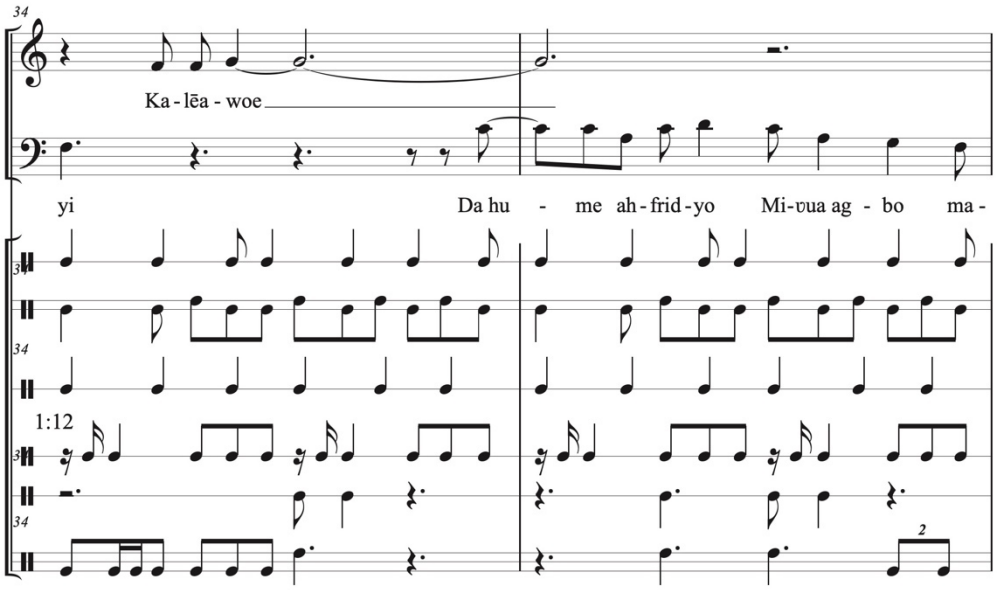
may - yi
Da - hu - me
- - - - - - -
Mi - ʊua 'gbo ma -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Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi - ʋua ag - bo ma -
1:12
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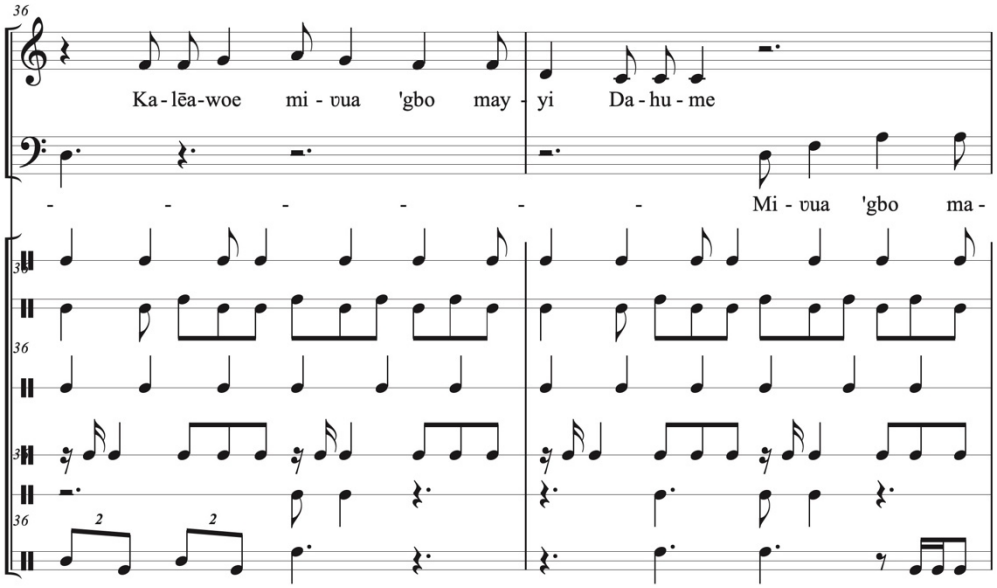
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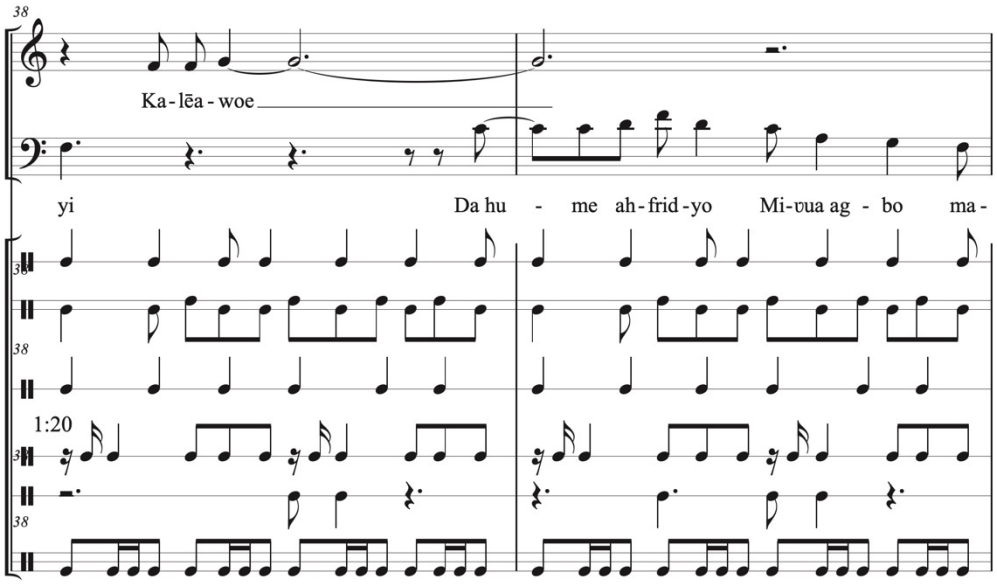
Ka - lēa - woe
mi - ʋua
'gbo
may - yi
Da - hu - me
- - - - - -
Mi - ʋua
'gbo
ma -
2
2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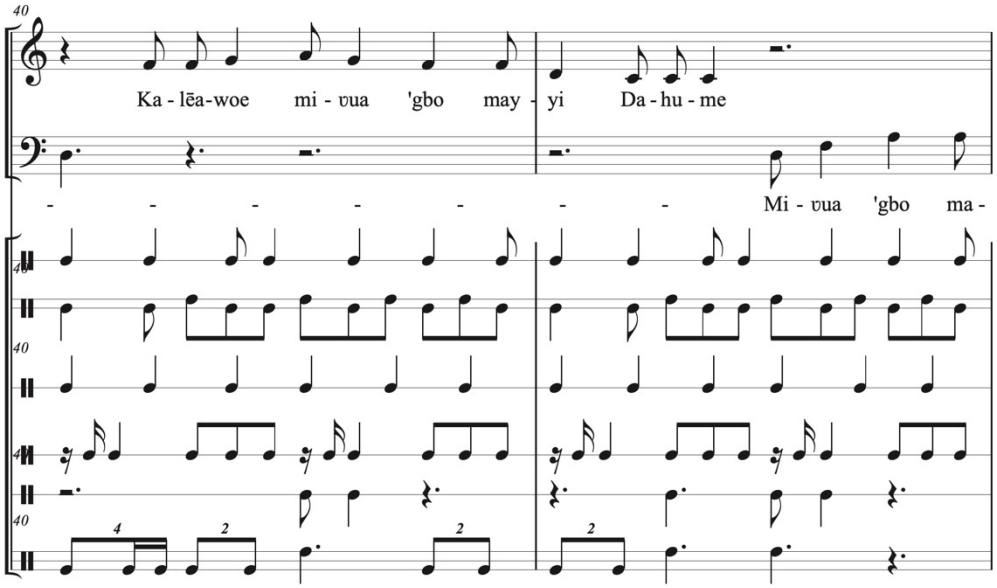
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʋua ag - bo ma -
1:20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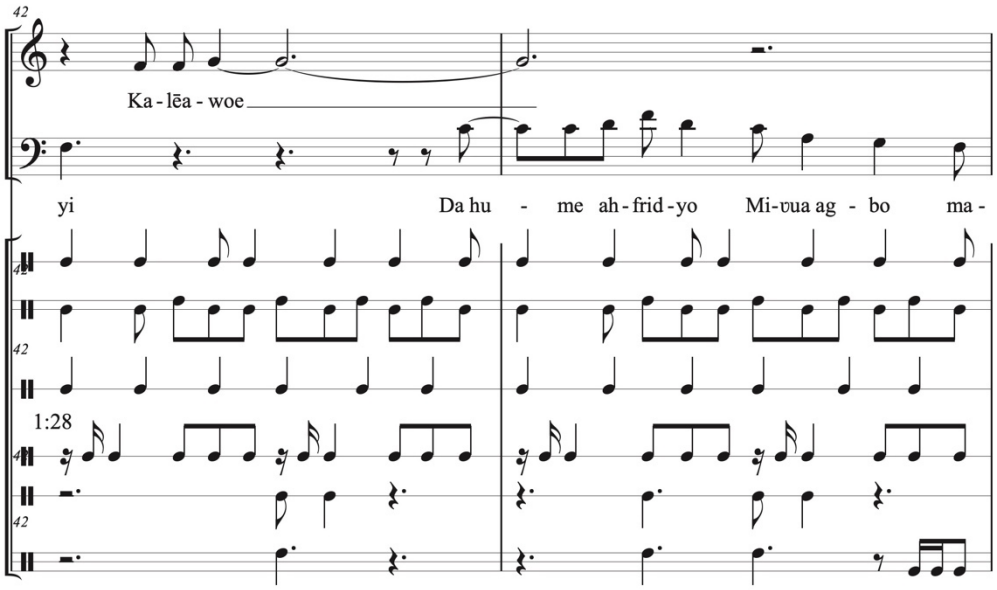
- - - - - - - Mi - ʋua 'gbo ma -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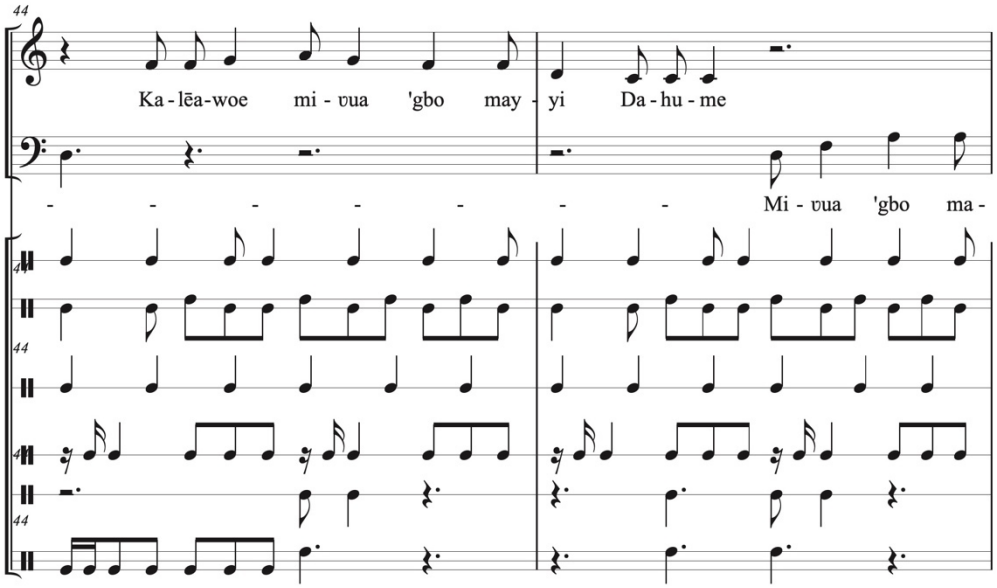
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi-ʋua ag - bo ma -
1:28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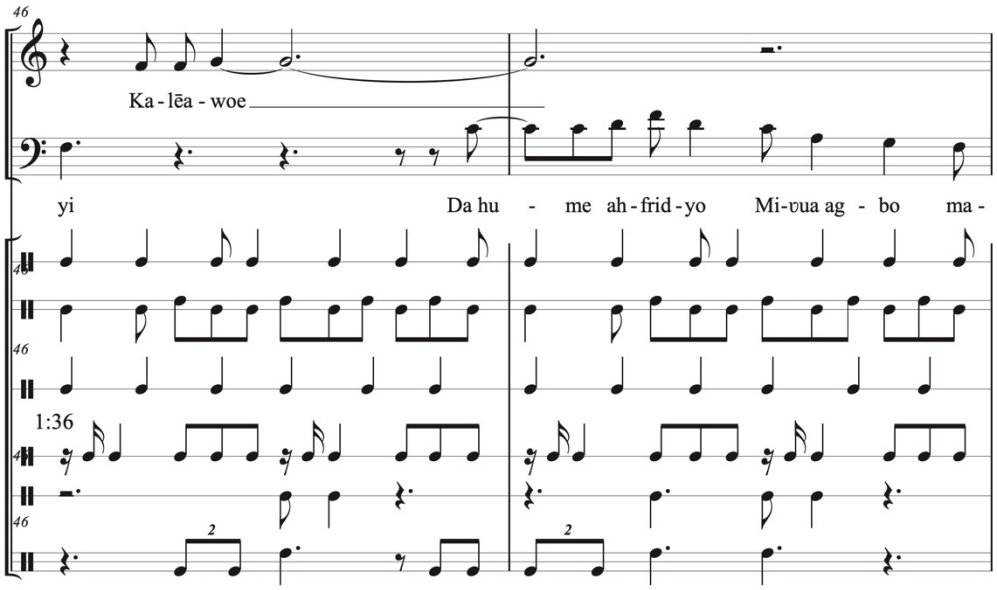
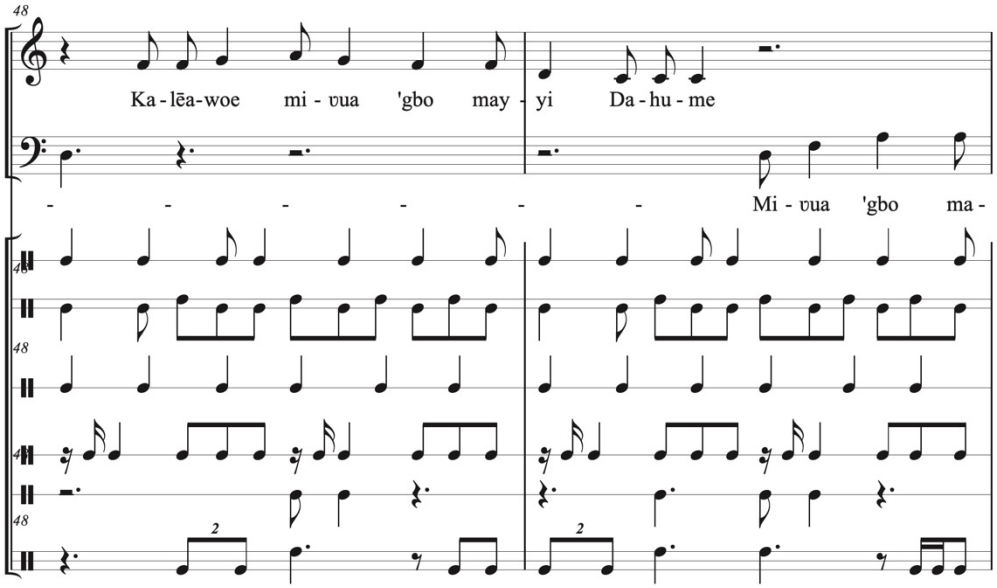
- - - - - - - Mi - ʋua 'gbo ma -


46
Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-vua ag - bo ma -
1:36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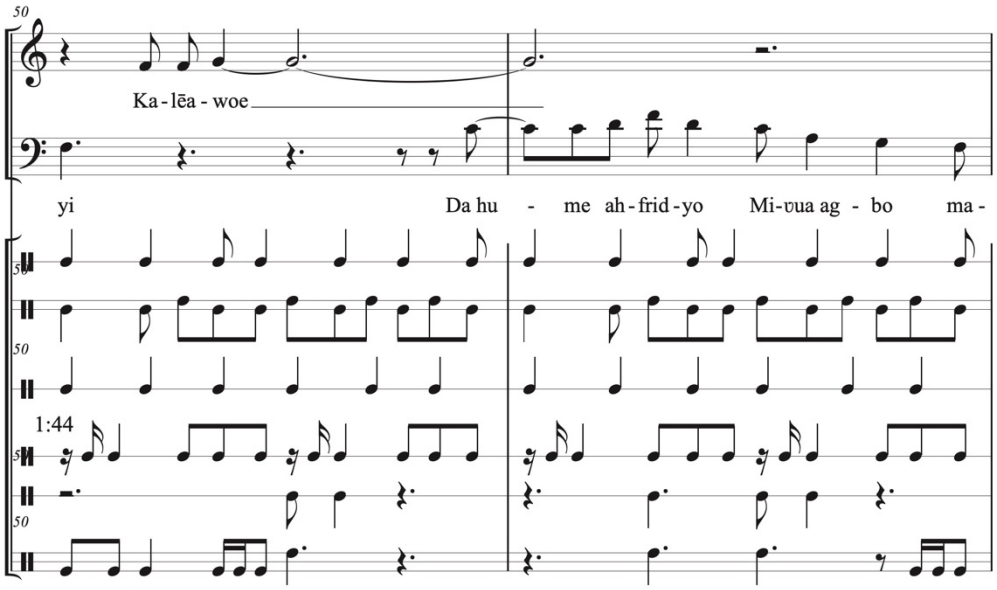
yi
Da - hu - me
- - - - - -
Mi - vua 'gbo ma -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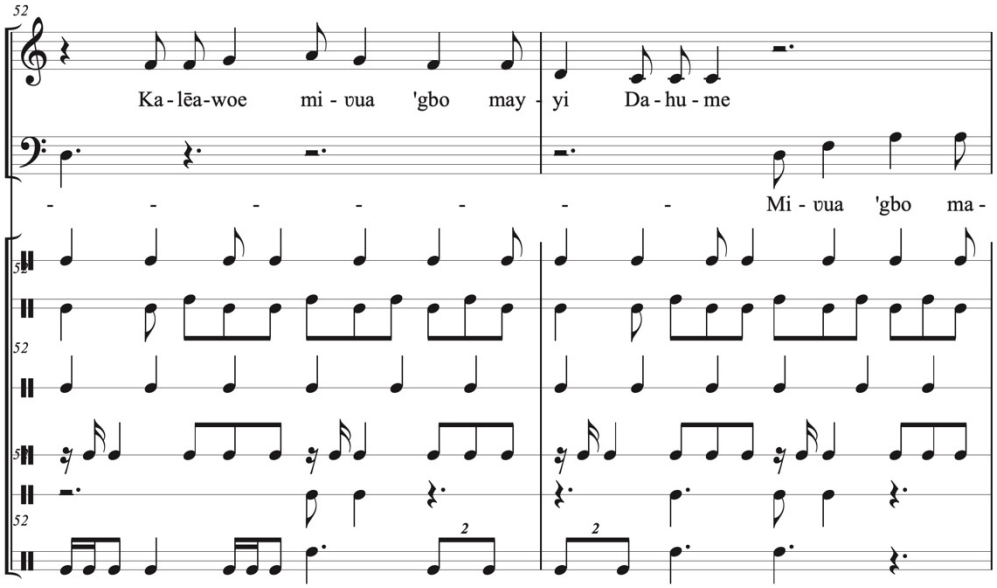
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʋua ag - bo ma -
1:44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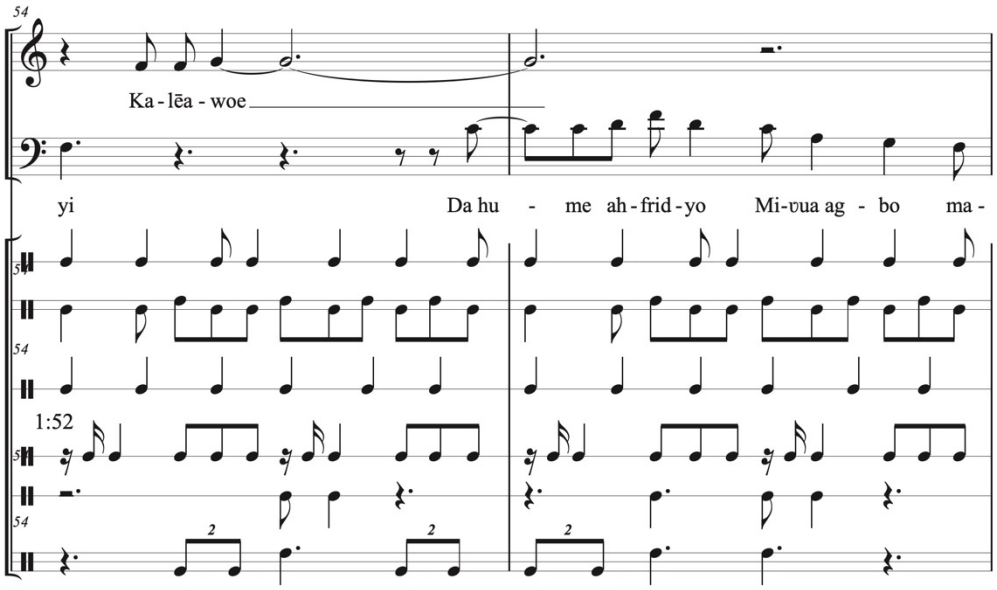
- - - - - - - Mi - ʋua 'gbo ma -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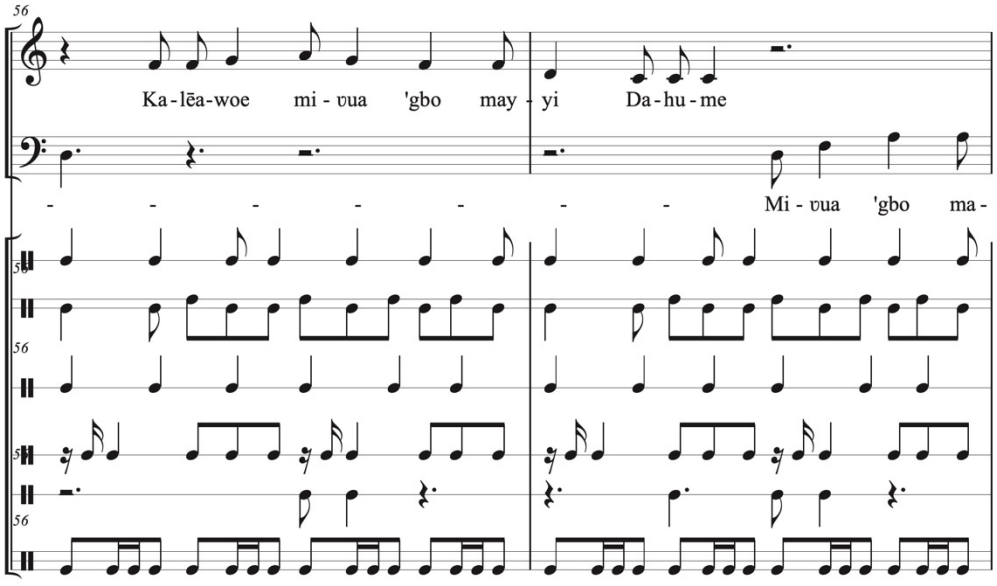
Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-vua ag - bo ma -
1:52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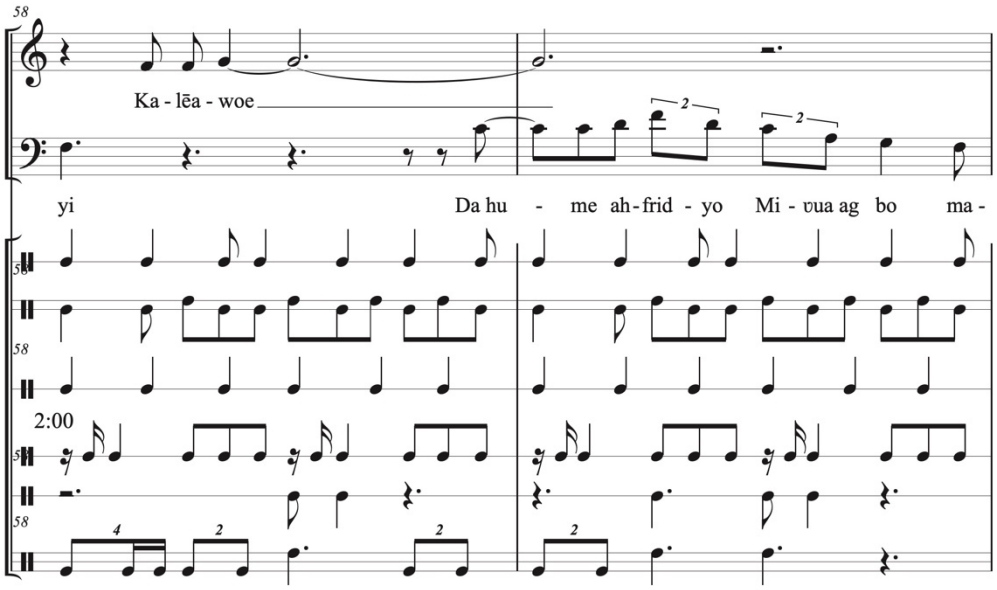
mi - vua 'gbo
may - yi
Da - hu - me
- - - - - - -
Mi - vua 'gbo ma -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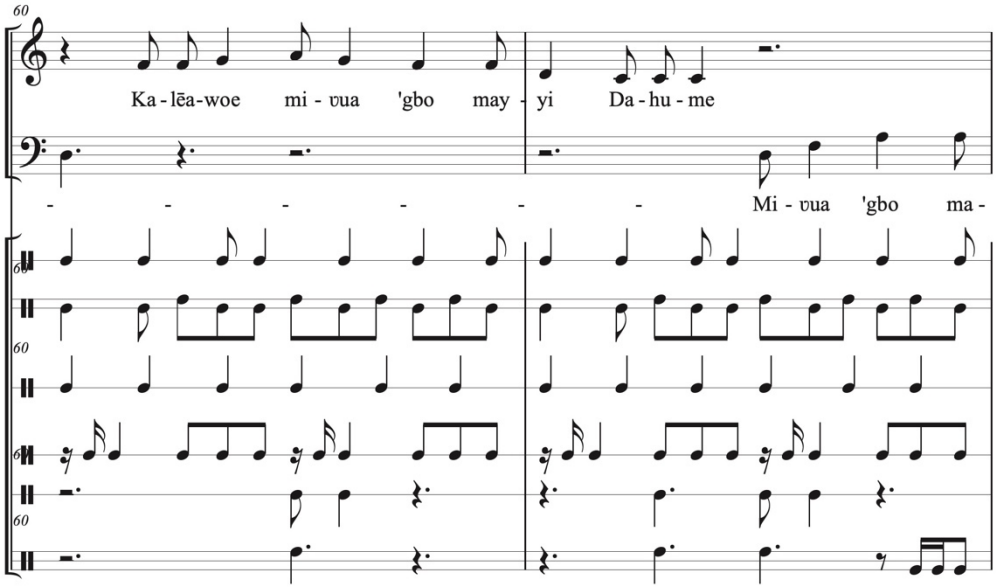
yi
Da hu - me ah - frid - yo Mi - vua ag bo ma -
2:00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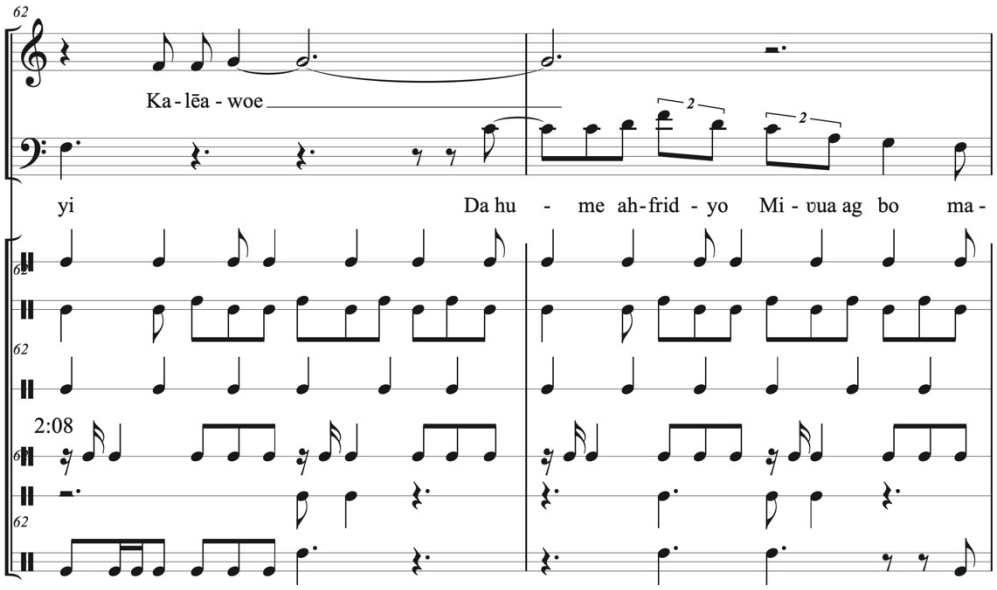
- - - - - - Mi - vua 'gbo ma -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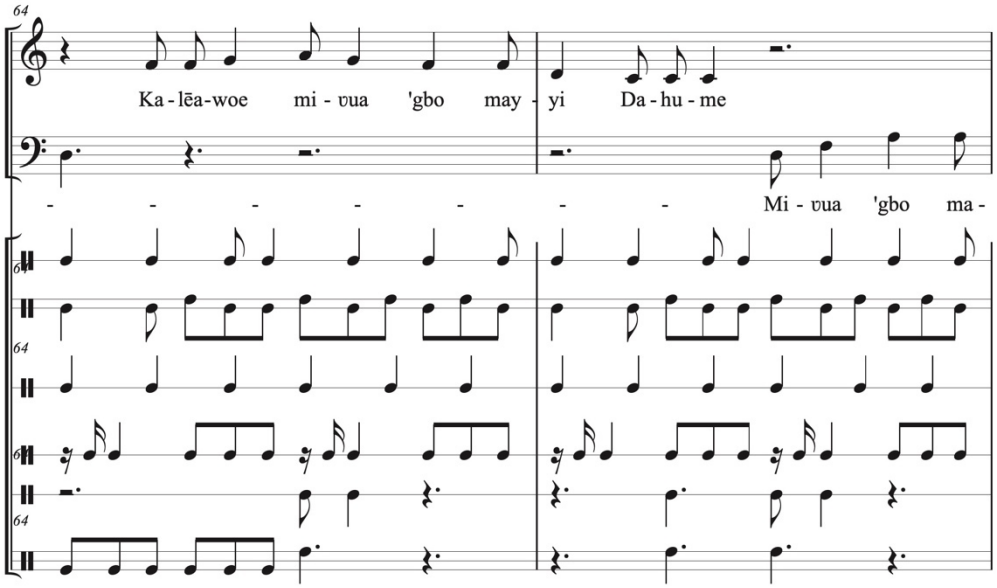
Da hu - me ah-frid - yo Mi - ʋua ag bo ma -
2:08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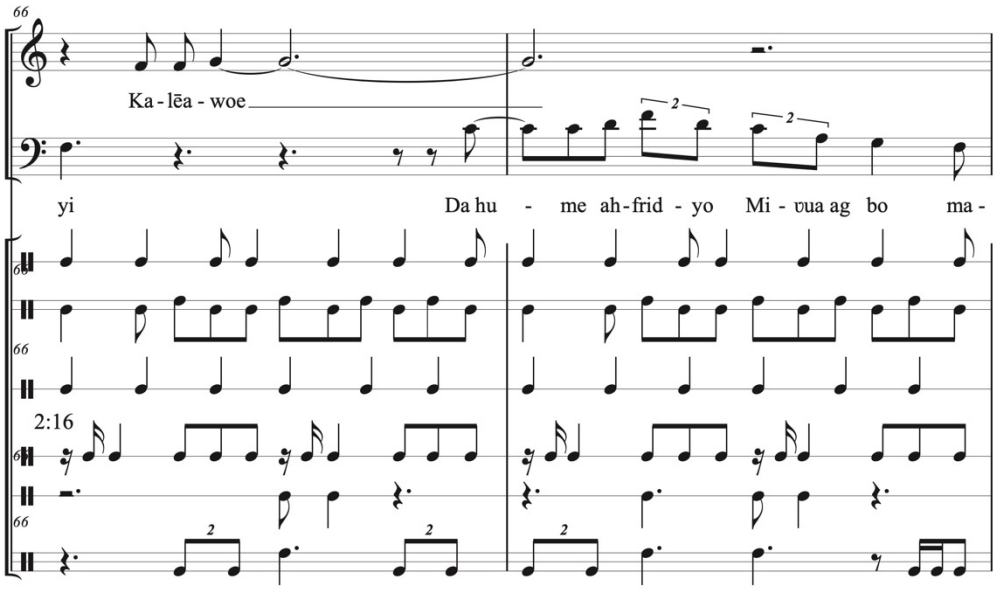
- - - - - - - Mi - ʋua 'gbo ma -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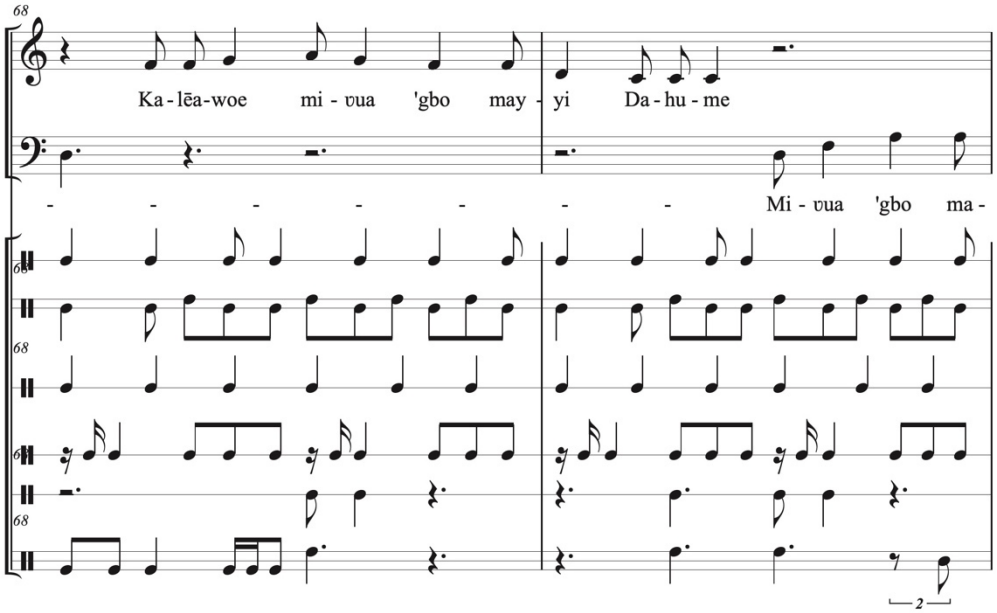
2:16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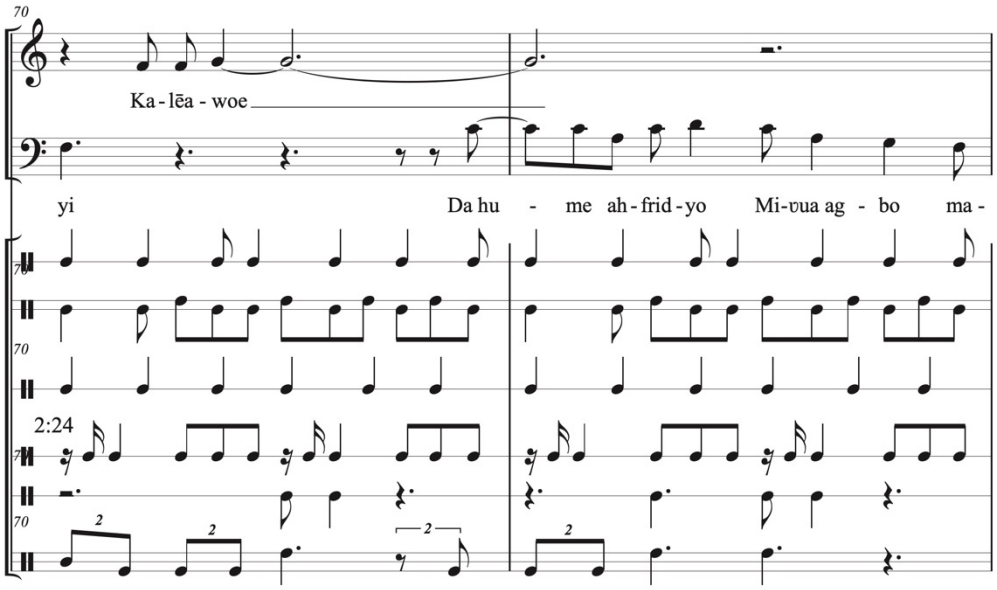
- - - - - - - Mi - ʋua 'gbo ma -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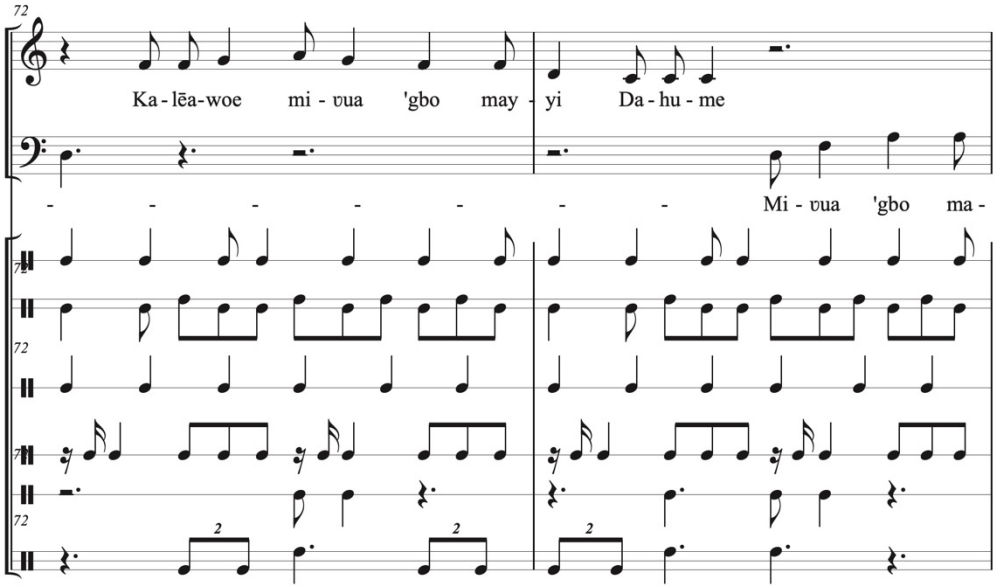
Ka - lēa - woe
yi
Da hu - me ah - frid - yo
Mi-vua ag - bo ma -
2:24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Da - hu - me
- - - - - - -
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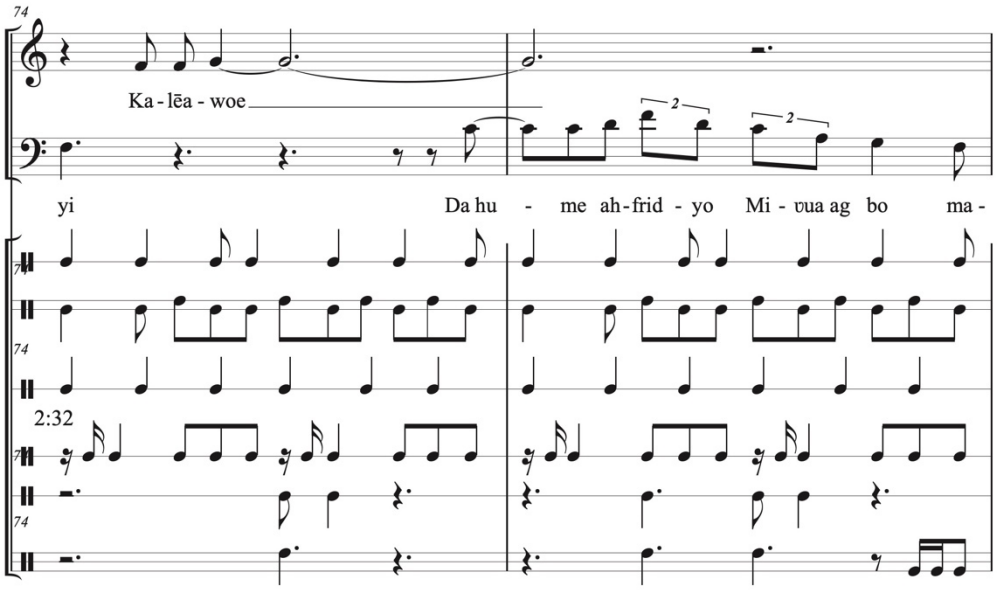
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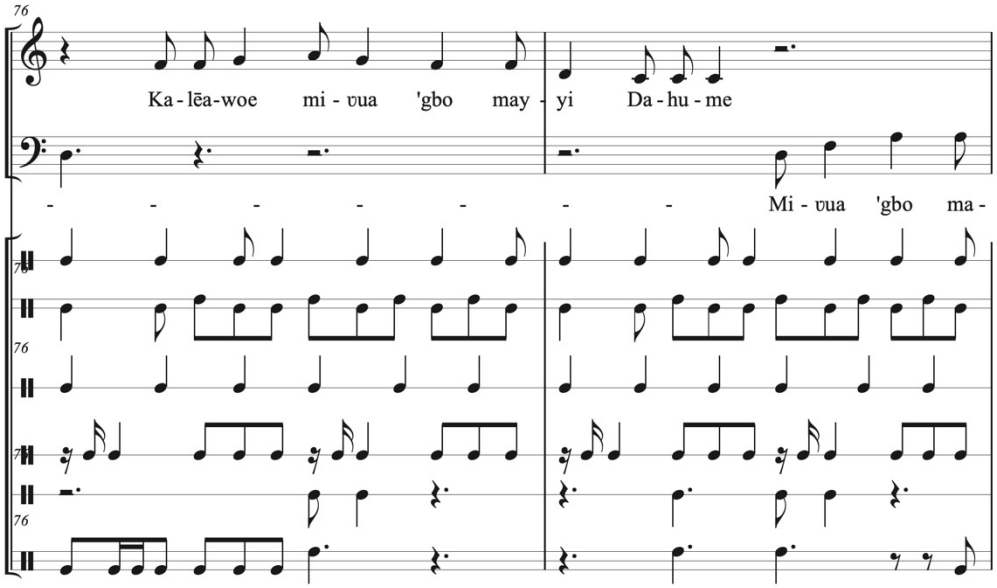
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʋua ag bo ma -
2:32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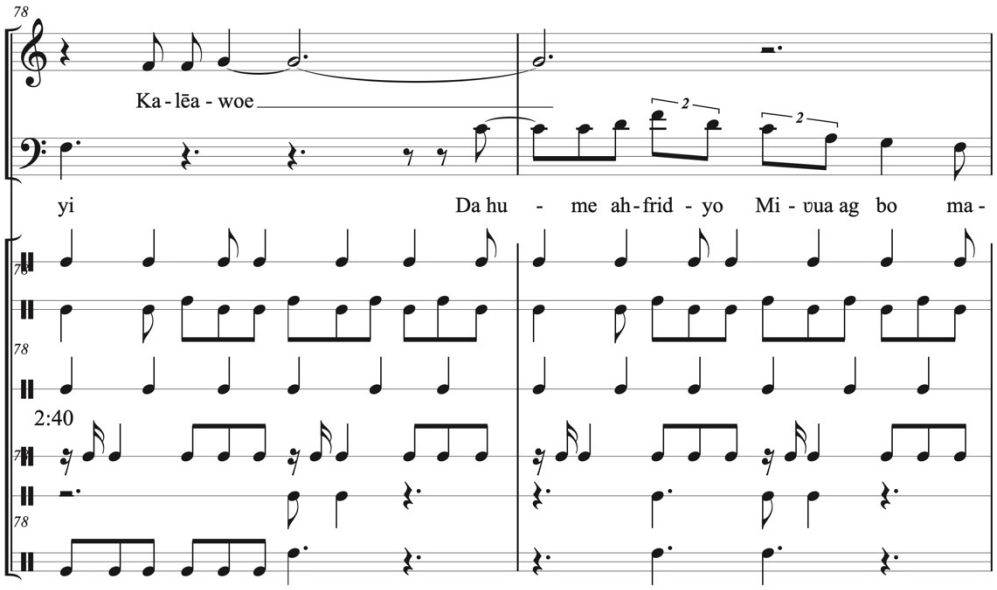
- - - - - - - Mi - ʋua 'gbo ma -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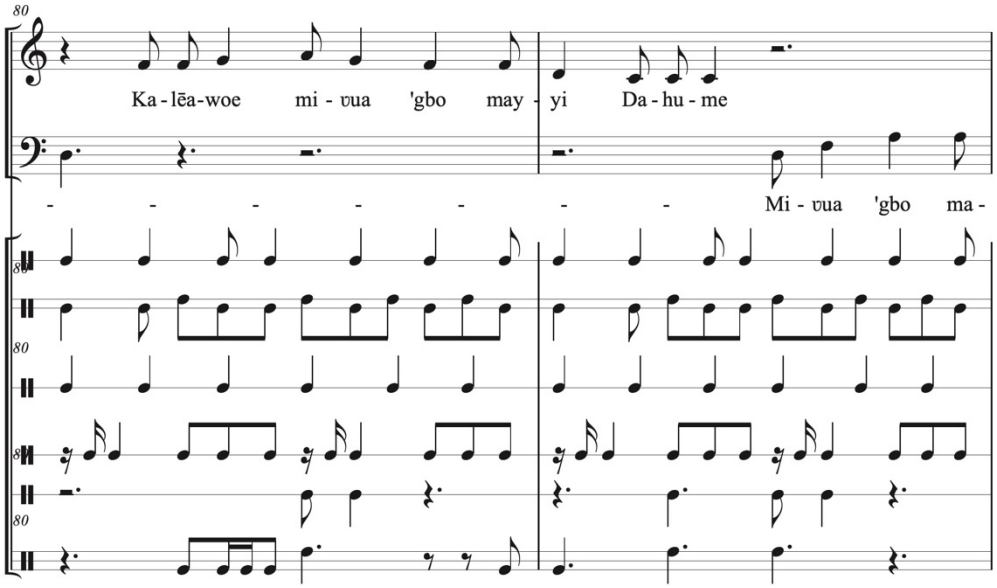
Ka - lēa - woe
yi
Da hu - me ah - frid - yo Mi - ʊua ag bo ma -
2:40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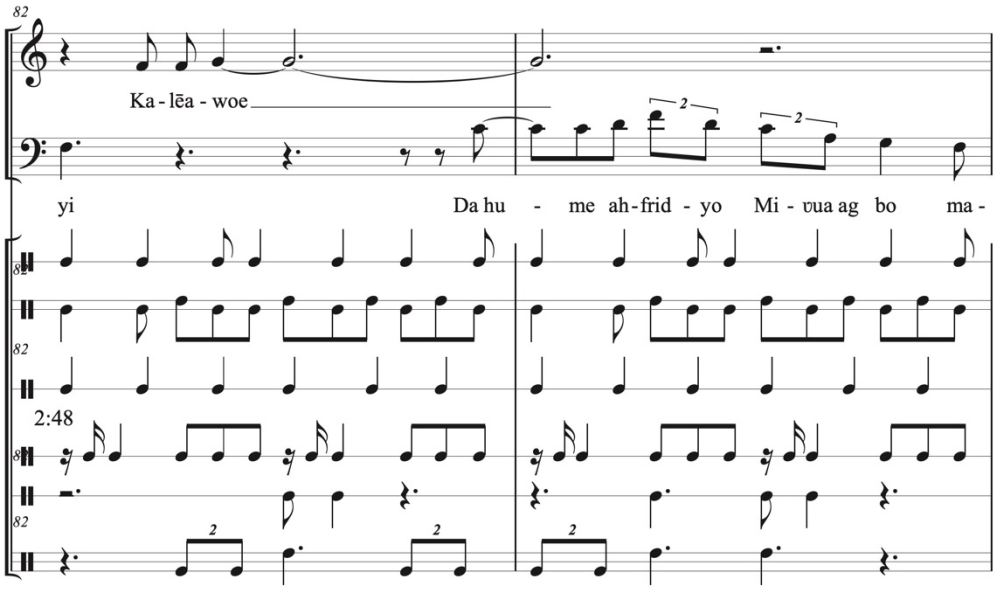
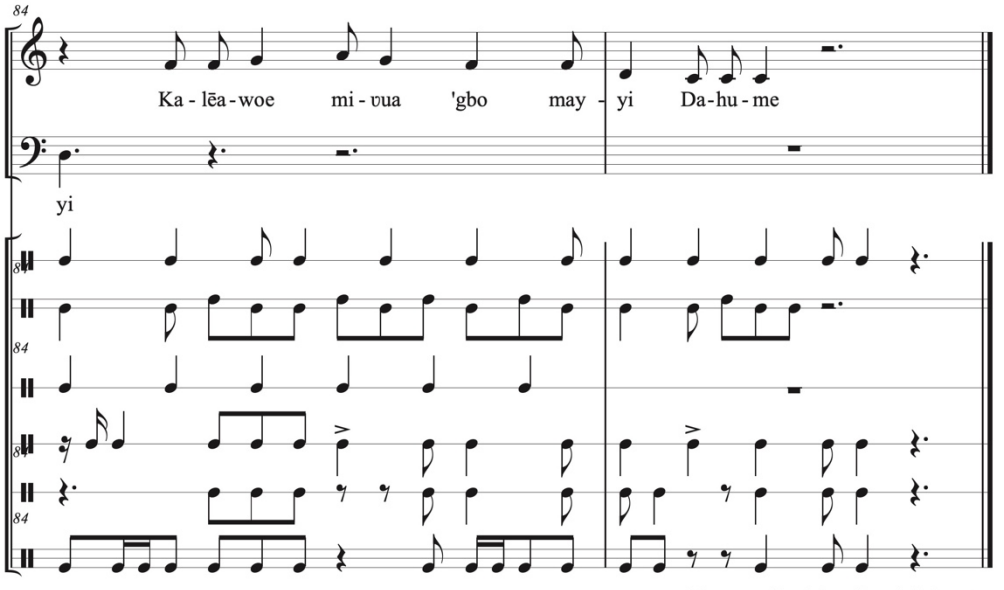
Ka - lēa - woe mi - ʊua 'gbo may - yi Da - hu - me
- - - - - - -
Mi - ʊua 'gbo ma -



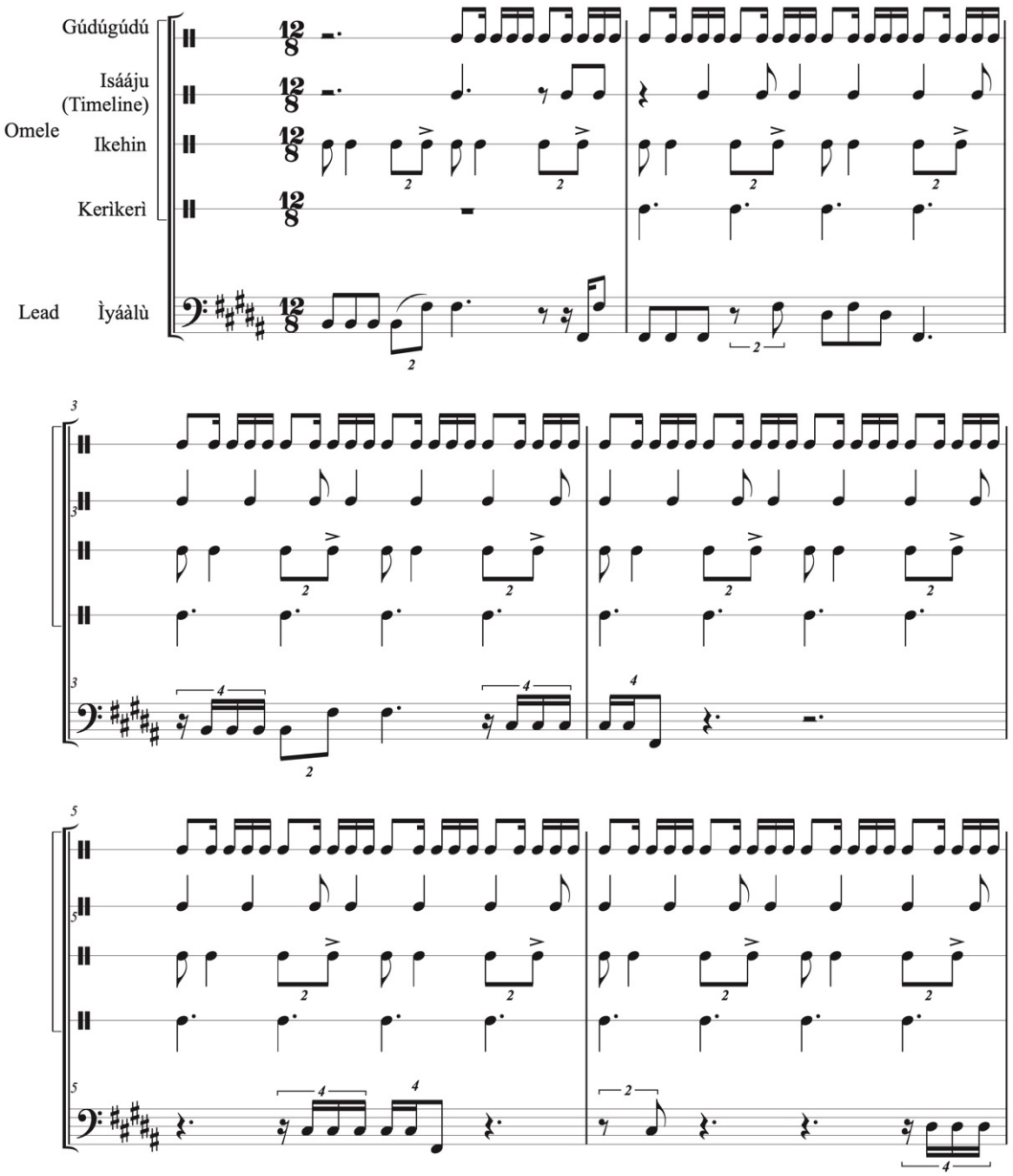


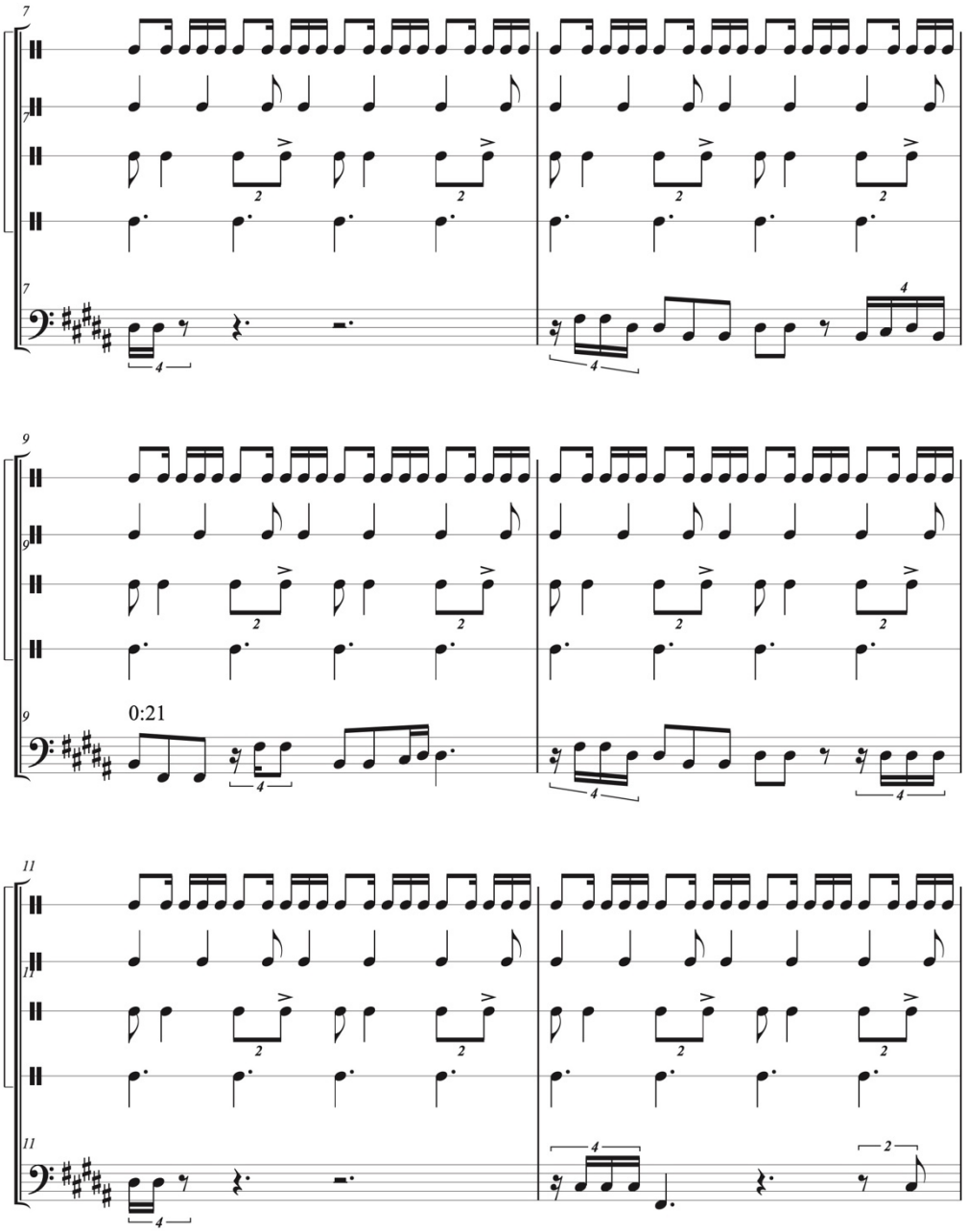
Transcribed by Jeryl Johnston

APPENDIX 2

Esikesi

As Played by the Dùndún Ensemble of Adjarra

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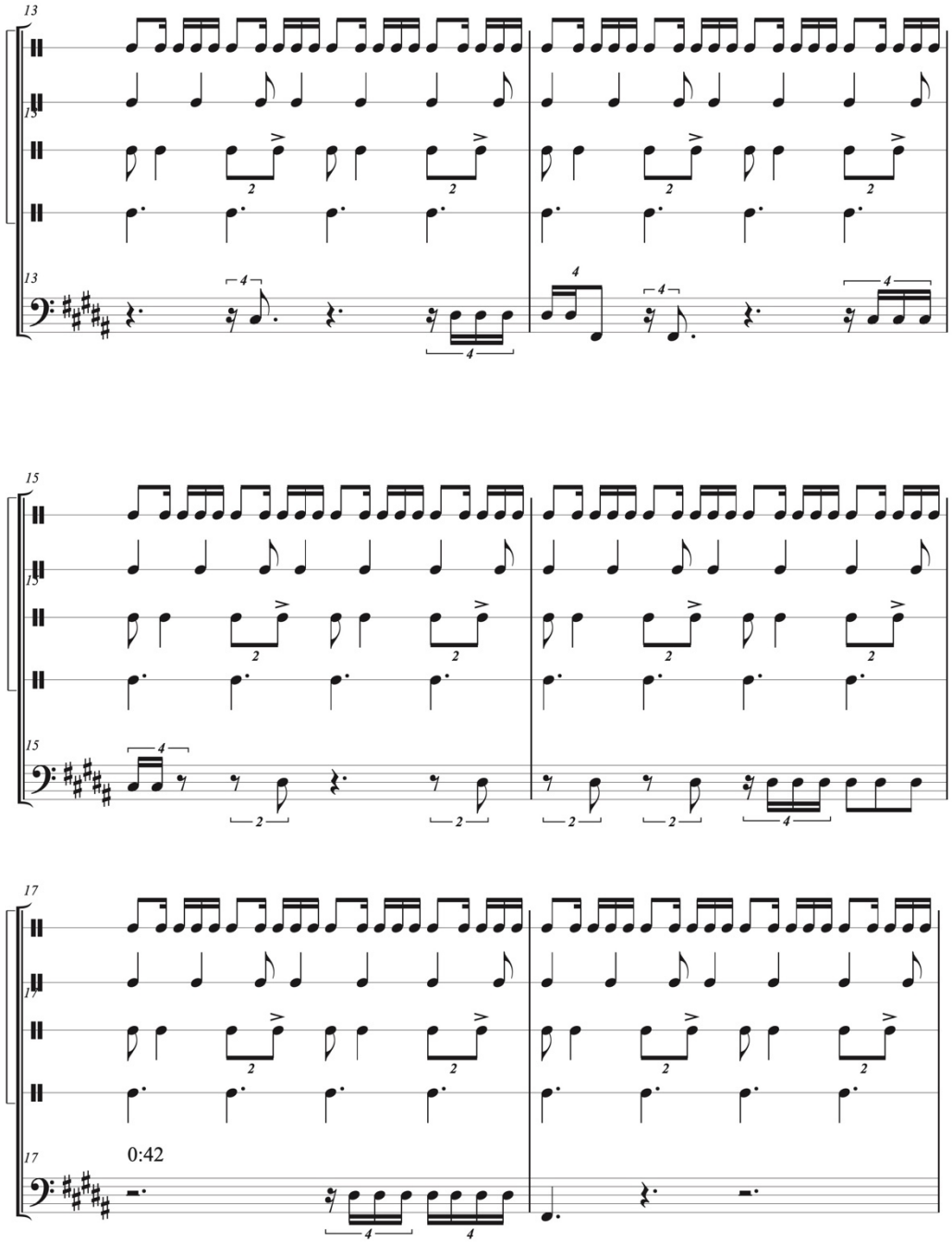
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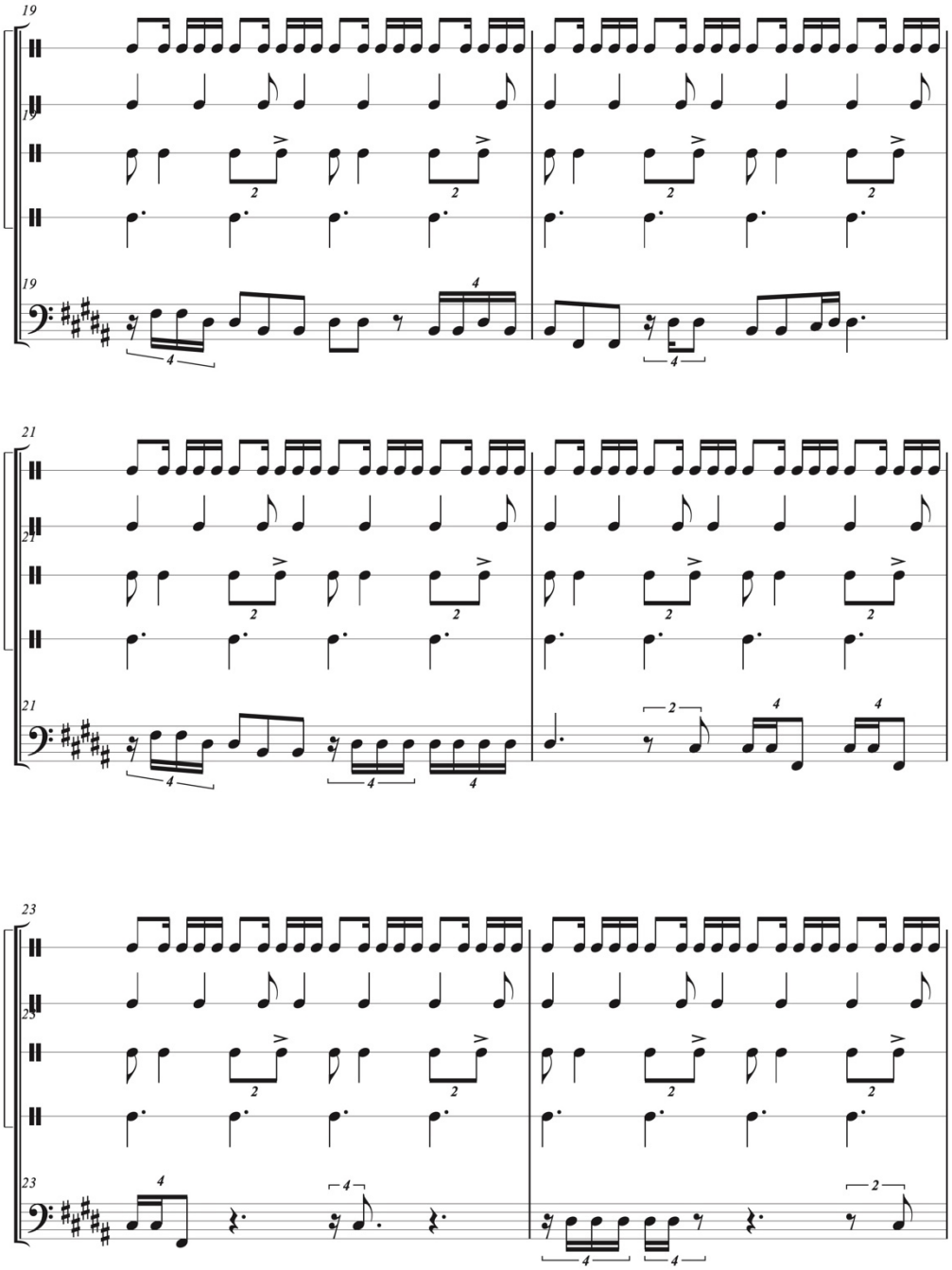
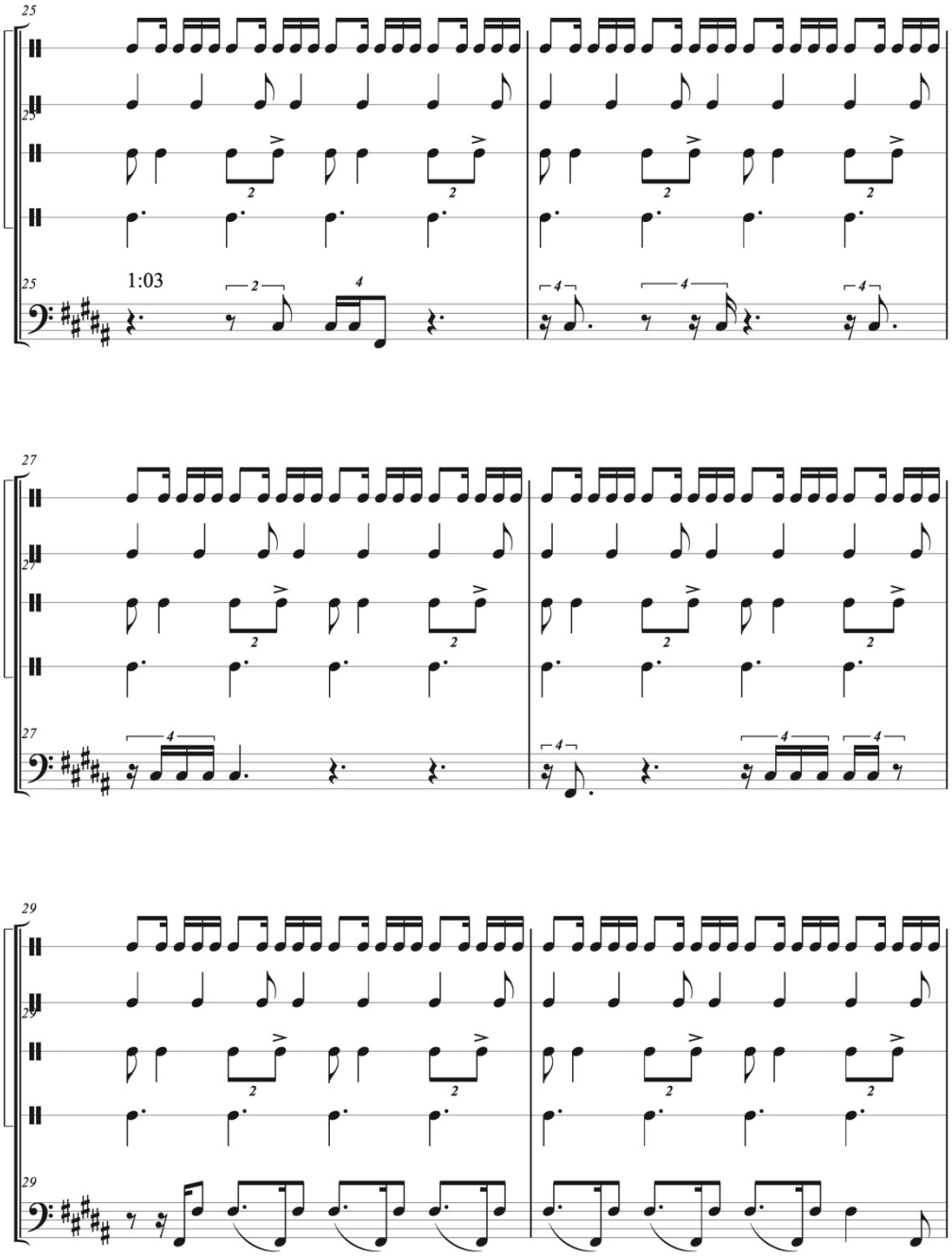
17
17
0:42

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1:03
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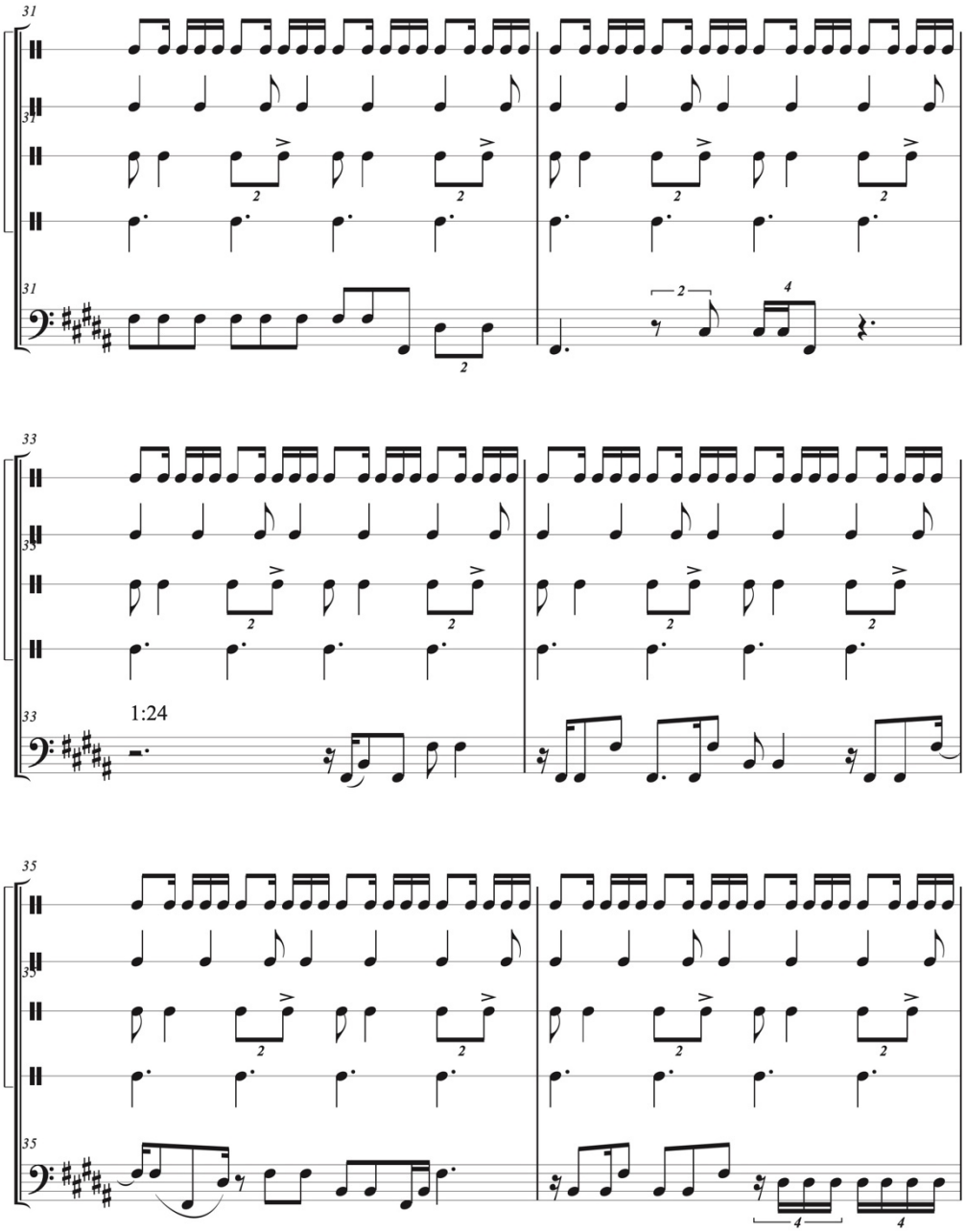
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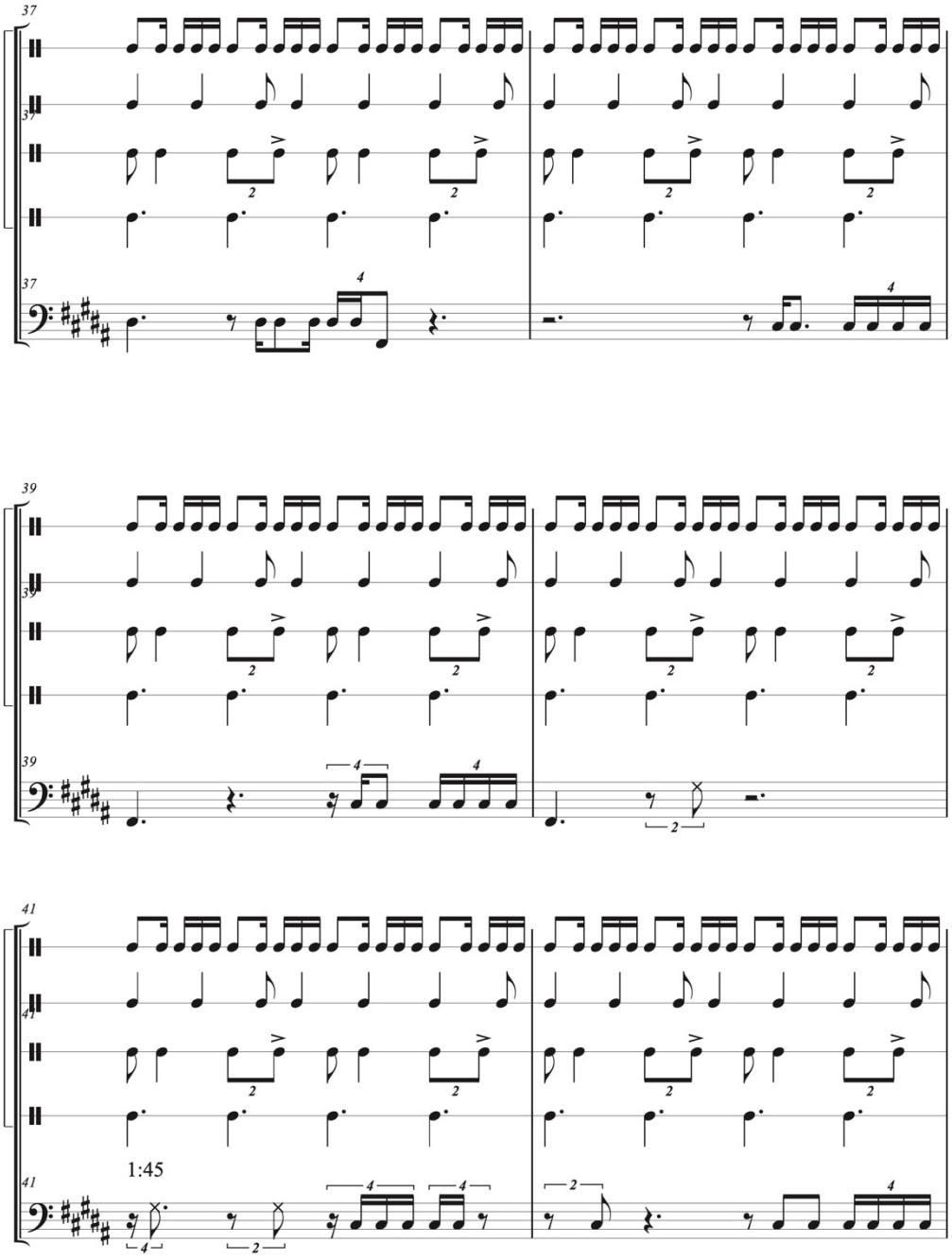
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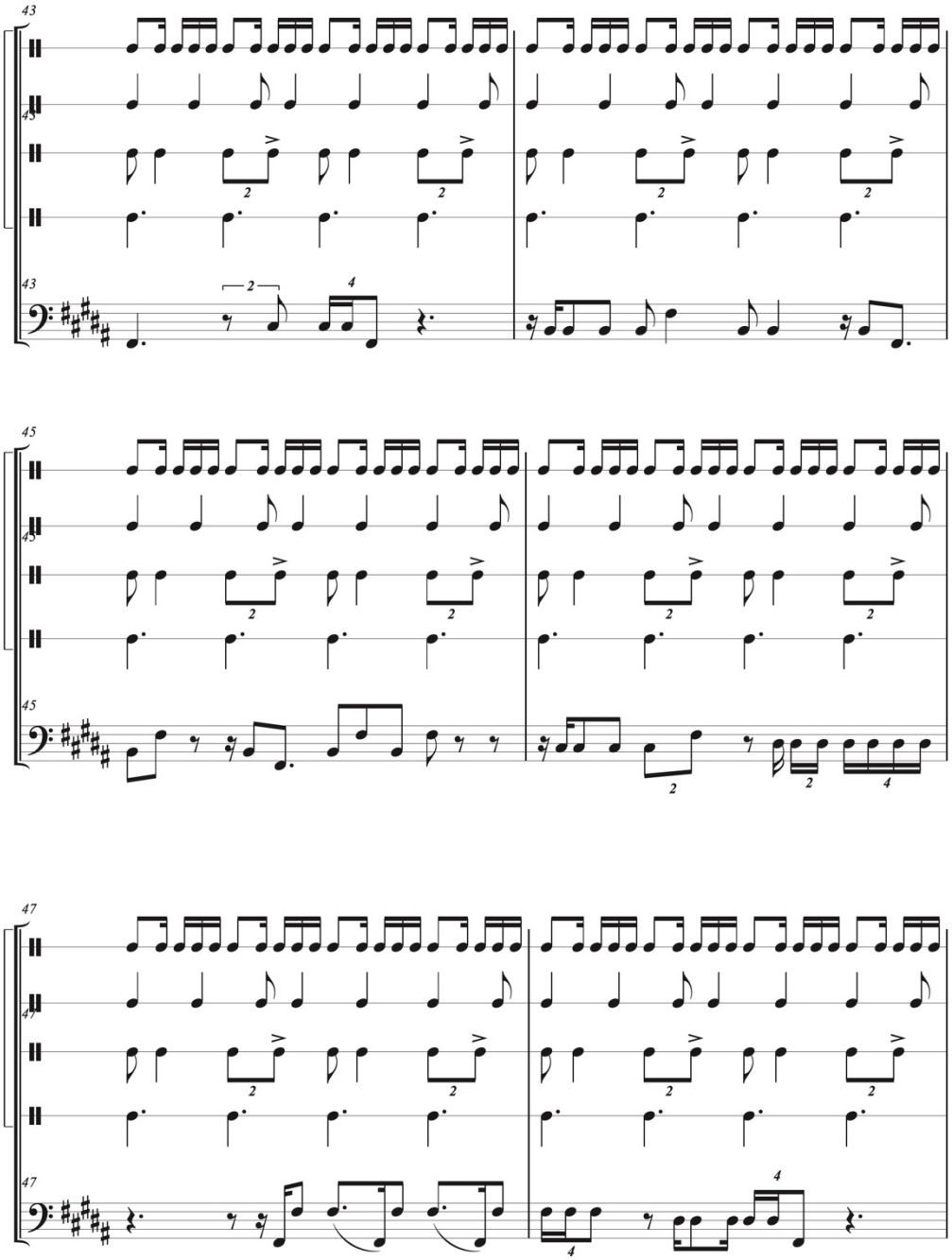

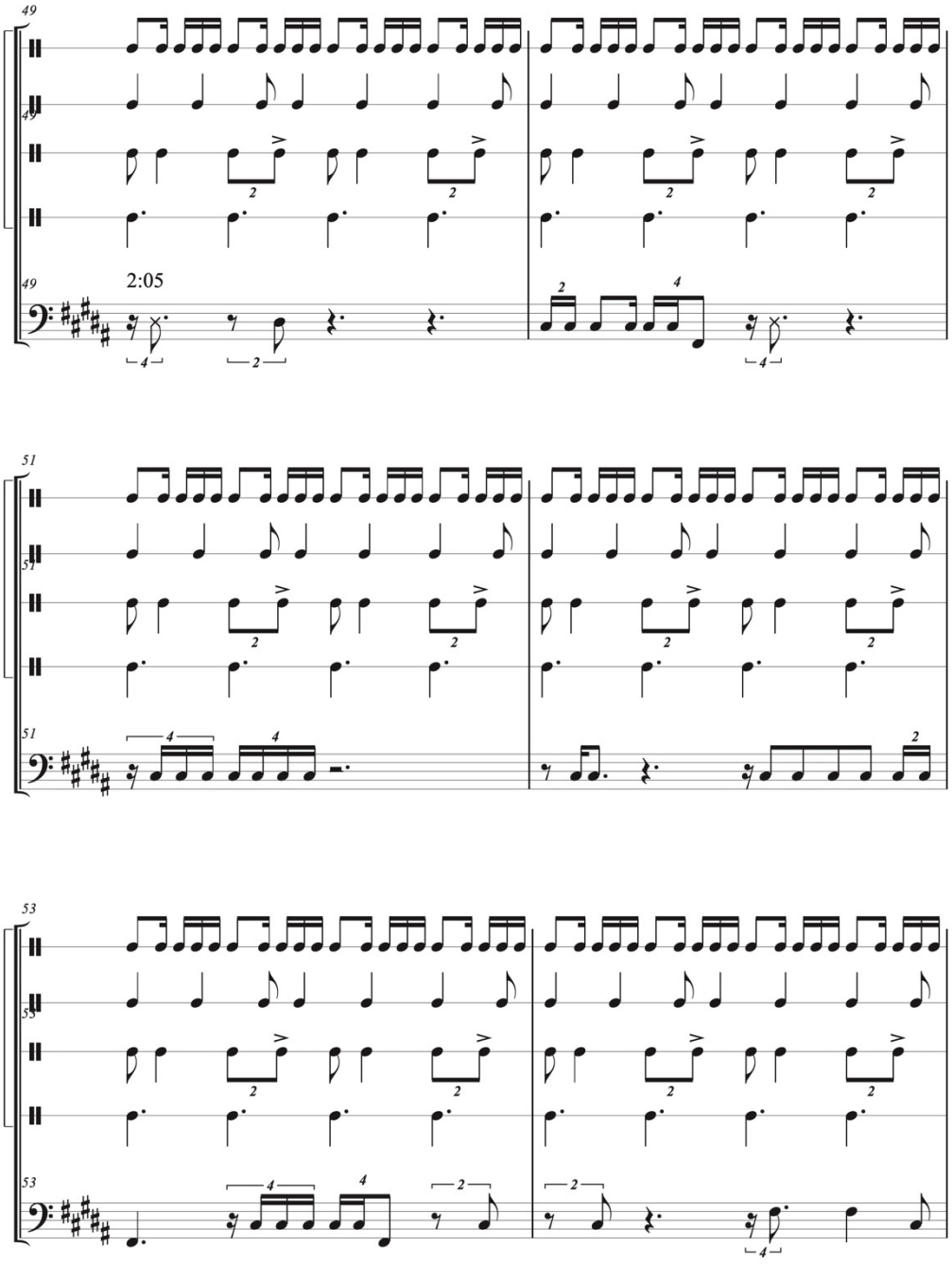
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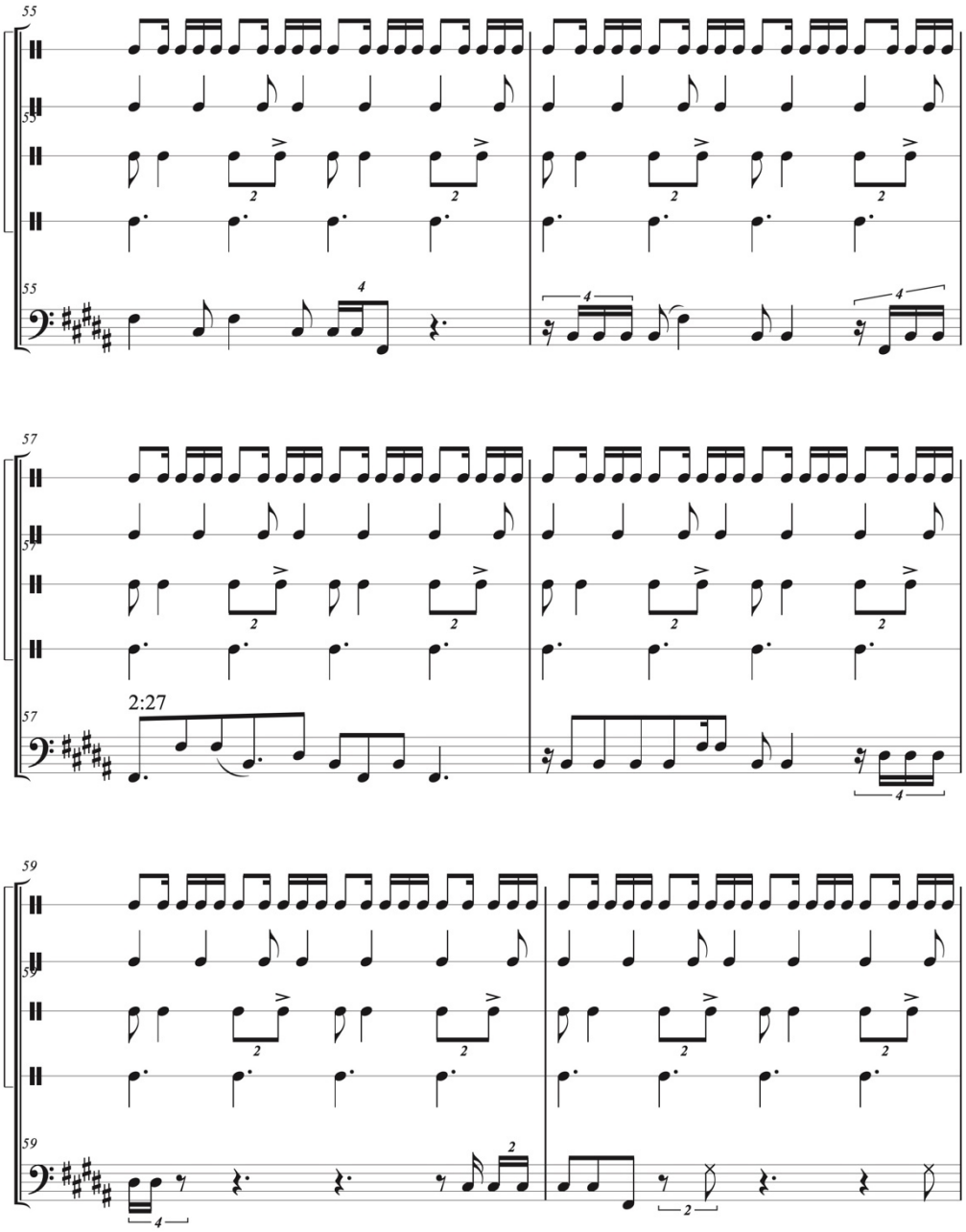
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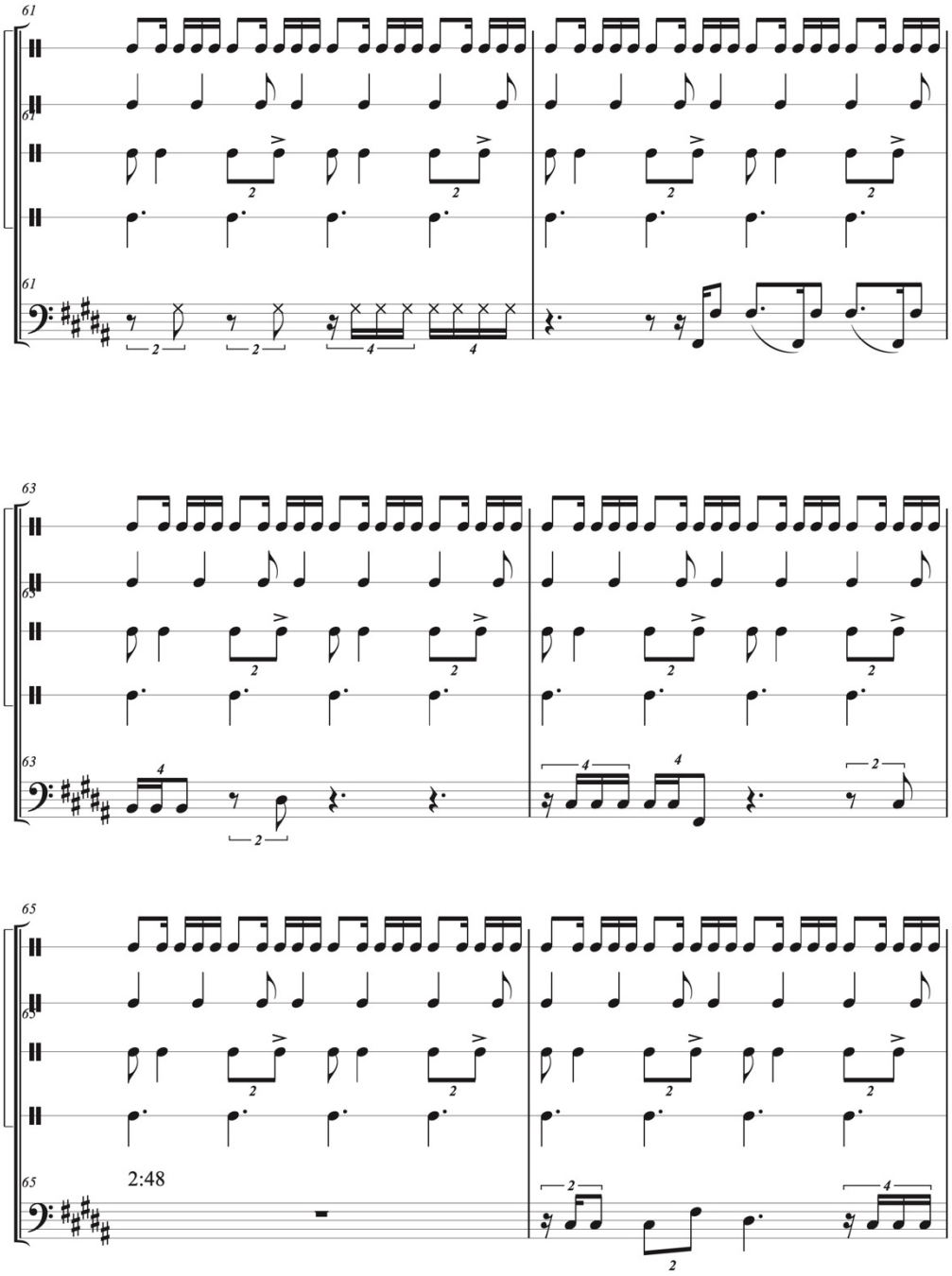
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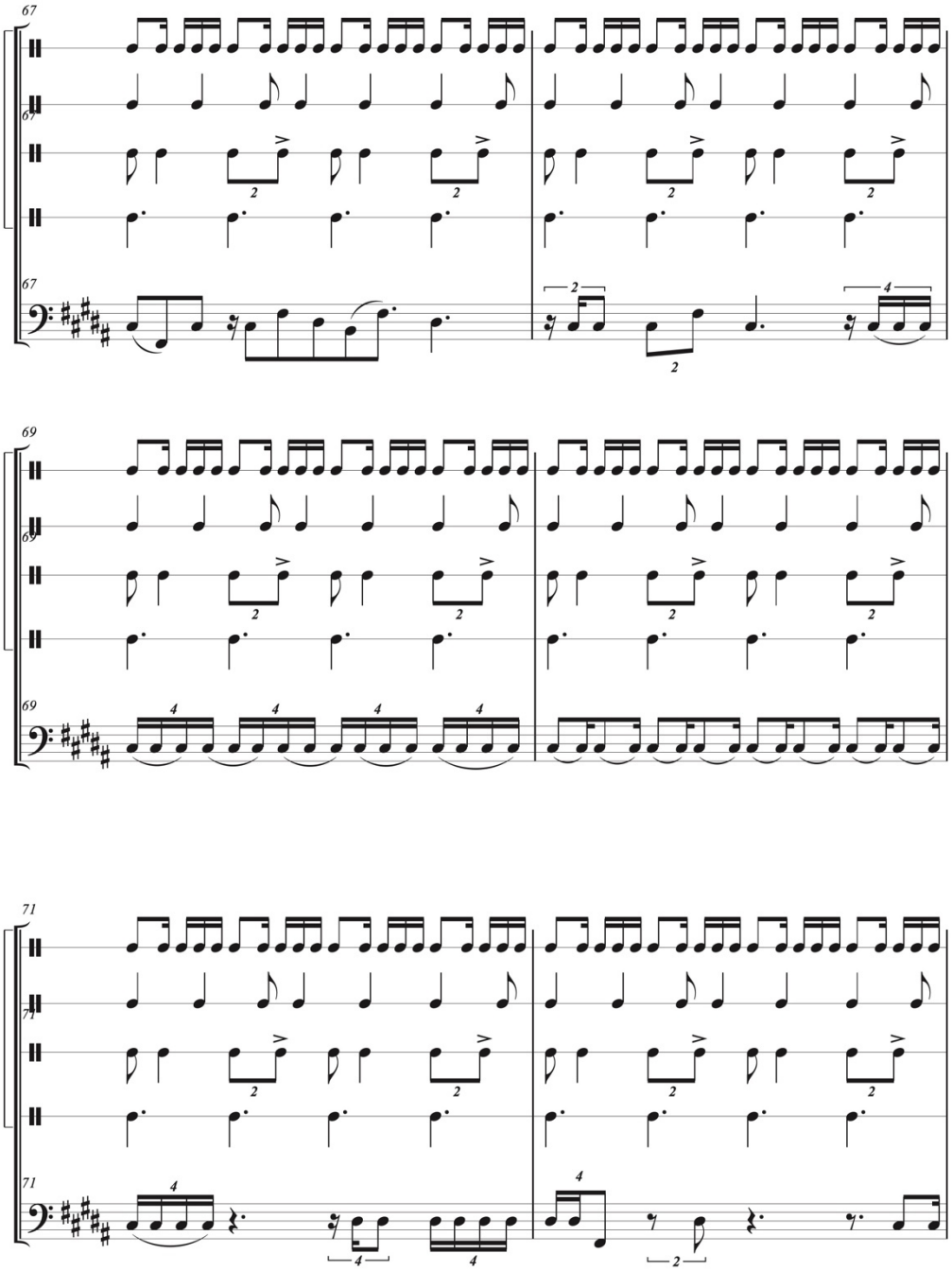

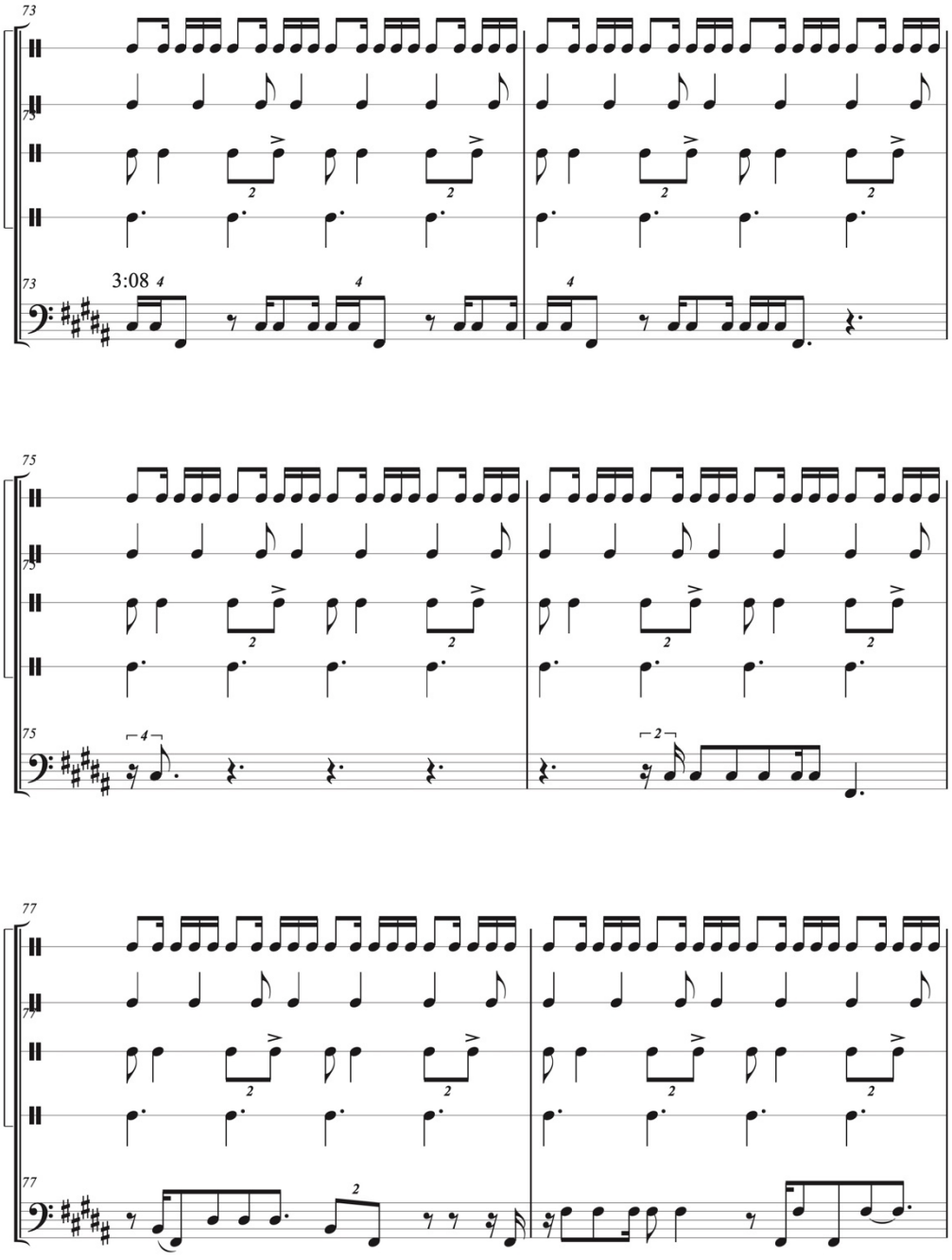
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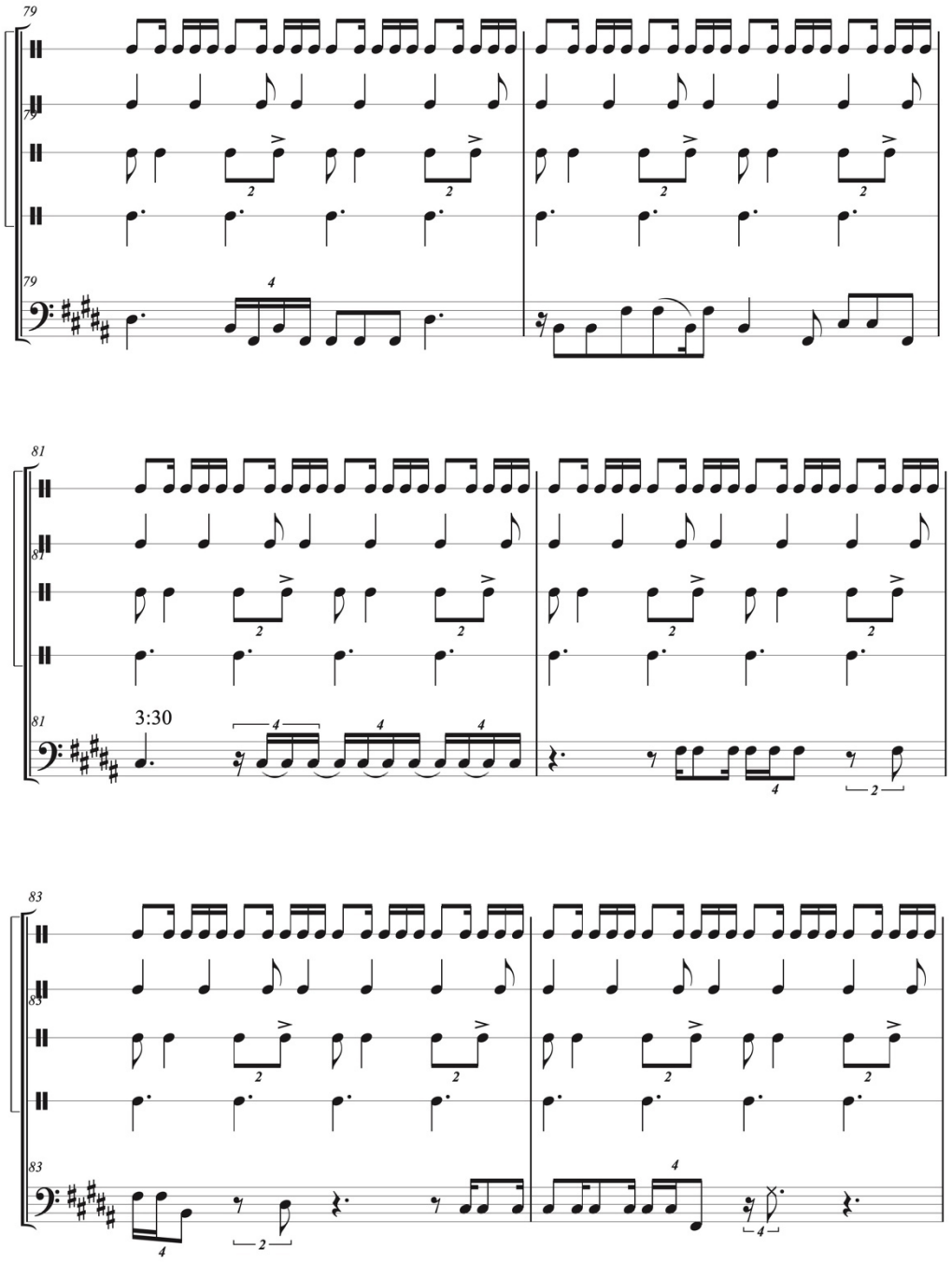
75
77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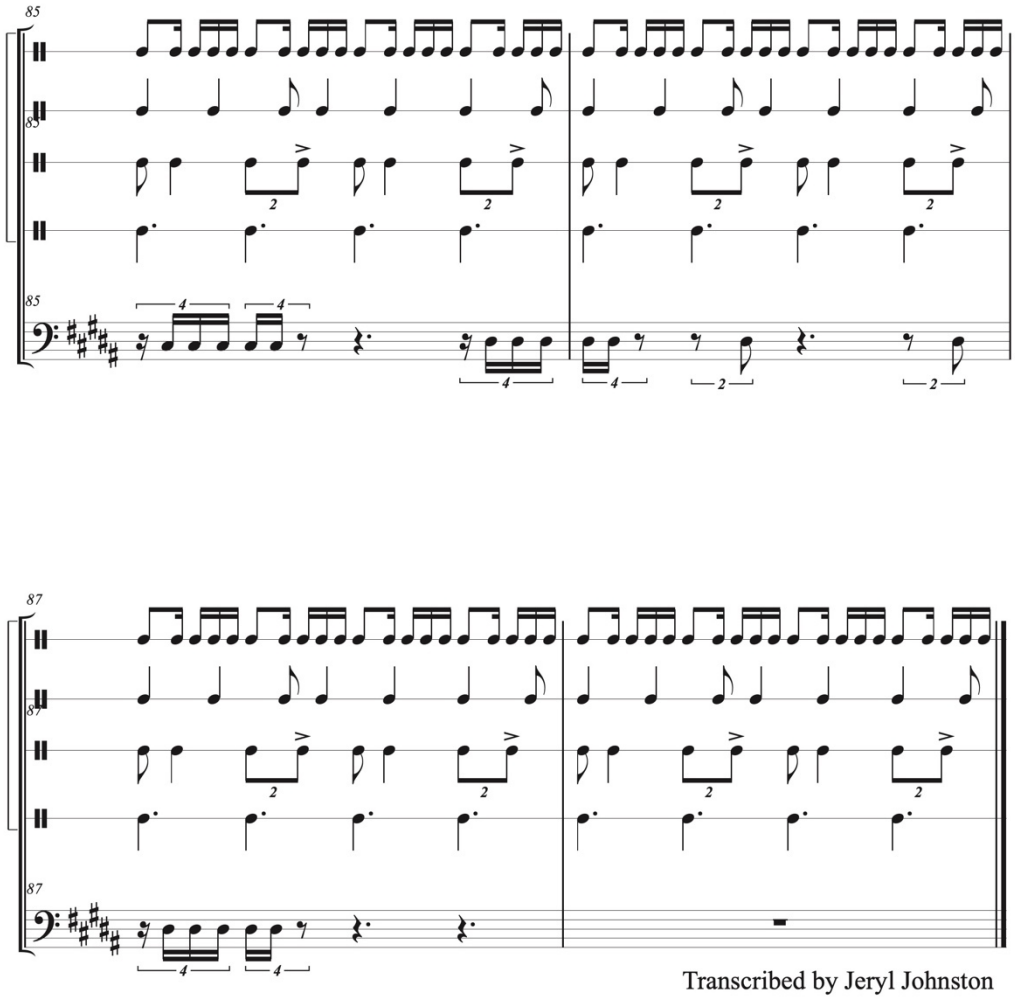
85
87
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