THEORETICAL PERSPECTIVES ON CLAVE IN SALSA MUSIC

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Abstract

Salsa music incorporates clave—a five-onset rhythmic gesture that exists in Afro-Cuban and Latin American music—as a primary rhythmic “skeleton,” meaning that the music must “fit” within clave’s rhythmic, metric, and rhetorical principles. However, several salsa genres, such as mambo, do not feature the clave explicitly. Instead, the clave is translated into other musical elements, such as melody and accompanying figures. This thesis investigates the operation of clave in mambo songs that do not explicitly present it. It first examines the rhythmic fabric and metrical structure of short introductory musical examples, and considers ways that they do and do not correspond to the clave’s rhythmic and metric processes. It then applies the theoretical apparatus to sections of “La Malanga” by Rudy Calzado and Eddie Palmieri and “Bilongo” by Guillermo Rodríguez Fiffé and Tito Rodríguez. The investigation reveals how each of a song’s elements reflects the clave pattern either strictly or loosely, and if there is any ambiguity. It shows how changes in the conformance with clave can give large-scale shape and direction to the sectional form.
Preface

This thesis is original, unpublished, independent work by the author. Pitches in musical figures that are taken from the original sources are not transposed or recomposed. Pitchless, percussive figures adapted from Peñalosa and Mauleon, in particular, Figure 1.3, 1.4, 1.5, and 1.14 are reduced into one single layer.
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/       anacrusis

|       beginning

\       continuation

/ → |   anacrusis reinterpreting a beginning

D       durational accent
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I also thank my dear friends and colleagues who have made my life in Vancouver bearable. Since the day I landed in Vancouver, life has been challenging, but I have grown so much over these past three years that I was not expected to see myself the way I am now, and I am very grateful to know them: Joe Gilchrist, Camille Desmares, and Michael Huynh. This thesis is a tiny representation of my large passion in music theory and my desire to be more successful in the future. This is just the beginning of the rest of my life.
Chapter 1: Theoretical Examination of Clave in Salsa Music

1.1 Introduction

What is now called salsa music stems from the 1940s-50s, when immigrants from the Caribbean islands and other parts of Latin America filled the music and dancing scene in New York City with an eclectic mix of their cultures' sounds, styles, and instruments. A single rubric—salsa—was used to characterize all of these styles, such as cha chá, salsa romántica, mambo, and guaracha. Although distinct from each other, they incorporated a common Cuban rhythmic gesture called son clave (henceforth clave), a five-onset stroke on a woodblock, as their basic rhythmic “skeleton,” or better, as a timeline. This pattern is no stranger to many Latin musicians, music scholars, and even regular salsa dancers and listeners. It was brought in by the western African diaspora to Cuba, along with other African traditions that were cultivated and embedded in the rich Afro-Cuban and Afro-Brazilian traditions. I call clave a timeline because it is the primary rhythmic pattern that is adhered to by salsa composers and musicians. It is described as consisting of two measures, a "3-side" and a "2-side", and must constantly persist from the first to the last measure of a song. However, in some genres such as mambo, which was popularized by Puerto Rican musicians in New York during the so-called Palladium

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1 They are two other types of clave—rumba clave and Brazilian clave. These two are not covered in this thesis as they are rarely featured in salsa music. By default, salsa music uses son clave.

2 The terminology “timeline” is defined by Nketia as “as constant point of reference by which the phrase structure of a song as well as the linear metrical orientation of phrases are guided.” Clave, as will be discussed later, fulfills this function. See J.H. Kwabena Nketia, African Music in Ghana (Evanston, IL: Northwestern University Press, 1962), 78.

era of the 1960s, clave is either hardly audible or not played at all. Nevertheless I can hear some onsets or fragments of clave’s pattern being played by the melody or accompanying instruments. In other words, they subliminally embed the clave pattern.

This thesis will investigate the operation of clave in mambo songs that do not explicitly present it. To do so, I will examine the rhythmic fabric and metrical structure of some representative musical examples, and consider ways that they do and do not correspond to the clave’s rhythmic and metric processes. Part of this consideration will be to theorize some of those processes in terms that will later be applied to actual musical utterances. The investigation will reveal how each of a song’s elements reflects the clave pattern either strictly or loosely, and will reveal if there is any ambiguity. I will apply this analytical method in examining “La Malanga” by Rudy Calzado and Eddie Palmieri, and “Bilongo” by Guillermo Rodríguez Fiffé and Tito Rodríguez.

1.2 Motivations and Basic Concepts

The motivation to pursue this topic stems from the important position that clave holds in the composition of salsa and in the culture that embeds it. Salsa composers assert that the melody and accompaniment’s rhythmic pattern must be written in a way that “fits” with clave. This notion of “fit” suggests a general principle that salsa rhythms are made and perceived in relation to—either coinciding with, or counteracting—clave. For instance, David Peñalosa’s observation of several Afro-Cuban genres characterizes their rhythmic patterns in terms of their “with-clave”

\[\text{\footnotesize \textsuperscript{4} This statement is made based on Fernandez’s description of the compositional aspect of salsa, which states that playing "en clave is essential for the music to ‘sound right’." See Raul Fernandez, From Afro-Cuban Rhythm to Latin Jazz (Berkeley: University of California Press, 2006), 15, italics in original.} \]
onsets and “counter-clave” onsets, where a “with-clave” onset coincides with a clave onset, while a “counter-clave” onset does not. Some patterns contain mostly “with-clave” onsets, some patterns contain mostly “counter-clave” onsets, while some patterns can have both. These two aspects generate what Peñalosa describes as “a cycle of tension-and-release.” He does not specify which type of onset generates which motions (tension or release), but the alternation between “with-clave” and “counter-clave” onsets ensures that this motion exists as a result of the interaction between clave and the rhythmic pattern.

![Figure 1.1 Clave in two measures of 4/4 meter](image)

![Figure 1.2 Other representations of clave](image)

To understand this concept better, let us first consider the clave pattern in two measures of 4/4 meter, the most common way to represent it, shown in Figure 1.1. The two sides of the

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7 Toussaint states that there are eight ways to notate clave. His notations include standard western notation, TUBS (Time Unit Box System), binary notation, and IOIs (interonset intervals). See Godfried Toussaint, “The Geometry of
pattern are labeled. The 3-side takes its name from the three onsets that occupy its measure, while the 2-side has two onsets during its measure. Figure 1.2 shows other representations of clave in different meters. Depending on the meter of the music, the clave may be represented in any of these ways, but that does not change the fundamental concept of clave, which is a binary opposition of its two sides.

With reference to these representations we can see specifically what Peñalosa means when he says that a rhythmic pattern can be mostly with-clave, counter-clave, or both. Figure 1.3 shows an example of a bombo (bass) drum pattern in conga de comparsa, a popular street genre in Havana and Santiago de Cuba, Cuba.\(^8\) All of its onsets except the third one coincide with the onsets of clave. We can conceive this pattern as generating very little amount of tension and release. Figure 1.4 shows more tension in obi-apá drum pattern in Abakuá music.\(^9\) Three of its onsets are counter-clave. Figure 1.5 shows a pattern that cycles between tension and release: a low tumba drum pattern played in rumba guagancó, a traditional genre from Cuba.\(^10\) It is composed of a two-beat pattern that is repeated over four beats of clave. In the 3-side, three of its strokes coincide with clave, but in the 2-side, only one stroke does, leaving the three other strokes as counter-clave. Peñalosa does not provide a specific analytical interpretation for these tension profiles, but they justify further investigation into the metric and rhythmic relationship between a rhythmic pattern and each side of clave.

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\(^8\) Peñalosa, *The Clave Matrix*, 94.


Christopher Washburne also discusses how actual music relates to clave. However, unlike Peñalosa, who focuses on the rhythmic relationship between clave and a single rhythmic layer, Washburne, drawing on his study of salsa music in New York City, examines full textures. He describes several rather different senses in which a musical phrase is “in clave”: (1) if the clave onsets align with “one or all of the accented notes;” (2) if some strong accents align with clave onsets, especially if there are also strong accents that do not align with clave onsets, so as to provide balance; (3) if the music alternates in between “syncopated beat” measures and “on the beat” measures, just like both measures (sides) of clave; and (4) if a rhythmic tension created
by non-alignment with clave onsets is eventually resolved to alignment with clave onsets.\textsuperscript{11} This guideline is based on his observation on the adaptation of clave from early salsa music, which strictly adheres to clave, to modern salsa and other American popular music, which loosely adheres to it. This guideline raises some interesting theoretical questions that I would like to explore, such as how the accents may be distributed and ranked, and how many aligned onsets are needed before one can judge a rhythm to be “in-clave.”

From a different perspective, scholars of Latin and salsa music have asserted that clave is not just a rhythmic pattern, but also a symbolic index of an Afro-Cuban tradition that was brought to the Americas. It is the token of a culture that permeates every element of this music. For instance, Washburne explains that how clave is a constituent of Cubans’ cultural identity.\textsuperscript{12} Musicians who migrated from Cuba to New York City maintained the presence of clave in their performances not only to achieve certain compositional purposes but more generally as a constant reminder of their heritage. They also used clave as a way to distinguish their music from other genres at that time, especially jazz, even though they were borrowing jazz elements heavily.\textsuperscript{13} From this perspective, going cruzado (cross-rhythm), meaning going against the clave ostinato, was not just a rhythmic error but also an affront to their culture.\textsuperscript{14}

From such discussions, it is clear that clave consists of concepts, precepts, and paradigms that transcend theoretical and analytical features. The sources of them abound, from Afro-Cuban

\textsuperscript{12} Washburne, “Salsa in New York City,” 91-92.
\textsuperscript{13} Fernandez provides extensive details in the history of incorporation of Jazz into salsa. See Fernandez, \textit{From Afro-Cuban Rhythms to Latin Jazz}, 61-160.
\textsuperscript{14} Washburne provides extensive details about the polemic and controversy of cruzado in newer Latin genres. See Washburne, “Salsa in New York City,” 87-90.
and Western African rhythmic epistemology to the phenomenological sensation of popular music. As a pattern is that is rooted in Western African musical tradition, clave constitutes what Agawu refers to as “topos,” a memorable rhythmic figure that is “rich in associative meaning for cultural insiders” as well as serving “as point(s) of temporal references.” A good demonstration of this referential function is featured in the study of Cuban batá drumming by Moore and Sayre. Batá drummers associate each drum stroke, vocal pitch, and other sorts of event to the clave in a certain culturally distinctive way. The same situation occurs in salsa music, too.

Musicians learn to associate common rhythmic patterns and melodies with the 3-side and 2-side of clave. However, musicians must also consider the typical processes of Western popular song such as melody, harmony, and verse-chorus form, which operate in tandem with clave too. To the extent that these processes either influence or are influenced by clave, they raise several questions regarding rhythmic and metrical principles that govern their relationship with clave.

Alongside these theoretical questions, clave also raises a phenomenological one. Based on a broad survey of salsa music, Tozzi provides a chart that quantifies the relationship between clave and onsets that fall on the various quarter-note and eighth-note beats in a 4/4 meter. He postulates that an onset at a given metric position may be related to the 3-side or the 2-side with three different qualities: strong, medium, or weak. For example, he says that in a 4/4 meter, an onset on beat 2& relates strongly to 3-side clave, but it also relates weakly with the 2-side. He mentions in passing that the correlation depends on the accentual strength of each onset as well

17 Wolfgang Tozzi, “Kubanische Rhythmen im Jazz” Jazzforschung / Jazz Research 31 (1990), 149-83.
as instrumentation and register. Unfortunately, he does not provide complete details of phenomenal sensation for every onset, and only mentions a few of them. Even so, his account suggests that there are varying degrees of “fitness” of each side of clave to these onsets.

Other work that treats the phenomenology of clave is a thesis by Bertram Lehmann. He describes it as a background pattern that manifests “a particular kinetic energy and contrapuntal organization, extending into both temporal and tonal organization.”\(^\text{18}\) He refers to the 3-side as an “active” phase and the 2-side as a “rest” phase.\(^\text{19}\) The syncopation of the onsets on the 3-side create the active energy while the synchrony of the clave onsets with the beats on the 2-side give the sense of resolution or rest.\(^\text{20}\) To me this account suggests that clave has an intrinsic grouping structure, where the 3-side functions as beginning while 2-side functions as ending. Even when the clave is flipped from 3-2 to 2-3, this formal structure remains intact, hence creating a formal conflict between the boundaries of clave and of musical grouping structure. As will be discussed section 1.4, however, melodic and harmonic grouping mitigate against this formal structure. I will provide more details about this conflict in the ensuing analysis.

It is evident from this brief review of the literature that clave raises theoretical, sociological, and phenomenological questions. My motivation to study it largely comes from my curiosity to understand the theoretical aspects of clave and my desire to explore the rich rhythmic fabric of salsa music. I will integrate the research and analysis of the scholars I cite above, alongside others, in unraveling the metric and rhythmic properties of clave that are relevant to the context of salsa music. I will focus on “La Malanga,” a mambo song in which the clave is

\(^{18}\) Ibid., 13.
\(^{20}\) While clave only has one syncopated onset on the 3-side, readers will see later that other patterns that are deemed to be aligned with the 3-side contains more than one syncopated onset.
mostly inaudible and at times not literally present. I will also provide a brief analysis of
“Bilongo,” another mambo song. I hope that this analysis, and the methods I employ, will be
applicable to larger projects that aim to appreciate the role of clave in other Latin and Afro-
Cuban genres.

1.3 Notation

To facilitate the analysis, I will consider clave in its simplest and most common
context—4/4 time. Figure 1.6 shows the pattern in its 3-2 form while Figure 1.7 shows it in its
other form, 2-3. I have labeled each onset and rest with a specific name to which I will refer
throughout the thesis. The nomenclature reflects Lehmann's view of the 3-side as a beginning.
Even when I am referring to 2-3 clave, the rest on the downbeat of the first measure will still be
referred to as third rest.

![Figure 1.6 3-2 Clave](image1)

**Figure 1.6 3-2 Clave**

![Figure 1.7 2-3 Clave, same labels](image2)

**Figure 1.7 2-3 Clave, same labels**

![Figure 1.8 3-2 Clave, 4/4 time in alternative notation](image3)

**Figure 1.8 3-2 Clave, 4/4 time in alternative notation**
Figure 1.8 shows another way to notate clave, representing each side separately as interonset intervals (IOIs). The advantage of this notation is that it shows how the beginning of the 3-side can also be construed as the beginnings of a dotted-quarter-note pulse, like we would hear in compound meter, hence working against the perception of written 4/4 meter. I decided not to use this notation for two reasons. First, my survey of many transcriptions of salsa music shows that their melodic, harmonic, and percussive rhythms are notated in 4/4. This implies the presence of a quarter-note tactus that informed listeners to tap even when listening to clave alone. Second, clave is typically played on a woodblock. Its sounding duration is short, no longer than a quarter note, and the silences before the attacks seem salient. This notation is also consistent with David Peñalosa’s and Rebecca Mauleon’s notation.21 Granted, when clave is imitated by the melody and other instruments, the notes may be held through these rests, and the notation will change to reflect their modified duration. However, in the analysis of clave alone, the short duration highlights the gap (rest) in between the onsets. It gives us the opportunity to analyze these gaps and to see how they affect or are affected by the surrounding clave onsets.

Throughout this thesis, I often refer to quarter-note beats as beat 1, 2, 3, and 4. There will be numerous occasions where I have to refer to an onset on an eighth-note offbeat, such as the second onset of clave. Because it falls after beat 2, I label this off-beat eighth as beat 2&, which may read as “the and of two.” The other eighth-note off-beats will be referred to similarly as beat 1&, 3& and 4&.

1.4 Rhythmic and Metric Properties of Clave

The objective of this section is to describe the pattern’s rhythmic behavior and metric structure by characterizing the rhythmic quality and phenomenological sensation at each onset. The description of these properties will be useful in the analysis of salsa song in the next chapter. As explained above, for the sake of simplicity and clarity, I will analyze the pattern in 4/4 meter.

![Figure 1.9 Pulses in various metrical levels.]

Figure 1.9 shows the clave embedding a quarter-note pulse and other pulses at higher metrical levels. The quarter-note pulse is heard to persist as the tactus throughout the entire two measures. On the basis of these equally spaced quarter-note beats, we can establish a metric hierarchy including half-note, whole-note, and breve (double whole-note) levels that define the strong beats in the meter. The whole note duration and the strong beats it creates divide the clave into two sides, one with three onsets and one with two onsets. How does clave affect our sensation of this meter, and how does the meter affect our sensation of the onsets and rests of clave?

One avenue towards answering these questions is to devise a measurement of total accent that takes into account both metric and phenomenal accent. Metric accent is the stress on a strong beat within a meter. Phenomenal accent, following Lerdahl and Jackendoff’s definition, is “any
event at the musical surface that gives emphasis or stress to a moment in the musical flow.”

Considering both types of accent, metric and phenomenal, will assist us in distinguishing the qualities of rhythmic difference in between each onset, and how each of them affects the way we listen to it.

![Figure 1.10 Total accent in the whole-note meter](image)

| Rank of total accent | 1 | 2 |

Figure 1.10 shows the whole-note downbeats. While both of them are metrically accented, I hear the first downbeat as having a greater amount of stress than the second one because the first onset of clave appears then. For the same reason, the breve (double-whole-note) beat also begins in m. 1 instead of m. 2 because the onset in m. 1 places a greater metric accent than the empty downbeat in m. 2. That itself gives a greater metric accent to this downbeat. Hence, I rank their relative degree of accent as “1” and “2” respectively, where “1” means greatest. This ranking is solely my perception, and I will not dismiss other interpretations. However, the influence on onsets on the perception of strong beats is reflected in Lerdahl and Jackendoff’s Metric Preference Rule (MPR) 3, which states that strong beats preferably occur at

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an onset rather than at a rest. Later, I will discuss the implication of this analysis in the whole-note meter and double whole-note meter.

![Figure 1.11 Total accent of clave on half-note beats](image)

I have asserted that the first downbeat in 3-2 clave is stronger than the second downbeat because the latter is not supported by any onset. We can also apply the same idea to the half-note metrical level. Figure 1.11 shows a ranking of the total accent on each half-note beat. Only the first and the last half-note are supported by an onset. The first onset is strong because it is clearly a downbeat, but the last onset is also strong because there is an interonset durational accent (the duration from the fifth to the next first onset, a half note, is substantially greater than the quarter note duration from the fourth to the fifth onset). It is much greater than the interonset durational accent on the third onset (the duration from the third to the fourth onset, a half note, is greater than the dotted quarter note duration from the second to the third onset). Hence, I maintain that the first and the last onset’s accents are ranked highest. This, perhaps, counterintuitive hearing reflects my perception and awareness of each onset and its relation to the 4/4 metric structure,

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23 Ibid., 76.
and also of its function within a periodic directionality that spans from the first onset to the last one. I will explain this idea in more detail when I discuss the grouping structure of clave.

Let us now consider the total accent on the other half-note beats. They both have rests, and the third beat takes metric accent. However, although the second half-note beat is not a downbeat, I perceive some extra degree of stress on it that is “derived” from syncopated quality of the second onset.24 I can account for this sensation partly through referring to Wallace Berry’s theories of accent.25 According to him, among various factors that can place an emphasis in a particular beat, anacrusis may be one of them. He stated that “a metric initiative is significantly enforced in its accentual properties by a preceding anticipative (anacrustic) impulse.”26 What he means is that an anacrusis may create a strong accent on the succeeding beat, to such an extent that it can even cause the listener to “rebar” the meter. For instance, in a passage from the second movements of Mozart's “Jupiter” Symphony No. 41 in C, he hears the duration on notated beat 1 to act as an anacrusis to the onset on notated beat 2, causing notated beat 2 to be perceived as a downbeat. In a different publication, he states that an anacrusis, together with pitch, duration, and dissonance, can inform one’s sensation of the strength of a downbeat.27 However, we have to make a clear distinction between Berry’s theoretical discussion of meter and our assumption about accent. Berry conjectures that the meter of a particular passage may be shifted as a result of one’s perception of its accent. But I do not intend

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24 One may question upon why I am not calling this onset as a loud rest. I avoid this notion because it does not work well in the clave. According to London, a loud rest occurs when there is a contextual mismatch against the already-defined metrical structure. For instance, when a motive is repeated several times, we can expect that the motives will occur again. When the succeeding beat is replaced by a rest instead of an actual note, a loud rest occurs. It is a beat that is expected to contain an onset but instead it is filled with nothing. In the analysis of clave, I do not expect any onset to land on beat three. In fact, I expect that beat to be a rest. See Justin London, *Hearing in Time: Psychological Aspects of Musical Meter*, 2nd Ed. (New York: Oxford University Press, 2012), 107.
26 Ibid., 342, italics in original.
to make any claim about the fluctuation of the metrical structure in clave. I am simply using his theoretical reasoning to support my claim that an anacrusis can affect one’s sensation of a beat’s accentual strength.\textsuperscript{28} While Berry discusses a very different music than I am—Western classical music, we can conceive a similar the rhythmic structure in between salsa and classical music because they are written in a conventional meter and rhythmic notation. Indeed, salsa music borrows Afro-Cuban and African timeline and instrument, but it has the same structure as popular music, composed and arranged a musical sheet. Improvisations commonly occur, but to some extent, its performance still relies on a lead sheet. The examples in Chapter 2 and 3 rely heavily on it. I think that applying Berry’s theory to salsa music does not pose any contextual or methodological problem. In other words, it is acceptable to analyze Afro-Cuban and even African music using conventional western theory. An article by Temperley uses Lerdahl and Jackendoff’s generative theory of tonal music to understand the rhythm and meter of Ewe music from Ghana, solely based on transcriptions from A.M. Jones.\textsuperscript{29} Temperley acknowledges the skepticism about using conventional western theory to analyze African music, stating that his study might “imposes a framework on African rhythm which has no direct support in what African listeners and performers say they are doing,” but defends his analysis by stating that “to fully understands the role of rhythm in African music, and the role of music in African society, 

\textsuperscript{28} One may also hear the second onset as accented. Temperley states that syncopation “involves a deviation from the ‘normal’ placement of an accent …. a weak beat is accented.” It also entails a displacement of accents from a strong beat to a weak one. In his discussion, the syncopated onset in popular music, such as stressed syllables, creates an accent on a weak beat. In popular music, one can easily hear that the syncopated onsets are accented because they are influenced by the poetic structure. This idea does not really apply to clave because there is no text that accompanies clave. Hence, I hardly hear the syncopated second onset as accented, but certainly I can hear the same quality on the following beat three. See David Temperley, “Syncopation in Rock: A Perceptual Perspective,” \textit{Popular Music} 18, no. 1 (1999), 20.

the ethnomusicologist’s broader perspective is crucial.”^{30} I apply the same motivation to this analysis, in a hope to shed light to the interesting and compelling rhythmic properties of clave in salsa music.

Specifically, in Figure 1.11, this reasoning supports my sensation of stress on the second half note beat: I perceive the second onset as giving anacrustic support to it. Borrowing a symbol from Hasty's theory of meter, I notate this sensation as an anacrusis that is reinterpreted as a beginning, shown by the symbol / → |.^{31} As for the third onset, I hear it as a continuation, and hence I label it with \.^{32}

This analysis provides us with a perceptual template that can help us identify the presence of clave in songs where it is not explicitly played. Given a pattern of accentual strength in the melody and the accompaniment, we can match it with both sides of clave, and see if it fits the accentual profile of 3-2 or 2-3. However, more importantly, this analysis reveals that the grouping structure of clave is better conceived as beginning with the 3-side and ending with the 2-side—from the strongest half-note beat through two weaker beats to another strong half-note beat. This means that even when a song employs a 2-3 clave with respect to two-bar melodic groups, I can still hear the clave grouped as 3-2 across those melodic boundaries, as I will now explain.

My analysis of the whole-note level asserts that the 2-side’s downbeat is accentually weaker than the 3-side’s downbeat. If we move one level higher to the double whole-note level,

^{32} For details about continuation, see Hasty, Meter as Rhythm, 104.
we must still characterize the 3-side’s downbeat as stronger than the 2-side’s downbeat because according to MPR 3, a strong beat is preferably located in an event or an onset rather than a rest or a continuation of an event. Therefore, when we have to choose the strongest downbeat of the clave, it should begin in the first onset in the 3-side, and not in the third rest in the 2-side. There is some practical validation for this theoretical conjecture. According to Stover, musicians prefer to begin on the 3-side to avoid the empty downbeat in the 2-side.\footnote{Stover, “A Theory of Flexible Rhythmic Space,” footnote 49, 221.}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure_12.png}
\caption{An excerpt from “El Manicero” by Moises Simmons \copyright 1993 Sher Music Co.\footnote{Mauleon, Salsa Guidebook, 160. For a brief history of Moises Simmons, see Helio Orovio, Cuban Music from A to Z (Durham: Duke University Press, 2004), 202. The famous recording of “El Manicero” was made by Justo “Don” Azpiazu. For a brief history of him, see Helio Orovio, Cuban Music from A to Z, 22. For sound recording, see Moises Simmons, “El Manicero,” Don Azpiazu and His Havana Casino Orchestra, performed by Don Azpiazu, recorded May 13 1930, Harlequin, 1991, compact disk HQ CD 10. Also available in YouTube. See “DON AZPIAZU El Manicero,” YouTube video, 3:28, posted by “Juan R,” March 7 2009, \url{https://www.youtube.com/watch?v=9QzpKmZPWR0}.}}
\end{figure}
When the music employs 2-3 clave, meaning that the first measure of a passage or a verse begins with 2-side, how would it alter the sensation of the beginning and ending of clave that we have just claimed? Typically, melody, harmony, and percussive patterns will articulate group beginnings on the 2-side. For instance, in Figure 1.12, an excerpt of “El Manicero” by Moises Simmons, the melodic motive is organized by repetition into two 2-measure groups: mm. 1-2, and mm. 3-4. This grouping is clearly aligned with 2-3 clave. However, in the clave alone, the downbeat of 2-side contains weaker metric and phenomenal accent if compared to 3-side. It is much more intuitive to perceive the clave groups beginning with the 3-side because it contains a stronger downbeat. If one hears the clave as a group of 3-2 against the rest of the music as 2-3, one will experience a conflict of grouping structure in between the 2-3 and the 3-2, represented in Figure 1.13.  

The degree of this conflict depends on one’s perception of the tactus and

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35 For readers who are interested to explore theories of metrical conflict, Krebs provides an interesting concept called “displacement dissonance.” It occurs when layers of equal cardinality do not align with each other. In one
metrical level that the clave and the music operate. In “El Manicero,” I can hear a higher level of pulse as a double whole-note, that is, every two 4/4 measures. This means that each measure is the first of a two-measure group in one dimension and the last of a two measure group in another dimension. However, if one hears the highest level of pulse to be only the whole-note, then each measure has a downbeat, which means that both of the 3-side and 2-side are the beginning and ending of its own, and clave is clearly isolated in between these two sides.

Whether one clearly hears this grouping conflict or not will depend on the musical context, but clearly, based on the notation alone, one can see a grouping conflict. I think at the very least, a subliminal grouping conflict occurs when a song employs 2-3 clave, at least in the transcription or in rhetoric, if not in actual hearing. This is true in the analysis of “La Malanga” and “Bilongo,” where the clave is inaudible. Hence, when the melody and harmony punctuate the beginning in the 2-side of 2-3 clave, the conflict becomes subliminal. However, in other salsa music where the clave is clearly audible, the conflict is surely substantial.

In summary, the analysis of the total accent of clave shows how clave’s onsets affect our perception of the strength and the weakness of certain beats. What we have not done is to characterize the onsets in terms of their metrical function. This is important as we move into the song analysis in the next chapter. Let us put this in a scenario: suppose that in a measure, there is an onset which we are not sure on which side of the clave it belongs or “fits.” What we can do is describe its metrical quality and then match it with the closest corresponding clave onset. Table

layer, two or more metrical groups, for example, two groups of three quarter notes do not have the same beginning with another layer. One layer may begin on the downbeat of the notated measure, while the other may begin on beat 3 on the same notated measure throughout. Krebs’ theory is aimed in discussing metrical conflict, while my analysis is aimed in discussing motivic conflict among two rhythmic segments, the 3-side and the 2-side. See Harald Krebs, *Fantasy Pieces: Metrical Dissonance in the Music of Robert Schumann*, (New York: Oxford University Press, 1999), 33.
1.1 below lists my interpretation of some metrical qualities and the onsets that can have them.

We can use this list to refer to the corresponding clave onsets when the clave is ambiguous.

<table>
<thead>
<tr>
<th>Metrical character</th>
<th>Corresponding clave onsets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls on a quarter-note beat</td>
<td>First, third, fourth, or fifth onset.</td>
</tr>
<tr>
<td>Falls on beat four</td>
<td>Third onset</td>
</tr>
<tr>
<td>Falls on a downbeat</td>
<td>First onset</td>
</tr>
<tr>
<td>Syncopated followed by an empty beat</td>
<td>Second onset</td>
</tr>
<tr>
<td>Preceded by an empty downbeat</td>
<td>Fourth onset</td>
</tr>
<tr>
<td>Two consecutive quarter-note onsets</td>
<td>Fourth and fifth onsets (motive α)</td>
</tr>
<tr>
<td>An onset with interonset durational accent</td>
<td>Fifth onset*36</td>
</tr>
</tbody>
</table>

*Table 1.1 List of metrical character and corresponding clave onsets*

Not all of these characters are relevant to the Mambo examples I discuss below, but some of them are, and they are especially helpful in determining the 2-side of clave. For instance, as readers will encounter later, in the analysis of the introduction of “Yay Boy” there is a quarter note that falls on beat four. It seems that it might belong to the third onset, but because it is preceded by another quarter note, it is better perceived as a displaced fifth onset. In another instance, in the analysis of the introduction “La Malanga,” there is an onset that falls on a downbeat, but at the same time it also has interonset durational accent. I deliberate between referring it either as first or fifth onset. I conclude that it belongs to the 2-side, perhaps as fifth onset because it has interonset durational accent and, moreover, the next measure contains a syncopated onset, which better belongs to second onset on the 3-side.

*36 The third onset has the same interonset durational accent as the fifth onset. However, the IOI from the fourth onset to the fifth onset is a quarter note, whereas the IOI from the second onset to the third onset is a dotted quarter note. Because the IOI from the fourth onset to the fifth onset is shorter, the interonset durational accent on the fifth onset is greater than on the third onset.*
Back to the analysis of clave, this method of measuring accents would surely get more complex if clave is replaced with other rhythmic ostinatos or fragmented into smaller motives. However, at least, we have gained an understanding of the metrical quality and the accent of the onsets in the 3-side and the 2-side. In the song analysis, when clave is not audible, we can determine whether it is 2-3 or 3-2 based on similarities to this schema. We can also determine the location of beginning and ending of each group more accurately.

1.5 Other Rhythmic Patterns: Cascara, Montuno, and Tumbao

This section will study two paradigmatic rhythms that are prevalent in salsa music—cascara and montuno. They are discussed by David Peñalosa and also by Rebecca Mauleon, who explores salsa, rumba, and other Afro-Cuban genres. Cascara is derived from the gua-gua rhythm in the traditional music of the people of Matanzas, a city on the northern shores of Cuba, and catá rhythm in the music of the people of Santiago de Cuba, a city in the southeastern part of the same island. Cascara is notable because it is commonly played on timbales, one of the most acclaimed and celebrated instruments in mambo music. But it can also be played by pitched instruments. In contrast, montuno is played exclusively by pitched instruments, commonly on piano. It is paradigmatic because it is the most widely-played vamp or ostinato pattern. Historically it was played in contradanza and danzon music in Cuba, two genres that were derived from France. It was incorporated into salsa and is featured in many solo sections, which is why some of them are simply called “montuno.” The following sections will analyze these two patterns in more detail.

37 Peñalosa, The Clave Matrix, 131-42.
38 Mauleon, Salsa Guidebook, 76-79 and 117-27.
40 Mauleon, Salsa Guidebook, 117. For a brief history about the influence of French music into Cuban traditional music, see Gerard, Salsa: The Rhythm of Latin Music, 92-98.
1.5.1 Percussive Pattern: Cascara

Figure 1.14 Cascara in 3-2 clave

Figure 1.14 shows the cascara pattern in two measures of 4/4 and its corresponding clave. This pattern is fixed to each side of clave, so if clave is flipped from 3-2 to 2-3, cascara follows suit. But unlike clave, where the downbeat on the 3-side is clearly marked with an onset, cascara’s downbeat has no onset. Instead, the first onset appears on the second quarter-note beat. The last onset, the eighth-note on beat 4& in m. 2, can be perceived as an anacrusis to the downbeat of m. 1. Hence, we can certainly say that the cascara strengthens the sensation of the downbeat at the beginning of m. 1. When clave is not explicitly played, this anacrusis can be a hint to the underlying clave pattern.

Figure 1.15 Total accent and metrical analysis of cascara and clave
D refers to interonset durational accent.
Let us analyze the juxtaposition in between cascara and clave, assuming they are played together. Figure 1.15 shows the ranking of the total accent of specific beats which I will discuss below. I would like to clarify some specifics about the beginning, continuation, and the anacrusis that might seems peculiar at first. In this analysis, I hear cascara as a composite pattern together with clave. This is not saying that cascara is always played with clave. Often, clave is omitted, and cascara is assumed to suggest clave in its absence.\textsuperscript{41} However, I am interested to consider how clave and cascara together affect the sensation of meter. First, the downbeat on m. 1 contains an onset from the clave, and is preceded by an eighth note anacrusis from the cascara. The anacrusis does not change the fact that a downbeat exists. Therefore, I interpret them as an anacrusis followed by a beginning. On the other hand, in beat 2& of m. 1, the anacrusis is succeeded by an empty beat. Therefore, a reinterpretation of the beginning is necessary to reflect the role of anacrusis emphasizing that downbeat. I interpret them as / \rightarrow \|. Second, in beat 4 of m. 2, there is an empty beat in the cascara, similar to beat 3 of m. 1. The preceding eighth-note, however, does not carry the same anacrustic quality as the one in beat 2& of m. 1. The latter is weaker than the earlier, because the one earlier coincides with an eighth note from clave, whereas the one latter does not. I hear it as a continuation rather than an anacrusis. As such, it does not reinterpret the beat 4 as a beginning, but I can still hear a beginning then. Therefore, I mark beat 4 with a parenthesized beginning symbol, (\|).

One significant difference is the strength of the downbeats of mm. 1 and 2. In the analysis of clave alone, the downbeat of m. 2 (2-side) is weaker than the downbeat of m. 1. When cascara is played, though, both downbeats are equally strong, because the downbeat of m. 2 contains an

\textsuperscript{41} Gerard states that cascara may inform the musicians about the clave when it is absent. See Gerard, \textit{Salsa: The Rhythm of Latin Music}, 42.
onset from the cascara, strengthening the metrical accent that exists in the first place.

Furthermore, it receives an anacrustic support from the preceding eighth-note onset, marked with an anacrusis label above the note. Similar anacrustic support is given to the downbeat of m. 1 as well. I posit that both of these downbeats have the strongest total accent, and so rank them first. Remember that this analysis assumes clave and cascara as a composite layer. It means that we hear both parts as equally important.

In the analysis of clave alone, an interonset durational accent occurs at the fifth onset (on beat 3 of its 2-side.) When we combine clave with cascara, clave’s last onset does not contain such accent anymore because it is succeeded by an eighth note on beat 3&. Hence, regarding total accent, I rank it as second. It is still metrically accented because it falls on the half-note beat. Furthermore, it coincides with an onset from cascara, which thickens its timbral density, strengthening the phenomenal sensation of that beat.

An interonset durational accent does appear in the combination of clave’s and cascara’s 2-sides, but on beat 1 instead of on beat 3. It occurs as cascara plays two on-beat quarter-notes on beat 1 and 2, an important rhythmic/metric gesture that I label as motive α. In clave alone, the second attack of motive α articulates the end of the group and strengthens the accent on beat 3. However, cascara plays this rhythmic motive earlier, on the downbeat. It seems that the sense of ending comes a little earlier than before. Then, when clave’s fifth onset arrives in beat 3, cascara propels the rhythmic activity with two eighth-notes in beat 3 and 3& and a syncopated onset in beat 4&. It counteracts the sense of ending from clave by propelling the pattern’s momentum towards the downbeat of m. 1. This sensation is clear if we can hear the last onset on beat 4& as an anacrusis towards the beat 1 in m. 1.
The change of rhythmic pattern and total accent that cascara imposes on the 2-side of clave is crucial, as we will analyze a melody or a passage that may feature cascara but not clave. If it presents the cascara pattern explicitly, we can assume that the clave exists implicitly, and determine its orientation as 3-2 with respect to cascara. If the rhythm does not appear to be exactly like cascara, we can determine its accentual quality. Consider a given two measures with an equivalent degree of accentual strength on both of their downbeats. We can suppose that it resembles cascara, and listen for a secondary accent to determine which measure is the 2-side. We assume that these two measures resembles cascara, together with a clave, whether actual or implied, because our analysis above yields the same total accent on both measures.

1.5.2 Piano Montuno

![Figure 1.16 Piano montuno in 3-2 clave and its implied harmony in C](image)

Figure 1.16 Piano montuno in 3-2 clave and its implied harmony in C

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Figure 1.16 shows an example of a 3-2 montuno pattern in C Major adapted from Mauleon’s discussion. Figure 1.17 shows the montuno in 2-3 clave. Figure 1.18 shows my analysis of the meter and the total accent of the combination of 3-2 montuno and clave. This analysis shows that montuno, in combination with clave, has an effect similar to the combination of cascara and clave, analyzed in Figure 1.15. The downbeat of m. 2 (2-side) is as strong as the downbeat of m. 1 because it is supported by an onset from the montuno and an interonset.

43 Mauleon, *Salsa Guidebook*, 120.
durational accent. As with the combination of cascara and clave, clave’s fifth onset in its combination with montuno is not as strong as in the analysis of clave alone. It no longer takes an interonset durational accent because it is succeeded by an eighth-note onset from the montuno. However, unlike cascara, where the interonset durational accent in the downbeat of m. 2 is succeeded by another quarter-note onset, in montuno, the interonset durational accent is succeeded by an eighth note. Hence, if we insist on locating the motive α, we can claim that this motive is truncated from two beats to one beat. I feel that this motive is important because it is a key character of the 2-side. The two on-beat onsets (or one in the case of montuno) only occur in this side, and not in the 3-side. They counteract the syncopations and anacrusis that occur in the 3-side.

Figure 1.19 Several locations of motive α in clave alone (2-side), clave and cascara, and clave and montuno. All patterns are composited into a single layer. Brackets show motive α.

Figure 1.19 compares motive α in clave, cascara, and montuno. We see that it may fall on beat 2, or fall on beat 1, or be cut short by a beat. A salsa song may employ any one of these three versions of motive α. Its melody may only outline clave, or cascara, or montuno, or it may allude to any combination of the three patterns. In the detailed analysis of a song the location and the length of motive α may indicate the existence and orientation of underlying clave. One may question if the sole quarter-note in montuno may still serve as motive α. I think it does because its duration its substantially different from its neighboring eighth-note onsets. In this pattern, the quarter-note onset provides a sense of rhythmic cessation or stasis, and so do from the same
motive in clave alone and cascara. Readers will see that in later examples, this motive plays an important role in locating the 2-side.

I have yet to consider harmonic rhythm in the analysis of the total accent of montuno because it can get too complex if we try to associate the harmony with each side of clave. I am not implying that harmony is less important than melodic durational patterns, but I think that it is more useful for grouping and formal analysis, which will come in handy when we analyze the song in the next chapter. In Figure 1.16, m. 1 implies tonic, while m. 2 implies dominant and supertonic. However, when the clave and montuno are flipped from 3-2 to 2-3, the harmony does not necessarily follow suit. As seen in Figure 1.17, the tonic stays in the 2-side, and the dominant and supertonic stay in the 3-side. The 2-3 formal function will create a conflict between the grouping based on harmony against the grouping based on the 3-2 beginning-ending function. While this conflict may affect the grouping structure of the clave and montuno, it does not affect much of our sensation of the rhythmic accents. As long as we can locate the motive α, we can determine each measure’s correlation with each side of clave.

1.5.3 Tumbao

Figure 1.20 Standard tumbao pattern in C

Besides montuno and cascara, salsa music often features tumbao, a bass ostinato that is played either on a stringed bass or a piano. Figure 1.20 shows a standard tumbao pattern, taken
from Mauleon. Unlike montuno and cascara, both measures repeat the same rhythm, and only differ in their melodic contour. The repeated measure resembles the clave’s 3-side, except that the first onset is tied from the previous measure.

I think that tumbao itself, in this form, is insufficient to determine the clave in salsa music. Because it only repeats the 3-side rhythm, we do not know which measure corresponds to the 2-side. What is the importance of this rhythm if it is insignificant to the clave orientation? Perhaps, due to this reason, some composers alter this pattern to reflect the difference in 3-side and 2-side. For instance, Tito Puente features a different tumbao pattern in “Ran Kan Kan.” A transcription of the introduction to this song in The Latin Real Book, Figure 1.21, shows that the clave sequence is indicated as 2-3. The example is complicated by the rhythm of the brass melody, which can overwhelm the montuno and the tumbao. Also, in Tito Puente’s recordings (on the albums On Broadway and El Rey), the montuno is significantly softer than tumbao,

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44 Mauleon, Salsa Guidebook, 106.
45 One may wonder how tumbao became such an important rhythm if it provides no significance to clave. The usage of tumbao rhythm in salsa music can be traced as early as in the music of Arsenio Rodríguez, one of the most prominent figures of son, the predecessor of salsa. In his compositions, among several of his bass rhythms, the tumbao, so-called then the “anticipated bass,” was among one of them. There is no clear evidence of how tumbao gradually became prominent popular in salsa, but Garcia mentions some re-recordings of Arsenio Rodríguez’s original song that replace his original bass with anticipated bass. See David Garcia, Arsenio Rodríguez and the Transnational Flow of Latin Popular Music (Philadelphia: Temple University Press, 2006), 44 and 127-28.
almost inaudible. Nevertheless, we can easily hear how the tumbao affects our sensation of accents and how it may shift the grouping segments against the melodic phrase.

The modified tumbao gives us a better idea of the underlying clave sequence. Unlike the standard tumbao pattern shown in Figure 1.20, the two measures of Tito Puente’s tumbao have different rhythms: mm. 1 and 3 contain on-beat onsets, correlating with clave's 2-side, but mm. 2 and 4 contain syncopated onsets, the latter closely resembling the original tumbao and clave’s 3-side.

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This variation of tumbao enables us to hear the contrast between 3-side and 2-side more clearly. In the last beat of m. 2, the tumbao descends to D₃, which is the tonic pitch of the passage. Because it falls on a weak beat, it suggests closure, similar to the rhetoric of the 2-side. But also, because it falls a beat early, one might hear motive α of the 2-side as arriving too early. One can also hear it as an anacrusis anticipating the downbeat in m. 3.

Furthermore, being the lowest point of the contour (nadir), this pitch contains a fair amount of accent. It also has an interonset durational accent because it is the longest duration among other onsets in the tumbao. These accentual qualities provide a degree of stress, but how does it affect the perception of the meter? I hear it as an anacrusis anticipating the downbeat of m. 3, the downbeat of the 2-sides of clave. As a result, the sense of the downbeat of the 2-side is stronger than the downbeat of the 3-side. Moreover, the peak of the melodic contour, D₄, is not as strongly accented as the nadir. If we use this aspect as a comparison, then we can say that the 2-side has a stronger downbeat than the 3-side. As a result, the grouping structure begins from the 2-side, and not in the 3-side. I hear the descent to D₃ as both the ending and the beginning of the melodic phrase, in other words, the successive phrases overlap. Unlike the grouping structure of 3-2 clave, where we can perceive the beginning in the 3-side and the ending in the 2-side, in this example, the beginning and the ending occur at the same point.

In this hearing, then, Tito Puente’s altered tumbao solidifies the grouping structure of the music as 2-3. With the absence of the clave, and with the montuno softened by other instruments, the tumbao becomes the key referential rhythm. The tumbao emphasizes the 2-3 clave in a slightly different way, making the composition more interesting.

Note that both of Puente’s tumbao and the original tumbao are contour-shaped. If the nadir of Puente’s tumbao contains an accent, then the original tumbao should have it too. In
Figure 1.20 the C₃ should carry a greater accent than the C₄. Does it help to determine the clave? Unlikely. If we claim that the nadir itself can serve as the point of beginning in the 3-side, this claim is contestable. In Puente’s tumbao, the D₃ contains an interonset durational accent, and it is unique within the entire two measure pattern. The nadir helps in addition to affirm the sense of ending and beginning on that point. While the C₃ in the original tumbao may also provide the same sense, the uniformity of the rhythm on both measures complicates the correlation in between tumbao and clave. Both of C₃ and C₄ contain interonset durational accent. Furthermore, the accentual strength contributed by the nadir is not strong enough. Therefore, the original tumbao pattern does not clearly punctuate the rhythmic profiles of clave, and the variant exhibited in “Ran Kan Kan” fulfills this role.

1.6 Preliminary Assessment of Melody: Two Examples

So far, we have examined the metric and phenomenal quality of strong beats in the combined presence of clave and cascara or montuno. Although these two paradigmatic rhythms are rather different from clave, we have seen that they have a fixed orientation with respect to it, and produce a distinctive pattern of accentual strength. In this section, I would like to provide a preliminary analysis of several ways that the accentual pattern of clave (with or without these other rhythms) can be manifested in vocal or instrumental melody. This analysis will help to substantiate Washburne's claim that “all musical and dance components in salsa performance are governed by clave,” which I take to mean that clave influences not only the rhythm of the accompaniment layer but also of the melodic line. Let us consider two examples, one that outlines 3-2 clave and another one that outlines 2-3 clave. The first is the opening of “Yay Boy”

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49 Washburne, “Salsa in New York City;” 73.
by a group called Africando. The second is a melodic excerpt that we have discussed earlier, “El Manicero” by Moisés Simmons. The melodies I will analyze both occur in the earlier sections of the song—in the introduction or the first section and so function as the primary or initiating motive for the rest of the song. Succeeding verses become more complex, but still resemble them to a certain degree.

Figure 1.22 An excerpt from the opening of “Yay Boy”

Figure 1.22 shows an excerpt from the opening of “Yay Boy.” The melodic line is structured in two groups: an antecedent in mm. 1-2 followed by a rhythmically identical consequent in mm. 3-4. Let us look at the antecedent group. The rhythm of m. 1 closely resembles montuno, while the rhythm of m. 2 is taken directly from the 2-side of clave (motive α). The rhythmic contrast between them—a more syncopated active measure followed by a more metrically consonant, relaxing second measure—clearly reveals the underlying clave as 3-2. We can easily hear m. 1 as the beginning and m. 2 as ending. The melodic contour ascends in m. 1, which depicts departure from the focal pitch E₄, a member of tonic triad A. It descends stepwise in m. 2 to E₅, yields a sense of return to the original focal pitch. This sensation is substantiated when, after arpeggiating the E dominant 7th chord, the melody changes to the third of the tonic harmony, C₅ in m. 4. Furthermore, there is a clear gap between the syncopated rhythm in m. 1

and the two quarter notes in m. 2. Although this gap, a two-beat rest, displaces the motive one beat later, we can still see that m. 2 correlates with the 2-side of clave because it features the quarter-note motive, even if that does not occur exactly on beats 2 and 3.

Figure 1.23 “El Manicero,” from Mauleon
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But not every salsa melody shows a clear clave, montuno, or cascara rhythm, or even a 3-2 beginning-ending structure. This is especially true in 2-3 clave. Similar to “Yay Boy,” “El Manicero” features rhythmically identical antecedent and consequent groups with two measures in each of them. However, unlike “Yay Boy,” where there is a gap between in mm. 1 and 2, in “El Manicero” the line runs continuously across mm. 1 and 2. According to Mauleon, “El Manicero” is written in 2-3 clave. At first glance, the resemblance is weak. To be sure, the rest at the first downbeat may fit more with clave’s third rest, hinting at a correlation with the 2-side. However, the succeeding stream of eighth notes does not depict any sense of closure or similarity with the α motive. Indeed its increasing energy better matches the profile Lehmann ascribes to the 3-side. However, this ambiguity is resolved in m. 2, where the melody’s accentual pattern—the quarter notes in beat 1 and 4, the eighth note on beat 2&, and rests on beat 3—shows a closer resemblance to the 3-side.

I think the ambiguity in m. 1 arises because the melody avoids the sense of closure that is associated with the 2-side of clave. Instead, it functions better as a beginning, leaving m. 2 to

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51 Mauleon, Salsa Guidebook, 160.
function as an ending. The ascending line from B₄ to D₅ yields a sense of departure, followed by a descending melodic motion from D₅ to C₄, which suggests arrival back to the tonic. When mm. 1 and 2 are reiterated in mm. 3 and 4, the sense of closure can be felt even stronger as the melodic line descends to G₄, denoting an implied cadential motion back to tonic in G Major.

Thus the 2-3 grouping structure we hear in the melody is not due to perfect correlation with the clave’s rhythm, for m. 1 lacks resemblance with the 2-side. We determined that the corresponding clave is 2-3 only because m. 2 is clearly correlated to the 3-side. That is, our process of determining the clave is achieved not simply by matching accent patterns in both measures, but also by a rather broader perspective of the grouping structure.

While the two examples above give some sense of the range of congruency between salsa melodies and clave’s rhythm, there may be melodies in which their alignments are rather ambiguous, especially when the accent pattern of the melody does not match an apparent clave pattern. Mauleon states that a melody’s accent and the phrase structure can be used as a point of reference for the orientation of clave. The process of identifying them may include the possibility of having both sides of clave to fit nicely in the melody. However, surely one direction fits better than the others, and this determination may be made through a judicious balance of theoretical analysis, cultural context, and phenomenological sensation.

1.7 Summary: The Process of Template Matching

As we move into the analysis of “La Malanga” in the next chapter, we should expect to see the cascara and montuno in different variations. Identifying each of their measures with each

52 Mauleon, *Salsa Guidebook*, 159.
sides of clave is a process of matching them with the patterns discussed in this chapter. This process seems easy if we only look at rhythm, but such a restriction risks ignoring other informal theoretical or non-hierarchical elements, such as instrumentation and register. In the next chapter, the process of the template matching will include musical processes that were not emphasized in this chapter, such as harmony, phrase structure, and formal function.
Chapter 2: Song Analysis – “La Malanga” by Eddie Palmieri

In the previous chapter, we explored a relative quantification of the total accent on the half-note beats of 4/4, as they are affected by clave. We observed the changes that occur in the accentual profile of the 2-side as a result of the interaction between clave and cascara, montuno, and tumbao. Also, we observed how the accentual profile of clave can be manifested in the melodic line. Those brief analyses are particularly pertinent to this chapter, where we will analyze the operation of clave in “La Malanga” as performed by Eddie Palmieri. The purpose of this analysis is to identify various ways that the clave is employed, manipulated, and altered from its written form. Although the discussion will not consider the songs in their entirety, it will focus on those sections in which clave and the musical events are interwoven in interesting ways.

“La Malanga” was actually composed by Rudy Calzado, but re-composed by Eddie Palmieri. The version that is featured in this analysis is taken from a re-release on the album *Superimposition*. In this recording, the clave is played by a woodblock but it is almost inaudible, and barely audible during the vocal solo section. The examples used in this chapter are taken from a score in the *The Latin Real Book*, which corresponds to the version recorded by Palmieri. In this analysis, we will focus on the introduction (mm. 1-4), the first refrain (mm. 5-12), and the vocal solo section (mm. 33-34). At the top of the transcription, the clave is indicated as 2-3, and we will assume that this indication is authoritative.

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55 *The Latin Real Book*, 269-70.
The lead sheet notates the vocal melody, piano, bass, and brass, but not any percussion rhythm, such as drum, conga, or timbale. In Palmieri's performance, these instruments repeat in every measure a rhythm that does not contain any motivic figures that can help us to distinguish the difference the 2-side from the 3-side. Therefore the analysis will refer only to the notated instruments.

I chose this song for two reasons. First, and most importantly, the clave is barely audible. In the Palmieri recording, the clave is hardly audible in the first few sections and completely vanishes in the middle of the song. It seems to bear almost no significance to the music. I will assume that clave is not sounded at all, and use the remaining musical events to investigate how they may imitate the accentual profiles and the grouping structure of clave, cascara, or montuno. Second, and in addition, this song contains interesting melodies that do not manifest the clave pattern clearly. It sparks an interest to investigate how the clave is suggested by it.

Since Eddie Palmieri is regarded as a great salsa musician let us assume that cruzado (cross-rhythm) is unlikely to exist in this song, meaning that the musicians strictly adhere to the rhythmic “rules” of clave.\textsuperscript{56} Hence, we will assume that clave proceeds as indicated in the transcription, whether it is audible or not, and we will focus on understanding how it is incorporated and interwoven with the melody, harmony, and form. I will not systematize the results as a generalized formula or a set of rules, but rather treat them as unique to this particular song.

Since we assume that cruzado does not exist we can assume that the clave indeed governs the melody’s and accompaniment’s rhythms. The word “correlation” will be used throughout this

chapter to refer how strictly they “fit” with it. For instance, if the rhythm of a measure coincides
with all the onsets of 3-side, I will say that this rhythm and the 3-side are closely correlated. On
the other hand, if it only coincides with one onset, they are weakly correlated.

2.1 Introduction: Overlapping 3-side’s and 2-side’s Formal Function

Figure 2.1 “La Malanga,” mm. 1-8.
Adapted from The Latin Real Book, © 1997 Sher Music Co.

The introduction consists of a two-measure pattern played by the bass from mm. 1 to 4. As the bass repeats the four measures, a piano accompaniment is added, shown as mm. 5-8 in Figure 2.1. Let us look closely at the rhythm of the bass. M. 1 has only one on-beat onset, a
dotted-half note; it is in the same position as the onset on the downbeat of the 3-side of clave. In
contrast, m. 2 has no on-beat onsets; they are all syncopated and in this respect it too resembles
the second and third onsets on the 3-side. Thus we cannot yet determine the correlation between
the bass and the 2-3 clave because it seems ambiguous – the bass’s rhythm may fit with 2-3 clave
as well as 3-2 clave. The absence of motive $\alpha$, a significant marker of the 2-side, increases this ambiguity.

Thus we can ask this question—if m. 1 does not closely correlate with 2-side, then does it mean that it better correlates with the 3-side? If we look at the accentual profile and the rhythmic function of the bass line, it sufficiently matches the profile and function of 3-2 clave. I demonstrate these perspectives in Figure 2.2 below. The onsets on the downbeat of mm. 1 and 3 take stronger metric and phenomenal accent than the downbeats of mm. 2 and 4, due to the dotted half-note onset. Should we then conclude that this measure correlates with 3-side? I am reluctant to do so, preferring first to consider the phrase in its entirety.

In mm. 2 and 4, the syncopated onsets (including the beats 4& in mm. 1 and 3) provide anacrustic support to beats and 1 and 3. Notably, the onset on beat 2& matches clave’s second onset—a hint that this measure may be correlated better with the 3-side. Now the anacrustic support to the downbeats of mm. 2 and 4 also puts emphasis on those downbeats, suggesting that they, too, correlate with the 3-side. However, mm. 1 and 3 also have a strong metric accent on their downbeat. Which measures correlate best with the 3-side? I am less inclined to claim that mm. 1 and 3 match the 3-side, because they do not contain enough rhythmic events. Their sole onset, which as I will explain later below, feels more like a closure or cessation than a drive.

My only solution for now is to understand the downbeats of mm. 1 and 3 as having the same total accent as the downbeats of mm. 2 and 4. This is not unusual: we have seen in the analysis of montuno in Chapter One that both measures have the same ranking of total accent (refer to Figure 1.18). However, we can still determine which side of the bass line belongs to which side if we associate the dotted half-note onset with montuno’s downbeat in the 2-side. We can also see that in Figure 1.18, the 2-side’s downbeat has an interonset durational accent, and so
does the bass line. Similarly, in Table 1.1, I have stated that an onset with an interonset durational accent are likely to belong to the fifth onset, hence, belongs to the 2-side.

I think it is also intuitive to hear the rhythm of the bass line in mm. 2 and 4 fitting better with the 3-side. Its syncopated rhythm fits with 3-side’s character, while, on the other hand, the on-beat onset in mm. 1 and 2 fits with 2-side’s character. This is supported by the piano accompaniment, for when it arrives on the repeat in m. 5, it plays the 2-side of cascara by sounding the two quarter-note onsets of motive α in beats 1 and 2 (refer to Figure 1.14.)

![Figure 2.2 Total accent of mm. 1-2](image)

If we view this passage from an energetic perspective, we can also see that it fits with the 2-3 pattern. In clave itself, the 3-side’s rhythm exhibits a driving quality with its syncopated

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57 This passage is an example where two different layers are arrived one at a time, hence provide us with enough time to deliberate among them. Some works on groove and repetition in ethnomusicology also feature the similar process of considering the aggregate of various layers. In particular, Monson’s investigation on riffs, repetitions and grooves in African diasporic music, specifically, “Sent for You Yesterday” by Count Basie, investigates four ways in which the riffs were used—melodies, calls and responses, continuous ostinatos, and layers. The interwoven layers and textures are his sources of unraveling the underlying social contexts of African diaspora. See Ingrid Monson, “Riffs, Repetitions, and Theories of Globalization,” *Ethnomusicology* 43, no. 1 (Winter, 1999): 34-44. Guibault’s musical and intercultural analysis of zouk, another African diasporic music in the islands of Martinique and Guadeloupe, also pays attentive details to various layers that establish zouk’s rhythmic foundation, which are the confluence of several rhythms such as beguine, merengue, compass direct, compass-lypso, guagancó, and danzon. See Jocelyn Guibault, *Zouk: World Music in the West Indies*, (Chicago: Chicago University Press, 1993), 131-99.
second onset and metrically weak third onset, while 2-side’s rhythm exhibits a stasis or cessation with its metrically strong final onset, strong in a sense that it lands on a half-note beat.  

Similarly, in the introduction to “La Malanga,” the rhythmic contrast between mm. 1 and 2 is conspicuous. The lack of activity in m. 1 entails rhythmic stasis. It is contrasted with rhythmic drive in m. 2 caused by the ascending and descending line as well as by all the syncopated onsets. The contrast becomes really evident when the shorter, syncopated eighth-note onset A₃ on beat 4&, which particularly functions as an anacrusis, is negated with longer, on-beat dotted half-note onset in m. 1.

Although m. 1 is thus closely correlated to the 2-side, it has a different formal function. In Chapter One, we posited that the fifth onset of clave which falls on the 2-side operates as the ending of the group initiated by the 3-side’s first onset. Clearly this is not the case in this passage. The bass phrase does not begin in the 3-side and does not end in the 2-side. Instead, it begins in m. 1 (2-side) and ends not in m. 2 (3-side), but on the downbeat of m. 3 (2-side), terminating at the same note that it had begun, the D₃. The same note that functions as an ending to the phrase also functions as a beginning to another phrase. This kind of phrase overlap happens at the downbeat of every odd-numbered measure at what Caplin defines as elision—“a moment of time that simultaneously marks the end of one unit and the beginning of the next.”

We can further see that D₃ functions as the point of elision if we look at the bass line’s implied

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58 Perhaps stasis, rather than cessation, would be a better term to describe the contrasting rhythmic “motion” in between both sides of clave because clave does not cease. The half-note IOI in between the fifth and the first onset provide continuity or linkage in between both sides. In other words, the rhythmic motion persists. But in my hearing, the is a sense of ending or completion when fifth onset arrives. I believe it occurs due to the different rhythmic functions—one that is syncopating while other that is not. Because of this, from the energetic perspective, there is a salient difference—one that is intense while other that is idle.

harmonic progression. Since D₃ occupies almost all the beats in m. 1, the harmony stays in tonic. When the melody leaps to A₃, there is an implied change to a dominant harmony. One may still hear a tonic prolongation because the melody leaps again to D₄, but then as it leaps down to C₄, A₃ and back to D₃, the melody demonstrates an implied V-I cadential progression. The resolution to tonic occurs not in m. 2, but in m. 3, which overlaps with the beginning of the next melodic phrase.

Figure 2.3 Conflicting groups in between the melody and the clave
Adapted from The Latin Real Book, © 1997 Sher Music Co.

Figure 2.4 Metrical analysis and the ranking of the total accent of the same passage
To the extent that we hear the normative grouping of clave as 3-2, Figure 2.3 shows that we may hear a subliminal grouping dissonance between it and the 2-3 grouping structure of the bass line. It is subliminal in the sense that one could hear it clearly if the clave were explicitly audible, but since it is almost inaudible, the grouping dissonance is implied at best.

However, Figure 2.4 shows how the 2-3 grouping structure is suggested by varying accent. It is simply the same reading of the total accent of Figure 2.2, with the piano added. The D₃ on the downbeat of mm. 1, 3, 5, and 7 give an initiating accent that supports hearing the group as beginning at these moments. Note that the total accent from the combination of the bass vamp and cascara is different from that of cascara in combination with clave. Figure 1.15 asserted that both of the downbeats of the combined clave/cascara rhythm have an equally strong total accent. As shown in Figure 2.2 and Figure 2.4, however, the bass line strongly alters the total accent of mm. 1 and 2. I hear the downbeat of m. 1 as stronger than the downbeat of m. 2 because it has both onsets from the treble and the bass. In contrast, the downbeat of m. 2 has only one onset from the piano. Although the preceding anacrusis provides some extra support to this downbeat, it is still not as heavily accented as the downbeat of m. 1. This reading of the total accent proves that there is a formal orientation towards the downbeat of every odd-numbered measure as the core beginning and ending of the phrases.

This analysis of the introduction shows how the phrase structure and the accentual profile of clave suffuses each layer of the texture. The bass line correlates only weakly with clave, but the piano accompaniment provides stronger emphasis by attacking more clave onsets than the bass does. Furthermore, the presence of motive α clarifies mm. 1 and 3 as corresponding to the 2-side. The analysis also shows how the melodic contour of the bass alters the grouping structure
from the typical form. Instead of a 3-2 clave grouping, the passage is grouped in a quasi-2-3 group with the beginning and ending elided with one another.

2.2 Refrain: Subliminal Clave Flip

Section A of “La Malanga,” which acts as a refrain, spans from mm. 9 to 16, structured as a vocal phrase from mm. 9 to 11 followed by two shorter vocal fragments in mm. 13 and 15, both with short anacrases. The silences between the vocal calls are filled with syncopated horn responses. A piano montuno and tumbao repeat a two-measure pattern throughout the entire refrain.

![Figure 2.5 Section A, mm. 9-12](https://example.com/figure25.png)

*Adapted from The Latin Real Book, © 1997 Sher Music Co.*

Figure 2.5 shows the first four measures. The chord symbol on the lead sheet indicates that this passage alternates Dm7 and C7, which I have analyzed as tonic and subtonic seventh chords in the figure. While this is not a common-practice progression, we can still perceive a harmonic oscillation away from and back to D Minor tonic.

In the vocal melody, sung by male chorus, m. 9 clearly borrows the rhythm of the 2-side of montuno, as can be heard in its exact alignment with the piano accompaniment. M. 10 of the vocal melody exactly matches the 3-side of montuno, as does the piano, except for a missing
attack on beat 4&. M. 11, however, does not match with either montuno or clave. But it strongly alludes to the 2-side because it places an attack on beat 3 then rests, just as happens at and after the fifth onset of clave.

In this phrase, only the first and last onsets take strong metrical and rhythmic accent: the first onset appears on a downbeat while the final onset has an interonset durational accent. The other onsets are syncopated or do not have any durational accent, notably on the downbeat of m. 11.

Figure 2.6 Three layers of phrasing and grouping asynchrony in mm. 9-12

Thus the vocal phrase structure increases the grouping dissonance, discussed above, between montuno and the implicit clave. Figure 2.6 shows a grouping diagram that spans from mm. 9 to 12. The melodic phrase spans three measures, whereas montuno spans only two. Adding the clave, with its implied 3-2 grouping structure beneath these two layers, produces a three-layered phrasing and grouping asynchrony or displacement. The beginning of the vocal melody aligns with montuno but not clave. The reverse happens in m. 11, when the ending of the melody aligns with clave but not montuno. In m. 11, there is a sense of competition between the montuno's accent of beat 1 and the vocal melody's accent of beat 3, which coincides with 2-
side’s fifth onset. The accentual conflict heightens the tension created by the grouping dissonances.⁶⁰

What is the purpose of this asynchrony? Hearing and understanding the interaction in between the phrases may affect our perception of the clave. I think that the interaction between the melody and the montuno suggests an orientation of clave different than the one that is notated. The musical events after m. 11 support this hearing.

2.2.1 SLSL Motive; Call-and-Response Sequence

![Figure 2.7 SLSL motive in mm. 11, 13, and 15](image)

M. 11 is already striking because it is when the voices deviate from the montuno pattern to sing a short-long-short-long (henceforth SLSL) rhythm. This motive is featured several times throughout the song, so much that we can perceive it as the main motive of “La Malanga.” For instance, in mm. 13 and 15, the voices repeat it. (The lead sheet notates mm. 13 and 15 in triplets, which is different than m. 11, but I hear all three rhythms as exactly as the same SLSL motive in Palmieri’s performance.)

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⁶⁰ If these groups coincide on a single point, it will create what Arom defines as macroperiod—a “cycle obtained when periods of different lengths are superposed…the macroperiod then provides the only point at which all the periods will coincide.” In this example, however, the groups do not have a single coinciding point, and therefore, there is no single unifying period. Hence, the grouping dissonance is conspicuous. See Simha Arom, African Polyphony and Polyrhythm: Musical Structures and Methodology (New York: Cambridge University Press, 1991), 231, italics in original.
These statements alternate with the horns in mm. 12, 14, and 16. In m. 12 every horn attack is syncopated, beginning with on beat 4& from the previous measure and ascending until the vocal SLSL motive begins on the upbeat to m. 13. Phenomenally, the dynamic accent and the ascending line engender an intense energy towards the SLSL motive in m. 13. In other words, rather than hearing the horns responding to the voice’s call, the rhythms and contour suggest that the voices respond to the horns.

If we hear the horn in m. 12 initiating the call, and the vocal melody responding to it, then we can group these two measures together coextensively with the 3-2 clave. Indeed their rhythms are somewhat correlated with clave, although not precisely. As discussed above, the SLSL motive correlates to the 2-side. However, the horns in m. 12 do not correlate so tightly to the 3-side. Their E-A-D chord coincides with 3-side’s second onset, but their first, third, and fourth onsets do not coincide with the rest of clave's; nor do they resemble any of the secondary patterns discussed in Chapter One. However, we can still conceive a fair degree of correlation between them if we consider the clave rhetoric. The syncopated horn onsets in m. 12 represent a
phenomenal sensation of active and energetic motion that contrasts with the sense of cessation in m. 13. Hence, mm. 12 and 13 closely parallel 3-2 clave. Similar to mm. 12 and 13, we can also group mm. 14 and 15 with 3-2 clave.

![Figure 2.9 A subliminal flip of clave from 2-3 to 3-2 shown by the arrow](image)

Figure 2.9 shows the phrase structure of the entire refrain and its asynchrony with the expected 2-3 clave structure. There are two phrases, one in m. 9, which begins in the 2-side, and one in m. 12 which begins in the 3-side. M. 9 is perceived as the beginning of a phrase despite being correlated with the 2-side because it contains the first entrance of the vocal melody. It is also accented by the interonset durational accent on the downbeat. Meanwhile, m. 12 is also perceived as the beginning of another phrase because the horn resembles a call while the vocal melody resembles a response. In contrast to m. 9, m. 12 correlates with the 3-side.

Thus the initial 2-3 clave grouping is changed to 3-2. The first group in mm. 9-11 consists of a 2-3-2 clave sequence, while the second group in mm. 12-13 and 14-15 consists of a 3-2 clave sequence. In the first group, while mm. 9-10 is still correlated to 2-3 clave sequence, m. 11 does not function as a new beginning of another 2-3 clave sequence, but instead functions as an ending to the previous 2-3 sequence. As a result, the next measure functions as a beginning to a new 3-2 clave sequence. I like to characterize this phenomenon as a “flip” from 2-3 to 3-2 clave. Perhaps this phenomenon is better called as pseudo-flip, where the clave is flipped but
subliminally. Unlike a typical clave flip, where one can hear a new section or a new verse entering in the middle of the clave, this flip occurs as the result of the interaction among parts. It is not obviously audible if we strictly entrain or focus our hearing to the 2-3 clave sequence, but if we shift our hearing to the phrase structure of the melody, I believe that we will begin hearing the grouping structure differently than that of clave. Especially since the clave is inaudible, I think it is more natural or reasonable to orient our hearing to the melody and the accompaniment. This subliminal flip may not be exactly salient. After all, it is subliminal. However, listeners may still hear this event as a kind of tension that occurs because they are unable to hear the exact 2-3 clave grouping throughout the passage. By not yielding a clear 2-3 orientation, the tension arises, causing conflict between the 2-3 clave that is established in measures 9-10 but then made ambiguous by the ending of the melody in m. 11, and later even more conflicting by the 3-2 grouping of the call and response.

2.3 Montuno and Tumbao Replacing Clave as Groove Pattern

![Figure 2.10 Vocal solo section, rehearsal D of “La Malanga,” mm. 33-34](image)

Adapted from *The Latin Real Book*, © Sher Music Co.
Later in “La Malanga,” in the vocal solo section, rehearsal D, mm. 33-34, montuno and, to some extent, tumbao, seem to replace clave as a primary metrical reference. As during the verse, the clave is absent or cannot be heard clearly, perhaps suppressed behind the louder sounds from other instruments. At the recorded tempo, which goes as fast as half note = 110 bpm, our ear may be attuned to the montuno and tumbao as the groove or point of reference. Besides the percussion that provides a rhythmic bed in the background, listeners and musicians rely on the montuno and tumbao to keep track along the song. Perhaps it is easier to hear so because the tumbao’s rhythm moves slower than the tactus. It only has a few onsets per measure, with longer durations than the vocal melody and the montuno. While montuno’s rhythm is just about as fast as the tactus, it has a slow harmonic rhythm. The change of harmony can also be used as a point of reference in the music, or in the lead sheet as musicians perform this song.

This section consists of multiple repetitions of mm. 33 and 34. The vocal soloist sings what seems like an improvised line while the chorus responds with a fixed “La Ma-lan-ga,” accompanied by a two-measure piano montuno. This montuno is slightly different from the original one. The quarter and dotted-quarter note onsets from the original montuno are replaced with several eighth notes, shown in Figure 2.11. Not only the rhythm is slightly altered, but the harmonic rhythm is also diminuted. In the refrain, the montuno only alternates between i and VII7 chords, with one chord per measure. In contrast, in this section, the harmony moves from i, iv, V7, and iv, with two chords per measure.
There must be a reason why the rhythm and the harmony are diminished from the original pattern. In the analysis of the refrain, we have shown that the vocal melody and the horn closely correlate with the clave. However, in mm. 33 - 34, this passage provides an opportunity for the solo singer to improvise his line, and this free improvisation will make him prone to sing not exactly on the beat. His rhythm is filled with micro-rhythmic inflection. Certain onsets seem to arrive slightly early than anticipated while others seem to arrive slightly late. We can speculate that the solo singer orients his rhythms to the rhythm and the harmony of the montuno and tumbao.
Figure 2.12 Montuno and tumbao in mm. 33-34
Adapted from The Latin Real Book, © 1997 Sher Music Co.

Considering both the montuno and tumbao as shown in Figure 2.12, I propose that the
downbeat of m. 33 is stronger than the one in m. 34 for a simple reason—there is no onset in the
downbeat of the latter measure. In contrast, the montuno plays an onset on the downbeat of the
earlier measure. Does the group begin from m. 33 and end in m. 34? Not exactly. Consider four
possible options, laid out in the formal diagram in Figure 2.13.
Option D simply asserts that this passage’s grouping follows a normative 3-2 clave grouping. However, this passage’s correlation with clave seems ambiguous. The composite of montuno and tumbao does not yield any quarter-note onset that can function as motive α. Hence, I am less inclined to claim that the m. 33 closely correlates to the 2-side and the m. 34 closely correlates to the 3-side. Furthermore, as mentioned, there is no strong downbeat in the 3-side (m. 34) that helps us to punctuate the group as 3-2 clave (mm. 34-33 bis.) No metrical, durational, or harmonic accent occurs in the 3-side. Therefore, option D is unlikely.

Option C is another possibility. While we can hear the downbeat in m. 33, meaning that the beginning occurs in the 2-side, it is rather difficult to hear the ending in the 3-side, resembling 2-3 clave. Rather, I hear this passage as a continuing uninterrupted ostinato pattern. There are no rests that interrupt the melodic motion at the end of m. 34. There is no clear sensation of cadence that signals a pause at chord iv in beat 4. Instead, there is a strong iv to i plagal cadential motion from m. 34 back to tonic, which either occurs at pitch F in beat 4& or at pitch D in beat 1 of m. 33 (I shall explain these two possibilities in options A and B). Therefore,
I am less inclined to perceive an ending of the formal function in m. 34, but instead, more inclined to connect it to the next beginning as an elision, which I will explain below.

Option A and B are two better grouping diagrams, which show the beginning and ending to occur in the same moment, creating an elision. The groups are elided because there is an ongoing continuity in this ostinato pattern. As the melodic contour descends to the desired ending, another beginning emerges with the ascending line. Option B shows an option to hear the ending and the beginning at the F at beat 4& at the end of m. 34. It signals a return to D minor, leading to the repeat of m. 33. While this pitch is not the root of D minor, the return to F is sufficient enough to denote a return to tonic from the plagal cadence. If this is the case, then, the group begins on an anacrusis.

Option A is possible too. One may perceive the F strongly as an anacrusis not just to the pitch D in m. 33, but also an anacrusis to the beginning of the group as well. In this case, we perceive the beginning and ending as occurring on the downbeat of m. 33. The pitch F is merely an anticipation to the root D in the downbeat of m. 33. When the root arrives, the sense of tonic is salient, more clear than the anacrusis F in m. 34. This pitch marks a clear authentic plagal cadence, and affirm that the phrase ends here. But the ascending melodic contour also marks another beginning of a new group, therefore the ending is elided with another beginning.

I have no definite preference between options A and B, but the point is that the groups elide in this passage, and are certainly dissimilar to clave’s grouping structure. There is a sense of uninterrupted melodic line that spans from the very first onset of montuno over these two measures and back at this same pitch as the harmony returns to tonic. It is further propelled by the chorus answer in m. 34. This formal function is best described as an elided grouping structure, either on the 2-side or the 3-side, in contrast to the 2-3 or even 3-2 grouping. Even the
vocal solo suggests that the phrase structure is composed of a single elided phrase that spans from and back to the same timepoint (either the end of m. 34 or the downbeat of m. 33 shown in option A or B in Figure 2.13). Consider the vocal line shown below.

Figure 2.14 Vocal solo, “La Malanga,” *Superimposition*
Micro-rhythmic inflections are quantized to closest eighth-note beats.61

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61 This vocal solo can be heard at minute 1:32 in YouTube video uploaded by “jwrv.” See https://www.youtube.com/watch?v=OH4ZqEMBxI. A slightly different vocal solo is featured in album *The Best of Eddie Palmieri and His Friends*, Licensemusic.com, 2013, Spotify streaming service. It can also be accessed in
Figure 2.14 shows my transcription of the vocal solo based on the recording in the album *Superimposition*. I would like to focus on a correlation I perceive in between the melody and the downbeat of m. 33. Notice that each downbeat of this measure (mm. 1, 3, 5, and so on) appears near the beginning of a call from the vocal solo. By beginning of a call, I mean the first entrance of the vocal solo (e.g., syllable “eh” in m. 0, syllable “la” in mm. 2 and 4,) and I say this is a “call” because I perceive the chorus as a response.

While they do not arrive exactly on the downbeat, I can still perceive some correlation in between the vocal calls and these downbeats. The calls in mm. 3, 5, and 7 have a similar pick-up rhythm. They begin with a dotted quarter note duration (starting at beat 3&) before the downbeat, acting as a kind of pseudo-anacrusis that enhance the total accent of those downbeats.

Mm. 11 and 13 also contain interesting events that strengthen the sensation of the downbeat of m. 33. They contain a kind of climactic point of the vocal solo on the syllable “lan.” It is stressed with a stronger timbre and loudness. The duration is also long, spanning a half-note, longer than other syllables, and obviously contrasting the short utterances of the text in mm. 7-10.

We can thus discern a systematic relationship in between the solo and the meter. The pick-up gesture that emphasizes the downbeat, plus the syllable “lan” than even places greater emphasis on it, suggests that the vocal soloist is aware of the grouping structure and melodic directionality of this passage. He sings in a way that emphasizes the downbeat of m. 33. Together with montuno, this downbeat receives sufficient emphasis that initially lacks support from the 2-side clave.

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In the whole picture, the montuno, and to a lesser extent, the tumbao, produce a groove that functions as the primary temporal and metrical reference to the performers as well as the listeners. Clave does not seem to be important at all. Even if it is explicitly played, the montuno and tumbao already exert sufficient metrical influence. Certainly, we cannot deny the historical fact that montuno and tumbao’s rhythm is derived from clave, played as a secondary pattern with clave as its primary backbone. However, as mambo music evolved, montuno and tumbao sometimes took precedence over clave. Clave was demoted to something implicit or abstract, present primarily as a historical or stylistic figure.\(^{62}\)

### 2.4 Summary

The analysis has exposed several ways that the music deviates from the clave’s formal structure. Just considering montuno, we hear its two-measure ostinato corresponding as usual to the 3-side and 2-side of clave. However, when we took the melody into account, the analysis got more complex. We started to see the ambiguity in the grouping structure of clave, where some beginnings and endings do not coincide with clave’s usual 3-2 or 2-3 grouping structure. We also saw how it can subliminally flip the clave’s formal structure from 2-3 to 3-2.

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\(^{62}\) Clave is a historical figure in a sense that migrants from Cuba and Puerto Rico use clave as a marker of their origin. See footnote 11. It is a stylistic figure in a sense that it distinguishes their music from other styles in America. Wasburne states that Puerto Rican uses clave to identify their culture as salsa music incorporates rhythm and blues, pop, hip hop, and soul. See Wasburne, “Salsa in New York City,” 85. I am making an assumption that clave plays a lesser rhythmic role. Wasburne supports this notion by discussing the “innovationist” musician who breaks away from the clave. Songs such as “Cali Pachanguero” by Grupo Niche contains an ambiguous clave orientation, and yields an “evolution of clave, where partial adherence prevails over strict adherence.” See ibid., 87-90. However, in my opinion, clave is still played by a woodblock because it serves as stylistic and historical figure. Washburne quotes Singer who states that “clave is a symbolic communication of some kind of Latino identity.” As the music contains complex timbres, rhythm, and ostinatos, “they serve to reinforce the expression of Latino identity made explicit by Clave.” I think we can also interpret this statement in this way: when the music gets complex, the clave exists as a marker of the Latino identity. That being said, the role of clave is rhetorical rather than rhythmic because the complexity of musical events may violate the rhythmic principles of clave. See ibid., 291. See also Roberta Singer, “My Music is Who I Am and What I Do: Latin Popular Music and Identity in New York City,” (PhD Diss., Indiana University, 1982), 214.
Rhythmically, the clave is well represented by the melody and accompanying instruments. Attacks that coincide with clave provide us hints to the underlying clave orientation. However, when we consider the grouping structure, we will start to see how the music does not always simply support the notated clave. The melody and accompaniment’s phrase structure creates elision, flip, and even ambiguity, such that we are not sure if it still outlines the clave. This is not necessarily a problem, indeed, one could say that the beauty of this composition lies in the fluidity and ambiguity of its clave. It strikes a balance between strict and loose rhythmic accentual profiles, and between the different clave orientation. The rich accompanying figures and the melody may alter their orientation. We see how the melody in the first verse is expanded beyond two measures, deviating from the two-measure grouping of clave, but also in the solo section it supports the orientation to the downbeat of the 2-side. The interaction between the enriched timbral palette, the polyphonic rhythmic texture, and the varying melody creates a music that both dominates and is dominated by clave.
Chapter 3: Song Analysis – “Bilongo” by Tito Rodríguez

In this chapter, I will analyze the introduction, the first verse, and the second verse of “Bilongo” as performed by Tito Rodríguez, another prominent figure in the salsa scene in New York City during the Palladium era. Like “La Malanga,” this song is a mambo that contains intricate melodic and accompaniment rhythm. As I apply the same analytical method to this song, comparing its accentual profile and rhythms to clave, cascara, and montuno, I will show that the clave orientation becomes ambiguous. Furthermore, this song involves a notated clave flip, but the music does not strictly adhere to it. Rather, the melody and accompanying figures override the notated clave, sometimes even juxtaposing two sides at the same time. Following that, readers will see a broader pattern of clave, demonstrated in Table 3.1 and Table 3.2, that seems directed more towards a particular orientation than the other. This phenomenon is prominent in the second verse, where the clave appears to veer towards 2-3, even though the lead sheet indicates it as 3-2.

The origin of this song is unclear, but the lead sheet indicates that the original composer was Guillermo Rodríguez Fiffè. According to a blog entry by Salsa Bear,

But I’m amazed that a song as distinctive as Mandinga is so hard to figure out. It was apparently named by a Cuban named Guillermo Rodríguez Fiffè…The song apparently goes by three different names – Mandinga, Bilongo and La Negra Tomasa.

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64 The Latin Real Book, 85-88.
Several musicians have performed and recorded this song, such as Eddie Palmieri, the Fania All Stars, Soneros de Verdad, and many more. This section will analyze the version recorded by Tito Rodríguez on the album *Estoy Como Nunca*. The musical examples are based on a lead sheet available in *The Latin Real Book*, except that the chords are indicated with roman numerals rather than with the alphabetic Jazz system, in order to express their harmonic functions. Some details are omitted, such as the added sixth and ninth above tonic in m. 1, where the original lead sheet indicates it as Fmi\(^6\)\(^9\). Here, it is simply written as i to reflect its function as tonic.

3.1 Introduction: Ambiguity of the 2-side

Figure 3.1 shows the introduction, featuring a melodic line played by the trumpet. There are two musical materials—a basic idea in m. 1 and a slight modification of the same idea in m. 2. These two ideas are repeated in mm. 3-4, 5-6, and 9-10 by the saxophones and trombones. Let us look closely at mm. 1 and 2. The first idea begins on beat 2\& while the second idea begins on beat 1\&. The clave is not audible, but the lead sheet indicates that it is 3-2. That means that the first idea should correlate with the 3-side and the second idea should correlate with the 2-side.

We can see that m. 1 “fits” with clave when we look at the tumbao and wind instruments. The tumbao itself plays a 3-side’s first, second, and third onset. Also, the attack of the F pentachord in the saxophone and trombones coincides with the first onset of the tumbao, thickening the timbral density of the downbeat and increasing its total accent. Lastly, the trumpet’s first onset occurs in beat 2&, which coincides with clave’s second onset.

However, m. 2 does not seem to fit with the 2-side. The tumbao repeats a 3-side rhythm. It thwarts the expectation to hear a 2-side rhythm in this measure. We may be able to find a hint of the clave’s fifth onset in the melody. The apex of the melodic contour, on E₅, marks a registral accent that coincides with clave’s fifth onset. However, it lacks durational accent because the
next onset is only an eighth note later. As we have analyzed in Chapter One and Two, durational accent is a key signifier of the second onset of motive α. What we have here instead is an abrupt ending of the melodic line at the offbeat, beat 3&. The last pitch, D♮5, is neither syncopated nor accented, if we hear it as an anacrusis to beat 4. Even if we try to hear it instead as a cessation, as we hear the clave’s fifth onset, it does not have the same durational accent as the fifth onset does. The IOI between the D♮5 and the onset of the V7 chord that follows in the winds is a dotted quarter note, slightly shorter than the half-note IOI from the clave’s fifth onset to its next first onset. Hence, it may not suggest the same sensation of interonset durational accent as clave has at that moment. If one can disregard the slight difference between the dotted quarter note and half note duration, then the IOI in between the D♮5 and the downbeat of m. 3 (the V7 chord) can be perceived as similar to the IOI in between clave’s fifth and first onset, and so the correlation to the 2-side is strong. However, if one cannot, then the correlation to the 2-side is loose. Since it is hard to hear whether this rhythm fits better with the 2-side or the 3-side, it is perhaps best to describe it as ambiguous.

Mm. 6 and 8 likewise only loosely correlate to the 2-side, if at all. In m. 6, the melodic line ascends continuously from C5 to B♭5 and abruptly ends on A♭5 in m. 7, only to continue in offbeat staccato down to m. 8. Although it begins with the fourth onset of clave, the line continuously ascends, showing no accent to mark the fifth onset. On the other hand, the offbeat staccato in m. 7 shows close correlation to the 3-side because the onsets are syncopated. This rhythmic character continues in m. 8 with the syncopated rhythm in the trumpet, saxophone, and trombone. It is obviously not the nature of the 2-side.
It seems that the composer places greater emphasis on 3-side and less on the 2-side. This passage’s rhythm clearly shows closer parallelism with the 3-side. Even the harmony demonstrates the same parallelism. The harmonic rhythm changes at every two measures: tonic in m. 1, dominant in m. 3, and tonic again in m. 5. It strengthens the sensation of the downbeat of the 3-side and so reinforces it as the beginning of this two-measure group.

In contrast to the introduction of “La Malanga,” where the melodic phrasing is elided, the introduction of “Bilongo” clearly proceeds in two-measure phrases, at least in the first six measures. While the fragmented melodic motive clearly articulates each phrase into a 3-side and 2-side, only the 3-side is made clear; the 2-side is ambiguous. The next section reverses the situation by giving the 2-side some emphasis, as we shall discuss below.

3.2 First Verse: Ambiguity of the 3-side
The first verse enters in m. 12 in the middle of the clave, thus actually flipping the orientation of clave from 3-2 to 2-3. As in the analysis of the introduction above, here I am interested in seeing how well the musical materials correlate with the notated 2-3 clave. It turns out that the musical materials do fit with the 2-side, but not so much with the 3-side.

In m.12, the vocal solo’s rhythm demonstrates a close correlation with 2-side. The quarter-note onset on beat 3 is aligned with clave’s fifth onset. Furthermore, the first quarter note on the downbeat and the succeeding two eighth-notes mark a kind of on-beat regularity like that of motive α, overriding any perception of syncopation or offbeatness that would correlate more closely with the 3-side. One may argue that the downbeat quarter-note and its eighth-note anacrusis strengthen the sensation of 3-side’s downbeat. However, in the recording, I do not hear a strong sense of anacrustic support from the syllable “es.” Neither syllable “es” nor “toy” is accented. Their pitches only arpeggiate a third within the same tonic chord, and bring no change of harmony. Therefore, I do not hear enough stress to convince me that the downbeat is strong and belongs to the 3-side.
However, while m. 12 correlates fairly well to the 2-side, m. 13 correlates less well to the 3-side than we might have expected. Like the eighth-note just before m. 12, the eight-note preceding m. 13, on the syllable “rao,” does not offer much anacrusic support to the succeeding downbeat. Even more strikingly, the response from the trumpets strongly suggests the 2-side, since it is taken directly from the m. 2 of the introduction. Perhaps to rectify this rhythmic inconsistency, the horns play syncopated onsets in m. 15 which clearly correlates to the 3-side. Still, mm. 12 and 14 correlate more closely with the 2-side, as do mm. 16 and 18, leaving only mm. 15 and 19 with a clear correlation to the 3-side.

Table 3.1 summarizes this analysis in a table, differentiating between the clave as it is notated on the lead sheet and the implied clave, which is represented by the melody’s rhythm based on the analysis. Unlike the introduction, where the 2-side was ambiguous, here the 2-side receives more emphasis. The shaded box indicates the expanded region of the 2-side in the implied clave. The two measures that demonstrate this mismatch, mm. 13 and 17, are highlighted in bold.

Considering the strict rules of clave in salsa music, this result is somewhat surprising. The rhythms of mm. 13 and 17 hardly fit with the expected clave at all. We may have to conclude that there is some inclination towards cross-rhythm or cruzado, a violation of clave. However, even if it indeed exists, it occurs on such a small scale such that it is insignificant to the broader picture of the 2-3 clave. Furthermore, we did not establish a concrete definition of
cruzado. Therefore, we should not speculate further about these two measures' violation of the clave. However, what we can conclude so far is that there is a motivic displacement of clave such that it deviates from the measure-per-measure 2-3 clave, perhaps intended to make the song more interesting.

3.3 Second Verse: Ambiguity of Both Sides

Figure 3.3 Second verse, mm. 24-31
Adapted from The Latin Real Book, © 1997 Sher Music Co.
We have seen that in both of the introduction and the first verse, clave seems to be ambiguous. This state of affairs persists into the second verse, where there are more ambiguities, this time on both the 2-side and 3-side. This verse consists of two repeated phrases, one in mm. 24-27, and one in mm. 28-31. The lead sheet indicates that the clave is flipped from 2-3 to 3-2, notated above m. 25. However, the vocal melody enters in m. 24, not 25. This line almost occupies the entire measure such that it cannot be simply perceived as a pickup to m. 25. Why does the lead sheet indicate the beginning in m. 25 instead? It is possibly influenced by the instrumental break in m. 24, marking a gap in between the preceding and succeeding verse. If we listen carefully, after the second ending of the first verse, the main idea from mm. 1-2 arrives right in m. 19 (the idea from m. 1 is shown in the second ending, refer to Figure 3.2.) The clave flip should have been notated as beginning in right here instead of in the second verse. Perhaps since the musical passage that connects the first and second verse is transitional, the lead sheet does not indicate the flip in this passage. My point is that the clave flip from 2-3 back to 3-2 already occurs earlier than notated.

Perhaps another reason that the flip is not indicated in m. 24 is because the clave in this measure is ambiguous. While the notated clave is 2-side, the vocal’s melody does not seem to demonstrate a close correlation to it. Rather than an attack on the downbeat, which would be a clear marker for the 3-side, it begins with a syncopated onset. It does match the first two onsets of montuno in the 3-side, but the S-L-S (short-long-short) rhythm that begins on beat 3 is taken from cascara’s 2-side. Thus, it mixes rhythms of the 3-side and the 2-side in a single measure.

Even m. 25 does not correlate closely to the 3-side. The vocal melody provides an interonset durational accent on beat 3, which matches the 2-side’s fifth onset. The accent is
reinforced by the contour accent in the saxophones as they leap from C₄ to G₄ from beat 2& to beat 3.⁶⁹

Furthermore, the relationship between mm. 25 and 26 suggests a 2-3 clave orientation instead of the notated 3-2. The saxophones' syncopated E₃ on beat 4& provides an anacrustic support towards m. 26’s downbeat. Just like cascara and montuno, this anacrusis suggests that clave’s first onset should ensue, and therefore, as a whole, suggests that next measure should belong to the 3-side. However, even m. 26’s correlation to the 3-side is weak. The E₃, which is a leading tone to F, further intensifies the urge to resolve back to the tonic, suggesting that a beginning should occur on the next downbeat. However, the harmony stays in the dominant. It weakens the sense of the downbeat in m. 26, making this measure’s correlation to the 3-side ambiguous.

What we have seen so far is best described as a rhythmic mismatch, where the rhythm deviates from the expected clave. A similar mismatch also occurs in m. 26, which is notated to correlate with 2-side. If we look at the vocal melody, the rhythm shows close correlation to it. The interonset durational accent on beat 3 matches the 2-side’s fifth onset. However, the brass plays syncopated onsets that resemble the 3-side’s rhythm, perhaps answering m. 25’s 2-sidedness. But the sense of downbeat is weakened by the prolongation of dominant from m. 25, and that weakens the 3-side’s accentual profile. Thus, the juxtaposition of the melody and the accompaniment mixes the rhythms of the 2-side and the 3-side, without either being more

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⁶⁹ Readers may find this contradictory because earlier in m. 2, I have stated that such leap follows by an abrupt off-beat onset does not necessarily denote a correlation with 2-side’s fifth onset. However, here, there is a durational accent in the vocal melody. What the registral accent does is putting an emphasis on beat 3, the 2-side’s fifth onset, supporting the durational accent.
convincing than the other. This mismatch is like that of m. 25, but it certainly raises the question
of the actual underlying clave rhythm.

This matter gets more complex when we consider the harmony of the brasses. The 2-side
is characteristically associated with closure, which in this case might be manifested as a
resolution to tonic. But the E₅ in m. 25 does not resolve immediately. The harmony stays in the
dominant until m. 27, where it resolves to tonic. Thus closure is only attained then. The harmonic
character of m. 26 is one of continuation, which is not the character of the 2-side. Since harmonic
closure is not attained until m. 27, we may instead be inclined to correlate that measure to the 2-
side. In support of this hearing, the saxophones repeat their rhythm from m. 25 which, as
discussed above, correlates better with the 2-side than with the 3-side.

However, one may argue that m. 27’s correlation to the 3-side is adequately manifested
by the change of harmony. The arrival of tonic provides an accent to the downbeat.70 Similarly,
the change of harmony in mm. 29 and 31, and to some extent, the arrival of the first harmony in
m. 25, punctuate the same accent as well. If one agrees with this observation, then mm. 25, 27,
29, and 31 correlate with 3-side as notated.

In my opinion, while the change of harmony provides an accent to the downbeat, the
remaining rhythm does not manifest the notated 3-side. I am not convinced enough that the
arrival of new harmony in the downbeat is a strong indicator of clave’s first onset. If we want to

70 Benjamin purports that an attack of new harmony can provide an accent to that time point. See William Benjamin,
Berry argues that, as often claimed—that I (tonic) carries some accent, “must not be confused with its variable
metric import.” I think what he means is that I often arrives at cadence point that coincides with a strong metrical
position, and it is those positions that provide accent to the cadence, not necessarily the cadence itself. See Berry,
“Rhythmic and Metric Articulation in Music,” 8.
claim that these measures correlate with the 3-side, at least the other 3-side onsets or the similar 3-side’s rhythm from cascara and montuno should exist as well.

<table>
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<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
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Table 3.2 Notated and implied clave in second verse, mm. 24-31

Similar mismatch or mixed clave sides occur throughout the rest of the verse, as summarized in Table 3.2. The bold highlighting indicates measures when the notated and implied clave do not match. The vocal melody’s and the accompanying instruments’ rhythm do not seem to match the notated clave. At times, they clearly show an opposite side, and at others, they show a mix of both sides. I think the entire verse leans more towards 2-3 than the notated 3-2. Notice that the ending of the verse, m. 31, correlates with the 3-side, because the saxophone line is replaced with a durational accent on beat 2&, which coincides with 3-side’s second onset.

Furthermore, the harmony does not end with a tonic F minor, but with an E♭ Major 9th, which serves as a dominant towards the A♭ Major tonic in m. 32 that opens the third verse. This measure negates the sense of closure that is previously felt in m. 27. Thus, while the first phrase (mm. 24-27) ends with the 2-side in the implied clave, this is “corrected” in the reiteration of this phrase (mm. 28-31).

3.4 Summary

In summary, the introduction, first verse, and the second verse of “Bilongo” demonstrate ambiguous clave orientation. In the introduction, the notated clave orientation is 3-2. However, only the 3-side is clear, while the 2-side is ambiguous. The 3-side has a clear rhythmic and
accentual profile, manifested by the strong downbeat—which marks the first onset, and the melodic idea that begins on beat 2&—which marks the second onset. The 2-side is however ambiguous—the melodic idea does not manifest the fourth and fifth onset clearly. In the first verse, the clave is flipped from 3-2 to 2-3. In contrast from the introduction, the 3-side becomes ambiguous. While the notated clave is 3-side, the music brings the same melodic idea from the introduction, which arrived on the 2-side. Here, the arrival of this idea in the 3-side presents a conflict—it is unclear if this idea should better fit with the 3-side or 2-side. It disputes the orientation of the clave. In the second verse, the clave is flipped back from 2-3 to 3-2. Both of the 3-side and 2-side are ambiguous. At times, the rhythmic and accentual profiles manifest different sides that what is notated. At other times, they demonstrate both sides, one by the melody and other by the accompanying figure. The juxtaposition between them presents a conflict against the notated clave, which should constantly alternate between both sides.

In contrast to “La Malanga,” “Bilongo” demonstrates a different clave grouping. Whereas the groups in “La Malanga” often overlapped with each other, the grouping in “Bilongo” is firmly fixed in every measures without elision with another group. The issue that we have encountered here is rather different—the rhythmic mismatches or conflict against the notated clave. At times, it is hard to perceive the clave, given that the melody’s rhythm does not align clearly to either side. Perhaps one of the reasons that this ambiguity arises is that there is no rhythmic support from other paradigmatic rhythms such as montuno and cascara. Unlike “La Malanga,” where the interaction in between montuno and tumbao provides a rhythmic support or hint to the underlying clave, in “Bilongo,” the montuno does not exist in the recording, despite being notated in the lead sheet. Furthermore, the tumbao does not offer a helpful clue since it consistently plays a 3-side rhythm. Therefore, we depend on the rhythm of the melody and other
accompanying figures to determine how the musical materials adhere or comply to strict clave rhythm. Without the lead sheet in hand, a listener may have difficulties in determining the clave.

One aspect of “Bilongo” that I think still makes the song “in-clave” is the consistent alternation of the two rhythmic characteristics that differentiate the 3-side and the 2-side. As described by Washburne, an “in-clave” song alternates in between syncopated measures and on-beat measures. Here, we did not see an exact measure-per-measure difference, but we saw the rhythmic difference juxtaposed in a span of one beat or two. In other words, we saw rhythmic motives that juxtapose the quality of the 2-side and the 3-side within the same measure. For instance, the downbeat of m. 13 (Figure 3.2) receives anacrustic support, emphasizing the 3-side’s first onset, but then the horns play the second motive (from m. 2) that has a registral accent on beat 3, which emphasizes the 2-side’s fifth onset. In another instance, in m. 26, the brass plays syncopated onsets on beat 1& and 2&, obviously evoking the 3-side’s character, but the voice onset on beat 3 marks the 2-side’s character. What we see in both cases is a kind of alternation in between 3-side and 2-side that does not necessarily fit within one exact measure. We have seen this in “La Malanga” too, where the clave is elided from one end to another beginning, stretched beyond the normative two-measure grouping. My hypothesis is that a decent salsa song that adheres to clave must juxtapose the difference between both sides of clave in their rhythms or motives, even though they are not written in two different measures, perhaps deviating from the strict measure-per-measure clave. This opinion may be contested but it can explain the deviation that we have encountered in the analyses.

According to my analysis, then, this song departs from the strict two-measure grouping of alternating clave sides. Without the supporting cascara and montuno, the melody and the accompaniment seem to veer away from the rhythm and rhetoric that we have discussed in Chapter One. However, the deviation is only minimal and subliminal, not extreme. For instance, in the verse, only mm. 13 and 17 deviate from the expected 3-side by playing a 2-side’s motive from m. 2. It is kept minimal to add some excitement and irregularity to the music, making the song more appealing and exciting in a way that is perhaps not typical in other salsa songs.
Chapter 4: Conclusion

In Chapter One, I analyzed clave from a metric perspective, measuring certain prominent beats and onsets based on its accentual strength, rhythmic function, and phenomenal implication. One clear outcome of that analysis is that this pattern is normatively grouped as 3-2, which means that it begins in the 3-side and ends in the 2-side. This characterization is in accordance with Lerdahl and Jackendoff’s MPR3, which prefers a strong beat to be punctuated by an event rather than a rest. With this conjecture, we grouped the clave as 3-2 because the 3-side has an onset in the downbeat while the 2-side has none. However, a conflict arises when the musical structure punctuates the beginning in the 2-side. We have seen that the melody in “El Manicero” is grouped in 2-3 clave, despite having an obvious woodblock playing the clave, prompting a 3-2 hearing. Such conflict, while subliminal, raises questions about whether the clave truly serves as the primary marker, and whether the musicians are comfortable with the empty downbeat in the 2-side.

Also in the same chapter, I explored two common secondary rhythmic patterns—cascara and montuno. These patterns typically occur together with clave or as a replacement of clave when it is absent. We have seen that the accentual profiles of these secondary patterns differ slightly from clave, where both sides contain strong accent on the downbeat (unlike clave, where the 2-side has a weaker downbeat than the 3-side.) Even so, the presence of motive \( \alpha \) provides a crucial distinction in between the 3-side and the 2-side. From here on, this motive serves as a key marker to determine the 2-sideness of a rhythm.

I also differentiated between the rhythmic function of the 3-side and the 2-side of clave. The 3-side contains syncopated onsets, while the 2-side contains on-beat onsets. While clave’s 3-side alone only has one off-beat onset, montuno’s and cascara’s 3-side contain more off-beat
onsets than their 2-side. Hence, we can use these two rhythmic qualities to determine the orientation of clave, especially when motive $\alpha$ is absent. For instance, the tumbao pattern in “Ran Kan Kan” is modified from the typical syncopated one-measure pattern to a two-measure pattern with syncopations in one measure and on-beat onsets on the other. While it does not have motive $\alpha$, we can still discern the location of the 2-side.

We also understand clave as not just an ostinato figure, but as an influence on the melody and accompaniment. Just like clave, cascara, and montuno, which present a binary opposition between the 3-side and the 2-side, the same character occurs in the melody and other musical figures as well. However, a melodic phrase may not necessarily be segmented into two opposing groups. In “Yay Boy,” we have seen how the melody contains two different ideas—one idea in m. 1 that fits with 3-side, and another idea in m. 2 that fits with 2-side, even though motive $\alpha$ is displaced by a beat. However, in the analysis of “La Malanga” in Chapter Two, the musical grouping structure is different. It may span more than two measures, or may be elided with the beginning of the subsequent group. We have seen in the solo section of “La Malanga” that the melodic phrase is elided as the passage is repeated. We also have seen in the first verse that the melody shifts the grouping segments to an extent that it changes the clave grouping from 2-3 and 3-2. These observations call into question whether the clave is still perceived as a two-measure group of opposing sides, or whether it is transfigured into a unified phrase grouping together with the melody and other musical figures. It also modifies the formal function of clave, where the beginning occurs in the 2-side instead of in the 3-side.

There are cases where the rhythm does not always outline a consistent arrangement of syncopation and on-beatness that is congruent with clave. For instance, in the analysis of “Bilongo” in Chapter Three, the rhythms of 2-sides and 3-sides are often mismatched. At times,
the rhythm of 3-side occurs in the 2-side, and vice versa, and sometimes, both of them appear simultaneously. As a result, the clave becomes ambiguous, and the legitimacy of the notated clave is put into question. Nevertheless, I do not claim that this song demonstrates cruzado because this song still adheres to clave. Rather I think that the clave orientation may be different from the normative one. In “Bilongo” certain sides seem to be prolonged beyond one measure.

With this array of analyses, we may now ask a larger, perhaps polemic, question—what is actually the role of clave in salsa music? It is strictly rhythmic or is it also rhetorical? I think that it is both, and salsa musicians juggle strict and loose correlations with clave; they understand clave as an inherent pattern and apply it according to their preferred compositional style. Our analyses only involved mambo, but I speculate that in other genres, the clave may be manifested in different ways. At least, in our examples, with the montuno, cascara, and tumbao adding richness and complexity to salsa music, there is less dependency on the clave. There is enough groove already that performers and musicians may not necessarily need to hear clave to keep in tempo. Perhaps clave is sufficient to exist “in principle,” meaning that fundamentally, the clave is notated in the lead sheet, but it may not be necessary for a song to outline it consistently from one end to another. Only a hint of it may be sufficient to support a larger network of clave rhythm that is interwoven with various layers of the music.

The methods and findings of thesis may inform future projects that aim to explore the stylistic difference in other genres of salsa music. Cascara, montuno, and tumbao patterns that we have discussed may look different in other types of music. They also may incorporate other kinds of patterns too, and clave might look different than what we have theoretically established in this thesis. However, we can still apply the same theoretical method, to measure the relationship in between clave and the meter. One who is ambitious could also expand this idea to
other Afro-Cuban and Afro-Brazilian music as well, to unravel the richness of their musical fabric and to understand the disposition of clave within them.
Discography


Cited YouTube Videos

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