

THE MUSICAL LANGUAGE OF ALBERTO GINASTERA'S *PANAMBÍ* AND
THE INFLUENCE OF CLAUDE DEBUSSY'S *LA MER* AND
IGOR STRAVINSKY'S *LE SACRE DU PRINTEMPS*

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Alberto Ginastera completed his ballet *Panambí* in 1937. The ballet was arranged as a symphonic suite, and was performed the same year at the Teatro Colon in Buenos Aires, conducted by Juan José Castro. *Panambí* marked the beginning of Alberto Ginastera's long and successful career as an Argentine composer. Chapter I of this document provides a brief introduction into the history behind Alberto Ginastera's *Panambí* suite, and includes a review of the research that is exclusively devoted to the suite, as well as documents that do not provide direct analyses of *Panambí*, but contain information that aid in a better understanding of the suite's composition. Chapter II includes analyses of the suite that illustrate important elements that contribute to the structure and sound of the *Panambí* suite. These components include Ginastera's construction of the *La Noche* theme found in the first movement and its use as a master set, his use of diatonic collections and pitch centricity, the importance of unordered pitch class intervals IC1 and IC6, his use of aggregate completion as a compositional method, and his use of local motives over larger spans of temporal space. Chapter III explores the possibility that many of these compositional methods are due to the influence of Claude Debussy's *La Mer* and Igor Stravinsky's *Le Sacre du Printemps*. The "guitar chord" may also be the result of the influence of Debussy's *La Mer*.

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CHAPTER I

INTRODUCTION

Alberto Ginastera first started composing *Panambí* in 1934 and completed it in 1937, when he was twenty years old, while attending *Conservatorio Nacional de Música y Artes Escénico* in Buenos Aires where he studied composition under José André and Carlos López Buchardo. It was originally composed as a complete ballet subtitled “a choreographic legend in one act.”¹ This work was first discovered by conductor and composer Juan José Castro who came across the *Panambí* ballet Op. 1 while searching through the archives of the *Teatro Colón* of Buenos Aires for performance material. Castro was impressed by the ballet and contacted the young Ginastera. Months went by until they finally met, and Castro asked Ginastera if he had any orchestral works that were written and ready to perform, but Ginastera did not. Castro then suggested that Ginastera use selected excerpts of the *Panambí* ballet and arrange them as an orchestral suite. Juan José Castro directed the first performance of the *Panambí* suite Op. 1a at the *Teatro Colón* in Buenos Aires on November 27, 1937. The complete ballet was performed at the same theater on July 12, 1940, conducted by Castro, with dance choreography provided by Margarita Wallman.² The suite was first performed in the United States in Washington D. C., February 1946 by the NBC Symphony Orchestra, conducted by Erich Kleiber.³

This thesis focuses on this first known orchestral work written by Alberto Ginastera. My analyses show that set-class (01235678T), which is presented at the beginning of the first movement of *Panambí*, suite Op. 1a, and its subsets (02479), (0158), (0257), (0258) and (0358),

¹ David Edward Wallace, “Alberto Ginastera: An Analysis of his Style and Techniques of Composition” (PhD diss., Northwestern University, 1964), 39.

² *Ibid.*, 39.

³ *Ibid.*, 40.

are used to construct harmonies, both vertical and arpeggiated, and motives throughout the work. Permutations of these sets, such as transposition, inversion, and composing out these sets over larger expansions of temporal space, are demonstrated in my analyses. This thesis also exhibits the compositional use of set-class (027), which is the complement set of set-class (01235678T). The analysis results show that Ginastera's use of these sets, and other compositional techniques employed in *Panambí*, have been influenced by Debussy's *La Mer* and Stravinsky's *Le Sacre du Printemps*. In addition, this thesis investigates the "guitar chord" harmony, set class (02479), found within the *Panambí* suite.

Background

The *Panambí* ballet is based on a romanticized myth of the Guaraní people.⁴ The action of the ballet takes place around the Paraná River in northern Argentina and southern Paraguay. The story that drives the action of the ballet was written by Felix L. Errico,⁵ and a synopsis of the inspirational legend is included at the beginning of the score of the suite.

According to the legend, Panambí was the beautiful daughter of the chieftain of an Indian tribe established on the banks of the Parana River. She was betrothed to Guirahú, the most valiant warrior of the tribe, who, shortly before the wedding day is kidnapped by the maiden spirits of the river. The tribe sorcerer, who is also in love with Panambí but has been rejected by her, takes advantage of the situation to try and take revenge upon her, and consequently claims that the almighty spirits decree that Panambí should descend into the river in quest of her lover. The maiden is ready to carry out the supposedly divine orders when Tupá, the good god, appears from above and stops her, whereupon he punishes the sorcerer by turning him into a strange black bird and restores Guirahú, who rises from the waters of the river to throw himself into the arms of his loved one.⁶

⁴ The Guaraní are native South American peoples who reside in Paraguay and parts of Argentina, Brazil, Uruguay and Bolivia.

⁵ Deborah Schwartz-Kates, *Alberto Ginastera: A Research and Information Guide* (New York: Routledge, 2010), 44.

⁶ Alberto Ginastera, *Suite del ballet Panambí* (Buenos Aires: Barry Editorial N.D.), 1.

The titles of the suite movements describe the action of the ballet: “Moonlight on the Paraná,” “Invocation of the Powerful Spirits,” “Lament of the Maidens,” “Indian Festival,” “Rondo of the Maidens,” and “Dance of the Warriors.” The suite is scored for orchestra and includes a large percussion section, which Ginastera features frequently within the suite. The young Ginastera showed an early talent for orchestration in *Panambí*.

Related Research: Scholarship Exclusively Devoted to the *Panambí* Suite

I discovered three pieces of academic writing that include analyses of the *Panambí* suite Op. 1a. The earliest written is David Wallace’s dissertation titled “Alberto Ginastera: An Analysis of His Style and Techniques of Composition” written in 1964.⁷ In 2000, Luis Fernando Jimenez wrote his dissertation “An Analysis of Three Representative Works of Alberto Ginastera: *Panambí* Op. 1a, *Variaciones Concertantes* Op. 23, *Glosses Sobre Temes du Pau Casals* Op. 48.”⁸ The most recent analyses offered on the *Panambí* suite are included in an article written in 2001 by Dante Grela titled “Tres expresiones de la creación musical latinoamericana en la primera mitad del siglo XX.”⁹

David Wallace’s dissertation addresses much of Ginastera’s oeuvre by providing a biographical history and form analyses. He also points out *Gaúcho* influence displayed in Ginastera’s music and illustrates characteristics of specific musical gestures. Thirteen pages are dedicated to the *Panambí* suite Op. 1a, in which Wallace details the history of the work, provides

⁷ Wallace, “Alberto Ginastera.”

⁸ Luis Fernando Jimenez, “An Analysis of Three Representative Works of Alberto Ginastera: *Panambí* Op. 1a, *Variaciones Concertantes* Op. 23, *Glosses Sobre Temes du Pau Casals* Op. 48” (PhD diss., Peabody Conservatory of Music, 2000).

⁹ Dante Grela, “Tres expresiones de la creación musical latinoamericana en la primera mitad del siglo XX,” *Musica e Investigación*, no. 4 (2000-2001): 75-110.

a formal analysis of five of the six movements of the suite, and describes musical ideas that define specific sections of each movement. He omits the fourth movement, *Fiesta indígena*, in his analyses.¹⁰ Although Wallace's discourse on *Panambí* is brief, he does provide useful biographical information about the composer and a detailed form analysis of the composition's movements.

Luis Fernando Jimenez's dissertation devotes nine pages to Ginastera's *Panambí*, in which the author provides a brief history of the suite and describes the musical details of each movement chronologically as they happen in time. In addition, Jimenez illustrates what he believes to be examples of *malambo* metrical treatment found within specific movements, describes much of the harmonic texture of the *Panambí* suite as polytonal, and connects the driving rhythms of the suite to stylistic features of primitivism.¹¹

Dante Grela's article analyzes *Uirapurú*, written by Heitor Villa Lobos, *Sinfonia India* composed by Carlos Chavez, and *Panambí* by Ginastera. Eight pages are devoted to all six movements of the *Panambí* suite, in which Grela uses his own specialized terminology to describe what he feels is occurring within the music. Grela defines harmonic and motivic gestures within the first movement as sound objects that are experienced on foreground and background levels by the listener. These sound objects are categorized as either continuous or discontinuous. Continuous sound objects are those motivic gestures that are repeated throughout movements of the suite, whereas discontinuous sound objects appear once and never return. Grela further conceptualizes these sound objects as ornamental, which are gestures that are decorative, and non-ornamental gestures, which are important figures that define the structure of

¹⁰ Wallace, "Alberto Ginastera."

¹¹ Jimenez, "An Analysis of three representative works of Alberto Ginastera."

the work. Other aspects of the six movements of the *Panambí* suite that Grela addresses in his analyses are formal unity that is created by Ginastera's use of macro and micro structures, as well as larger symmetrical structures found within the suite.¹²

Related Research:

Scholarship Indirectly Related to the *Panambí* Suite.

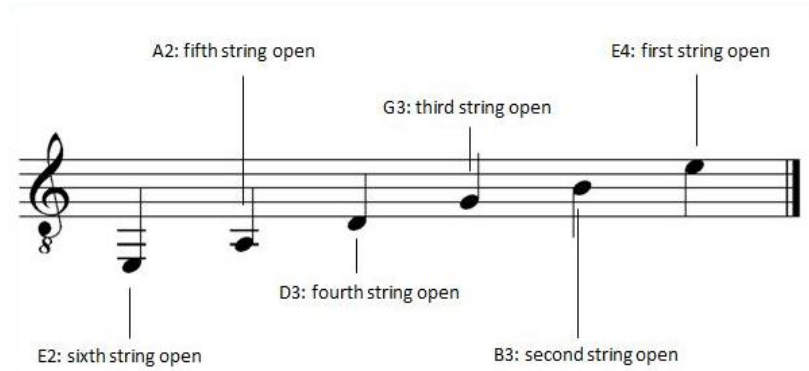
I discovered scholarship that is useful in better understanding the *Panambí* suite's musical language even though these studies do not provide in-depth analysis of the suite itself. The most common recurring topics found in these documents when discussing Ginastera's music are as follows:

1. The appearance of the "guitar chord" harmony found in Ginastera's music that serves as an archetype of the *Gaúcho* tradition.
2. The influence of *criollo* folk music, specifically *Gaúcho* genres and rhythms, such as the *malambo* and its variants.

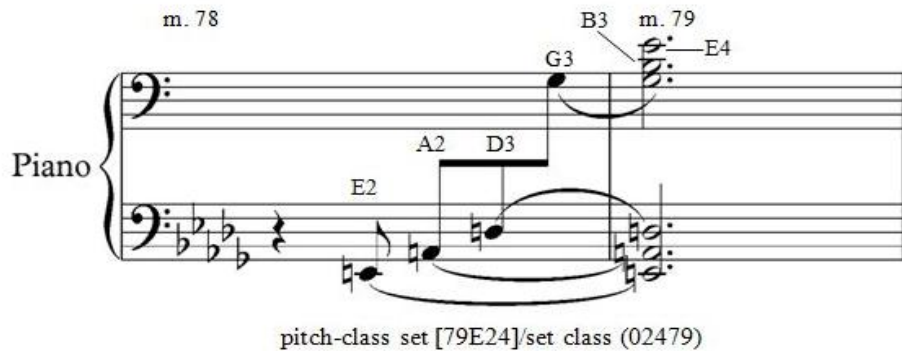
Malena Kuss discusses the "guitar chord" in her article "Type, Derivation, and Use of Folk Idioms in Ginastera's 'Don Rodrigo' (1964)." The "guitar chord" refers to a gesture that emulates the open strings of the guitar in standard tuning, and is found in many of Ginastera's works. Often these gestures are presented as an arpeggio, as if a guitar player was plucking the open strings of the instrument individually and in order, starting with the sixth string (lowest-sounding string) and moving down to the first string (highest-sounding string) as shown in Example 1 and Example 2.

¹² Grela, "Tres expresiones de la creación musical latinoamericana en la primera mitad del siglo XX."

Example 1: Standard guitar tuning.



Example 2: Ascending arpeggio of the “guitar chord” found in *Danza del Viejo Boyero* from *Danzas Argentinas*, Op.2 mm. 78-79.



Malena Kuss illustrates how Ginastera used the “guitar chord” as a source to generate twelve-tone rows that are present in his opera *Don Rodrigo*. Kuss begins her article by pointing out Ginastera’s earlier uses of the “guitar chord” and identifies this musical gesture as a native idiom. The author then details how Ginastera used specific aspects of the guitar’s tuning to form an anhemitonic Z-cell (E, A, B, E). According to Kuss, Ginastera converted this Z-cell into a

hemitonic type (E natural, A, B flat, E flat/ set class (0167)) that was used as the first tetrachord found in the basic twelve-tone series. Other twelve-tone rows are assigned to specific characters of the opera, and some are associated with the dramatic action of the libretto.¹³ Kuss's article "The Structural Role of Folk Elements in 20th-century Art Music" further describes the presence and derivation of the Z-cell in the works of Ginastera, Bartok, and Alban Berg. A comparison is also made within this writing between Ginastera's syntheses of the character's twelve-tone rows, to Alban Berg's *Lulu*, which uses a similar type of procedure (This is discussed in more detail starting on p. 43).¹⁴

Carlos A. Gaviria wrote a thesis titled "Alberto Ginastera and the Guitar Chord: An Analytical Study," which provides a detailed account of occurrences and transformation of the guitar chord harmony in Ginastera's music. The pieces that Gaviria provides analysis for are *Danza del Viejo Boyero* (Example 2), from *Danzas Argentinas*, Op.2 (1937), *Malambo*, Op. 7 (1940), *Cuadro I – El Amanecer, Introducción y escena* from the ballet *Estancia*, Op.8. (1941), *Triste* from *Cinco Canciones Populares Argentinas*, Op. 10 (1943), *Variaciones Concertantes*, Op. 23: *Tema per violoncello ed arpa, Interludio per Corde* (1953) and Sonata for Guitar Op. 47, I. *Esordio* (1976). Set theory is the main methodology used to analyze how the "guitar chord" is transposed and modified within the selected pieces, which span a large portion of Ginastera's compositional career.¹⁵

¹³ Malena Kuss, "Type, Derivation, and Use of Folk Idioms in Ginastera's "Don Rodrigo" (1964)." *Latin American Music Review / Revista de Música Latinoamericana* 1, no. 2 (Autumn –Winter 1980): 176-195.

¹⁴ Malena Kuss, "The Structural Role of Folk Elements in 20th-century Art Music." *Atti del XIV congresso della Societa Internazionale di Musicologia*, Bologna, 1987: *Trasmissione e recezione delle forme di cultura musicale*, Torino, Edizioni di Torino, 1990. 99-119.

¹⁵ Carlos A Gaviria, "Alberto Ginastera and the guitar chord: An analytical study," (M.M. thesis, University of North Texas, 2010).

Two other documents that I believe are specifically be useful in understanding the musical language of the *Panambí* suite are Grace M. Campbell's dissertation, "Evolution, Symmetrization, and Synthesis: The Piano Sonatas of Alberto Ginastera," written in 1991, and Eric Carballo's dissertation titled "De la pampa al cielo: The Development of Tonality in the Compositional Language of Alberto Ginastera," written in 2006.¹⁶ Both devote large sections that describe influences such as the *malambo* and other *Gaúcho* genres, *criollo* folk music, Ibero-American and Amerindian traditions, as well as the influence of Argentine folk musicologist Carlos Vega and Isabel Aretz. The term Amerindian is directly taken from Campbell's dissertation. It should be noted that *Aborígen* is the most common term used in Argentina to describe indigenous peoples of the Americas.

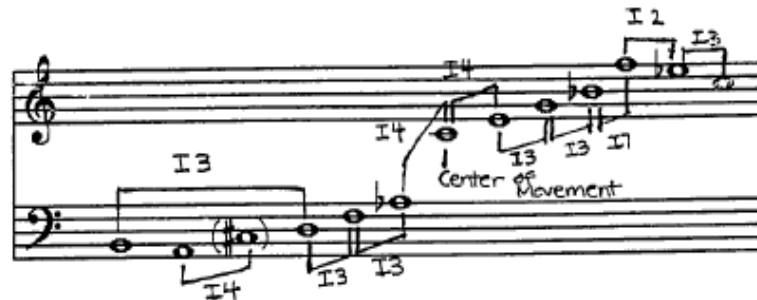
Grace Campbell's dissertation provides analyses of the three piano sonatas of Ginastera, in which she discusses Ibero-American and Amerindian influence in Ginastera's music as well as the appearance of *malambo* rhythms, *malambo* variants and the "guitar chord." Campbell also provides a very brief analysis of the first movement of the *Panambí* suite. Much like Dante Grela's analysis, Campbell devotes a large portion of her text to describe symmetrical structures at micro and macro levels and illustrates the symmetry of tonal centers found within the first movement of the *Panambí* suite where "Ginastera incorporates a variety of symmetrical formations within a succession of clear tonal centers. The symmetry of the work is demonstrated in the first movement of the work, 'Claro de luna sobre el Paraná.' The climax of the movement,

¹⁶ Erick Carballo, "De la pampa al cielo: The Development of Tonality in The Compositional Language of Alberto Ginastera" (PhD diss., Indiana University, 2006).

Grace M Campbell, "Evolution, Symmetrization, and Synthesis: The Piano Sonatas of Alberto Ginastera" (PhD diss., University of North Texas, 1991), 5.

the ‘Canto del Paraná in the horns, is centered between a succession of tonal areas moving symmetrically by interval 3 and 4 from the center.’¹⁷

Example 3: Symmetrical structure of *Panambí* first movement as described by Grace Campbell.¹⁸



These tonal centers that Ginastera used within the *Panambí* suite are one of the main topics of my thesis. It is my belief that Ginastera established many of these centers through pitch centricity, and that most of these adjacent tonal centers found in the first movement form sets that are based on the initial theme, thus composing out said theme over larger spans of temporal space. This is discussed in further detail in the next chapter.

Eric Carballo discusses in his dissertation the appearance of *malambo*, which is a traditional Argentine dance accompanied by guitar, in Ginastera’s compositions. Carballo divides Ginastera’s use of the *Gaacho* genre into two categories, the traditional *malambo* (which he calls “extroverted”), and a questionable second type of his own invention which recognizes no folk models, the “introverted” *malambo*. Carballo also addresses the guitar chord and illustrates how Ginastera uses this gesture as a structural sonority. Carballo centers much of his thesis on

¹⁷ Campbell, "Evolution, Symmetrization, and Synthesis."

¹⁸ *Ibid.*, 5.

the establishment of tonal centers in Ginastera's music, as well as on tonal expansion and prolongation of dissonant harmonies. The author utilizes Schenkerian analysis as the methodology to express these characteristics found in various works from Ginastera's oeuvre.¹⁹

In addition, Carballo points out the potential influence of Argentine folk musicologist Carlos Vega, and describes Vega's theories on rhythm, meter and phrasing. I was unable to find any direct evidence in the *Panambí* suite that suggests that Carlos Vega's theoretical principles affected Ginastera's compositional approach.

Another writing that I believe is helpful in developing my thesis, and is similar in its methodological approach is Jessica Barnett's thesis "Alberto Ginastera's String Quartets nos. 1 and 2: Consistencies in Structure and Process." This writing uses set theory to analyze Ginastera's String Quartet No. 1, which is non-serial, and String Quartet no. 2, which was Ginastera's first serial work. The topics that are addressed in this thesis are large-scale form and source collections of the quartets, motivic pitch structure and compositional process, and composing-out techniques.

The second chapter (after a brief introduction) details Ginastera's use of traditional forms such as the sonata, ternary, rondo, scherzo, theme and variations, and trio. Barnett also points out that both quartets begin with a sonata-form movement and end with a rondo finale. In addition, the author defines motivic cells that contain specific "ordered collection of pitches"²⁰ as the "basic motive" in the first quartet, and the "basic series," which refers to the primary serial row and its permutations in the second quartet. The author emphasizes the importance of the "basic motive" and "basic series" in defining specific sections of the forms, and she illustrates how

¹⁹ Campbell, "Evolution, Symmetrization, and Synthesis."

²⁰ Jessica R. Barnett, "Alberto Ginastera's String Quartets nos. 1 and 2: Consistencies in Structure and Process" (M.M. thesis. University of Cincinnati, 2007), 20.

Ginastera “delineates important thematic material with sharp contrasts resulting from changes in texture, rhythm, tempo, dynamics, range, or articulation, or a combination of several of these.”²¹

The third chapter presents set-class analyses that show that Ginastera repeatedly used specific trichords and tetrachords within melodies, as well as within vertical harmonies. These trichords and tetrachords are synthesized from the “basic motive” found in the first quartet, and the “basic series” found in the second quartet. Even though these quartets were written ten years apart, and constructed with different compositional techniques, they share many of the same trichords that are found within small scale and larger-scale structures.

The fourth chapter of her thesis describes how Ginastera composed out smaller motives over larger spans of time that “coincide with important structural moments in the music.”²² Barnett relates Ginastera’s techniques of composing out motives derived from the “basic motive” and “basic series” over larger temporal spans to Schoenberg’s *Grundgestalt*, in which a small motive is introduced at the beginning of a work, and undergoes continuous metamorphosis until it realizes its true identity at the end of the piece. Barnett identifies this process in her own terminology as an “*associational pathway* which essentially traces a musical narrative which develops and transforms over the course of a section or an entire movement.”²³ Barnett also provides an analysis on how Ginastera transforms the “guitar chord” within string quartets nos. 1 and 2, and attributes much of her analytical approach to the post-tonal theories of Joseph N. Straus.

²¹ Barnett, 13.

²² Ibid., 4.

²³ Ibid., 84.

Jessica Barnett's thesis aims to describe much of the same musical elements that is shown in my thesis, specifically pitch-class sets and their respective set classes that are presented as small motives, and that manifest themselves in various layers of the music's structure, giving the overall work cohesiveness. Furthermore, Barnett's analytical approach is nearly identical to mine, and has served as a model for my methodology.

CHAPTER II
THE MUSICAL LANGUAGE OF *PANAMBÍ*

INTRODUCTION

This chapter addresses the compositional processes and musical elements that I believe have the most impact on the *Panambí Suite's* structure and sound. The topics that are addressed are as follows: Ginastera's construction of the *La Noche* theme found in the first movement and its use as a master set, his use of diatonic collections and pitch centricity, the importance of unordered pitch class intervals IC1 and IC6, his use of aggregate completion as a compositional method, and his use of local motives over larger spans of temporal space.

The principal harmonic textures found in *Panambí* are generated through quartal and quintal structures. Quartal harmonies are created by stacking perfect, augmented and diminished fourth intervals, whereas quintal harmonies are formed by stacking perfect, augmented and diminished fifth intervals. Ginastera often uses quartal and quintal harmonies simultaneously. They may be arpeggiated and frequently are interlocked. They produce an array of different pitch sets, pitch-class sets and set classes. To understand how Ginastera generates these pitch sets, we must first understand the compositional process he used to create the *La Noche* theme.

Terms that are used in this thesis include the following: A pitch interval is the distance from one note to another note within a pitch space that encompasses all of the octaves that can be performed and heard. Pitch intervals are notated as numbers that represent the number of semitones found within a particular interval. A major second would be expressed with number two (2), or a perfect fifth would be labeled with the number seven (7), for example. Pitch intervals are identified with the characters *ip*. The register of pitches affects the pitch interval's size. For example, C4 to D4 would be expressed as *ip* <+2> whereas; C4 to D5 would be

expressed as $ip <+14>$. A plus + or minus - symbol indicates the direction of ordered pitch intervals and are placed in chevrons $ip < >$. Unordered pitch intervals do not indicate direction, and are placed in parenthesis $ip ()$.

Pitch-class intervals are also be used in the analysis and are identified with the character i . Ordered pitch-class intervals are bracketed with chevrons $i < >$, and unordered pitch-class intervals are enclosed in parentheses $i ()$. Unlike pitch intervals, pitch-class intervals do not take register into account. Because of octave equivalence, C2, C3, and C4 are placed in the same pitch class and are all identified with the integer zero (0), and C#2, C#3, C#4 are placed in the same pitch class and all labeled with number one (1), for example. In pitch-class space, C4 to D4 are expressed as $i <2>$, as well as C4 to D5, which would be labeled the same way, $i <2>$.

Ordered pitch-class intervals are generated in pitch-class space and are always measured in a specific direction. The easiest way to think about how these intervals are gauged is to imagine a clock face, in which all twelve pitches in the chromatic collection are represented as the numbers on the clock face. The note C is number 12 on the clock face (which are labeled as 0), C# or Db is number one (1), D is number two (2), and so forth. In my analyses, the ordered pitch-class intervals are always be generated by moving clockwise around the clock face. For example, note C (0) to B flat (10 or T) are expressed as $i <10>$.

Unordered pitch-class intervals are created in pitch-class space, and are measured by the shorter distance between two notes. That means that these intervals are generated by moving clockwise or counter clockwise around the clock face, depending on whichever distance is the smallest. For example note C (0) to B flat (10 or T) would be $i (2)$. Unordered pitch-class intervals are also called interval classes and are labeled with the characters IC. Since unordered pitch-class intervals are always measured by the shorter distance between two notes in pitch-

class space, the interval size never exceeds a tritone, or IC6. This means that a minor second and a major seventh are both identified as IC1. A major second and a minor seventh are identified as IC2. A minor third and major sixth are instances of IC3. A major third and a minor sixth are instances of IC4. A perfect fourth and perfect fifth make up IC5 and the tritone (augmented fourth, diminished fifth) is the interval included in IC6.

Pitch-class sets and set classes are also used in the methodology. A pitch-class set is collection of pitches within pitch-class space, regardless of octave. Pitch-class sets are presented in normal order, in which the pitch classes are arranged in ascending order and the boundary interval from the first pitch class within a collection to the last pitch class is the smallest, making the assemblage of pitches as compact as possible. Numbers represent the twelve pitches found within the chromatic collection. C equals zero (0), C sharp is represented by number one (1), D number two (2), etc. To avoid confusion, B flat is labeled with the letter T instead of ten (10), and B natural is indicated with letter E instead of eleven (11). Pitch-class sets are placed in brackets [].

All pitch-class sets individually belong to a specific set class. Set classes identify the specific intervals that are created by a pitch-class set in normal order and are placed in parenthesis (). For each set class, there are multiple pitch-class sets that belong to them, that all share the same intervallic content. For example, pitch-class sets [0123], [4567] and [89TE] all belong to the same set class (0123), since they all contain the same intervallic content.

Set theory is the principal mode of analysis in this paper, but that is not to imply that all of *Panambí* is strictly an atonal work. In fact, there are many sections of the suite that sound tonal to the listener by Ginastera's establishment of tonal centers (typically in the lowest sounding instrument), and the use of diatonic collections within themes that coincide with those

centers. There is also the appearance of harmonies that resemble major and minor triads, and seventh-chords found in the common practice period, even though their construction in *Panambí* is generated through fourths and fifths, instead of thirds. Therefore, the use of set theory in my analyses principally functions to identify the intervals found in vertical and horizontal structures within *Panambí*, even though many of these structures are used to establish tonality within the suite.

The *La Noche* Theme, mm. 1-6, as a Master Set

The *La Noche* (the night) theme initially appears in the bassoon and contrabassoon parts in mm. 1-6 in the first movement, *Claro de Luna Sobre el Paraná* (moonlight on the Paraná), and is a recurring theme throughout the suite (see Example 4 below). The theme is in the contrabassoon and bassoon lines, which are a perfect fifth apart. The pitch content alternates between the WT_0 collection (whole-tone collection starting on C natural) found in mm. 1-3:2 in the bassoon part and in mm. 3:3-6 in the contrabassoon part, and the WT_1 collection (whole-tone collection starting on C sharp) found in mm. 1-3:2 in the contrabassoon part, and mm. 3:3-6 in the bassoon part. Additionally, pitch set [T036], found in the bassoon part mm. 1-3, and pitch set [358E], found in the contrabassoon part are included in set class (0258) as demonstrated in Example 4. Set class (0258) recurs often in the suite and is an important harmony used in the *Canto del Paraná* theme found later in the first movement.

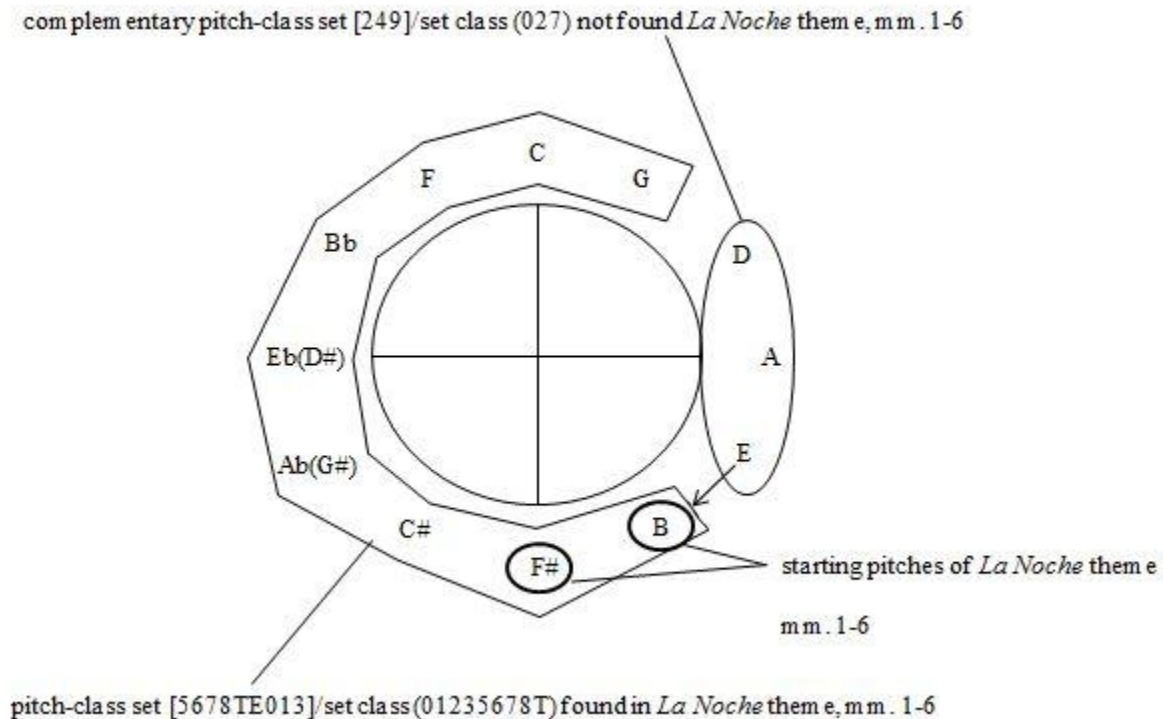
Example 4: *La Noche* theme, first movement, mm. 1-6.

The image shows a musical score for Bassoon and Contrabassoon, measures 1-6. The Bassoon part is in the upper staff and the Contrabassoon part is in the lower staff. The music is in 4/4 time and marked *pp* (*LA NOCHE*). The score is divided into two sections: measures 1-3 and measures 4-6. Annotations include 'pitch-class set [T036]/set class (0258)' for measures 1-3, 'pitch-class set [358E]/set class (0258)' for measures 4-6, and labels WT₀ and WT₁ pointing to specific notes in measures 1-3 and 4-6 respectively.

The pitch content of the opening theme, found in measures one through six, does not conveniently fit within one specific pitch-class collection, for example pentatonic, diatonic, hexatonic or octatonic. Although the alternation between collections WT₀ and WT₁ is certainly a plausible explanation for the pitch content of the opening theme, there is a more compelling explanation of the theme's compositional process.

The pitches of the opening theme in mm. 1-6 yield a nonachord pitch-class set [5678TE013], which belongs to set class (01235678T). Its complementary pitch-class set is the trichord [249], which belongs to set class (027). Pitch-class set [249] is comprised of two consecutive perfect fifths, D, A and E. In the circle of fifths, the next pitches following E from pitch class set [249], are B and F sharp, which are the starting pitches of the *La Noche* theme. B is played by the contrabassoon and F sharp, a perfect fifth above, is played in the bassoon. Continuing through the circle of fifths produces pitches C sharp, A flat (G sharp), E flat (D sharp), B flat, F, C and G, which are the remaining pitches from pitch-class set [5678TE013] found in mm. 1-6 and shown in Example 5.

Example 5: Pitch-class set [5678TE013] found in mm. 1-6, and its complement [249].



The *La Noche* theme starts in m. 1 on B in the contrabassoon, F sharp in the bassoon. The entire theme, in mm. 1-10, is comprised of parallel perfect fifths within the bassoons and the clarinets. The last pitches played by the bassoons in m. 6 are G sharp and D sharp which move up a minor second (+1) to A in the bass clarinet and E in the clarinet part, resulting in a transition from master pitch-class set [5678TE013]/set class (01235678T), to A and E, part of complementary pitch-class set [249]/set class (027) minus the D (pitch-class 2), as detailed in Example 6. The numbers over the measures in Example 6 correspond with the diagrams of the circle of fifths.

Example 6: Transition from master pitch-class set [5678TE013]/set class (01235678T), to notes A and E, which are part of complementary pitch-class set [249]/set class (027).

The musical score shows the following parts and measures:

- Bassoon:** mm. 1-6. The notation includes a sequence of notes with pitch-class numbers 1, 2, 3, 1, 2, 3, 1, 4, 5, 6, 7, 5, 6, 7, 5, 8. The dynamic is *pp* (*LA NOCHE*).
- Contrabassoon:** mm. 1-6. The notation shows a sequence of notes corresponding to the Bassoon part.
- Clarinet in B \flat and Bass Clarinet in B \flat :** m. 7. The notation shows notes for both instruments, with a dynamic of *pp*.

The diagrams illustrate pitch-class sets:

- mm. 1-3:** A circular diagram showing pitch classes 1, 2, 3, 4, 5, 6, 7, 8, 9. Notes are circled and labeled: 1 (F#), 2 (C), 3 (Bb), 4 (Eb/D#), 5 (Ab/G#), 6 (G), 7 (F), 8 (E), 9 (A). Arrows indicate relationships between notes.
- mm. 3:3-7:** A circular diagram showing pitch classes 1, 2, 3, 4, 5, 6, 7, 8, 9. Notes are circled and labeled: 1 (F#), 2 (C), 3 (Bb), 4 (Eb/D#), 5 (Ab/G#), 6 (G), 7 (F), 8 (E), 9 (A). Arrows indicate relationships between notes.
- m. 7:** A circular diagram showing pitch classes 1, 2, 3, 4, 5, 6, 7, 8, 9. Notes are circled and labeled: 1 (F#), 2 (C), 3 (Bb), 4 (Eb/D#), 5 (Ab/G#), 6 (G), 7 (F), 8 (E), 9 (A). Arrows indicate relationships between notes.

*clarinet and bass clarinet sound as written

As mentioned previously, set class (0258) (the *La Noche* theme) is presented as a horizontal set found in the contrabassoon and bassoon in mm. 1-3, as demonstrated in Example 4. Other important tetrachords are generated from consecutive perfect fifths in the *La Noche* theme in mm. 1-10. These tetrachords are set class (0167), set class (0257), set class (0158), and set class (0358). These set classes appear frequently throughout the entire suite. The worth of the master set found in mm. 1-6 is not merely its use as a pitch collection. It also is the order in

which the adjacent perfect fifths, contained within the master set, are presented in the theme that creates these significant harmonies. Set classes (0158), (0258) and (0358) are especially important and prominent in the *Canto del Paraná* theme, which appears later within the first movement, and they are presented vertically as harmonies. Example 7a displays how these sets are generated in the first movement in mm. 1-10, and Example 7b demonstrates the appearance of set classes (0158), (0258) and (0358), found in the *Canto del Paraná* theme beginning in measure thirty, in the first movement.

Set classes (0158), (0258) and (0358) also occur in tonal music with functional harmony, as seventh chords of different qualities. This is addressed in detail later, while discussing the use of diatonic collections.

Example 7a: The formations of set classes (0167), (0158), (0257), and (0358).

mm. 1-6

Bassoon
pp (LANOCHE)

Contrabassoon

[56E0] (0167) [T035] (0257) [TE36] (0158) [368E] (0358) [1368] (0257) [0167] (0167) [57T0] (0257) [56T1] (0158)

mm. 7-10

Clarinet in B \flat
pp

Bass Clarinet in B \flat
pp

[349T] (0167) [8T13] (0257) [8914] (0158) [3489] (0156) [2378] (0156)

*Set class (0258) is formed horizontally by the Bassoon part, mm. 1-3, and Contrabassoon part, mm. 1-3. (See Example 4)

Example 7b: The appearance of set classes (0158), (0258) and (0358) within the *Canto del Paraná* theme, first movement, mm. 30-32.

m. 30

Horn in F
(CANTO DEL PARANA)

Horn in F

pitch-class set [E047]/set class (0158) pitch-class set [9E25]/set class (0258) "La Noche theme"

* Sounds a perfect fifth lower than written.

pitch-class set [4790]/set class (0358) pitch-class set [9025]/set class (0358)

The majority of the pitch sets formed in the *La Noche* theme in mm. 1-3 are transposed down a perfect fourth (T_{-5}) in mm. 4-6. The exceptions are pitch-class set [368E]/set class (0358) found in m. 3, which only occurs once throughout the theme, mm. 1-10, and pitch-class set [T035]/set class (0257) which is transposed down a major sixth (T_{-9}) to pitch-class set [1368]/set class (0257) found in mm. 3:3-4:2. Pitch-class set [1368] also appears in m. 6, but the perfect fifths are performed in retrograde order. Most of the sets found in mm. 4-6 are transposed up a minor ninth (T_{+13}) with the next presentation of the *La Noche* theme in mm. 7-10. The exceptions are pitch-class sets [3489] and [2378], which are both part of set class (0156), and are related by T_{-1} .

Chromatic Aggregate Completion

Chromatic aggregate completion, or the use of all twelve pitches within the octave, also plays an important role in the compositional organization of Ginastera's *Panambí*. However, Ginastera's employment of dodecaphony is treated differently from the composers of the Second Viennese School, who rarely repeated pitches in their twelve-tone works or deviated from their twelve-tone rows and row permutations. By contrast, Ginastera does not treat the chromatic aggregate completion in a strict serial fashion. His themes in *Panambí* that utilize dodecaphony more often than not have repeated notes, and often the aggregate completion is achieved by more than one instrument, instead of a twelve-tone row being completed by a single part. These factors make constructing a 12-tone matrix challenging, and even if one were to do so, it would serve little analytical benefit. Each of my examples of chromatic aggregate completion begins at the start of important themes in *Panambí*.

The first appearance of chromatic aggregation completion can be found in the *La Noche* theme mm. 1-10. The pitch content found in the bassoon and contrabassoon in mm. 1-6, forms

pitch-class set [5678TE013]/set class (01235678T), which is generated through the circle of fifths, starting on B and travelling through the circle, to note G, as previously discussed. The bass clarinet and clarinet then take over the theme in m. 7, starting on notes A and E respectively, which are a part of complement pitch-class set [249], set class (027), minus note D [2]. The only pitch needed for aggregate completion is D, which is reached in the clarinet part m.10, as the final notes of the *La Noche* theme in the clarinet (note D) and bass clarinet parts (note G). Ginastera reaches this perfect fifth by moving down chromatically E, E flat, D (*ip* <-1, -1>) in the clarinet part, and A, A flat, G (*ip* <-1, -1>), in the bass clarinet. This is the only section of the *La Noche* theme, mm. 1-10, that utilizes two consecutive descending minor seconds. The only instance where pitches from pitch-class set [5678TE013] and its complement pitch-class set [249] are performed simultaneously is in mm. 1-10, the final two pitches, G and D. Example 8a demonstrates how aggregate completion is accomplished in mm. 1-10, and Example 8b details the number of pitch repetitions within the chromatic collection.

Example 8a: Chromatic aggregate completion, first movement, mm.1-10.

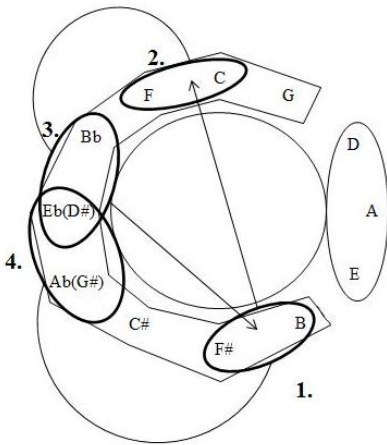
mm. 1-6

1. 2. 3. 1. 2. 3. 1. 4. 5. 6. 7. 5. 6. 7. 5. 8.

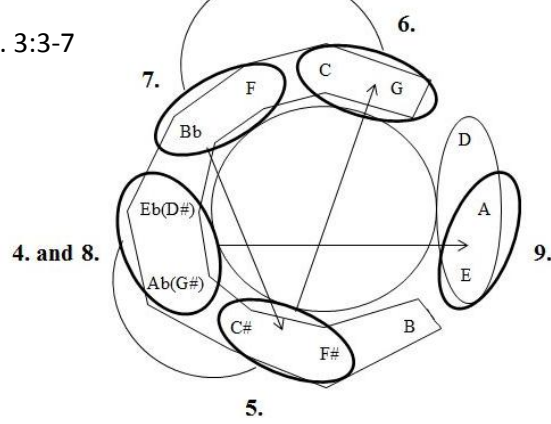
Bassoon *pp* (LA NOCHE)

Contrabassoon

mm. 1-3



mm. 3:3-7



mm. 7-10

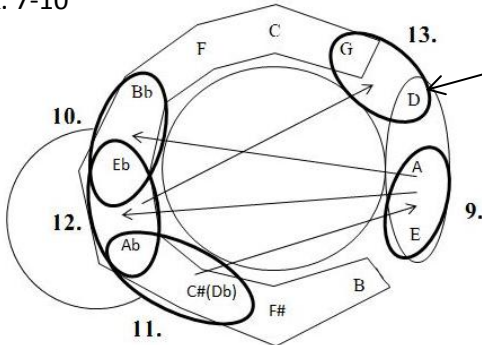
9. 10. 11. 9. 10. 11. 9. 12. 13.

Clarinet in B \flat *pp*

Bass Clarinet in B \flat *pp*

*Clarinets sound as written

mm. 7-10



Last pitch (D) needed for chromatic aggregate completion

Example 8b: Pitch occurrences, first movement, mm. 1-10.

| Pitch | C | C#/Db | D | D#/Eb | E | F | F# | G | G#/Ab | A | A#/Bb | B |
|--------------------|---|-------|---|-------|---|---|----|---|-------|---|-------|---|
| No. of occurrences | 4 | 3 | 1 | 7 | 3 | 4 | 6 | 3 | 5 | 3 | 6 | 3 |

D is the last pitch needed for chromatic aggregate completion

Another instance of chromatic aggregate completion can be found in the fifth movement, *Ronda de las doncellas* (Rondo of the maidens). Flutes one and two and a xylophone play the main theme of this section and are in the forefront of the orchestral texture in mm. 18-25. Much like mm. 1-10 in the first movement, chromatic aggregate completion is achieved through multiple instruments, and does not abide by the principles of strict serialism.

M. 18 begins this section with the main theme carried by flutes one and two. The theme is broken up into two four-bar phrases, which display alternating major thirds and minor seconds, as well as parallel major thirds. Each four-bar phrase ends with a four-note arpeggio played by the xylophone, the first descending, and the second ascending, creating a call and response effect. Each of these arpeggios within the xylophone form set class (0167), and are related by T_{+10} . Chromatic aggregate completion is achieved by the C sharp found in the xylophone in m. 25, as shown in Example 9a. Example 9b illustrates the number of pitch repetitions within the chromatic collection, mm. 18-25.

Example 9a: Chromatic aggregate completion, fifth movement, mm. 18-25.

mm. 18-25

*Flute parts one and two mm. 18-25, minus the lower neighbors F sharp and A sharp, form pitch-class set [9TE023457]/set class (01235678T) which is related to the master set found in the first movement, mm. 1-7 by T8.

Last pitch (C#) needed for chromatic aggregate completion

Example 9b: Pitch occurrences, fifth movement, Flutes 1&2 and xylophone, mm. 18-25.

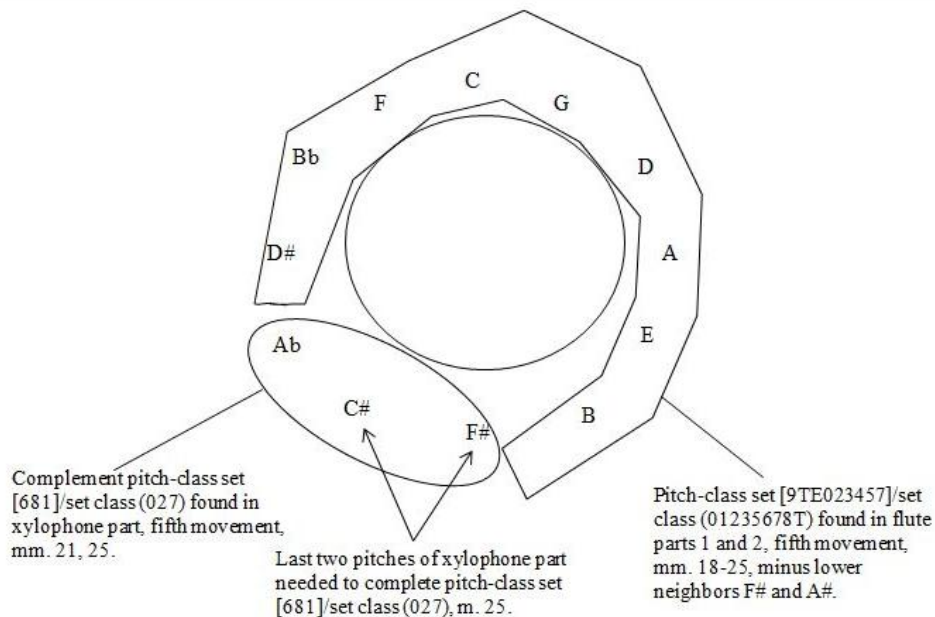
| Pitch | C | C# | D | D#/Eb | E | F | F# | G | Ab | A | A#/Bb | B |
|--------------------|---|----|---|-------|----|----|----|---|----|----|-------|---|
| No. of occurrences | 2 | 1 | 2 | 2 | 13 | 12 | 3 | 5 | 1 | 13 | 3 | 7 |

C sharp is the last pitch needed for chromatic aggregate completion

Flute parts one and two, minus the lower neighbors F sharp and A sharp (lower neighbors to notes G and B respectively), also form pitch-class set [9TE023457]/set class (01235678T). This is the same set class as the opening *La Noche* theme found in the first movement, mm. 1-7 (Example 6), and is related by T8. The complement set of this nonachord is trichord pitch-class

set [681]/set class (027), which are pitches found within the xylophone tetrachords. A master set/complement set relationship can be drawn between mm. 1-10 in the first movement, and mm. 18-25 in the fifth movement. In the first movement the bassoons form set class (01235678T) in mm. 1-6 and its complement set (027) located within the clarinets in mm. 7-10. In the second movement the flutes form set class (01235678T) and its complement set (027) is found within the xylophone in mm. 18-25. In addition, if we exclude the F sharp and A sharp lower neighbors found in the flute parts from the collection, the last two pitches needed for completion of the complement pitch-class set [681]/set class (027) become C sharp and F sharp. These are the last two notes of the four-note arpeggio found in the xylophone part, m. 25, as shown in Example 10. Furthermore, set class (0167) formed by the xylophone arpeggios, mm. 21-22:1 and m. 25, are also an important set generated within the *La Noche* theme, first movement, mm. 1-7 (Example 7a).

Example 10: Completion of pitch-class set [681]/set class (027), fifth movement, mm. 18-25.



Chromatic aggregate completion within a single line occurs with the opening theme to the same movement, *Ronda de las doncellas*, mm. 1-7. The beginning of this theme is performed by a solo flute, and labeled with the word *cantando*. The melody begins with note B played by the flute, and the theme consists of two four-bar phrases with an anacrusis, and is rhythmically grouped into 2+2+4. Chromatic aggregate completion is achieved with the E natural found in m. 7. The second phrase is then completed by oboes one, two and three, descending chromatically down to the starting pitch B, harmonized with a major third below, and ending in m. 9, as illustrated in Example 11a. Example 11b illustrates the number of pitch repetitions within the chromatic collection, measures one through nine.

Example 11a: Chromatic aggregate completion, fifth movement, solo flute and oboes, mm. 1-9

mm. 1-9

Flute 1-2

Oboe 1-2-3

Rhythmic Grouping: 1 2 1 2 1 2 3 4

Phrase 1

Phrase 2

Fl.

Ob.

Last pitch (E natural) needed for chromatic aggregate completion

Example 11b: Pitch occurrences, fifth movement, solo flute and oboes, mm. 1-9.

| Pitch | B#/C | C# | D | D#/Eb | E | F | F# | G | G#/Ab | A | A#/Bb | B |
|--------------------|------|----|---|-------|---|---|----|---|-------|---|-------|---|
| No. of occurrences | 4 | 5 | 4 | 3 | 1 | 1 | 1 | 2 | 4 | 2 | 3 | 6 |

E natural is the last pitch needed for chromatic aggregate completion

Use of Diatonic Collections and Pitch Centricity

The specific treatment of diatonic collections is another unifying element of Ginastera's *Panambí*. The treatment falls into two categories. The first category is defined as the use of a diatonic collection that coincides simultaneously with a perceived tonal center that is part of the collection. The second is defined as the use of a diatonic collection that does not coincide simultaneously with a perceived tonal center, and the tonal center is not a part of the collection.

Tonal centers are not created in *Panambí* in the same way that tonal centers are established in functional harmony of the common-practice period. Examples of traditional tonal harmonic progressions are sparse in the suite, and functional harmonic progressions are not the primary method of establishing tonal centers, such as a V-I progression, for example. Ginastera created tonal centers in *Panambí* through a form of pitch centricity. Joseph Straus explains in his book *Introduction to Post-Tonal Theory* how certain pitches become centric in music without functional harmony: “[N]otes that are stated frequently, sustained at length, placed in registral extreme, played loudly, and rhythmically or metrically stressed tend to have priority over notes that don’t have those attributes.”²⁴ Most of these criteria apply to Ginastera’s methods of creating tonal centers in *Panambí*. The lowest sounding instrument, most frequently the contrabass,

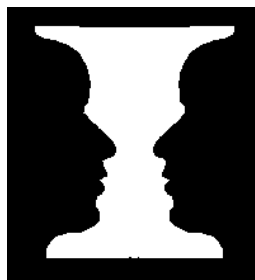
²⁴ Joseph N Straus, *Introduction to Post-Tonal Theory*, 3d ed. (Upper Saddle River, New Jersey: Prentice Hall, 2005), 131.

presents centric pitches that are further established by notes of long duration, repetition, and strong metrical placement.

Dante Grela describes the sonic landscape of the first movement, *Claro de luna sobre el Paraná*, in his article, “Tres expresiones de la creación musical latinoamericana en la primera mitad del siglo XX,” by explaining the auditory effect of the first movement through the Gestalt theory, or figure-ground, which deals with human sensory perception. The figure-ground Gestalt theory deals with observation of figures, which are distinct objects of focus and ground that serve as the background or landscape in which the figures rest.

A famous manipulation of this sensory effect is “Rubin’s vase” which was a visual illusion developed by Danish psychologist Edgar Rubin in 1915, shown in Example 12. In this illustration, the figure and the ground are interchangeable depending on one’s perspective. A person looking at the image within one moment observes a white vase against a black background. Within the next moment, the viewer perceives two facial profiles facing each other as the focal point, thus transforming the white vase from the surface object to the background.

Example 12: “Rubin’s Vase.”



Dante Grela uses the Gestalt figure-ground terminology to describe sound objects found in the first movement of *Panambí*. *Figura* (figure) describes the sound objects closest to the

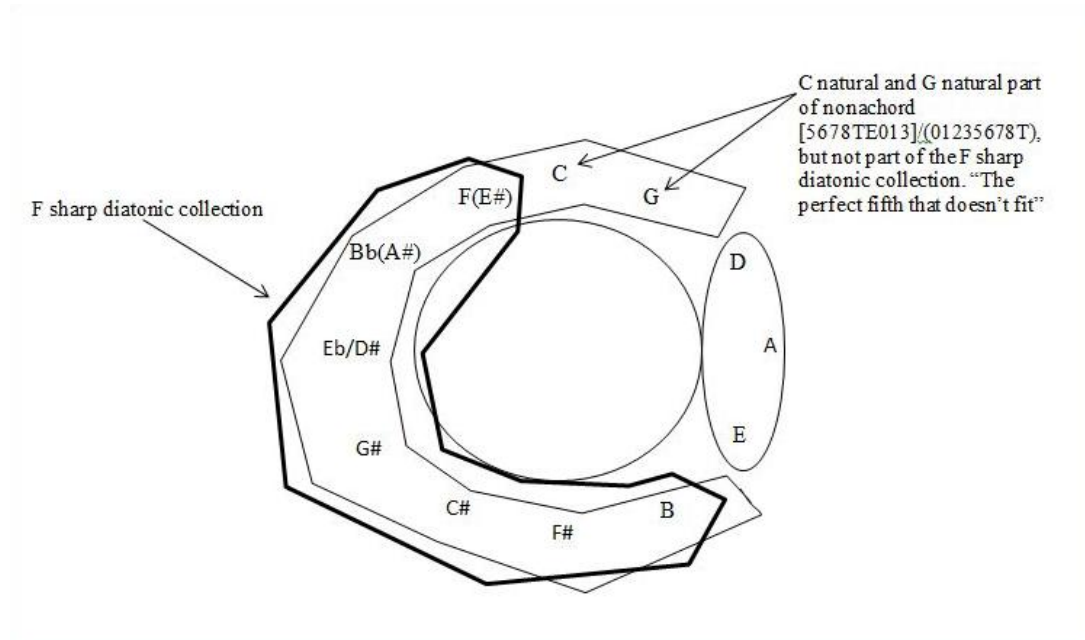
surface of the music and a focal point of the listener. The sound objects that Grela describes as *Fondo* (background) are the objects that are a part of the sonic landscape, and not a focal point of the listener. He also categorizes the sound objects as continuous, in that they reappear after their initial statement, and discontinuous, which appear once and never return. Grela produces a very detailed diagram, in his article, that meticulously locates each sound object within the first movement, and places each one of these sound objects into their proper category.

Grela's description of the first movement of *Panambí* is consistent with the figure-ground Gestalt theory, but Grela does not explain how the "sound objects" within the first movement are differentiated between figure and ground. I believe that the conditions that separate the figures from the background are the pitch centricity that Ginastera creates. If the sound object collection includes a pitch that coincides with the established tonal center, then it becomes a figure that resides at the surface of the soundscape along with said tonal center. If the sound object collection does not include a pitch that coincides with the established tonal center, it becomes a motive that occupies the background of the music. When I hear many of these background gestures, I imagine the sounds of nature around the Paraná River.

The *La Noche* theme found in the first movement, measures one through six, includes pitches from the F sharp diatonic collection, minus the C natural and G natural, which complete the circle of fifths nonachord [5678TE013]/ (01235678T), as shown in Example 13a. The notes C and G natural are accentuated by the ascending tritone interval, and sound like "the perfect fifth that doesn't fit." F sharp also appears to be a centric pitch, which is repeated six times (more than any other pitch, mm. 1-6), is played on the downbeat one of each measure as half notes (the longest note duration, mm. 1-6), and is the lowest sounding pitch in the final three measures of

the *La Noche* statement as shown in Example 13b, meeting many of Straus's criteria for pitch centricity. By the end of the first statement of the *La Noche* theme, mm.3-6, the F sharp clearly sounds like the tonal center.

Example 13a: The use of the F sharp diatonic collection, first movement, mm. 1-6.



Example 13b: The use of the F sharp diatonic collection, and F sharp as a centric pitch, first movement, mm.1-6.

Centric pitch, F sharp

mm. 1-6

Bassoon

pp (LA NOCHE)

Contrabassoon

*Contrabassoon sounds an octave lower than written

C natural and G natural not part of the F sharp diatonic collection

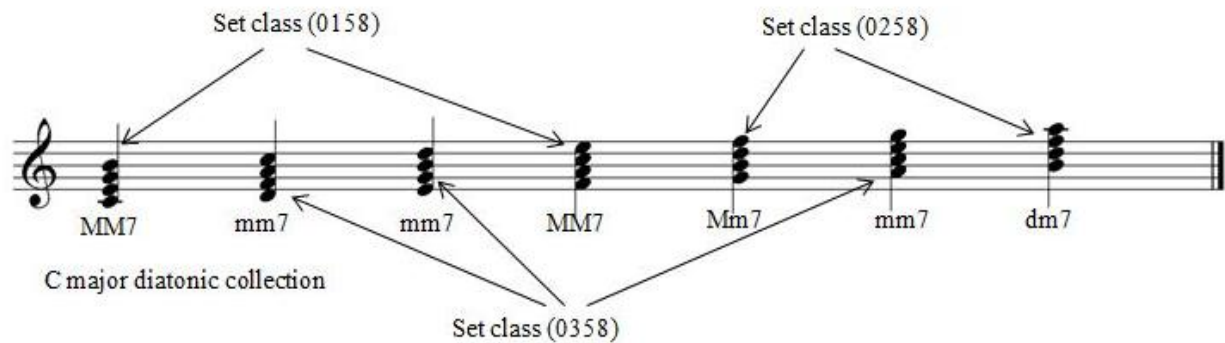
With respect to the C natural and G natural as being the “perfect fifth that doesn’t fit,” I believe that the striking ascending tritone to these pitches within the initial statement of the *La Noche* theme in the first movement serves as a foreshadowing of the next major theme, *Canto del Paraná*. This theme utilizes the C major diatonic collection, over the tonal center C, beginning in m. 30.

Before addressing the use of the C major diatonic collection in coordination with the *Canto del Paraná* theme, I would like to discuss the formations of set classes (0158), (0258), and (0358) within diatonic collections.

Set classes (0158), (0258), and (0358), are formed in the C major diatonic collection, pitch set [E024579]/ set class (013568T) as seventh chords in tertian harmony. These formations occur in any diatonic collection in the same manner. A major major seventh chord is part of set class (0158). A major minor seventh chord and a diminished minor (half diminished) chord are

both part of set class (0258) (when a major minor seventh chord is inverted, it forms a diminished minor seventh or vice versa). A minor minor seventh chord is part of set class (0358). Set class (0158) appears within the C major diatonic collection or pitch set [E024579]/set class (013568T) twice. Set class (0258) is present twice as well, and set class (0358) appears three times as shown in Example 14.

Example 14: The formation of set classes (0158), (0258), and (0358) within the C major diatonic collection.



The manner in which these sets are formed in diatonic collections explains how these sets are present in the *La Noche* theme in mm. 1-6. The adjacent fifths that contain the notes C or G (the perfect fifth that doesn't fit) form set class (0167), which is not a subset of the diatonic collection set class (013568T). Set class (0167) cannot be part of a diatonic collection since it contains two tritone intervals, and the diatonic collection only contains one tritone interval. This is discussed in more detail later. Set classes (0158), (0257), (0258), and (0358) are all subsets of the diatonic collection that is in the *La Noche* theme, specifically the F sharp diatonic collection (see Example 7a). The only exception to this is the horizontal presentation of set class (0258) found within the bassoon in mm. 1-3, which contains note C, which is not part of the F sharp

diatonic collection. An explanation for this is that the bassoon is simply harmonizing the contrabassoon, which does contain notes found in the F sharp diatonic collection, a perfect fifth above (Example 4).

The *Canto del Paraná* theme is the second major theme stated in the first movement, and it begins in m. 30. The theme is presented as a fanfare played by a quartet of French horns, in which the rhythm alternates between 3/4 and 6/8. The tonal center is note C played as octaves in the contrabass, and is established through long duration notes and the low register. The majority of the harmonies belong to set classes (0158), (0258) and (0358) and belong to the C major diatonic collection. The theme ends in m. 43, where the tonal center shifts from C to E.

An F sharp pentatonic scale is simultaneously performed in the left hand of the piano, adding color and dissonance to the orchestral texture. This pentatonic scale forms pitch-class set [68T13]/set class (02479), which is the same set class as the “guitar chord” harmony. At the same time, the right hand is arpeggiating pitch-class set [2479]/set class (0257), which is subset of the C major diatonic collection, and a set class found in the *La Noche* theme as well. An association can be made between how diatonic collections are being used in the *La Noche* theme in mm. 1-6, and the *Canto del Paraná* theme in mm. 30-40. In the *La Noche* theme, F sharp was the principle diatonic collection, with notes C and G serving as “the perfect fifth that didn’t fit.” During the *Canto del Paraná* theme, C major is the principle diatonic collection, with the F sharp collection serving a secondary role, and used, as Grela described, as the “ground,” or background, of the soundscape. The *Canto del Paraná* theme, played by the French horns, utilizes the C major diatonic collection which brings it to surface of the music, because of the established C tonal center as displayed in Example 15.

Example 15: The use of the C major and F sharp major diatonic collection during the *Canto del Paraná* theme, mm. 30, first movement.

Pitch-class set [4790]/set class (0358)

Pitch-class set [E047]/set class (0158)

Pitch-class set [9E25]/set class (0258) "*La Noche* theme"

m. 30

Horn in F

Horn in F

Piano

Contrabass

Note C as tonal center.

*Horns in F sound a perfect fifth lower than written.

Part of C major diatonic collection.

Pitch-class set [2479]/set class (0257)

Pitch-class set [68T13]/set class (02479), "guitar chord" set. Part of the F sharp major diatonic collection.

f cantando
(CANTO DEL PARANA)

f cantando

sempre pp

David Wallace describes the harmony in the *Canto del Paraná* theme as “triadic construction with added coloristic notes.”²⁵ What Wallace considers to be coloristic notes might be the chromatic pitches outside the C major diatonic collection that I discussed above. Although the notes of the *Canto del Paraná* theme in the French horns can be reduced to seventh chords constructed of thirds, as discussed earlier, I believe the compositional method in constructing

²⁵ David Edward Wallace, “Alberto Ginastera: An Analysis of His Style and Techniques of Composition” (PhD diss., Northwestern University, 1964), 43.

these harmonies is the use overlapping fourths of different qualities. The quality of the fourths and the amount of overlap are determined by the notes, and the intervals that they create, within the diatonic collection. Thus, these notes determine the intervallic content of the sets, much like the way that the sets found in the *La Noche* theme are created by adjacent parallel perfect fifths that are separated by intervals of different sizes. These, in turn, create different pitch class sets. In a sense these interlocking fourths found in the *Canto del Paraná* theme, are mapped onto the C major diatonic collection, which governs their size and overlap. The manner in which the horns are orchestrated also illustrates an overlapping of fourths, as opposed to, triadic construction (Example 15).

A less obvious use of a diatonic collection is found in the final movement of the suite, *Danza de los Guerreros* (dance of the warriors). The initial theme is played by the French horns beginning in m. 11 and ending in m. 20. The theme is carried by the highest sounding horn, and harmonized by the rest of the horn section, by parallel set class (0148) harmonies. This harmony is created by a perfect fifth played by French horns one and two, which is overlapped by an augmented fifth played by French horns three and four. A major is the diatonic collection used within the highest sounding French horn, but the presence of a diatonic collection is more difficult to hear than in the *Canto del Paraná* theme, due to the parallel (0148) harmonies that create a very dissonant texture, and that contain notes that are not a part of the A major diatonic collection. Even though note A is the lowest sounding pitch found in the contrabass, it does not sound like a tonal center due to the tremendous amount of dissonance. Additionally, an A major triad is formed by the French horns one, two, and three in mm. 11-16, often metrically accented, but the A major tonality is not audible.

Further dissonance is added by the string section, which harmonizes the French horns with stacked perfect fourths of different qualities. Master set (01235678T) is found preceding the theme in mm. 3-4 and mm. 7-8, within the string section, and is accented by the percussion section. Tetrachords (0158), and (0257) are also present within adjacent string parts. Example 16a illustrates the harmonization of set class (0148), the overlapping perfect and augmented fifths, and the presence of an A major triad within the top three sounding horns. Example 16b shows the formation of pitch-class set [12346789E]/ master set class (01235678T) within the string section, which is related to master set (01235678T) found in the first movement, mm. 1-6, by T8, and Example 16c shows the use of the A major diatonic collection in *Danza de los Guerreros*, mm. 11-20.

Example 16a: The formation of an A major triad, and set class (0148) tetrachord harmonies, sixth movement, *Danza de los Guerreros*.

Pitch class set [914]/set class (037)/A major triad.

m.11 All tetrachord harmonies form set class (0148)

Horn in F I
mf

Horn in F II
mf

Horn in F III
mf

Horn in F IV
mf

*Horns sound a perfect fifth lower than written

Example 16b: Formation of set class (01235678T), related to master pitch class set (01235678T) found in the first movement, by T8, and the presence of set classes (0158) and (0257).

Pitch-class set [2479]/ set class (0257)

Pitch-class set [12346789E]/ set class (01235678T). Related to master pitch-class set [5678TE013]/ set class (01235678T) found in the first movement, mm. 1-6, by T8.

Pitch-class set [67E2]/ set class (0158)

mm. 7, 8

Violin I

Violin II

Viola

Violoncello

Contrabass

Pitch-class set [68E1]/ set class (0257)

Example 16c: Use of the A major diatonic collection in the movement, *Danza de los Guerreros*, mm. 11-20.

D sharp is part of master set [12346789E]/ (01235678T), but not part of the A major diatonic collection

A major diatonic collection

m. 11

Horn in F I

Hn.

Pitch-class set [1246]/ set class (0135)

Pitch-class set [89E1]/ set class (0135)

C natural is not part of master set [12346789E]/ (01235678T), or part of the A major diatonic collection. Sounds like a deceptive resolution

T-5

*Horn sounds as written

The A major diatonic collection is represented in this excerpt as two set class (0135) tetrachords, pitch-class set [1246] within the first phrase, and pitch-class set [89E1], within the end of the second phrase. C sharp serves as an axis and is a common tone within both pitch-class sets. In mm. 12-13 we observe an ascending perfect fourth (+5), which is the boundary interval of pitch-class set [1246] in normal form. Later in m. 20, there is a descending perfect fourth (-5) which is also the boundary interval of the next pitch-class set [89E1], also in normal form. Pitch-class set [1246], found in the beginning of the phrase, is transposed down a perfect fourth (T₋₅), to form pitch-class set [89E1] in mm. 17 and 18, similar to the transposition of the *La Noche* theme in the first movement, mm. 1-6 (see Example 6). The D sharp located in m. 17 is not a part of the A major diatonic collection, but is included in the master pitch-class set [12346789E]/ set class (01235678T). The C natural at the end of the period is not a part of the A major diatonic collection, or master pitch-class set [12346789E]/ set class (01235678T), and sounds like a type of deceptive resolution. The second (0135) tetrachord, pitch-class set [89E1], is approached from the D sharp by a descending major third (-4), and is left by an ascending major third (+4), resolving to C natural, creating a mirroring effect. The rhythmic structure is also comparable to the pattern found in the *Ronda de las doncellas*, mm. 1-7. The rhythmic structure of the phrases found in *Ronda de las doncellas*, mm. 1-7, is 2+2+4, and the rhythmic pattern used in the phrases of *Danza de los Guerreros*, mm. 11-20, is 3+3+6. Example 17 illustrates the transposition of set class (0135) within the A major diatonic collection in the sixth movement, mm. 11-20, and the use of C sharp as an axis.

Example 17: The transposition of set class (0135) and the use of C sharp as an axis, sixth movement, mm. 11-20.

Pitch-class set [1246]/ set class (0135)

Pitch-class set [89E1]/ set class (0135)

T-5

C sharp serves as an axis

The Use of IC1 and IC6

This portion of the chapter addresses the use of interval class 1 (IC1), which includes a minor second and a major seventh, and interval class six (IC6), which includes an augmented fourth or diminished fifth. These intervals are found at the very beginning of the suite, within the first movement in mm. 1-6, within pitch-class set [56E0]/ set class (0167) in mm. 1-2, and pitch-class set [0167]/ set class (0167) in mm. 4-5, formed between adjacent perfect fifths played by the bassoon, and contrabassoon. Pitch-class sets [56E0] in mm. 1-2, are related to pitch-class sets [0167] in mm. 4-5, by T-5, T1, T0I, or T6I. The interval class vector for these pitch-class sets are 200022, with two minor seconds or major sevenths, two perfect fourths or perfect fifths, and two augmented fourths or diminished fifths. Example 18 illustrates how these intervals are formed within pitch-class sets [56E0]/ set class (0167), and pitch-class sets [0167]/ set class (0167) in the first movement, mm. 1-6.

Example 18: Intervals formed by pitch-class sets [56E0] and [0167]/ set class (0167), first movement, mm. 1-6.

The musical score shows the Bassoon and Contrabassoon parts. The Bassoon part is marked *pp* and includes the title *(LA NOCHE)*. The score is divided into two sections, each with a pitch-class set label: [56E0] (0167) and [0167] (0167). A curved arrow above the score indicates a transformation: T-5, T1, T0I, or T6I. Below the score, three interval types are defined: IC1 (solid double-headed arrow), IC5 (solid oval), and IC6 (dashed double-headed arrow). At the bottom, two pitch-class diagrams illustrate the relationship between the sets [56E0] and [0167]. The left diagram shows the set [56E0] with notes F, C, G, Bb, Eb(D#), Ab(G#), C#, and B. The right diagram shows the set [0167] with notes C, G, D, A, E, B, F#, and C#. The diagrams use solid lines for IC1, solid ovals for IC5, and dashed lines for IC6.

Set class (0167) is also known as a Z-cell.²⁶ Two potential ways of constructing a Z-cell is by interlocking two tritones, separated by a minor second, or two unconnected perfect fourths separated by a minor second. A Z-cell is also a symmetrical set. This is because of the overlapping tritones that symmetrically divide the octave, and map onto themselves through

²⁶ Elliott Maxim Antokoletz, "Principles of Pitch Organization in Bartók's Fourth String Quartet" (PhD diss., City University of New York, 1975).

A Z-cell is not to be confused with a Z-relation pair. A Z-relation pair refers to two set classes that share the identical interval vector.

inversion. This means that Z-cell set class (0167) can map back onto itself twice through transposition, and twice through inversion. This is also the reason that pitch-class set [56E0] has four different ways of transposition, and inversion to reach pitch-class set [0167]. Since there are only six tritones in pitch-class space, there are only six pitch-class sets that are a part of set class (0167). In addition, a Z-cell can also be considered a fragment of the octatonic collection. Two Z-cells separated by a minor third, form a complete octatonic collection. Example 19 demonstrates different ways that Z-cells are formed.

Example 19: The formation of the Z-cell.

As previously mentioned in chapter one, Malena Kuss discusses the role of the Z-cell in twentieth-century works in her article "The structural role of folk elements in 20th-century art music." The author details the structural use of the Z-cell in Bartok's *Fourth String Quartet*, Berg's opera *Lulu*, and Ginastera's opera *Don Rodrigo*. Kuss believes that Bartok and Ginastera both derived folk elements, and then transformed those elements into Z-cells that function as structural components. Kuss defines derivation as "what preserves an association or reference to

a specific folk element,” and structure is defined as “the loss of this association and its purely compositional use.”²⁷

Kuss believes that Ginastera initially derived an “anhemitonic” Z-cell from the “guitar chord” (E2, A2, D3, G3, B3, E4), which is formed by the outer perfect fourths of the gesture, resulting in the notes E, A, B, E that form set class (027). The perfect fourths are separated by a major second, instead of the minor second found in Z-cell set class (0167), hence the “anhemitonic” label. Since Z-cell set class (0167) can be constructed by two perfect fourths separated by a semitone, it is labeled as hemitonic. The author points out the appearance of the guitar chord harmony in *Malambo*, written in 1940, and *Piano Sonata*, written in 1952. Kuss then demonstrates the appearance of the “anhemitonic” Z-cell, which she believes is formed by the “guitar chord” and the structural hemitonic Z-cell in Ginastera’s *Variaciones concertantes*, III, “Variacione giocosa per flauto”, written in 1953. She describes this occurrence as compositionally explicit, in that the composer demonstrates, within one work, the transformation from a derived folk element into a structural element devoid of the initial folk association. It is her belief that by Ginastera’s twelve tone serial opera *Don Rodrigo*, written in 1964, “Ginastera abandons all derivation and only retains the Z-cell as a structural element, built into the Basic Series that regulates the pitch organization for the entire opera.”²⁸

Panambí was completed in 1937 and one of Ginastera’s earliest works. Not only is the hemitonic Z-cell present within *Panambí*, but it is also used as an important structural element (albeit not in the serial fashion found in *Don Rodrigo*), within one of the most prominent themes

²⁷ Malena Kuss, “The Structural Role of Folk Elements in 20th-century Art Music.” *Atti del XIV congresso della Societa Internazionale di Musicologia*, Bologna, 1987: *Trasmissione e recezione delle forme di cultura musicale*, Torino, Edizioni di Torino, 1990. 99.

²⁸ *Ibid.*, 101.

in the suite and ballet, the *La Noche* theme, as well as other themes in *Panambí*. The “guitar chord” harmony, set class (02479), is also prevalent within *Panambí*, but not presented as the gesture that emulates the plucking of the six strings of the guitar. The “guitar chord” does however make its first appearance in this manner in *Danza del Viejo Boyero*, from *Danzas Argentinas* Op. 2, which was completed in 1937, the same year *Panambí* was finished.²⁹ In addition, the “anhemitonic” Z-cell is also present in *Panambí*, along with the hemitonic Z-cell, many years before the composition of *Variaciones concertantes*, III, "Variazione giocosa per flauto", which was written in 1953. It appears that the structural use of hemitonic Z-cell set class (0167), the “guitar chord”, and the “anhemitonic” Z-cell (formed from the “guitar chord”), coexisted early in Ginastera’s works, instead of a transformation of derived “anhemitonic” Z-cell, into structural hemitonic Z-cell, over time, as Kuss details. Example 20 demonstrates the simultaneous employment of hemitonic Z-cell/ set class (0167), along with “anhemitonic” Z-cell/ set class (027), within the piano in the sixth movement, *Danza de los Guerreros*, m. 35. These sets are presented in this fashion in *Danza de los Guerreros*, within the piano part, mm. 32-89.

²⁹ Carlos A Gaviria, "Alberto Ginastera and the Guitar Chord: An Analytical Study," (M.M. thesis, University of North Texas, 2010).

Example 20: Simultaneous employment of “anhemitonic” Z-cell and hemitonic Z-cell,

Danza de los Guerreros, m. 35.

The image shows a musical score for Piano, measure 35. The score is written on a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The key signature has two flats (B-flat and E-flat). The measure is divided into two parts by a vertical line. The first part, from the beginning of the measure to the vertical line, contains a chord of four notes: G4, B-flat4, D5, and E-flat5. This chord is labeled as a pitch-class set [8T3] / set class (027) / "anhemitonic" z cell. The second part, from the vertical line to the end of the measure, contains a chord of four notes: G4, B-flat4, D5, and E5. This chord is labeled as a pitch-class set [792] / set class (027) / "anhemitonic" z cell. The bass staff contains a single note, G3, which is labeled as a pitch-class set [349T] / set class (0167) / hemitonic z cell.

Set class (0167) is used structurally in *Panambí* as both a harmonic element and as a thematic device. Set class (0167) is a thematic device within the flute part in the third movement *Lamento de las Doncellas*, which carries the theme in mm. 6-9. The ordered pitch intervals of the theme are $ip \langle -1 +6 -5 -1 +6 +1 -1 +2 +2 -5 -1 +6 -5 -1 +6 +1 -1 -2 +5 -3 \rangle$. Since none of the intervals exceeds a tritone, the ordered pitch class intervals are identical numerically to the interval class, or unordered pitch class intervals, minus direction. The theme consists of two phrases, and has the same rhythmic grouping, 2+2+4, as the theme found in *Ronda de las Doncellas*, mm. 1-7 (Example 11a). Example 21 demonstrates the formation of set class (0167), as well as the ordered pitch class intervals and interval class found in the main theme of the third movement, *Lamento de las Doncellas*, mm. 6-9.

Example 21: The formation of set class (0167), and ordered pitch intervals, *Lamento de las Doncellas*, mm. 6-9.

All notes, minus notes A and D, form pitch-class set [56E0] set class (0167). All notes, including notes A and D, are part of OCT 2, 3.

Flute *mf*

Ordered pitch intervals and IC: $ip \langle -1 +6 -5 -1 +6 +1 -1 -2 +2 -5 -1 +6 -5 -1 +6 +1 -1 -2 +5 -3 \rangle$

All of the notes in this theme, minus notes A and D, form pitch-class set [56E0]/ set class (0167), which is the same pitch-class set and set class found in the *La Noche* theme, first movement, in mm. 1 and 2. All of the notes in this theme are a part an octatonic collection, specifically OCT 2, 3. The most numerous intervals in this melody are the minor second (IC1), perfect fourth (IC5), and tritone (IC6). This is possible because of the interval vector of set class (0167), which is 200022. The intervals of this theme that are not part of this interval vector are located around the notes A and D, which are not included in pitch-class set [56E0]/ set class (0167).

The ordered pitch class intervals found in *Ronda de las Doncellas* theme, mm. 1-7, ($ip \langle +1 -1, 0, +1 +1 -1, 0, +1 +1 +1 +1 -6 +13(IC1) -2 +1 -6 +2 -1 -1 -1 +6 -5 -1 -1 -1 \rangle$), also appear to be saturated with IC1, and IC6, even though set class (0167) does not have a structural role as it does in *Lamento de las Doncellas*, mm. 6-9. There are actually many instances of IC1 and IC6 serving a structural role, without the presence of set class (0167). I believe that not only does set class (0167) serve as a structural entity, but also that the intervals generated by the set class

(0167) serve an important intervallic governing role in *Panambí*, even when said set class is not present. This is seen in previous Example 20, which demonstrates the simultaneous presence of the hemitonic Z-cell played in the left hand on the piano, and two “anhemitonic” Z-cells being played in the right hand in *Danza de los Guerreros*, m. 35. The hemitonic Z-cell is formed in the left hand of the piano with two perfect fourths, separated by a semitone (IC1). Even though set (0167) is not present in the right hand of the piano, Ginastera still interlocks “anhemitonic” Z-cell/ pitch-class set [8T3], and “anhemitonic” Z-cell/ pitch-class set [792] by a semitone or IC1. Examples of this treatment of harmony, in which sets are separated or interlocked by a minor second, can be found throughout the entire suite.

IC1 is used as an important structural element in the harmony of the string section of the fifth movement, *Ronda de las Doncellas*, in m. 1-10. Trichord sets are formed by eighth-note triplets within the string section. These triplets form set classes (016), (027), (036), and (037). All of the vertical dyads, found in mm. 1-6, are separated by IC1, except for beat one of m. 5, in which the interval created between violin II and the cello is part of IC2. Pitch-class set [7T1] which is formed first in violin I, m. 4:2, is then repeated in violin II, m. 5:1. In m. 6, there are two vertical trichords, pitch-class set [914]/ set class (037) within violin I, and pitch-class set [803]/ set class (037). Both of these sets are separated by a semitone, or IC1. Example 22 shows the structural function of IC1 within the string section, fifth movement, mm. 1-6.

Example 22: Structural use of IC1 within the string section, *Ronda de las Doncellas*, mm.

1-6.

The image shows a musical score for the string section (Violin I, Violin II, Viola, Violoncello, and Contrabasso) of the first six measures of *Ronda de las Doncellas*. The score is annotated with various pitch-class sets and their set classes, as well as IC1 intervals. The annotations include:

- Pitch-class set [8T3]/ set class (027) (Violin I, m. 2)
- Pitch-class set [923]/ set class (016) (Violin I, m. 2)
- Pitch-class set [7T1]/ set class (036) (Violin I, m. 3)
- Pitch-class set [037]/ set class (037) (Violin I, m. 4)
- Pitch-class set [7T1]/ set class (036) (Violin I, m. 5)
- Pitch-class set [914]/ set class (037) (Violin I, m. 6)
- Pitch-class set [803]/ set class (037) (Violin I, m. 6)
- Pitch-class set [9E4]/ set class (027) (Violin II, m. 6)
- Pitch-class set [8T3]/ set class (027) (Violoncello, m. 6)
- Pitch-class set [792]/ set class (027) (Contrabasso, m. 2)
- Pitch-class set [148]/ set class (037) (Viola, m. 2)
- Pitch-class set [E26]/ set class (037) (Violoncello, m. 3)
- Pitch-class set [48E]/ set class (037) (Violoncello, m. 4)
- Pitch-class set [590]/ set class (037) (Violoncello, m. 6)

IC1 intervals are marked in measures 2, 3, 4, 5, and 6 across all instruments. The score also includes dynamics like *pizz.* and *p*, and a measure number 'm. 2'.

I believe that the most important structural element in this movement is not the different trichords that are formed within the string section, but in fact, their separation by IC1. Interestingly, not all of the pitch-class sets that form the IC1 dyads are a part of the same set class. For example, m. 2:2 contains pitch-class set [923]/ set class (016) within violin I, and pitch-class set [148]/ set class (037) within the viola. Even though each trichord is a part of a different set class, the notes of these sets are still separated by IC1. One could conclude that perhaps Ginastera was more concerned with the separation of the dyads by a semitone within pitch-class space, rather than the intervallic content of the trichords themselves. In addition, the use of IC1 is the most consistent harmonic element within the movement, rather than the trichord harmonies. As previously addressed, IC1 is also the most prevalent interval found in the main theme of *Ronda de las Doncellas* as well.

IC6 is an important structural interval as well. The ascending tritone in the first movement during the *La Noche* theme in m. 1 is the very first gesture that the listener hears, and it is carried throughout the entire movement. Ginastera also nests this theme within gestures found in other movements, and also composes-out this theme over larger spans of temporal space, which is discussed later. We have also seen the importance of IC6 within the main theme of *Lamento de las Doncellas*, which uses set class (0167) as a structural element, and within the initial theme of *Ronda de las Doncellas*, in which set class (0167) is not used structurally.

At the end of the first movement, *Claro de Luna sobre el Paraná* (Moonlight on the Paraná), the diminished fifth resolves, as the cello and contrabass play the last *La Noche* (The Night) statement. The theme undergoes rhythmic augmentation in mm. 60-63, as the ascending diminished fifth in mm. 60 and 61 resolves to a perfect fourth in mm. 62 and 63. Hemitonic Z-cell/ set class (0167) and “anemitonic” Z-cell/ set class (027) are also formed in this final statement. Here Hemitonic Z-cell/ set class (0167) in mm. 60 and 61 resolves to an “anemitonic” Z-cell/ set class (027) in mm. 62 and 63. This resolution of the augmented fourth might symbolize the end of the night, as the dawn takes place over the Paraná River. Example 23 demonstrates the resolution of the diminished fifth, and the transformation of hemitonic Z-cell/ set class (0167) into “anemitonic” Z-cell/ set class (027), within the first movement, mm. 60-63.

Example 23: The resolution of the diminished fifth (IC6), and the transformation of hemitonic Z-cell/ set class (0167) into “anhemitonic” Z-cell/ set class (027), within the first movement, mm. 60-63.

A. m. 60

Hemitonic z cell/ pitch-class set [0167]/ set class (0167)

“Anhemitonic” z cell/ pitch-class set [570]/ set class (027)

Violoncello

Contrabass

ip <+6>

ip <+5>

ip <+6>

ip <+5>

B.

*In Example A, the contrabass sounds an octave lower than written. Example B shows the sets in their actual sounding registers.

Composing-Out of Thematic Material

In her thesis, “Alberto Ginastera’s string quartets nos. 1 and 2: Consistencies in structure and process,” Jessica Barnett discusses the structural elements that are shared in Ginastera’s string quartet no. 1, which is a non-serial composition, and his string quartet no. 2, which is composed using a twelve-tone serial approach. Even though both works are composed using different techniques, Barnett uncovers structural similarities between the two. Two of the main focuses of Barnett’s thesis involve foreground chromatic aggregate completion, which occurs in *Panambí*, as well as “the deeper-level compositional process of composing-out, which involves

the projection of motivic or intervallic events over larger spans of music”³⁰, which I also believe is a compositional technique that Ginastera used in *Panambí*. Many of the principals regarding the composing-out of thematic material that the author utilizes within her methodology are concepts developed by Joseph Straus regarding atonal music.

In this chapter composing-out refers to the embedding of thematic material on the local level and the expansion of thematic materials on a global level, or over larger expansions of temporal space. These concepts are addressed in this order. These compositional techniques are often not audible to the listener in many cases, but I believe that they are important in developing structural consistency within the *Panambí* suite.

Much of the material that is composed-out is thematic material from the initial statement of the *La Noche* theme found in the first movement. The core component to this theme is the ascending augmented fourth, followed by a descending major second, $ip< +6 -2 >$. This thematic cell forms trichord set class (026) with a contour segmentation that is represented by the notation CSEG <021>.³¹ A manipulation of this theme is found in the flute and piccolo part in the sixth movement, *Danza de los Guerreros*, in mm. 51, 52. Here we find three set class (026) trichords that, in the order of their presentation, are related by T₅. Each of the trichords are approached by an ascending minor second, or IC1. The contour segmentation order, however, has been changed to CSEG <210>.

³⁰ Jessica R. Barnett, “Alberto Ginastera’s String Quartets nos. 1 and 2: Consistencies in Structure and Process” (M.M. thesis. University of Cincinnati, 2007), abstract.

³¹ A contour segmentation or CSEG identifies the register highness or lowness of pitches within a musical contour by use of numbers. The numbers in CSEG <021> indicates that the first note of the trichord (represented by 0) is the lowest sounding. The second pitch in the contour (represented by 2) is the highest sounding, and the final pitch (represented by 1) is in between the first two pitches in terms of register.

The pitch-class sets that are formed within the flute and piccolo parts are [E35], [6T0], and [791]. These are the same pitch-class sets of set class (026) found in the first movement, mm. 1-6. Additionally, the gesture ends on note A, as it does in the *La Noche* theme in the first movement, mm. 1-6, which resolve to notes A and E within the clarinets in m. 7. In a sense the gesture in *Danza de los Guerreros* in mm. 51, 52, is a reduction of the *La Noche* theme found in the first movement in mm. 1-7 in a higher register. The only note that is not present to complete master pitch-class set [5678TE013]/ set class (01235678T), within *Danza de los Guerreros* in m. 51, is the note G sharp. This note is used in the *La Noche* theme as a way to transition among different transpositions of the set class (026) theme. The complete master pitch-class set [5678TE013]/ set class (01235678T) is present, however, in the strings section of the sixth movement, within the same measure, m. 51. Example 24a shows set class (026) trichords and their transposition by T_{-5} in *Danza de los Guerreros*, m. 51. Example 24b demonstrates the same pitch-class sets/ set class (026) also present in the first movement, *Claro de Luna Sobre el Paraná*, mm. 1-6, that are related by T_{-5} , as well as the presence of master set pitch-class set [5678TE013]/ set class (01235678T). Example 24c illustrates the formation of master set pitch-class set [5678TE013]/ set class (01235678T) in the sixth movement, *Danza de los Guerreros*, m. 51.

Example 24: A: Transposition of set class (026), sixth movement, m. 51. B: Transposition of set class (026) and presence of master set class (01235678T), first movement, mm. 1-7. C: Formation of master set class (01235678T), sixth movement, m. 51.

A. Piccolo and Flute staves, m. 51. Annotations include: Pitch-class set [E35] set class (026), Pitch-class set [6T0] set class (026), Pitch-class set [157] set class (026), CSEG <210>, CSEG <021>, and G sharp needed to complete pitch-class set [5678TE013] set class (01235678T) in m. 51. Transposition arrows labeled T-5 are shown.

B. Bassoon, Contrabassoon, Clarinet in Bb, and Bass Clarinet in Bb staves, mm. 1-6 and m. 7. Annotations include: *pp* (LA NOCHE), *pp*, Clarinets sound as written, All of the notes in mm. 1-6 form pitch-class set [5678TE013] set class (01235678T), and G sharp is used to transition from different transpositions of the theme. Transposition arrows labeled T-5 are shown.

C. Violin I, Violin II, Viola, Violoncello, and Contrabass staves, m. 51. Annotation: All of the notes in m. 51 form pitch-class set [5678TE013] set class (01235678T).

A composing-out of set class (026) can be seen in the third movement, *Lamento de las Doncellas*. The first instance can be found in mm. 1-5. Composing-out the set class (026) theme occurs in the cello and the viola, which is harmonizing the cello a perfect fifth above. Pitch-class set [0167]/ set class (0167) is formed by parallel fifths that ascend a tritone, in the same manner as in the *La Noche* theme in the first movement. Pitch-class set [0167]/ set class (0167), found in m. 1 of *Lamento de las Doncellas*, is also located in in m. 2:1 and m. 4:3. The same pitch-class set [0167]/ set class (0167) is found in the first movement mm. 4-5, but the pitch order is retrograded in comparison to the same set found *Lamento de las Doncellas*. In the first movement, mm. 4-5, pitch-class set [0167]/ set class (0167) is presented as F sharp and C sharp (F sharp being the lowest sounding voice), moving up an diminished fifth to C natural and G natural respectively. In *Lamento de las Doncellas*, mm. 1-5, pitch-class set [0167]/ set class (0167) is formed as C natural and G natural (C natural being the lowest sounding voice), move up an augmented fourth to F sharp and C sharp, in that order. Since these sets that belong to set class (0167) are formed differently, the set class (026) sets are different, since (unlike set class (0167)) they not symmetrical sets. When set class (0167) is transposed by a tritone, it maps onto itself, due to its symmetrical structure. When a pitch-class set that is part of set class (026) is transposed by a tritone, the pitch-class set changes. The (026) sets formed in the first movement, mm. 4-5, are pitch-class sets [6T0] and [157] (see Example 24b). The (026) sets formed in the third movement, mm. 1-5, are pitch-class sets [046] and [7E1]. Pitch-class set [6T0] from the first movement is related to pitch-class set [046] within the third movement by T_6 . Pitch-class set [157] from the first movement is related to pitch-class set [7E1] within the third movement, also by T_6 . The only time in *Lamento de las Doncellas*, in mm. 1-5, that set class (026) is presented as

consecutive pitches is mm. 4:3-5, in the cello. Example 25 demonstrates the composing-out of set class (026), and the formation of pitch-class set [0167]/ set class (0167).

Example 25: The composing-out of set class (026) and the formation of pitch-class set [0167]/ set class (0167), *Lamento de las Doncellas*, third movement, mm. 1-5.

The image shows a musical score for the first five measures of the third movement of *Lamento de las Doncellas*. The score is for Viola and Violoncello. The key signature has one flat (B-flat), and the time signature is 3/8. The music is marked *con sord.* and includes dynamic markings *p*, *pp*, *mf*, and *p*. Annotations with lines pointing to specific notes in the score provide the following information:

- Top-left annotation:** Pitch-class set [0167]/ set class (0167). The same pitch-class set found in the first movement, mm. 4, 5.
- Top-right annotation:** Pitch-class set [7E1]/ set class (026) related to pitch-class set [157] found in the first movement, mm. 4, 5 by T6.
- Bottom-right annotation:** Pitch-class set [046]/ set class (026) related to pitch-class set [6T0] found in the first movement, mm. 4, 5 by T6.

The composing-out of set class (026) is also found later in *Lamento de las Doncellas*, in mm. 6-9 within the second theme played by the flute. This was previously discussed earlier in the chapter, while addressing the importance of set class (0167) and IC1 and IC6. Pitch-class set [56E0]/ set class (0167) formed in the third movement in mm. 6-9, is also present in the first movement in mm. 1-2. Like mm. 1-5 in *Lamento de las Doncellas*, the ascending tritone is presented in retrograde order in comparison to *La Noche* theme of the first movement. In the first movement, mm. 1-2, the B natural in the contrabassoon moves up a diminished fifth to F natural

(see Example 24b). In *Lamento de las Doncellas*, mm. 6-9, F natural ascends an augmented fourth to B natural. Since the quality of the tritone is altered, but the overall ordered pitch intervals are maintained (*ip* <+6 -2>), the pitch-class set/ set class (026) found in the first movement in mm. 1-2 is different from the pitch-class set/ set class (026) found in the third movement in mm. 6-9. Essentially, the pitch-class set has been transposed up or down a tritone in pitch-class space. Pitch-class set [E35] found in the first movement, mm. 1-2, is related to pitch-class set [59E] found in the third movement, mm. 6-9, by T_6 . Unlike in mm. 1-5 of *Lamento de las Doncellas*, set class (026), in measures mm. 6-9, is not presented in consecutive order. Example 26 shows the composing out of set class (026) in the third movement, mm. 6-9.

Example 26: The composing-out of set class (026), *Lamento de las Doncellas*, third movement, mm. 6-9.

Pitch-class set [59E]/ set class (026) related to pitch-class set [E35] found in the first movement, mm. 1, 2, by T_6 .

Flute *mf*

m. 6

All notes, minus notes A and D, form pitch-class set [56E0] set class (0167), which is the same pitch-class set found in the first movement, mm. 1, 2.

All notes, including notes A and D, are part of OCT 2, 3.

Jessica Barnett also addresses another type of composing-out of motives, which she terms the "associational pathway." She defines this term as a form of observation "which essentially traces a musical narrative as it develops and transforms over the course of a section or entire movement. Musical events often have logical consequences that are realized in the series of events that follow, collectively forming an *associational pathway*."³² She states that her idea is comparable to a concept developed by Schoenberg, which is expressed in his book *The Musical Idea and the Logic, Technique, and Art of Its Presentation*, "in that the opening gestures of a work typically instill within the music a vital and motivating sense of unrest, with which the composer must grapple musically and overcome compositionally. To put it another way, the music begins with an idea (or gestalt) that struggles to develop and realize all of its inherent consequences as it seeks a state of rest."³³ I believe that this motivic transformation occurs in *Panambí*, specifically utilizing set classes (0258) and (0167) , within the first movement, *Claro de Luna Sobre el Paraná*.

As previously addressed, set class (0258) is used as the theme in the first presentation of *La Noche* within the first movement in mm. 1-3. This set is mainly used in the rest of the suite as a vertical structure, and specifically as an important harmony in the *Canto del Paraná* theme found in the first movement. I also believe that it serves a deeper structural function, as this set is also created from the tonal centers used in the first movement, *Claro de Luna Sobre el Paraná*. This portion of the chapter deals with the transformation of set class (0258) from its initial presentation in mm. 1-3 to the

³² Jessica R. Barnett, "Alberto Ginastera's String Quartets nos. 1 and 2: Consistencies in Structure and Process" (M.M. thesis. University of Cincinnati, 2007), 84.

³³ Ibid.

final statement of the *La Noche* theme, on the surface level as a harmonic construct, and on a deeper structural level as an element that acts within the tonal centers of the suite.

The notes presented in the contrabassoon in mm. 1-3 are B, F, E flat and G sharp forming pitch-class set [358E]/ set class (0258). Note B is established as the tonal center through register, repetition, duration, and metric placement. Set class (0258) then serves a structural role, as it is formed by the tonal centers in mm. 1-25. Tonal centers B in mm. 1-3, A in mm. 7-10, D in mm. 15-17, and F natural in mm. 18-25 form pitch-class set [9E25], which is related to pc set [358E] in mm. 1-3, by T_6 . After transitional material in mm. 26-29, we hear the first presentation of the *Canto del Paraná* theme in m. 30. Structural pitch-class set [9E25] then surfaces as a prevalent harmony in the *Canto del Paraná* theme over tonal center C in mm. 30-40. After the *Canto del Paraná* statement, tonal centers E natural in mm. 41-44, G natural in mm. 45-48, and B flat in mm. 49-52, along with tonal center C in mm. 30-40, form structural pitch-class set [47T0], which is related to structural pc set [9E25], found in mm. 1-25, and the *Canto del Paraná* pc set [9E25], by T_9I . The set class (0258) *Canto del Paraná* harmony appears two more times, first in mm. 53-56 as pc set [358E] over tonal center F, then in mm. 57-63 as pc set [9E25] over tonal center C. The movement concludes with the final statement of the *La Noche* theme in mm. 62-63, in which the theme has been transformed from initial pitch-class set [358E]/ set class (0258) found in mm. 1-3, into pc set [035]/ set class (025). All tonal centers, minus transitional material centers C sharp and A flat, form pitch-class set [45679TE02]/ set class (01235678T), which is related to master pc set [5678TE013]/ set class (01235678T) by T_{11} . Example 27 illustrates the transformation of set class (0258) as a theme, as a harmony, and as structural tonal centers within the first movement.

Example 27: The transformation of set class (0258) in the first movement, *Claro de Luna*

Sobre el Paraná.

Key: *La Noche* them e = L.N.
Canto del Paraná them e = C.P.
Los Rayos de la Luna them e = L.R.
 Transpositional in a tenal = Trans. Mat.
 *Notes in treble clef sound as written.
 Notes in bass clef sound an octave lower than written.

La Noche them e, m.m. 1-3. Pitch-class set [358E], set class (0258)

Canto del Paraná them e and pitch-class set [9E25], set class (0258). Related to pitch-class set [358E], m.m. 1-3, by T₆

Los Rayos de la Luna them e and pitch-class set [247T], set class (0258). Related to pitch-class set [358E], m.m. 1-3, by T₁₁

Final La Noche them e statem ent, m.m. 62, 63. Pitch-class set [035], set class (025)

Structural pitch-class set [9E25], set class (0258). Related to pitch-class set [358E], m.m. 1-3, by T₆

Structural pitch-class set [477T0], set class (0258). Related to pitch-class set [358E], m.m. 1-3, by T₃

All tonal centers, minus transpositional in a tenal centers C sharp and A flat. Form pitch-class set [45679TE02], set class (01235678T), which is related to m a ster pitch-class set [5678TE013] by T₁₁

Final Harmony, m.m. 64-67. L.N. m.m. 57-63. C.P. m.m. 53-56. L.R. m.m. 49-57. Trans. Mat. m.m. 45-48. C.P. Trans. Mat. m.m. 41-44. T₀ m.m. 30-40. T₃ m.m. 22-25. L.N. L.R. m.m. 18-21. L.N. L.R. m.m. 15-17. Trans. Mat. m.m. 11-14. L.N. m.m. 7-10. L.N. m.m. 4-6.

Earlier in the chapter, I addressed the formation of set classes (0158), (0258), and (0358) within a diatonic collection. In functional harmony, set class (0258) is formed as a diminished minor seventh, and a major minor seventh. When you invert a diminished minor seventh, a major minor seventh is formed, and vice versa. In the first movement we see structural pitch-class set [9E25]/ set class (0258) formed in mm. 1-25. One could see this as an arpeggiated diminished-minor seventh, spelled in root position as B, D, F, A. This pitch-class set is then inverted and transposed by T_9I to create pitch-class set [47T0] in mm. 30-52, which can be seen as an arpeggiated C major-minor seventh, C, E, G, B flat. This large scale C major minor seventh chord resolves as one would expect in functional harmony from the common practice period. In m. 53, the *Canto del Paraná* theme returns over tonal center F. The first harmony the listener hears is pitch class set [4590]/ set class (0158) found within the string section, which also spells an F major major seventh chord, F, A, C, E. The resolution of this functional V^7-I is difficult to hear because of the long durations of notes that make up the C major minor seventh arpeggio, and this is the only example of functional harmony, as found in the common practice period, that I could find within the suite. Example 28 shows the resolution of large scale C major-minor seventh to pitch class set [4590]/ set class (0158)/ F major major seventh, in the first movement, m. 53.

Example 28: The resolution of large scale C major minor seventh to pitch-class set [4590]/ set class (0158)/ F major major seventh, in the first movement, m. 53.

Pitch-class set [4590]/ set class (0158)/ F major-major seventh

m. 53

Violin I

Violin I

Violin II

Violin II

Viola

Violoncello

Contrabass

Tonal centers mm. 30-52. Pitch-class set [47T0]/ set class (0258)/ C major-minor seventh

Set class (0167) is used in *Panambí* on a deeper structural level in the first movement. This set is formed in the initial gesture of parallel fifths ascending a diminished fifth in m. 1, forming pitch-class set [56E0]/ set class (0167). This same pc set is found in the first movement as tonal centers B in mm. 1-3, F sharp in mm. 4-6, F natural in mm. 18-25, C in mm. 30-40, and F natural, C, and final pitch C, in mm. 53-67. The beginning ascending tritone gesture found in the contrabassoon in mm. 1-3 is imitated and stretched out temporally, as tonal center B in mm. 1-3, moves to F natural in mm. 18-25. A broader elongation of the ascending tritone gesture found in the bassoon in mm. 1-3, is present on a deeper level, as tonal center F sharp in mm. 4-6

ascends to tonal center C in the final presentation of the *La Noche* theme mm. 57-63. The very last statement of the *La Noche* theme demonstrates a resolution of the tritone, as notes C and G move up a perfect fourth to F and C respectively, transforming pitch-class set [56E0]/ set class (0167) from mm. 1, 2, into pitch-class set [570]/ set class (027) in mm. 62, 63. This is achieved on a global level, as notes B and F sharp in mm. 1-3, move up a semitone ($ip<+1>$), to notes C and G in mm. 62, 63, as notes F natural and C natural are maintained. In a sense, the entire movement consists of tonal center B ascending a minor second ($ip<+1>$) to tonal center C found in the final performance of the *La Noche* theme.

The resolution of the tritone, while preserving other pitches of a given set on a global level, is also demonstrated with the conversion of *La Noche* thematic cell, set class (026), which is formed in mm. 1-2, in the bassoon and contrabassoon as horizontal structures, as it is transformed into set class (025), within the cello and contrabass in mm. 62, 63. The initial *La Noche* statement in the contrabassoon, mm. 1-2, form pitch-class set [E35]/ set class (026) with the notes B, F, and E flat. In the final *La Noche* statement, the B is raised a semitone C, resolving the tritone, forming pc set [035]/ set class (025), while notes F and E flat remain. On the most abstract level, the first movement, *Claro de Luna Sobre el Paraná*, is a large-scale resolution of the tritone, resulting in the contraction and transformation of set class (026) into set class (025). Example 29a demonstrates the structural use of set class (0167), as well as, the transformation of set class (0167) to set class (027) within the first movement. Example 29b shows the conversion of set class (026) into (025) in the first movement.

Example 29a: The structural use of set class (0167) and the transformation of set class (0167) into set class (027), first movement, *Claro de Luna Sobre el Paraná*.

Initial statement of the *La Noche* theme, pitch-class set [56E0]/ set class (0167), m m . 1, 2

Final statement of the *La Noche* theme, pitch class set [570]/ set class (027), m m . 62, 63

m m . 1-6 m m . 18-25 m m . 30-40 m m . 53-67

*Notes in the bottom bass clef staff sound an octave lower than written

Pitch-class set [56E0]/ set class (0167)

Example 29b: The conversion of set class (026) into (025) in the first movement, *Claro de Luna Sobre el Paraná*.

Initial *La Noche* statement, pitch-class set [E35]/ set class (026), contra bassoon, m m . 1, 2

Final *La Noche* statement, pitch-class set [035]/ set class (025), contra bass, m m . 62, 63

$ip <+6>$

*Notes sound an octave lower than written

$ip <+1>$

The items explored in this chapter were the compositional elements that I felt were the most important in the construction and sound of Ginastera's *Panambí*. Further analyses of the *Panambí* suite would certainly reveal other important elements that shape the sound and structure of the work. In addition, such analyses should include a thorough investigation of potential Argentine influences on *Panambí*'s themes and rhythms. I attempted to find such associations early in my research, but was unable to locate any direct links to the themes and rhythms used in *Panambí* to Argentine folk music.

CHAPTER III

THE INFLUENCE OF DEBUSSY'S *LA MER* AND STRAVINSKY'S *LE SACRE DU*

PRINTEMPS

Introduction

This chapter explores the influence of Debussy's *La Mer* and Stravinsky's *Le Sacre du Printemps* on Ginastera's *Panambí*. The aim of this chapter is not to suggest that Ginastera directly copied materials from Debussy and Stravinsky, but rather to show similarities in orchestration and compositional techniques in *La Mer*, *Le Sacre du Printemps* and *Panambí*.

The *Panambí* suite was composed while Ginastera was still studying at the Conservatorio Nacional de Música y Artes Escénico in Buenos Aires. Living in a cultured cosmopolitan city allowed Ginastera the opportunity to attend many concerts and operas, and there is the possibility that the young Ginastera attended performances of Debussy's *La Mer* and Stravinsky's *Le Sacre du Printemps*. He also could have been studying their scores as part of his composition training at the conservatory under José André and Carlos López Buchardo. In a letter to David Wallace, Ginastera singles out Debussy's *La Mer* and Stravinsky's *Rite of Spring* as two works that inspired him in his youth, and he specifically mentions his admiration for Debussy's orchestration in *La Mer*.

La Mer de Debussy impressed me by its imagination, its transcendent beauty and the virtuosity of its orchestration. *Le Sacre* was like a shock. Something new and unexpected. The primitivism of the music, its dynamic impulse and the novelty of its language impressed me as the work of a genius. I think that Stravinsky's *Sacre* as Picasso's *Guernica* represent better than any other work the language and spirit of their time. They speak an energetic and at the same time very dramatic language.³⁴

³⁴ (Letter from Alberto Ginastera to David Wallace), David Wallace, "Alberto Ginastera: An Analysis of His Style and Techniques of Composition" (PhD diss., Northwest University, 1964), 14.

The Influence of Debussy's *La Mer*

Ginastera had an appreciation for Debussy's virtuosity of orchestration, and *Panambí* demonstrated that Ginastera, at a young age, had a remarkable talent for orchestration as well. I believe that, aside from just its orchestration, the compositional techniques used by Debussy in *La Mer* could have also been an influence on *Panambí*.

Richard Parks discusses Debussy's use of complement relations in chapter six of his book *The Music of Claude Debussy*, in which subsets of superset pitch collections are used as important vertical and horizontal structures. Specifically regarding *La Mer*, Parks points out the formation of a superset nonachord and the use of its complement subset trichord as a significant structural harmony within the second gesture found in the first movement in mm. 6-11. The author describes the use of complement sets in the beginning of the first movement of *La Mer* by stating that "in 'De l'aube à midi sur la mer,' the pc content of introductory bars mm. 1-5 is too sparse to form a complement relation; mm. 6-11, however, employ set 9-10, while 3-10 appears as the very first sonority of m. 6 and saturates other prominent harmonies."³⁵ (Forte number 9-10 is nonachord set class (01234679T) and its Forte number 3-10 complement trichord is set class (036)).

The opening gesture in the first movement of Ginastera's *Panambí* in mm. 1-6 also forms a nonachord, which I believe is used as a master set, as addressed in the previous chapter. The use of the trichord complement set in *Panambí* differs from the employment found in *La Mer* however. In *La Mer*, the complement set is formed as a harmony at the very beginning, and used throughout the entire gesture. In *Panambí*, the complement set does not appear until the very end

³⁵ Richard S. Parks, *The Music of Claude Debussy*. (New Haven: Yale University Press, 1989), 156.

of the *La Noche* statement in the clarinet parts, when chromatic aggregate completion occurs (see Example 8a). While there are differences in the use of complement sets between the two gestures, similarities are found in the formation of tetrachord set classes, specifically set class (0167) and (0258).

Pitch-class set [56E0]/ set class (0167) is formed in the first movement of *La Mer* in mm. 6:3-8 in the bassoons, where the notes E sharp and B, a diminished fifth, move up a semitone (*ip* <+1>) to notes F sharp and C natural, also a diminished fifth. Set class (0258) is presented as a harmony in mm. 8-9, between the bassoons, clarinet and flute. In m. 7, pitch-class set [9E25]/ set class (0258) is a vertical structure built with notes E sharp, B, D, and A. Pitch-class set [4690]/ set class (0258) is formed in m. 8 with notes A, C, E, and F sharp. Both (0258) sets are related by T_7 .

In the first statement of the *La Noche* theme located in mm. 1-2 in the first movement of *Panambí*, pitch-class set [56E0]/ set class (0167) is created by perfect fifths played by bassoons that ascend a diminished fifth (*ip* <+6>), the same pitch-class set/ set class (0167) found in the *La Mer* gesture. Pitch-class set [0167]/ set class (0167) is formed in the same fashion in mm. 4-5, and is related to pitch-class set [56E0] by T_7 like the set class (0258) harmonies found in the *La Mer* in mm. 7-8. Pitch-class sets [358E] and [T036]/ set class (0258) are presented horizontally as the first statement of the *La Noche* theme in mm. 1-3. In the *La Noche* theme, the notes G sharp and D sharp are used to connect the set class (0167) harmonies and transition into the restatements of the theme; in the first movement of *La Mer* mm. 7-8, G sharp and D sharp are used to connect the set class (0258) harmonies. Example 30a shows the formation of set classes (0167) and (0258) in the first movement of *La Mer*, mm. 6-9. Example 30b demonstrates the formation of set classes (0167) and (0258) in the first movement of *Panambí*, mm. 1-6.

Example 30a: The formation of set classes (0167) and (0258) in the first movement of *La Mer*, mm. 6-9.

Diagram illustrating the formation of set classes (0167) and (0258) in the first movement of *La Mer*, mm. 6-9. The score shows three staves: Flute, Clarinet in A, and Bassoon. The key signature is one sharp (F#) and the time signature is 4/4. The music is marked *p* (piano) and *pp* (pianissimo). The diagram highlights the following pitch-class sets and set classes:

- Pitch-class set [9E25]/ set class (0258) (Flute, m. 6)
- Pitch-class set [4690]/ set class (0258) (Flute, m. 7)
- Pitch-class set [58E]/ complement set class (036) (Bassoon, m. 6)
- Pitch-class set [56E0]/ set class (0167) (Bassoon, m. 6)
- Pitch-class set [56E0]/ set class (0167) (Clarinet in A, m. 7)
- Pitch-class set [0167]/ set class (0167) (Clarinet in A, m. 7)

All notes form pitch-class set [2345689E0]/ set class (01234679T). G sharp and D sharp are used to connect the set class (0258) harmonies.

Intervallic relationships: $ip <+1>$ (Clarinet in A, m. 7) and $ip <+6>$ (Bassoon, m. 6).

Example 30b: The formation of set classes (0167) and (0258) in the first movement of *Panambi*, mm. 1-6.

Diagram illustrating the formation of set classes (0167) and (0258) in the first movement of *Panambi*, mm. 1-6. The score shows two staves: Bassoon and Contrabassoon. The key signature is one sharp (F#) and the time signature is 4/4. The music is marked *pp* (pianissimo) and includes the text "(LA NOGHE)". The diagram highlights the following pitch-class sets and set classes:

- Pitch-class set [56E0]/ set class (0167) (Bassoon, mm. 1-2)
- Pitch-class set [0167]/ set class (0167) (Bassoon, mm. 3-4)
- Pitch-class set [358E]/ set class (0258) (Contrabassoon, mm. 1-2)
- Pitch-class set [T036]/ set class (0258) (Contrabassoon, mm. 3-4)

All notes form pitch-class set [5678TE013]/ set class (01235678T). G sharp and D sharp are used to connect the set class (0167) harmonies and transition into the restatements of the theme.

Intervallic relationships: $ip <+6>$ (Bassoon, mm. 1-2).

The third movement of *La Mer, Dialogue du vent et de la mer*, has a gesture similar to the *La Noche* theme. This gesture is comprised of an ascending diminished fifth followed by a descending major second (*ip* <+6 -2>) that is played by the French horns in m. 96, m. 102, and m. 108 and forms set class (026). The contour and pitch intervals are nearly identical to that in the *La Noche* theme, except in the third movement of *La Mer*, the descending major second within the (026) gesture is then followed by an ascending major second. The *La Noche* theme has a contour segment of CSEG <021>, and the gesture in the third movement of *La Mer* has a contour segment of CSEG <0212>. This gesture found in the third movement of *La Mer* forms pitch-class set [E35]/ set class (026), which is the same pitch-class set found in mm. 1-2, in the contrabassoon, in the first movement of *Panambí*.

The rhythm is different between the two gestures however. In the first movement of *Panambí* in mm. 1-2, the rhythm of the (026) gesture is a half note, followed by two quarter notes. The (026) gesture found in the third movement of *La Mer*, consists of a sixteenth note, dotted eighth note, which is repeated, and then tied to a whole note in the next measure. Example 31a illustrates the formation pitch-class set [E35]/ set class (026), pitch intervals, and contour segment in *La Mer*, third movement, mm. 96-97. Example 31b demonstrates the formation pitch-class set [E35]/ set class (026), pitch intervals, and contour segments in *Panambí*, first movement, mm. 1-2.

Example 31a: The formation pitch-class set [E35]/ set class (026), pitch intervals, and contour segment in *La Mer*, third movement, mm. 96-97.

Pitch-class set [E35]/ set class (026)

m. 96 *ip* <+6> -2 +2>

Horn in F *f* *f*

Horn in F *f*

CSEG <0212>

*Notes sound a perfect fifth lower than written

Example 31b: The formation pitch-class set [E35]/ set class (026), pitch intervals, and contour segments in *Panambí*, first movement, mm. 1-2.

Pitch-class set [E35]/ set class (026)

m. 1 *ip* <+6> -2 -4 +6 -2>

Bassoon *pp* (LA NOCHE)

Contrabassoon

CSEG <021> CSEG <021>

*Contrabassoon sound an octave lower than written

As previously discussed, the “guitar chord” set class (02479) is found throughout the *Panambí* suite, but is never presented as the tuning of the open strings of the guitar as seen in Ginastera’s later works. Set class (02479) can be formed in a variety of different ways. It can be

created by the standard guitar tuning (E2, A2, D3, G3, B3, E4), or as a G major pentatonic scale for example (G, A, B, D, E). It also can be formed from a segment of the circle of fifths (G, D, A, E, B). I believe there is a strong possibility that Ginastera's use of set class (02479) in *Panambí* may be due to the influence of *La Mer*, specifically Debussy's orchestration of the harmony in the first movement.

Beginning in m. 31 in the first movement of *La Mer*, there is a drastic shift in timbre, as a new section begins. The theme in this section is supported by a set class (02479) harmony played by violin II, viola, and cello. Pitch-class set [358T]/ set class (0257) is formed by alternating dyads in violin II. The juxtaposition of violin II and the viola creates a shimmering effect, as the viola alternates between notes A flat and D flat. During this section, the cello is playing a gesture that utilizes a D flat pentatonic scale, which also forms pitch-class set [1358T]/ set class (02479), including the A flat and D flat found in the viola. All of the notes played by the string section during this part of the first movement of *La Mer* form pitch-class set [1358T]/ set class (02479).

A very similar orchestration of the "guitar chord" set class (02479) harmony is observed beginning in m. 30 of the first movement of *Panambí* during the *Canto del Paraná* section. This harmony is performed by the same instruments as in the first movement of *La Mer*, violin II, viola, and cello. The same shimmering effect is created by alternating dyads within violin II and viola, which forms pitch-class set [9E24]/ set class (0257) and pitch-class set [7902]/ set class (0257) respectively. In *La Mer*, the cello gesture likewise forms set class (02479). The perfect fifths and fourths played by the cello create pitch-class set [02479]/ set class (02479), and are a part of the C major pentatonic scale. All notes in this section form pitch-class set [79E024]/ symmetrical set class (024579), which includes interlocking subsets of set class (02479), pitch-class sets [79E24] and [02479].

The violin II and viola parts are also rhythmically similar in their use of sextuplet figures in their respective sections of *Panambi* and *La Mer*. Violin II parts in both works also display a repeating pattern of two alternating dyads, where the larger dyad starts each beat. In Debussy's *La Mer*, the alternating dyads create perfect fifth and minor third intervals; in Ginastera's *Panambi*, the intervals created are the inversions of those presented in *La Mer*, a major sixth and a perfect fourth. In addition, both of these sections occur in the same location for both works; in *Panambi*, this section begins in m. 30, and in *La Mer*, the section begins in m. 31. Example 32a illustrates the use of the "guitar chord" set class (02479) in m. 31 of the first movement of *La Mer*. Example 32b shows the use of the "guitar chord" set class (02479) in m. 30 of the first movement during the *Canto del Paraná* section in *Panambi*.

Example 32a: The use of the "guitar chord" set class (02479) in m. 31 of the first movement of *La Mer*.

Pitch-class set [358T]/ set class (0257)

m. 31

Violin II

Viola

Violoncello

All notes form pitch-class set [1358T]/ set class (02479)

Pitch-class set [1358T]/ set class (02479)/ D flat major pentatonic scale

Detailed description: The image shows a musical score for measure 31 of the first movement of Debussy's 'La Mer'. It features three staves: Violin II (treble clef), Viola (alto clef), and Violoncello (bass clef). The key signature is three flats (B-flat, E-flat, A-flat) and the time signature is 6/8. The Violin II part consists of a continuous sextuplet of eighth notes. The Viola part also consists of a continuous sextuplet of eighth notes. The Violoncello part features a sextuplet of eighth notes with triplet markings (indicated by the number '3' above and below the notes). Annotations include a line pointing to the Violin II part with the text 'Pitch-class set [358T]/ set class (0257)', and another line pointing to the Violoncello part with the text 'Pitch-class set [1358T]/ set class (02479)/ D flat major pentatonic scale'. A third annotation at the bottom left states 'All notes form pitch-class set [1358T]/ set class (02479)'.

Example 32b: The use of the “guitar chord” set class (02479) in m. 30 of the first movement, during the *Canto del Paraná* section in *Panambí*.

Pitch-class set [9E24]/set class (0257) pitch-class set [7902]/set class (0257)

m. 30

Violin II *sempre pp*

Viola *sempre pp*

Violoncello *sempre pp*

All notes form pitch-class set [79E024]/ symmetrical set class (024579), which includes interlocking set class (02479) subsets, which are pitch-class sets [79E24] and [02479].

Pitch-class set [02479]/set class (02479)/ C major pentatonic scale

In addition to musical similarities between *Panambí* and *La Mer*, there are also non-musical narrative connections. Debussy’s *La Mer* is a programmatic composition, in which the music is designed to depict the wind and waves of an ocean experience. Much of the choreography of Ginastera’s original ballet *Panambí* centers on another body of water, the Paraná River. The most striking resemblance of *La Mer* in comparison to *Panambí* occurs during the *Canto del Paraná* (Song of the Paraná) as shown in the previous example.

The Influence of Stravinsky’s *Le Sacre du Printemps*

As previously mentioned, Stravinsky’s *Le Sacre du Printemps* was cited by Ginastera himself as being a major influence in his youth and as having made a lasting impression on his compositional style throughout his career. In 1967, an interview was published in the journal

Tempo which celebrated the eighty-fifth birthday of Stravinsky. In this interview, Ginastera once again talked about the influence of Stravinsky's *Le Sacre du Printemps*, and specifically mentions how the *Rite of Spring* influenced his first orchestral work, *Panambi*.

Since it is easier to speak of one's own experiences than of other people's, I may say that when I first heard *The Rite [of Spring]* I was only 14 years old. The work had for 16 years been a subject of controversy and violent polemics, but was then, in 1930, recognized as an established masterpiece. Nevertheless, to my youthful and inexperienced ears *The Rite* on that occasion sounded incomprehensible and even cacophonous. But it made me think. Although I did not accept it straight away, as I might have done if at that time my only gods had not been Debussy and Ravel, yet I did not reject it altogether. I did not imagine at the time that this would be one of the works which would influence me most in later years. Four years later I wrote my first orchestral piece, the ballet *Panambi*, and with all the ingenuousness and innocence of youth I employed in it the same percussive effects, the same changing rhythms, using an immense orchestra with the percussion occupying pride of place—in other words the same ingredients as Stravinsky had made use of for the first time in that musical prodigy known as *The Rite of Spring*. On comparing notes with my Latin American colleagues I discovered that I was not the only one to succumb to the marvelous spell of the Stravinskian magic.³⁶

The musical influence of Stravinsky's *Le Sacre du Printemps* on Ginastera's *Panambi* is quite apparent in the final movement of the suite, *Danza de los Guerreros*, compared with the second movement of *Le Sacre du Printemps*, *The Augurs of Spring Dances of the Young Girls*. There is not much connection as far as the set class harmonies are concerned, but orchestration and rhythm certainly share a likeness. Both movements are orchestrated with strings playing a static harmony in continuous eighth-note rhythms, and both movements use syncopated rhythms that are accented by the French horn section that begin in m. 3. Example 33a shows the orchestration of the second movement of *Le Sacre du Printemps*, mm. 3-6. Example 33b demonstrates the orchestration of the sixth movement of the *Panambi* suite, *Danza de los Guerreros*, mm. 3-4.

³⁶ Roger Smalley, Alexander Goehr, Gordon Crosse, John Tavener, Alberto Ginastera, "Personal Viewpoints: Notes by Five Composers," *Tempo*, no. 81, Stravinsky's 85th Birthday (Summer 1967): 28.

Example 33a: The orchestration of the second movement of *Le Sacre du Printemps*, mm.

3-6.

m. 3

Horn in F *sf sempre*

Horn in F *sf sempre*

Violin II *sempre simile*

Viola *sempre simile*

Violoncello *sempre simile*

Contrabass *sempre simile*

Example 33b: The orchestration of the sixth movement of the *Panambi* suite, *Danza de los Guerreros*, mm. 3-4.

m. 3

Horn in F *sf*

Horn in F *sf*

Violin I *sf*

Violin II *sf*

Viola *sf*

Violoncello *sf*

Contrabass *sf*

Chapter two addressed the structural importance of IC1, specifically in the fifth movement, *Ronda de las Doncellas*, where trichords that form different sets classes were separated by IC1. The most harmonically consistent element in *Ronda de las Doncellas* is not the trichords that are formed, but their separation by a semitone. A very similar occurrence appears in the tenth movement of *Le Sacre du Printemps* in mm. 25-32.

Allen Forte describes this section of *Mystic Circle of the Adolescents* in his book *The Harmonic Organization of The Rite of Spring* as “so highly contrapuntal that the harmonic component seems to be minimal: that is that the harmonies formed would be more or less arbitrary with respect to the movement and to the work as a whole.”³⁷ Forte specifically addresses mm. 25-32 by detailing how tetrachord “4-23 (two forms) is counterpointed against 4-10, and the pattern of accompanying seconds (here ninths) continues. Even in this more complicated situation, where the harmonies are clearly secondary, the sets formed are of interest.”³⁸ (Forte number 4-23 is set class (0257), and Forte number 4-10 is set class (0235)).

This section of *Le Sacre du Printemps* actually has more harmonic consistency in the set classes that are used than does Ginastera’s fifth movement of *Panambí, Ronda de las Doncellas*. All of the sets found in violin I and the cello form trichords in each measure that represent set class (025). The pitch content horizontally in the violin I and the cello in mm. 25-32 form set class (0257), which is one of the same set classes that is presented in the first movement of *Panambí* in mm. 1-6, and a set that is used throughout the entire suite. Example 34a demonstrates the use of IC1 and the formation of set class (0257) in *Le Sacre du Printemps*, tenth

³⁷ Allen Forte, *The Harmonic Organization of The Rite of Spring*. (New Haven: Yale University Press, 1978), 83.

³⁸ *Ibid.*, 83.

movement, *Mystic Circle of the Adolescents*, mm. 25-28. Example 34b shows the use of IC1 in the fifth movement of *Panambi, Ronda de las Doncellas*, mm. 2-6.

Example 34a: The use of IC1 and the formation of set class (0257) in *Le Sacre du Printemps*, tenth movement, *Mystic Circle of the Adolescents*, mm. 25-28.

Pitch-class set [T035]/ set class (0257) Pitch-class set [E146]/ set class (0257)

m. 25

Violin I div.
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Violoncello
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Pitch-class set [E146]/ set class (0257) Pitch-class set [T035]/ set class (0257)

The horizontal trichords in each measure form set class (025)

Example 34b: The use of IC1 in *Panambi*, the fifth movement, *Ronda de las Doncellas*, mm. 2-6.

Pitch-class set [8T3]/ set class (027) Pitch-class set [923]/ set class (016) Pitch-class set [7T1]/ set class (036) Pitch-class set [037]/ set class (037)

m. 2 *pizz.* *pizz.* *pizz.* *pizz.* *pizz.*

Violin I
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Violin II
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Viola
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Violoncello
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Contrabass
 IC: 1 1 1 1 1 1 1 1 1 1 1 1

Pitch-class set [792]/ set class (027) Pitch-class set [148]/ set class (037) Pitch-class set [E26]/ set class (037) Pitch-class set [48E]/ set class (037)

Pitch-class set [9E4]/ set class (027) Pitch-class set [8T3]/ set class (027)

Pitch-class set [590]/ set class (037)

IC1 IC1

Stravinsky's influence may also be observed, once again, in the second movement of *Le Sacre du Printemps*, which demonstrates alterations of set classes (0158), (0258) and (0358) similar to those found in the first movement of Ginastera's *Panambi* suite during the *Canto del Paraná* theme. These alternating sets in *Le Sacre du Printemps* are found in the second movement, mm. 119-132 within the trumpet section. Both sections also begin the phrase with the same set class harmony, set class (0158). Although there is a difference in the notational voicings (Stravinsky has thirds on each staff, where Ginastera has fourths on each staff), the result is interlocking perfect and augmented fourths. Example 35a shows the alterations of set classes (0158), (0258) and (0358) in Stravinsky's *Le Sacre du Printemps*, second movement, mm. 119-122. Example 35b shows the alterations of set classes (0158), (0258) and (0358) found in Ginastera's *Panambi* suite, first movement in mm. 30-32.

Example 35a: Alterations of set classes (0158), (0258) and (0358) in Stravinsky's *Le Sacre du Printemps*, second movement, mm. 119-122.

The image shows a musical score for two Trumpets in C, measures 119-122. The score is annotated with set class labels and intervallic relationships. The first measure (m. 119) contains two chords, each labeled as 'pitch-class set [56T1]/set class (0158)'. The interval between the two notes in each chord is labeled 'P4'. The second measure (m. 120) contains two chords, each labeled as 'pitch-class set [0368]/set class (0258)'. The interval between the two notes in each chord is labeled 'P4'. The third measure (m. 121) contains two chords, each labeled as 'pitch-class set [58T1]/set class (0358)'. The interval between the two notes in each chord is labeled 'P4'. The fourth measure (m. 122) contains two chords, each labeled as 'pitch-class set [T036]/set class (0258)'. The interval between the two notes in each chord is labeled 'P4'. The score is written in 2/4 time and features a key signature of two flats (B-flat and E-flat).

Example 35b: Alterations of set classes (0158), (0258) and (0358) found in Ginastera's *Panambí* suite, first movement in mm. 30-32.

pitch-class set [E047]/set class (0158) pitch-class set [9E25]/set class (0258) “*La Noche* theme”

m. 30

Horn in F

Horn in F

(CANTO DEL PARANA)

P4

* Sounds a perfect fifth lower than written.

pitch-class set [4790]/set class (0358) pitch-class set [9025]/set class (0358)

Panambí shares non-musical associations with *Le Sacre du Printemps* as well. Both of them were written as ballets (the *Panambí* suite is an arrangement of selected movements from the original ballet). Both ballets' choreography expresses a narrative in which primitivism functions thematically as well as aesthetically. The choreography in *Le Sacre du Printemps* tells a story of a romanticized Russian pagan ritual. In *Panambí*, the choreography narrates a story based on embellished folklore of the Guaraní people.

Conclusion

This study has demonstrated the most important elements in the *Panambí* suite that contribute to its overall sound and structure. These components included the use of nonachord set class (01235678T), which is used as a master set in mm. 1-6 in the first movement, that generates set classes (0167), (0158), (0258), (0358), and (0257). These sets were shown to be important thematic cells, and harmonies used within the main themes of the suite. Aggregate completion was also shown to be an important compositional technique, as well as the use of

diatonic collections, and the structural employment of IC1 and IC6. Set classes (0167) and (0258) were also shown to be important structural sets that were composed-out and transformed over larger spans of temporal space in the first movement. Chapter three aimed to show that many of these compositional techniques may be due to the influence of Debussy's *La Mer*, and Stravinsky's *Le Sacre du Printemps*. The "guitar chord" set class (02479) was also investigated in *Panambí*, and was shown possibly to be linked to *La Mer*. There were, however, some important topics that had occurred to me while studying Ginastera's *Panambí* suite, that were not addressed in this thesis in detail.

The use of set class (0148) was briefly discussed in the detailing of Ginastera's use of the A major diatonic collection in the sixth movement of *Panambí*, *Danza de los Guerreros*. This set is also the predominant harmony found in the second movement *Invocación a los Espíritus Poderosos* and also present in the fourth movement, *Fiesta Indígena*. Both of these movements center more on percussion than on pitched instruments, and are the least tonal within the suite. This frequently used harmony, set class (0148), is not generated by the adjacent perfect fifths found in the first movement, mm. 1-6, but still plays an important harmonic role in *Panambí*.

The rhythmic grouping of phrases was mentioned in some of the main themes in *Panambí*, but not investigated with great scrutiny. These groupings had a short, short, long type of pattern, 2+2+4, and 3+3+6, for example. These patterns may be linked to Argentine dance rhythms, or may be derived from some other influence. *Malambo* rhythms are used in later works of Ginastera, but I was unable to find any rhythmic patterns in *Panambí* that strikingly resemble the *malambo*. Therefore, I chose not to include these rhythms in my research.

Other Argentine influences are of course quite possible in the development of themes in the *Panambí* suite, and are in fact probable. My early research focused on attempting to find

Argentine folk melodies, specifically Guaraní melodies that were similar to themes found within the suite, but I found no such melodies.

All of these unaddressed topics regarding Ginastera's *Panambí* suite deserve detailed study in the future.

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