# Analyzing Subconsciousness 

for Symphonic Orchestra
by
Daniel Felipe Taborda Higuita

# A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Musical Arts 

Approved March 2022 by the Graduate Supervisory Committee:

Jody Rockmaker, Chair Gabriel Bolaños
Alex Temple

ARIZONA STATE UNIVERSITY
May 2022


#### Abstract

This paper is an in-depth analysis of the symphonic piece titled Subconsciousness for symphony orchestra that was composed during the summer of 2021. This document will explain the conceptual ideas and compositional processes involved in its creation. This document was written as a resource for musicians, music theorist, composers, and public interested in the creative process used to compose the piece. Much of this work was inspired by the writings of Carl Gustav Jung that explore dreams and how the unconscious mind plays an important role in developing these dreams. In addition, this paper shows how Jung's ideas are manifested in the music, providing arguments that demonstrate how both psychology and music are corelated in the development of the piece.


## DEDICATION

I dedicate this document to my mom Luz Elena Higuita Saldarriaga, my dad Luis Orfenio Taborda Taborda, my sister Laura Taborda Higuita. Thanks for your support and all the love I have received.

I also dedicate this to a wonderful woman, Aline Boyd and all her support that was crucial during my graduate school years.

Thanks also to Anita and Dr. Sharad Patel, Beverly and Dr. Phill Freedman, and Dale and Collen Smith. Without your support I would not be able to be here. I will always be grateful for knowing you. Thanks for all your generosity and support during these important years of my life. You are all angels that helped me tremendously to achieve my professional dreams in this country.

Lastly, thanks so much to Dr. Gabriel Bolaños and Dr. Jody Rockmaker for your guidance, support and help during all these years.

## TABLE OF CONTENTS

Page
LIST OF TABLES ..... v
LIST OF FIGURES ..... vi
CHAPTER
1 EXTRAMUSICAL ELEMENTS THAT INSPIRED SUBCONSCIOUSNESS FOR
SYMPHONY ORCHESTRA ..... 1
Introduction ..... 1
Carl Gustav Jung ..... 2
Dreams ..... 3
The Concept of the Self ..... 4
i) The Persona ..... 4
ii) The Shadow ..... 5
iii) The Anima/Animus ..... 5
iv) The Self ..... 5
The Core Concept of Subconsciousness: The Motive of the Self ..... 6
2 THE SECTIONS OF THE PIECE AND THE PROGRAMMATIC ASPECTS OF THE MUSIC ..... 8
The Sections of "Subconciousness" for Symphony Orchestra ..... 8
i) The Breathing Motive ..... 9
ii) The REM (Rapid Eye Movement) Motive ..... 19
iii) The Variations of the Motive of the Self ..... 22
iv) The Lullaby ..... 23
v) The Hypnic Jerks Gesture ..... 24
3 SONORITY AND THE COMPOSITIONAL ELEMENTS ..... 26
Pitch Centricity and Chords During the Introduction of the Piece (mm. 1 to45)
$\qquad$26
Pitch Centricity and Chords During the Light Sleep Section of the Piece (mm. 46 to 95) ..... 29
Pitch Centricity and Chords During the Deep Sleep Section of the Piece (mm. 96 to 144) ..... 32
Pitch Centricity and Chords During the Nightmare/Vivid Dream Section of the Piece (mm. 144 to 250) ..... 33
Codetta - The Clock Alarm (mm. 251 to 258) ..... 35
4 THE TEMPO AND SENSE OF PULSE ..... 35
The Heartbeat While Sleeping ..... 36
The Tempo ..... 36
5 CONCLUSION ..... 41
REFERENCES ..... 42
APPENDIX
A TABLE OF ALL OF VARIATIONS ..... 44
B LIST OF VARIATIONS NOTATED IN STANDARD NOTATION ..... 50
C SCORE ..... 61
Table Page

1. Sections of the Piece ..... 9
2. Breathing-like Gestures During the Introduction ..... 13
3. Breathing-like Gestures During the Light Sleep Section ..... 14
4. Snoring Gestures During the Deep Sleep Section ..... 16
5. Sleep Apnea Gestures During the Deep Sleep Section ..... 18
6. Breathing-like Gestures During the Vivid Dream/Nightmare Section ..... 19
7. The Hypnic Jerks and Their Location on the Score ..... 24
8. Introduction Notes ..... 29
9. Light Sleep Section Notes ..... 30
10. Vivid Dream/Nightmare Section and Codetta Notes ..... 35
11. Metric Modulation From Simple to Compound Meter ..... 38

## LIST OF FIGURES

Figure Page

1. Motive of the Self ..... 7
2. Breathing Sounds With Percussion and Brasses ..... 11
3. Breathing Sound With Percussion, Brasses and Woodwinds ..... 12
4. Snoring Motive ..... 15
5. Sleep Apnea Motive ..... 17
6. REM - Rapid Eye Movement Motive ..... 21
7. REM Last Motive And Resolution ..... 22
8. The Hypnic Jerk Motive ..... 25
9. Strings and Celesta Opening mm. 1 to 7 ..... 27
10. Pitch Centricity E ..... 31
11. Pitch class $-F$ ..... 34
12. Same Resulting Sound ..... 39
13. Base Rhythm of "Mapalé" ..... 40

## CHAPTER 1

## EXTRAMUSICAL ELEMENTS THAT INSPIRED SUBCONSCIOUSNESS FOR SYMPHONY ORCHESTRA

## INTRODUCTION

Subconsciousness is a programmatic, 9-minute musical composition. The music explores the concepts of breathing, the process of falling asleep through relaxation, light and deep sleep, dreams, REM sleep, hypnic jerks, and accessing the unconscious mind while in this dream stage.

Some psychological studies, in particular those by Carl Jung, suggest that all elements and events present in a dream are a manifestation of people's own selves, and that all these manifestations are connected to people's own psyche and individual thinking. In a dream, every character, event, or single detail is a manifestation of one's own self. It is the way that the unconscious true self speaks to the conscious. Jung explains that understanding one's dream and relating it to one's life is a path to achieving self-understanding. It provides an opportunity to discover one's true self, and how this "self" relates to others. Sometimes, if not most of the time, dreams are nonsense and illogical. Following the Jungian approach and its method to find a meaning for the dreams, it is possible to understand that these nonsense events and images might provide answers to the dreamer's own psyche.

Dreams can provide information related to specific situations that might happen in one's everyday life. Following Jung's arguments, when one's purest self, the anima/animus ${ }^{1}$, does not feel comfortable with the outside world/events, it tries to communicate with its conscious counterpart (one's conscious mind) that something is

[^0]happening and needs to be addressed. Finding harmony between the unconscious and the conscious minds thus bringing harmony to one's true self.

According to Carl Jung:
Dreams are impartial, spontaneous products of the unconscious psyche, outside the control of the will. They are pure nature; they show us the unvarnished, natural truth, and are therefore fitted, as nothing else is, to give us back an attitude that accords with our basic human nature when our consciousness has strayed too far from its foundations and run into an impasse. (Jung, 1970, p. 149)

## Carl Gustav Jung

Carl Gustav Jung was a Swiss Psychologist and psychoanalyst known for his research in consciousness and self-regulation. He was one of the most important figures in the field of psychology and psychiatry during the $20^{\text {th }}$ Century.

Jung formulated a specifically psychiatric paradigm: both brain and mind have regulating functions that he delineated in his conception of the self. Jung sought normative rather than pathologically based conceptions for psychiatry that brought together brain biology, psychology, and sociocultural experience. Jung observed that the mind revealed its organic substrate in psychosomatic organizations or typical patterns of emotion, clustering feeling, behavior, images, and ideas, which he designated "archetypes of the collective unconscious." He felt that archetypal patterns reflect the brain activity of emotional states; yet their manifestation in imagery often carries a symbolic meaning for the individual. Later attracted by the work of Sigmund Freud on dreams and unconscious phenomena, Jung became a leader in developing psychoanalysis. After a 5-year
association with Freud, Jung returned to his roots in consciousness research, resuming investigation of subliminal phenomena. (Naifeh, 2001)

Throughout his career, Jung wrote several articles, essays, and books about approaching dreams from a psychological perspective. One of the most relevant (as inspiration for Subconsciousness for symphony orchestra) is: "Symbols and the Interpretations of Dreams ${ }^{2 \text { " }}$ in which Jung explains that dreams are communications from the unconscious, and the symbols present in one's dreams compensate for people's emotions and intuitions.

## Dreams:

The dream is the liberation of the spirit from the pressure of external nature, a detachment of the soul from the fetters of matter. (Freud, 1920, p. 4)

Many people believe that dreams are premonitions or that they have a spiritual or religious meaning. Dreams have always affected humankind and will continue enchanting people's nights for as long as there is life. There is no doubt that it is a topic that has continually fascinated humankind.

There are many examples of musicians, painters, writers, researchers, and others that found inspiration by experiencing or remembering their dreams:

- The Red Book ${ }^{3}$ by Jung. This book is a massive collection of his own dreams and a journey to discover his deepest self.

[^1]- The Devil's Trill sonata for violin and continuo accompaniment by Giuseppe Tartini. Tartini explained that he gave this name to the piece after having a vivid dream of the Devil playing violin with ferocious virtuosity. (Schwarm, 2014)
- Salvador Dalí and his paintings are well recognized worldwide. The artist followed an aesthetic called subconscious imagery. He described his own art as "hand-painted dreams". He claimed he accessed his unconscious mind to gather inspiration that generates unreal images. (MoMa, n.d). This artistic tendency was widely known as surrealism.

Subconsciousness for symphony orchestra is also inspired in such a way. This piece was a mix of many interests important to the composer. Psychology, literature, art, and the composer's own experiences with his own dreams were the principal impetuses to compose this piece. The composer found a way to represent his dreams through music in order to understand these psychological concepts.

## The Concept of the Self:

The concept of self is an extremely abstract thought and one of the most complex ideas to understand. According to Jung, the self is an archetype. Archetypes are a typical example of something, or the original model of something from which others are copied. (Cambridge Dictionary, n.d.)

The conceptual aspect of this piece fully relies on this abstract concept of the self, and much of the musical ideas are derived from it. Therefore, it is very important to mention Jung's most significant archetypes and how they relate to the "Self."
i. The Persona: This archetype is basically how people present themselves in social situations. In concept, it is similar to the idea of wearing masks that one
can change regularly according to the situations one could face. It is how the "me" survives in normal society. The main objective of the persona is to be a shield for the ego, so it does not present a bad image of a person in the eyes of society. This archetype appears in dreams and takes many different forms. Jung understands the ego as a complex of ideas which constitutes the center of one's field of consciousness and appears to possess a high degree of continuity and identity. The ego is defined as what one believes one is, and how one perceives oneself as a being. The ego and persona go hand in hand being that the ego is the foundation of the persona.
ii. The Shadow: The archetype that contains what might not be accepted within a society. It includes all the sexual and life/survival instincts. The Shadow belongs to the unconscious mind. It is what a person hides from society both consciously and unconsciously. According to Jung, it might appear in dreams in forms of everything that has been related to "the shadows" (demons, snake, darkness, bad people, aggressive animals, etc.).
iii. The Anima or Animus: The Anima refers to feminine and Animus to masculine. Both are images present in the human psyche. (American Psychological Association, n.d.). The Anima/Animus is the real or true self, contrasting with the persona. According to Jung men and women have both Anima and Animus within their own psyche.
iv. The Self: Is the archetype that represents the wholeness of the unconscious and the conscious. It is not identical with the Persona but places itself above or in the midst between ego-consciousness and the unconscious. In other words, the self is coexistence of consciousness and the unconscious. This
coexistence is gradually accomplished by assimilating the contents of the unconscious with the help of dream interpretation. (Jung, n.d.)

It is possible to find more archetypes singly or in combination, but these four are the core of Jungian psychology. The Self is the container of all of them. Even though it lives within the unconscious mind with the anima/animus, the unconscious mind is really making all decisions and ruling the wholeness of a human being. On the other hand, the conscious side of the persona believes that it is in control of everything, but it is not.

## The Core concept of the piece: The Motive of the Self

Subconsciousness is a series of musical images depicting the natural sequence of events occurring during normal sleep. The Self represents of each person's psyche, the container of all the archetypes. As mentioned above, all elements and beings present in a dream are a manifestation of one's psyche. The Self is by concept the most important element of this piece because the dream is a constant manifestation of the Self. The dream is the self itself. Therefore, the motive representing the Self is present throughout the entire piece. Subconsciousness (as the Self) represents the container of everything. This motive is manipulated in different ways but is always aurally perceivable to serve as a connection between the core concept of a dream (psychologically speaking) and the music. The motive of the Self needed to be present all the time in this piece because it follows a literal representation of its psychological concept.

The motive of the Self consists of 4 notes (E, B, D, A), and it is developed by adding more notes, changing the original intervals, the rhythms, and the pitch centricity. Most of the time the perception will be 4 sounds (in different contours and with different durations). The presence of this motive throughout the piece creates a conceptual unity.

The appearance of the motive of the Self throughout the entire piece is a way to portray in the music the psychological definition of what happens to one's own psyche while dreaming. It unifies both psychology and music at a deep level.

The motive of the Self is first played by the English horn and flute from mm .7 to 10 although the flute does not finish the 4 notes. (See figure No. 1 - English horn is transposed). This short melody starts right after the strings opening.

## Figure 1

## Motive of the Self



The motive of the Self is very simple, malleable, and ambiguous, creating the perfect opportunity to explore color or tone quality, and emphasize different pitch centers. At the same time, just by changing the motive slightly (one note for example) one can move to a completely different harmonic center.

Multiple variations were created by manipulating the motive little by little. The results are multiple and varied musical representations of the Self. These little changes added to the development malleability of the concept of the Self, and at the same time, created a melodic variation that avoided monotony in the piece. The variations are rhythmic, intervallic, and timbral, or are achieved through augmentation and diminution, different articulations, and overlapping and juxtaposing these alterations.

## CHAPTER 2

## THE SECTIONS OF THE PIECE AND THE PROGRAMMATIC ASPECTS OF THE MUSIC

From a broader perspective, the programmatic aspects of Subconsciousness could be represented by the following activities:

1. Deep breathing in pre-sleep
2. Focusing on the deep breathing
3. Relaxing
4. Falling asleep (light sleep)
5. Having a nightmare or a vivid dream (deep sleep)
6. Waking up
7. Taking a final breath of relief to finish the piece.

Each of these activities are developed and explored in different sections of the piece

## The sections of "Subconsciousness" for Symphonic Orchestra

This piece is divided into 5 different sections. Each section contains gestures that represent that programmatic aspect of the piece. (See Table 1)

Table 1

Sections of the Piece

| Section | Name | Symbolism | From <br> Measure | To Measure |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Introduction | Breathing | mm .1 | mm .45 |
| $\mathbf{2}$ | Light Sleep | Breathing | mm .46 | mm .95 |
| $\mathbf{3}$ | Deep Sleep | Snoring, Sleep <br> Apnea, REM | mm .96 | mm .143 |
| $\mathbf{4}$ | Vivid <br> Dreams/Nightmares | Combination of <br> all previous <br> gestures and <br> resolution of <br> REM | mm .144 | mm .250 |
| $\mathbf{5}$ | Codetta - The <br> Clock Alarm | Clock Alarm, <br> waking up. | mm .251 | mm .257 |

## The Programmatic Musical Motives of "Subconsciousness" for Symphonic

## Orchestra

## i. The Breathing Motive

Breathing plays a very important role in any living organism. It is a natural activity that allows the human body to function. Although it is possible to focus on one's own breathing, it really does not require conscious thought to breathe. As an example, Yogis focus on their breathing to overcome the physical and mental challenges of practicing Yoga.

There is evidence to suggest that taking big breaths, focusing on its process and rhythmic flow helps one become relaxed, making it easier to fall asleep. Concentrating on one's own breathing, one can ease anxiety and improve the quality of sleep. (WebMD, 2021.)

The concept of breathing plays an important role in the development of this piece. Some instruments of the orchestra are used to mimic the sounds produced by breathing, symbolizing a person's focus on breathing before falling asleep.

The percussion instruments offer a range of different sounds that effectively mimic these sounds with an airy quality. Metallic brushes on the timpani and the bass drumheads achieve sounds that are similar to the sounds produced when inhaling. The woodwinds often accompany the percussion. Blowing air into the instruments without producing any pitches enhances the volume of the inhaling gesture. The combination of instruments creates a sound more perceivable to the listeners. By alternating between the percussion instruments alone and together with the woodwind instruments, small variations of timbre are perceived.

The brass is used to conclude the breathing gesture in a manner similar to the woodwinds. Because of the way the human respiratory system works, the sound produced by exhaling is louder than inhaling, where the body may absorb perceivable sound of air going into the body. The air traveling through the brass pipes resonates more resulting in a louder sound. The natural flow of air through the brass instruments also enhances the gesture since there is a natural diminuendo. The whole gesture is: Inhaling - percussion and woodwinds; exhaling - brass. (See Figure No. 2 and No. 3).

Figure 2

Breathing Sound with Percussion and Brasses


Figure 3

Breathing Sounds with Percussion, Brasses, and Woodwinds


This gesture is a musical motive present throughout the entire piece to represent a person's continued breathing during the sleep cycle. This motive is introduced at the beginning and constitutes one of the programmatic aspects of the piece.

Since a person continues breathing during sleep, this motive is always discernable. To avoid repetition, additional sounds related to breathing such as snoring and sleep apnea are introduced ${ }^{4}$. These additional layers create variation and dynamic change that drives the development of the piece.

The breathing motive is played 10 times during the introduction forming a "prelude" of deep breaths. A person can in theory achieve a certain degree of relaxation by taking this number of deep breaths. The heart rate drops and synchronizes with the breathing. (See Table 2).

Table 2

Breathing-like Gestures During the Introduction

| Breathing <br> Gestures | Measures |
| :---: | :---: |
| 1 | $\mathrm{~mm} .6-7$ |
| 2 | $\mathrm{~mm} .8-9$ |
| 3 | mm .11 |
| 4 | $\mathrm{~mm} .16-17$ |
| 5 | $\mathrm{~mm} .20-21$ |
| 6 | mm .23 |
| 7 | $\mathrm{~mm} .24-26$ |
| 8 | $\mathrm{~mm} .27-29$ |
| 9 | $\mathrm{~mm} .38-39$ |
| 10 | $\mathrm{~mm} .43-44$ |

[^2]The Light Sleeps section begins after the introduction at m. 46 (rehearsal A.). It represents a stage where a person is already sleeping. The breathing motive continues with a total of 8 breathing sounds in this section (See Table B).

## Table 3

## Breathing-like Gestures During the Light Sleep Section

| Breathing <br> Gestures | Measures |
| :---: | :---: |
| $11(1)$ | $\mathrm{mm} .56-57$ |
| $12(2)$ | $\mathrm{mm} .57-58$ |
| $13(3)$ | $\mathrm{mm} .60-61$ |
| $14(4)$ | $\mathrm{mm} .65-66$ |
| $15(5)$ | $\mathrm{mm} .66-68$ |
| $16(6)$ | $\mathrm{mm} .81-82$ |
| $17(7)$ | $\mathrm{mm} .82-84$ |
| $18(8)$ | $\mathrm{mm} .95-96$ |

The deep sleep section follows, starting in m. 96 (Rehearsal C.) Studies suggest that deep sleep is probably the most important part of sleep. The body repairs itself, regrowing tissue, building bones and muscle, and strengthening the immune system. (Felson, 2005).

In this section, the snoring and sleep apnea sounds are introduced as a variation of the breathing sounds. The snore sound is mimicked by using flutter-tongue (frullato) in the low register of the bassoons playing a minor second while creating a growling sound. The figure is accompanied by the friction of a superball (a rubber-like headstick) on the timpani head. This sound is one of the most common heard during deep sleep. A snoring person is fully unconscious and in a deep sleep. (See figure no. 3 and Table 4).

Figure 4

## Snoring Motive



Table 4

Snoring Gestures During the Deep Sleep Section

| Breathing Gestures: <br> Snoring | Measures |
| :---: | :---: |
| $19(1)+$ Snoring 1 <br> (bassoons) | $\mathrm{mm} .106-107$ |
| Snoring 2 (bassoons) | $\mathrm{mm} .109-110$ |
| $20(2)+$ Snoring 3 (superball) | $\mathrm{mm} .113-115$ |
| $21(3)+$Snoring 3 (superball <br> + bassoons) | $\mathrm{mm} .115-116$ |
| $22(4)+$ Snoring 5 (superball) | $\mathrm{mm} .129-130$ |

The sleep apnea gesture is introduced next. Sleep apnea is a disorder that consists of stopping and restarting breathing while sleeping. The normal pattern of breathing is interrupted for multiple seconds before it continues. This condition interferes with the repair function of deep sleep. This variation to the breathing sound is achieved by adding a space between the sounds of inhaling and exhaling. (See figure no. 5 and Table 5).

Figure 5

Sleep Apnea Motive


Table 5

Sleep Apnea Gestures During the Deep Sleep Section

| Breathing Gestures: <br> Sleep Apena | Measures |
| :---: | :---: |
| Sleep Apnea 1 (Inhaling <br> sound) + Release by snoring <br> (4) sound (superball) | $\mathrm{mm} .121-127$ |
| Sleep Apnea 2 (snoring <br> sound) | mm .135 |
| Sleep Apnea 3 (snoring <br> sound) | mm .140 |
| Sleep Apnea 4 (snoring <br> sound) | mm .141 |

The nightmares or vivid dreams section is introduced next from mm .144 to 251. In this section the breathing sounds are reduced, and the pitch-based motives described below are developed. A few snoring sounds occur at specific points of this section (see Table D). This section relied on overlapping and juxtaposing the pitch-based musical motives of the piece.

Table 6

Breathing-like Gestures During the Vivid Dream/Nightmare Section)

| Snoring Gestures | Measures |
| :---: | :---: |
| Snoring (6) | mm. 151-153 |
| Snoring (7) | $\mathrm{mm} .164-165$ |
| Snoring (8) | $\mathrm{mm} .180-181$ |
| Breathing 23 (1) <br> Snoring (9) | $\mathrm{mm} .193-194$ |
| Breathing 24 (2) + <br> Snoring (10) | $\mathrm{mm} .195-196$ |
| Snoring (11) | $\mathrm{mm} .204-205$ |
| Breathing 25 (3) <br> Snoring (12) | $\mathrm{mm} .208-210$ |

ii. The REM Motive (Rapid Eye Movement).

Rapid eye movement sleep consists of a movement made by the eyes while sleeping. This unconscious movement occurs specifically during the deep sleep stage. REM happens when cortical activation causes vivid dreaming, skeletal muscle paralysis (atonia), and muscle twitches. A distributed network of microcircuits within the brain stem, forebrain, and hypothalamus is required for generating and activating REM sleep. (Fraigne et al., 2015)

REM is a specific trait of deep sleep. The motive created was used just during the deep sleep section to mimic its biological counterpart. The REM motive is developed by adding flutter-tongue (frullato) to a variation of the motive of the Self. This motive is just a small, colorful addition to this section of the piece. The flutter-tongue melody represents the vibrating/moving eyes.

Even though the flutter-tongue technique was used in the snoring gesture, its use within the music at this juncture is completely different. During the snore gesture, the
flutter-tongue is applied to a minor second dyad played by the two bassoons. Besides the vibration created by the flutter-tongue, the clash between the sound waves of a minor second adds to the snore-sound gesture. The REM motive uses flutter-tongue with a linear musical motive in the higher register. The aural perception of both motives is completely different. The REM motive is present in different mid-high register instruments from mm. 96 to 143. It first appears is in m .101 in the clarinets (See figure 5) just before the first snoring sound in m .106.

The REM motive returns in the clarinets from mm .110 to 112; the beginning of the motive is heard from mm .118 to 119 but is now played by the flute and the piccolo with the same flutter-tongue technique. The complete motive is stated again in the flutes from mm. 130 to 133.

From m. 144 to the end of the section in mm. 250, the REM motive repeats two more times: the first time, from mm .146 to 151 in the flute and piccolo; and the second time from mm .181 to 190 played by the entire woodwind section with a combination of flutter-tongue and trills resolving to ordinary sound (See figure 6). It is the last time the REM motive appears. The idea behind this resolution is to signify the REM stopping. The final section of the piece begins at this point. The resolution of the REM is meant to signal to the listener the end of the deep dream stage in preparation of the grand finale and climax of the piece.

Figure 6

REM - Rapid Eye Movement Motive


Figure 7

## REM Last Motive and Resolution


iii. The Variations of the Motive of the Self

Please find the Appendix A (on page 44), a table that lists all the statements of the motive of the Self with its respective standard notation in Appendix B (on page 50).

## The Lullaby

Lullabies are a universal phenomenon and have existed since ancient times throughout the world (Quddus, 1992). A lullaby is the soothing expression of pure love from a person to an infant. Lullabies are normally sung, and their lyrics represent the culture where they originate (S. Trehub, 2001). Lullabies are performed to help make infants fall asleep and play an important part during an infant's development.

Not all lullabies have lyrics, but all tend to be simple, soft, and relaxing melodies. There are music boxes, toys, and music CDs that use these types of melodies to help babies fall asleep. TV commercials and movies have also used piano in the high register, glockenspiels, vibraphones, crotales, bells, etc. to invoke the feeling of lullabies. Whenever a lullaby is played, there is an immediate mindset that connects those sounds/melodies with someone falling asleep or even a sleeping state in adults was well as babies or children.

There is something "enchanting" about these sounds and colors. It might be a unconscious memory of one's own childhood listening to these kinds of melodies. It is stamped in people's brain and memories. According to Jung, it is called "The human collective unconscious" that could be argued as the memory of humanity.

In Subconsciousness the celesta is used to invoke a lullaby-like sound to enhance the concept of relaxation before falling sleep. The celesta is used to play the motive of the Self in different sections of the piece. This instrument is an important catalyst of the piece because its sonority resembles (consciously and/or unconsciously/subconsciously) a lullaby.
v. The Hypnic Jerks Gestures

Many people have experienced a dream where they recall falling or tripping over something. People tend to physically react to these kinds of imagery. One experiences
sudden (and sometimes aggressive) movements while waking up and feel a bit afraid and confused. This sudden contraction of the body while dreaming is called a hypnic jerk. There are a total of 10 hypnic jerks in "Subconsciousness" (See Table 7). This concept is represented within the music with the use of Bartok pizzicatos and percussion instruments. The motive represents a sudden disruption of the sleeping state due to its aggressiveness that marks a radical change in the texture previously established. (See Figure 8).

## Table 7

The Hypnic Jerks and Their Location on the Score

| Hypnic Jerks | Measure |
| :---: | :---: |
| 1 | m .46 |
| 2 | m .89 |
| 3 | m .95 |
| 4 | m .105 |
| 5 | m .163 |
| 6 | m .200 |
| 7 | m .202 |
| 8 | m .204 |
| 9 | m .205 |
| 10 | m .251 |

There are a few transitions between the sections where this motive is not used, but as the previous table indicates, this motive is present in different sections of the piece.

Figure 8

The Hypnic Jerks Motive


## CHAPTER 3

## SONORITY AND THE COMPOSITIONAL ELEMENTS

This piece follows the programmatic story described earlier. Some of the techniques used to compose and develop this piece are pandiatonicism, the use of stratification (or layering), and juxtaposition and synthesis of ideas. By combining and blending all these musical techniques, it is possible to portray through music the conceptual idea of having a dream; adding to the multiple layers of events and things that could be present in this biological state.

The use of pandiatonicism as the structural starting point of the piece, suggests that there is not a traditional use of tonality nor any harmonic progression that could imply a specific key or tonal center. However, it is possible to find pitch centers in some sections, as well as conflicts between possible centric tones. Therefore, the piece can be considered poly-centric.

The development of the rhythmical aspects includes the use of repetition, ostinato-like sections, rhythmic displacements, and addition or subtraction of cell units from the original motives.

## Pitch Centricity and Chords During the Introduction of the Piece (mm. 1 to 45)

The strings begin by creating a diatonic cluster with artificial harmonics. The pitch collection of the strings during the opening gesture is $\mathrm{C}, \mathrm{E}, \mathrm{F}, \mathrm{G}, \mathrm{A}$ and B . This cluster is taken over by the celesta from measure 6 to 7 (See figure No. 8). The second divisi of the double bass and the first divisi of the cello continue playing with the celesta to create an echo or reverb effect. From mm. 1 to 11 it is a "white-keys collection". The only note missing to complete the collection is D , a pitch present momentarily in the motive of the Self. Because the motive of the Self ends on an A, it is relevant to say that it is the
central tone of this first section. The absence of functional harmonic relationships (the concept of pandiatonicism) is what guides the chosen sonorities.

Figure 9

Strings and Celesta Opening mm. 1 to 7.


From mm .12 to 18 there is a tone center of Bb , but when the motive of the Self is stated by the celesta from mm . 18 to 29 there are different possibilities for a central tone (Eb and Ab). This ambiguity creates conflicting centricities. In addition, F minor is the last harmony of the motive of the Self (from mm. 27 to 29). It is best to label this section as polycentric since there are different possible tones that serve as a stable point that are not defined by a specific cadence.

From mm. 13 to 16 the strings continue the same gesture but create a chromatic cluster that resolves by going to a unison G that later expands to Bb minor chord with addition of the $6^{\text {th }}(G)$. This $G$ functions as a pivot note to shift sonorities to a different central tone. From mm. 30 to 34 the diatonic cluster suggests a G mixolydian collection, however the motive of the self from mm .35 to 38 suggests 2 possible central tones, E and $A$. As heard in the previous section, the motives end on a different chord, $\mathrm{F} \#$ minor chord, while holding a diatonic cluster (from mm .44 to 47 ). There is also a possible central tone of C from mm .39 to 45 that is constantly played by brasses and strings.

As stated earlier, the programmatic aspect of the introduction depicts a person trying to relax by breathing in order to fall asleep. The orchestration of this section brings out what could be considered an ethereal, atmospheric sound achieved with the clusters and the ambiguous pitch center. The music creates a sense of floating.

Table 8
Introduction Notes

| Introduction |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| mm. 1 to 11 | $\begin{gathered} \text { mm. } 12 \text { to } \\ 30 \end{gathered}$ | $\begin{gathered} \mathrm{mm} .30 \text { to } \\ 34 \end{gathered}$ | mm. 35 to 38 | mm. 39 to 45 |
| Diatonic Cluster $\begin{gathered} (A, B, C, D, E, \\ F, G) \end{gathered}$ | $\begin{gathered} \text { Bbm(add6) } \\ +\mathrm{Eb}, \mathrm{Ab}+ \\ \text { Fm } \end{gathered}$ | (add6) from Bbm as pivot note for moving to a different cluster | E, A, F\#m + Diatonic Cluster (C, E, F, G, A, B) | Tendency tone: C |

## Pitch Centricity and Chords Present in the Light Sleep Section of the Piece (mm.

## 46 to 95)

The motives and textures begin to move faster in this section. From mm. 46 to 55 the intention is to portray someone already experiencing a light sleep stage. Through the use of some clusters and adding overpressure on the strings to create a slightly more aggressive sound. There is a type of conversation between the orchestra and the celesta playing the motive of the Self with a sonority reminiscent to a lullaby.

Dreams can only be experienced during a deep sleep stage. The programmatic aspect of this section is in preparation for that stage.

In m. 51 the cluster contains $\mathrm{C}, \mathrm{Db}, \mathrm{D}, \mathrm{Eb}, \mathrm{E}, \mathrm{F}, \mathrm{G}$ and Ab and in m 55 the notes of the cluster are $\mathrm{Db}, \mathrm{D}, \mathrm{Eb}, \mathrm{E}, \mathrm{G} \#$ and B . The overlapping motives and notes (stratification) create a sense of confusion that portrays the imagery of a dream.

From mm . 68 to 76 there is a string interruption developed by using diatonic planing: parallel voices leading using a diatonic scale, in this case a collection of pitches in A natural minor scale. The pitch center for this section is A.

From mm. 77 to 83 , the motive of the Self is played by the flutes, clarinets, bassoons and celesta, while the brass play a pedal note $E$ that moves between the instruments (See figure No. 9).

From mm. 77 to 80 the resulting chords that provide a harmony can be constructed using the E Phrygian scale and used pandiatonically. The phrase ends in m . 80 by establishing $E$ as a pitch center (including the pedal note of the brass as well). However, there is a change in m. 84: an Eb minor triad appears instead of the expected centric tone E . This move is important since mm .85 to 95 acts as a bridge between the light and deep sleep sections. In m .85 the trumpets play dyads that are a half step up from the Eb minor centric tone. By playing these dyads the trumpets are suggesting a completely different pitch center. From an artistic standpoint this duality could be interpreted as the moment where an individual is half sleep just before getting into deep sleep. Conflict between half sleep (light sleep) vs fully asleep (deep sleep).

## Table 9

Light Sleep Section Notes

| Light Sleep Section |  |  |  |
| :---: | :---: | :---: | :---: |
| mm. 46 to 55 | mm. 56 to 83 | mm. 84 to 85 | mm. 85 to 95 |
| Chromatic clusters - not a centric tone Overlapping/Stratification | centric tone E <br> - (E minor triad sometimes) | Eb minor Dyad by tpts suggesting different centric tone (C). <br> (Polycentricity). | Centric tone of $D$ and Eb, also chromatic clusters - Conflict as bridge between light sleep and deep sleep |

Figure 10

Pitch Centricity E


## Pitch Centricity and Chords Present in the Deep Sleep Section. (mm. 96 to 144)

The music achieves a sonority that portrays the unconscious mind and the possible dreams in the deep sleep. From a psychological standpoint, a dream could be considered a world or byproduct created by the multiple layers of the Self. This definition is what dictates the conception, form, and composition of the deep sleep section.

From mm. 96 to 144 every single idea/variation can be isolated and analyzed as an independent entity. The programmatic aspect of this section is very important in the formal development of the piece. To achieve the sonority previously mentioned, all the musical ideas and variations of the motive of the Self are juxtaposed and layered to a certain degree. The different musical motives that were previously presented and return in multiple layers unify the entire piece (or section) in a process known as synthesis. All the musical elements in this section interact with each other to shape the form and bring out the programmatic elements. The music becomes saturated by multiple ideas thus portraying a dreamy world and how the Self changes within it. There is not a specific pitch centricity, but rather many variations of the Self motive.

Even though there are moments where the same pitch classes are sounding simultaneously or in succession, (for example from mm. 121 to 129 figure 10), resolutions, pitch centers or stable points, are not perceived. In such instances, any gesture is just another layer of the stratification. By developing the section this way, it is possible to follow a close musical representation of a deep-sleep state of experiencing a dream. Most of the time (at least in the composer's own experience) this is the moment where the strangest things happen. Dreams at this level are characterized by the lack of logical reality, almost stepping into what could be labeled as insanity since it is in this
stage when the unconscious is fully in control of the imagery that is being portrayed in the dreamer's mind.

## Pitch Centricity and Chords During in the Vivid Dream Section. (mm. 144 to 250)

This section is a retransition, synthesis and layering to a type of recapitulation, a recognizable, big tutti return to the Self motive. It resolves the chaotic nature of the previous section and prepares the listener for the end of the piece. From mm. 144 to 215 the piece follows the same compositional process heard in the previous section, using stratification, juxtaposition, and synthesis. The piece starts having a stronger sense of unity that is enhanced by revisiting some of the clusters presented in the introduction of the piece. The entrance of the strings from mm .150 to 160 is based on the same pitch collection as in mm. 15 to 18.

The return of these sonorities creates a sense of recapitulation and serves as a preparation for the big finale of the piece. However, after m. 160 the piece goes back to the idea of synthesis, visiting the chaos one more time. Therefore, the section could be considered a false recapitulation.

The entire orchestra subsequently plays a reorchestration of the first cluster of the piece in mm. 214 and 215, to prepare for the motivic recapitulation before the big tutti/finale of the piece, mm. 216 to 250 . During this section, the woodwinds play the harmonic base for the motive of the Self. This accompaniment comes from an E Phrygian collection, but the resulting chords are used in a pandiatonic way. The motive of the Self is played by the strings. (See page 19 on the score). In $m$ 251, a disruption of the flow of the sound of the orchestra leads to a Codetta.

Figure 11

Pitch class - F


Table 10

Vivid Dream/Nightmare Section and Codetta Notes

| Vivid Dreams/Nightmare Section and Codetta |  |  |  |
| :---: | :---: | :---: | :---: |
| mm. 144 to 213 | mm. 214 to 215 | mm. 216 to 250 | $\begin{aligned} & \text { Codetta (mm. } 251 \text { to } \\ & \text { 258) } \\ & \hline \end{aligned}$ |
| Juxtaposition of ideas and hint of a recapitulation by playing sonorities previously used (Clusters) (False recapitulation?) | First sonority of the piece (Cluster) reorchestrated by the whole orchestra (Real sense of recapitulation) | Motivic recapitulation and pitch centricity (E minor) | Disruption of the music, alarm clock - different pitch centricities (Breathing gesture) |

Codetta - The Alarm Clock. (mm. 251 to 258)
The Codetta is the shortest section of the piece. During this section the concept of breathing is brought back as a way to unify of the sounds used during the piece. The programmatic aspect of this short finale portrays a person waking up and hitting a clock alarm to stop the sound, and finally taking a big breath to end the piece. This gesture has 2 possible interpretations: the first, the relief of waking up from a nightmare; the second, the frustration of waking up and starting a new day.

## CHAPTER 4

## THE TEMPO AND SENSE OF PULSE

## The Heartbeat While Sleeping

One more element explored in the piece is the concept of tempo: how listeners can perceive the beat or tempo in music, and how to connect that concept with a person that is sleeping. Sleeping is crucial for all living creatures' well-being.

Humans count with a natural metronome: the heart. One's heart rate is constantly changing, moving between fast or slow tempos depending on what one might be doing. When people sleep, their heart rate slows down. A normal resting heart rate for adults is between 60 to 100 beats per minute. (Santucci, 2021). The heart keeps beating during this resting stage, but finds a suitable tempo to not interfere with the restorative function of sleep. Getting enough sleep is very important for heart health. During sleep, people's blood pressure goes down. (CDC, 2021).

## The Tempo

The tempo of the piece was determined by considering human's heart rate while sleeping. The tempo would be somewhere in between 60 and 100 BPM and $80 \mathrm{bpm}(\mathrm{d}=$ 80) and labeled as andantino and/or "Tranquillo". This pace adds to the conceptual aspects of subconsciousness. The tempo is a representation of a resting heart rate, and it is held through the entire piece.

Some of the biggest challenges of the piece were maintaining this sense of calmness and ensuring that the constant hypnotic pulse was not disturbed by meter changes or tempi fluctuations. For this reason, the motive of the Self is played very often by the celesta. As explained above, this type of sound is commonly used in a lullaby.

The idea was that the listeners would feel a calm and reflective tempo/pulse through the entire piece.

Even though the heartbeat can get faster during a nightmare, the artistic choice for the development of Subconsciousness was to portray these possible biological events with the hypnic jerk motive, disrupting momentarily the flow of the calmness but immediately going back to the resting state of sleeping.

Subconsciousness has two different pulse subdivisions. The first, simple meter subdivision from mm. 1 to 143; the second, compound meter subdivision from mm. 144 to 258 . There are 4 hypnic jerks during the simple meter subdivision. Hypnic jerks 1 and 4 are not rhythmical, but instead a sudden single aggressive sound. However, hypnic jerks 2 and 3 are rhythmical and include a tempo change ( $(=106)$.

These tempo changes are related to the tempo primo through rhythmic modulation. It is possible to maintain the intended nature of the piece as these tempo changes refer back to the tempo primo. The tempo changes are always related to the beat unit (80 bpm).

This relationship predominates and is most obvious where the piece changes from a simple to compound meter. From mm. 140 to 144 there are 2 different metric modulations. In m. 140 the tempo is $\boldsymbol{d}=80$. The first rhythmic modulation goes from mm .140 to 141 where the beat becomes twice as fast. The beat becomes the first level subdivision of the beat ( $\left({ }_{\circ}=\downarrow\right)$. In the second metric modulation from mm. 143 to 144 , a meter change implies that the new beat is bigger. The subdivision has more elements (going from simple to compound). The new beat unit is $d$ and its subdivision is d d d.

Even though the perception of the beat changes in this section, the length of a quarter note is heard and perceived as equal as those during the tempo primo. (See

Table 11). By implementing this metric modulation, it is possible to move from simple to compound subdivision without breaking the flow of music or the sense of pulse that has been established since the beginning of the piece. . $=\cdot \cdot$ in $4 / 4=\cdot$ in $6 / 8$.

It is not until m. 216, the finale of the piece and where (musically speaking) the climax is achieved, that the listeners hear the long variation of the motive of the Self (Var 13). The motive is the same as that played in m .65 . What is different is the orchestration, especially the additional percussion elements. The note values used have changed, but the resulting sound is the same. There is a metric displacement. However, the resulting melodic contour is equally and directly connected to the motive of the Self.

Figure 12 illustrates how these two ideas sound the same, and though written differently, explain how they relate to each other.

Table 11

Metric Modulation from Simple to Compound Meter

| m. 140 |  | mm. 141 to 143 | m. 144 |
| :---: | :---: | :---: | :---: |
| Tempo | - = 80 | $d^{\prime}=80$ or ${ }^{\text {d }}$ ( 160 | $\begin{gathered} d \cdot=106 \\ \text { Where } \cdot=d \text { and } d=d \end{gathered}$ |
| Meter | 4/4 | 4/4 (2/2) | 6/8 |
| Beat unit | - | d | - |
| First level of subdivision | d. | $\begin{gathered} d=d \\ d \end{gathered}$ | $\therefore \begin{gathered} \therefore \therefore D \\ (D \cdot d) \end{gathered}$ |
| Common Relationship | - | (Have the same length as a. in the previous bar) | (Have the same length that a $\delta$ in the previous bar) |

Figure 12

Same Resulting Sound


As seen in figure 12, the only difference between these sections is the addition of two quarter-note rests. This addition makes it possible to "round" to an even number of bars, stabilizing the perceived beat. In addition, the bass drum has a more active rhythm than in the previous sections. This rhythm was taken from a Colombian genre called "Mapalé". Even though the percussion setup for a Mapalé is larger, the foundation of the rhythm is always carried by the bass drum. (See figure 13).

Figure 13

Base Rhythm of "Mapalé"

Perc.


There is not a psychological or deep, argumentative reason to use this rhythm. It is not special, nor does it carry a concept related to the psychological aspect of the piece (from a conscious standpoint). That difference is what makes it stand out on its own as a contrasting idea from the textures and ideas brought through the piece. Although this rhythm is part of a Colombian rhythm/genre, these kinds of rhythmic sounds can be found in a different cultures and genres, even within the Colombian folklore itself.

## CONCLUSION

Even though dreams are familiar to all humanity, there is still much to research and much to learn from them. Sleeping might seem to be a simple concept but there are many complex elements involved in this vital activity.

Sleeping involves both physical and mental engagement of one's own body. There are many sub-processes that take place while the physical body is not conscious. People do not know how their physical body behaves while they are "riding a cloud or escaping from a demon that is chasing them". Every dream is different, and according to Jung they indeed have a personal rather than a mystic meaning. Many artists have used their dreams as inspiration for their creative work, and many more to come will surely also be inspired by the imagery projected from their own unconscious mind.

With the completion of Subconsciousness for symphony orchestra, the composer was able to create a piece of music that explores how dreams are complex layers of the Self, and portray these different layers in music. At the same time, he brings his own craft as an artist into the equation and successfully combines both music and psychology by creating a musical piece that can be used to explain, to a certain degree, the psychology of dreams according to Carl Gustav Jung. The composer was able to shape the theories and concepts into sounds that represent the core concepts involved in the activity of sleeping.

## REFERENCES

American Psychological Association. (n.d.). Anima. APA Dictionary of Physiology. Retrieved December 25, 2021, from https://dictionary.apa.org/anima

Cambridge University. (n.d.). Archetype. Cambridge Dictionary. Retrieved December 25, 2021, from https://dictionary.cambridge.org/us/dictionary/english/archetype

Cherry, K. (2020, June 30). The 4 Major Jungian Archetypes. Verywell Mind. https://www.verywellmind.com/what-are-jungs-4-major-archetypes-2795439

Felson, S. (2005, April 26). What Are REM and Non-REM Sleep? WebMD. Retrieved November 29, 2021, from https://www.webmd.com/sleep-disorders/sleep-101

Fraigne, J. J., Torontali, Z. A., Snow, M. B., \& Peever, J. H. (2015). REM Sleep at its Core - Circuits, Neurotransmitters, and Pathophysiology. Frontiers in Neurology, 6. https://doi.org/10.3389/fneur.2015.00123

Freud, S. (2021). Chapter I. Dreams Have a Meaning [E-book]. In Dream Psychology : Psychoanalysis for Beginners (p. 4). Independently published.

GÜNEŞ, H., \& GÜNEŞ, N. (2012). The Effects of Lullabies on Children. International Journal of Business and Social Science, 3(7), 316-321. http://ijbssnet.com/journals/Vol 3 No 7 April 2012/35.pdf

Iliades, C. (2021, February 25). How to Know If Your Sleeping Heart Rate Is Normal. LIVESTRONG.COM. https://www.livestrong.com/article/105256-normal-heart-rate-sleeping/

Jung, C. (n.d.). Archetypes - The Self. Carl-Jung.Net. Retrieved December 25, 2021, from https://www.carl-jung.net/self.html

Jung, C. G. (1968). Man and His Symbols. Dell Publishing Co., Inc.
Jung, C. G., Adler, G., \& Hull, R. F. C. (2014). Collected Works of C.G. Jung, Volume 10: Civilization in Transition (2nd ed., Vol. 10). Princeton University Press. https://doi.org/10.1515/9781400850976

Jung, C. G., Hull, R. F. C., \& Shamdasani, S. (2010). The Undiscovered Self: With Symbols and the Interpretation of Dreams (Jung Extracts, 31) (Revised ed.). Princeton University Press. https://ebookcentral-proquest-com.ezproxy1.lib.asu.edu/lib/asulib-ebooks/detail.action?docID=832662\#

MoMa. (n.d.). MoMA | Salvador Dalí. The Persistence of Memory. 1931. Https://Www.Moma.Org/. Retrieved January 10, 2022, from
https://www.moma.org/learn/moma learning/salvador-dali-the-persistence-of-memory-
1931/\#:\%7E:text=Salvador\%20Dal\%C3\%AD\%20induced\%20himself\%20to,see \%20appear\%20upon\%20my\%20canvas.

Naifeh, S. (2001, December 1). Carl Gustav Jung, M.D., 1875-1961. American Psychiatric Association. Retrieved December 12, 2021, from https://doiorg.ezproxy1.lib.asu.edu/10.1176/appi.ajp.158.12.1973

Schwarm, B. (2014, July 12). The Devil's Trill | sonata by Tartini. Encyclopedia Britannica. Retrieved December 20, 2021, from
https://www.britannica.com/topic/The-Devils-Trill
WedMD. (2021, May 6). Breathing Techniques for Sleep. WebMD. Retrieved October 4, 2021, from https://www.webmd.com/sleep-disorders/breathing-techniques-sleep

## APPENDIX A

## LIST OF VARIATIONS

| Variation | Technique Used | Measures | Instruments | Pitch collection |
| :---: | :---: | :---: | :---: | :---: |
| Original Motive | N/A | $\begin{gathered} \hline \mathrm{mm} .7 \text { to } \\ 10 \\ \hline \end{gathered}$ | Eng Hn, FI | E, B, D, A |
| V1 | Intervallic variation. | $\begin{gathered} \mathrm{mm} .12 \text { to } \\ 14 \\ \hline \end{gathered}$ | Bsn 1 and 2 | $\begin{gathered} \text { F, C, Eb, } \\ \text { Bb } \end{gathered}$ |
| V2 | Augmentation by addition of beats and Klangfarbenmelodie. | $\begin{gathered} \mathrm{mm} .18 \text { to } \\ 24 \end{gathered}$ | $\begin{aligned} & \text { Picc, FI, Tpt } \\ & \text { 2, Cl 1, Ob } \\ & \text { and Celesta } \end{aligned}$ | Eb, Bb, $\mathrm{Db}, \mathrm{Ab}$ |
| V3 | Rhythmic variation by addition of beats and repeating units. Planing. | $\begin{gathered} \mathrm{mm} .25 \text { to } \\ 29 \end{gathered}$ | Bsn 1 and Celesta |  |
| V4 | Rhythmic variation by subtraction of beats and repeating units (from V3). Planing and pitch collection change. | $\begin{gathered} \mathrm{mm} .35 \text { to } \\ 38 \end{gathered}$ | Cl 1 and 2, Bsn 1 and Celesta | $\begin{array}{r} \text { 1- } \begin{array}{l} \mathrm{E}, \mathrm{~B}, \\ \mathrm{D}, \mathrm{~A} \\ 2-\quad \mathrm{B}, \mathrm{~F} \#, \\ \mathrm{~A}, \mathrm{C} \# \end{array} \end{array}$ |
| V5 | Rhythmic variation, metric displacement, and pitch collection change. (Overlaps with last variation). | $\begin{gathered} \mathrm{mm} .37 \text { to } \\ 41 \end{gathered}$ | FI | A, E, G |
| V6 | Rhythmic variation by metric displacement and subtraction of beat units. (Parallel motion). | $\begin{gathered} \mathrm{mm} .42 \text { to } \\ 47 \end{gathered}$ | Celesta | $\begin{array}{r} \text { 1- } \mathrm{E}, \mathrm{~B}, \\ \mathrm{D}, \mathrm{~A} \\ 2-\mathrm{B}, \mathrm{~F} \#, \\ \mathrm{~A}, \mathrm{C}, \\ \hline \end{array}$ |
| V7 | Rhythmic variation by subtraction of beat units, pitch collection change by contrary motion of original motive and Klangfarbenmelodie. | ```mm. }48\mathrm{ to 4 9 And mm. 50 to 51``` | Vc, Db | $1^{\text {st }}$ time: <br> D, G, C <br> $2^{\text {nd }}$ time: <br> D, E, G, C |
| V8 | Orchestration and textural variation from previous variation. pitch collection change. | $\begin{gathered} \text { mm. } 52 \text { to } \\ 53 \end{gathered}$ | Ob, Eng Hn | D, Ab, Eb |
| V9 | Rhythmic variation by diminishing duration, articulation change and addition of rests. cluster planing. | $\begin{gathered} \mathrm{mm} .52 \text { to } \\ 54 \end{gathered}$ | Brass, Bsn 1 and 2, Cl 1 and 2 (Timpani) | Clusters, same intervals in different tone centers |
| V10 | Return of the original collection, Rhythmic variation by subtraction from original melody, and addition of extra voice (generating dyads). | $\begin{gathered} \text { mm. } 56 \text { to } \\ 57 \end{gathered}$ | Celesta | $\begin{gathered} \text { E, B, D, A } \\ (\mathrm{G}, \mathrm{~F}) \end{gathered}$ |
| V11 | Rhythmic variation by addition and subtraction generating metric displacement. Intervallic | $\begin{gathered} \text { mm. } 58 \text { to } \\ 59 \end{gathered}$ | Celesta | $\begin{gathered} E, B, D, \\ A b(G, F) \end{gathered}$ |


|  | variation of last note from the collection. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| V12 | Rhythmic variation by subtraction, metric displacement change of pitch collection. |  | $\begin{gathered} \mathrm{mm} .60 \text { to } \\ 61 \end{gathered}$ | Cl 1 and 2, Bsn 1 and Celesta | $\begin{gathered} \mathrm{B}, \mathrm{G}, \mathrm{~A}, \mathrm{~F} \\ (\mathrm{D}, \mathrm{C}) \end{gathered}$ |
| V13 | Combination of 2 collections, rhythmic variation by addition of cell units - "Sense of Lullaby Music" |  | $\begin{gathered} \mathrm{mm} .65 \text { to } \\ 68 \end{gathered}$ | Celesta, Cl 1 and 2, Bsn 1 | $\begin{aligned} & \mathrm{E}, \mathrm{~B}, \mathrm{D}, \mathrm{~A}, \\ & \mathrm{C}, \mathrm{~B}, \mathrm{G}, \mathrm{~F} \end{aligned}$ |
| V14 | Pitch collection change, contrary motion motive, canon like intervention (layers of same motive). |  | $\begin{gathered} \mathrm{mm} .74 \text { to } \\ 78 \end{gathered}$ | Ob, Hn 1, Bsn 1 and 2 and Eng Hn | $\underset{E}{B, F, C,}$ |
| $\begin{gathered} \hline \text { V15 } \\ \text { (V13) } \end{gathered}$ | Revisiting V13 - Orchestration variation. |  | $\begin{gathered} \hline \mathrm{mm} .77 \text { to } \\ 80 \\ \hline \end{gathered}$ | Picc, FI, Cl 1 and Celesta | $\begin{aligned} & \mathrm{E}, \mathrm{~B}, \mathrm{D}, \mathrm{~A}, \\ & \mathrm{C}, \mathrm{~B}, \mathrm{G}, \mathrm{~F} \end{aligned}$ |
| V16 | V13 Rhythmic variation by addition and subtraction generating metric displacement. Micropolyphony, change of centricity at the tail of the motive. |  | $\begin{gathered} \mathrm{mm} .81 \text { to } \\ 84 \end{gathered}$ | Celesta, Bsn 1 and 2, and Eng Hn | $\begin{aligned} & \mathrm{E}, \mathrm{~B}, \mathrm{D}, \mathrm{~A}, \\ & \mathrm{C}, \mathrm{~B}, \mathrm{G}, \mathrm{~F} \end{aligned}$ |
| V17 | Change of pitch collection, rhythmic variation by addition of repeating cells. |  | $\begin{gathered} \mathrm{mm} .90 \text { to } \\ 94 \end{gathered}$ | Celesta, Ob and Eng Hn. | $\begin{gathered} \text { G, D, F, } \\ \text { C, Ab, Bb, } \\ \text { Cb, Eb } \end{gathered}$ |
| V18 | Synthesis, layering, rhythmic variations by addition and subtraction, articulation changes, and clusters. (Deep dream section) | Pitch collection and articulation change. | $\begin{gathered} \mathrm{mm} .96 \text { to } \\ 97 \end{gathered}$ | CI 1 and 2 | (G, D, E, <br> C) |
| V19 |  | Rhythmical variation by addition of rhythmical cell units, metric displacement, and pitch collection change. | $\begin{gathered} \mathrm{mm} .97 \text { to } \\ 100 \end{gathered}$ | Bsn 1 and 2 | $\begin{gathered} (\mathrm{Bb}, \mathrm{Ab}, \\ \mathrm{Cb}, \mathrm{~F}, \mathrm{Db}) \end{gathered}$ |
| V20 |  | Metric displacement, clusters, same intervals in different tone centers. | $\begin{aligned} & \mathrm{mm} .100 \\ & \text { to } 101 \end{aligned}$ | Brass | Planing, Clusters same |


| V21 |  | Rhythmic variation by subtraction ostinato-like use of the variation. | $\begin{gathered} \text { mm. } 96 \text { to } \\ 104 . \end{gathered}$ | Strings | intervals in different tone centers, layering |
| :---: | :---: | :---: | :---: | :---: | :---: |
| V22 |  | Articulation, variation on rhythm and pitch collection, metric displacement. | 101 to 105 and mm. 110 to 112 | CI 1 and 2 |  |
| V23 |  | Overlapping, rhythmic variation by subtraction of unit cells. | $\begin{gathered} \mathrm{mm} .105 \\ \text { to } 108 . \end{gathered}$ | Ob , Eng Hn, Cl 1 and 2, and Celesta. |  |
|  |  | V22: It is repeated by flutes in mm . 118 and 119 but incomplete. |  |  |  |
| V24 | Multiple variations developed by rhythmic change, beat displacement, juxtaposition of variations, articulation, augmentation, | Consist of rhythmic variations by diminution of the original motive, synthesis of different centricities. Orchestration. | From mm. 114 to 151 this ostinatolike gesture based on the original motive. | Woodwind section. |  |
| V25 | diminution, intervallic variation, contrary motion, and | Rhythmic variation, played incomplete. | $\begin{gathered} \hline \mathrm{mm} .118 \\ \text { to } 122 \\ \text { and } \mathrm{mm} . \\ 120 \text { to } \\ 123 \\ \hline \end{gathered}$ | Clarinets (Incomplete) and Bassoons (Complete) |  |
| V26 | micropolyphony. (Revisiting previous variations). | Rhythmic and articulation variation. | Hn 1 and 2 (mm. 120 to | Brass |  |


|  |  | $\begin{gathered} 121 \text { and } \\ 139 \text { to } \\ 140 \text { ), } \\ \text { Bass Tbn } \\ \text { and Tuba } \\ \text { (mm. 121 } \\ \text { to } 123 \text { ) } \\ \text { and Tpt } 1 \\ \text { and } 2 \\ \text { (mm. 138 } \\ \text { to } 139 \text { ). } \end{gathered}$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| V27 | Rhythmic variation by addition of beat units. | $\begin{aligned} & \mathrm{mm} .132 \\ & \text { to } 138 \end{aligned}$ | Celesta |  |
| V28 | Rhythmic variation and orchestration | $\begin{gathered} \mathrm{mm} .138 \\ \text { to } 142 \end{gathered}$ | Violin IIb |  |
| V24, 25, $26,27$ <br> and 28 |  | $\begin{gathered} \mathrm{mm} .105 \\ \text { to } 151 \end{gathered}$ | Entire orchestra |  |
| V29 | Rhythmic variation in new meter (6/8) clusters and planing. Metric displacement. | $\begin{gathered} \mathrm{mm} .156 \\ \text { to } 161 \end{gathered}$ | Bsn 1 and 2, and brass | Clusters, same intervals in different tone centers |
| $\begin{gathered} \text { V30 and } \\ 31 \end{gathered}$ | V30: Rhythmic variation by addition of beat units, Klangfarbenmelodie, and planing mm. 167 to 174 and 175 to 183 . <br> V31: Bassoons from mm. 179 to 183 Rhythmic variation by subtraction of beat units. | $\begin{gathered} \mathrm{mm} .167 \\ \text { to } 183 \end{gathered}$ | Woodwinds | 1. $F, C$, <br> $\mathrm{Eb}, \mathrm{Bb}$ <br> 2. $\mathrm{C}, \mathrm{G}$, <br> $\mathrm{Bb}, \mathrm{F}$ |
| V32 | Rhythmic variation by change of rhythmical cells. | $\begin{gathered} \hline \mathrm{mm} .177 \\ \text { to } 180 \\ \hline \end{gathered}$ | Brass | D, Eb, A |
| $\begin{aligned} & \text { V33 and } \\ & 34 \end{aligned}$ | V33: Rhythmic variation, cluster planing, metric displacement (mm. 185 to 186) - Brass. <br> V34: Rhythmic variation mm. 187 to $188, \mathrm{~mm} .190$ to 191, mm .201 to 202 and mm. 204 to 205. (Metric Displacement). | $\begin{aligned} & \mathrm{mm} .185 \\ & \text { to } 205 \end{aligned}$ | Brass | Clusters, same intervals in different tone centers |


| V35 | Rhythmic variation, ostinato-like gesture (mm. 177 to 188) Violin II $a$ and $b$, Cello $a$ and $b$. | $\begin{aligned} & \mathrm{mm} .177 \\ & \text { to } 188 \end{aligned}$ | Violin II a and $b$, Cello $a$ and $b$ |  |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { V36 } \\ \text { (V13) } \end{gathered}$ | Combination of 2 collections, orchestration. | mm. 216 <br> to 226 , <br> mm., 228 <br> to 238 <br> and mm . <br> 240 to <br> 250. | Picc. FI, Strings and Celesta | $\begin{aligned} & \mathrm{E}, \mathrm{~B}, \mathrm{D}, \mathrm{~A}, \\ & \mathrm{C}, \mathrm{~B}, \mathrm{G}, \mathrm{~F} \end{aligned}$ |
| $\begin{gathered} \text { V37 } \\ \text { (V32) } \end{gathered}$ | Pitch collection variation of V31. Orchestration Variation. | $\begin{gathered} \hline \mathrm{mm} .224 \\ \text { to } 227 \\ \text { and } \mathrm{mm} . \\ 236 \text { to } \\ 239 \\ \hline \end{gathered}$ | Brass | $\begin{aligned} & \text { 1. } B, F, E \\ & \text { 2. } \mathrm{D}, \mathrm{~F}, \\ & \mathrm{E} \end{aligned}$ |
| $\begin{gathered} \text { V38 } \\ \text { (V32) } \end{gathered}$ | Woodwinds, $1^{\text {st }}$ time <br> (Incomplete: mm. 243 to 244 D, A) <br> Woodwinds, $2^{\text {nd }}$ time with Hns, Bass Tbn and Tba (D, G, A) Woodwinds and Brasses: mm. 247 to 250. | $\begin{aligned} & \mathrm{mm} .240 \\ & \text { to } 251 \text {. } \end{aligned}$ | Woodwinds and Brass |  |

## APPENDIX B

LIST OF VARIATIONS NOTATED IN STANDARD NOTATION




Var 14




Var 21


Var 22 (Fluttertongue + growling)



Var 24



Var 27


## Var 28



Var 29


Var 30


Var 31


Var 32 (Var 37) (Var 38)
177 (Brasses) + (Small Changes in Var 37 and 38 - Pitch collection change)


APPENDIX C
SCORE


## Subconsciousness

for
Symphony Orchestra

By:
Daniel Taborda
"Dreams are impartial, spontaneous products of the unconscious psyche, outside the control of the will.
They are pure nature; they show us the unvarnished, natural truth, and are therefore fitted, as nothing else is,
to give us back an attitude that accords with our basic human nature when our consciousness has strayed too
far from its foundations and run into an impasse."

- C. G. Jung

Subbblonsieun nu ui uee e

## Performance Notes

The duration of the piece is aproximately: $9^{\prime} 12^{\prime \prime}$
Performance suggestions:

- Dynamics should be given extra importance, especially softer dynamics. Exaggerated dynamics are vital to achieve the desired sonority.
- Tempo should be very strict. The sense of pulse ( 80 bpm ) should be kept the entire piece, even with the tempo changes. The changes are mathematically proportional to the tempo primo ( 80 bpm ), the pulse carries through the whole piece from beginning to end.
- There is a breathing gesture (please see notation below) through the whole piece. This gesture represents inhaling and exhaling. Percussion instruments (with brushes) are the sound of inhale, and woodwind and brasses are the sound of exhale.
- The notation for the breathing gesture is the same for all the instruments. It is notated in the first line of the music staff.
- The end of the piece uses a very loud, mechanical alarm clock. It should be visible to the audience. If a real clock is not available, a large triangle or presecorded sound could be used. This sound must stop with the Bartok pizzicato measure 255, second beat. This sound represents a person abruptly waking up and hitting the clock to stop the alarm. The gesture is followed by the breathing gesture.
- There is an excel file where I will share some videos where you can find the sounding references for the extended techniques used in the piece.
- This piece is considered program music. The story behind it is: The process of a person falling asleep at night, getting into deep sleep, and accessing the subconscious mind through dreams. At the end, the person abruptly wakes up after hearing the clock alarm. Then the person sighs after waking up (and starts a new day again).


## Notation Key



| Video References for the notation key of Subconsciousness for Symphony |  |  |  |
| :---: | :---: | :---: | :---: |
| Orchestra |  |  |  | Video URL Link $\quad$ Sound Description $\quad$ Time Stamp.


































[^0]:    ${ }^{1}$ This will be explained in more detail at the end of this section of the text.

[^1]:    ${ }^{2}$ Jung, C. G., Hull, R. F. C., \& Shamdasani, S. (2010). The Undiscovered Self: With Symbols and the Interpretation of Dreams (Jung Extracts, 37) (Revised ed.). Princeton University Press.
    ${ }^{3}$ Jung, C. G., Shamdasani, S., Kyburz, M., \& Peck, J. (2009). The Red Book (Philemon) (1st ed.). W. W. Norton \& Company.

[^2]:    ${ }^{4}$ These sounds are explained in the deep sleep section.

