Verifying Modeling and Audiovisual Stimuli as Strategies for Mastering Guedes Peixoto's Maracatú

Rodrigo Clementino Diniz

Louisiana State University and Agricultural and Mechanical College, dinizart@hotmail.com

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_theses

Part of the Ethnomusicology Commons, Music Pedagogy Commons, and the Music Performance Commons

Recommended Citation
https://digitalcommons.lsu.edu/gradschool_theses/4977

This Thesis is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Master's Theses by an authorized graduate school editor of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.
VERIFYING MODELING AND AUDIOVISUAL STIMULI AS STRATEGIES FOR MASTERING GUEDES PEIXOTO´S MARACATÚ

A Thesis

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Master of Music in

The School of Music

by

Rodrigo Clementino Diniz
B.M., Universidade Federal de Pernambuco, 2003
August 2019
ACKNOWLEDGMENTS

First, my gratitude to Olorum and Orunmila, who endowed me with intelligence, health, tenacity and musical talent, characteristics without which I possibly would not have been able to launch myself on this incredible journey. To my guardian angel, Oyá, who vibrates magnetically in me, for always being by my side, guarding me. Endless thanks to my beloved mother, Francisca Clementino, a warrior woman who gave up so much of her life to raise me by herself. She showed me by example in life that we must have morals and integrity in our actions, teaching me, from a very young age, that education is the most precious good that someone can possess, while making every effort to offer me the best that she could provide. Mom, I love you...!

Thanks to my friends and great pianists Elyanna Caldas and Dolores Portella Maciel (In Memoriam) who, after hearing me on the piano, became two of my greatest supporters, pushing me to resume my piano practice, and encouraging me to seek the opportunity for development in the United States. To fellow pianists Manoel Theophilo, who mentioned Professor Gurt for the first time, and to Karina Praxedes, Thaissa Santiago, Vitor Nigri and Gabriel Fernandes, for sharing their experiences in the United States.

To Dr. Joao Paulo Casarotti, founder and artistic director of the Piracicaba International Pianist Meeting, in Brazil, a wonderful event that annually brings together an excellent team of piano teachers, where I had the opportunity to play for the person, Professor Gurt, who would become, two years later, my teacher and advisor. Thanks, Joao, for making Eipianopira possible, for continuously praising my piano phrasing and sonority, and for encouraging me to come to study in the US.
To my dear piano teacher and advisor, Michael Gurt, for making possible this invaluable opportunity by securing me a scholarship. Thank you for all your patience and generosity in sharing your enormous knowledge about the piano and, above all, for believing in my talent, not doubting at any time that I would be able to make it through, and for showing me the reasons why I should believe more in myself.

I believe in guardian angels and I think that, in life, we have not only the spiritual but also physical angels, people who are always ready to reach out to us in the most difficult times. In this category, my special and infinite thanks to my friend, the composer and pianist Syrlane Helen, who was always willing to help me with her vast Musical Theory knowledge, giving me free online lessons every time I needed it; to the violist Natasha Sieczkowska, my colleague in the musical theory classes at LSU, with her almost daily help in the difficult process of adaptation to the American academic system, and to my beloved friend and excellent pianist Maira Braga Cabral, who, even when we were not so close to each other, helped me with the whole application process, welcoming me with opened arms when I arrived in Baton Rouge, and was always by my side during these two years.

More specifically regarding this research project, I must thank four other guardian angels that God put in my way, without which, I believe, I would not have gotten to complete this work, or even started it. They are: my dear friend and excellent pianist Henrique Borges, who literally saved my research project when everything seemed lost, and also gave me support during the writing of this paper; to the cellist, composer, and dear friend Luciano Correa, who gave me technical support for the recording and masterization of Guedes Peixoto's Maracatu by Henrique Borges, and, later, in the use of the Disklavier for the data collection; to my dear friend and choir director Neviton Barros, who lent me his excellent computer to work on this thesis when no
other machine seemed to be able to manipulate the file; to the engineer Felipe Simoes, my 
roommate, who helped me several times to surface the various technical issues I had when 
writing this paper, with his knowledge in computing and formatting. Without you, for sure, I 
would not have made it. Thank you very much, guys!

Special thanks to my research subjects, Clara Schumann, Eusebius and Beethoven, fellow 
pianists in the Graduate School who, even in the face of all their academic activities, accepted 
and persevered during the application of this experiment. I could not fail to thank also the 
members of my committee, Professor Gregory Sioles and Professor Willis Delony, as well as Dr. 
Joseph Skillen and Paloma Ruiz for all the compassioned and caring provided.

Taking a study abroad experience is always a challenge, especially when it comes to 
cultural adaptation, which can have a direct impact on your academic output. In this sense, God 
put two wonderful people in my path, who were willing to help me in the process of adaptation 
and involvement with the local culture, showing me the American off campus daily life. They 
are Gary Pate, who took me to meet the choir of the St. Joseph Monastery in Saint Benedict 
during Easter, and later lodged me in his new residence in Chicago, giving me the opportunity to 
know that incredible city, full of Art everywhere; and David Falcon, who I met by a twist of fate, 
less than a year ago and, since then, became my main guardian angel, having almost literally 
adopting me as his younger brother, helping me in a variety of ways, from everyday things such 
as riding me to the grocery store, bringing me traditional home-cooked Cajun foods, distracting 
me a little from the frantic academic life, taking me with him on short trips to New Orleans or 
Biloxi or to watch the LSU football team (Geaux Tigers!), inviting me to the Christmas dinner 
with his sons and relatives to helping me with my musical endeavors, having arranged my first 
piano recital in the USA, in the beautiful church of his hometown Donaldsonville, and helping
me reviewing this paper. I feel that if nothing had been worthwhile coming to the United States to pursue my Master’s degree, having added this incredible human being in my life would have been enough. David, I will never be able to completely thank you for all the things you have done for me…

Finally, I would like to reiterate my thanks to Tiago Lima from Lima & Falcao Associates and Geraldo Frazao for their initial help in the beginning of this journey, to my colleague Rosenberg Frazao, who acted as my substitute in my absence from the Federal Institute of Sertao Pernambucano so that I could be out attending the Master's program, and to the Institute’s staff who made it possible for me to pursue this endeavor.
# TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION ............................................................................................................. 1

CHAPTER 2. REVIEW OF RELATED LITERATURE .............................................................................. 8
  2.1. Brief Musical Performance Research Timeline ........................................................................... 8
  2.2. Audiovisual Stimuli and Emotional Communication in Musical Performance ...................... 11
  2.3. Short Literature Review on Modeling in Music .......................................................................... 19

CHAPTER 3. RESEARCH QUESTIONS AND PURPOSE OF THE STUDY .............................................. 23

CHAPTER 4. MARACATÚ: BACKGROUND INFORMATION, ORIGIN, MUSICAL FEATURES, AND GUEDES PEIXOTO´S MARACATÚ ................................................................. 26
  4.1. Brazilian Historical Background ................................................................................................. 26
  4.2. Black Religious Sodalities in Colonial Brazil and the Kings of Congo Crowning Ceremonies ................................................................. 30
  4.3. What does Maracatú Stand For? ................................................................................................. 37
  4.4. Maracatú Musical Features ........................................................................................................ 42
  4.5. Guedes Peixoto´s Maracatú ........................................................................................................ 47

CHAPTER 5. METHODOLOGY ........................................................................................................ 56
  5.1. Methodology for Audiovisual Stimuli Intervention .................................................................... 60
  5.2. Methodology for Auditory Modeling Intervention ..................................................................... 66
  5.3. Data Analysis .............................................................................................................................. 68

CHAPTER 6. THREE CASE STUDIES ............................................................................................... 70
  6.1. Case 01: Clara Schumann ........................................................................................................... 70
       Background Information and Musical Preferences ....................................................................... 70
       Clara Schumann as a Piano Student, Study Practices, and First Thoughts about the Piece . 71
       Clara Schumann´s Selected Sections and Data Analysis .............................................................. 74
       Clara Schumann under Audiovisual Stimuli Intervention ............................................................ 86
       Clara Schumann under Auditory Modeling Intervention .............................................................. 97
  6.2. Case 02: Eusebius ...................................................................................................................... 110
       Background Information and Musical Preferences ....................................................................... 110
       Eusebius as a Piano Student, Study Practices, and First Thoughts about the Piece .............. 111
       Eusebius´ Selected Sections and Data Analysis ........................................................................... 114
# LIST OF TABLES

Table 4. 1. Musical Instruments used by Maracatú Nação groups. ......................................................... 43

Table 5. 1. Categories of the images used in the visual portion of audiovisual stimuli intervention. ........................................................................................................................................ 61

Table 5. 2. Categories of files used in the auditory portion of audiovisual stimuli intervention. . 62

Table 6. 1. Clara Schumann’s repertoire during academic Spring Semester, 2018.................... 71

Table 6. 2. Clara Schumann’s selected sections chart ................................................................................ 74

Table 6. 3. Clara Schumann’ perceived emotions during visual stimulation. ......................... 89

Table 6. 4. Clara Schumann’s perceived emotions during audio stimulation ......................... 90

Table 6. 5. Eusebius’s Graduate Solo Piano Recital repertoire, Spring Semester 2018............. 111

Table 6. 6. Eusebius’ selected sections chart ......................................................................................... 114

Table 6. 7. Eusebius’s perceived emotions during audio stimulation ......................................... 124

Table 6. 8. Eusebius’s perceived emotions during auditory stimulation ........................................ 125

Table 6. 9. Beethoven’s repertoire during academic Spring Semester, 2018......................... 144

Table 6. 10. Beethoven’s selected sections chart ................................................................................. 147

Table 6. 11. Beethoven’s perceived emotions during visual stimulation .................................... 156

Table 6. 12. Beethoven’s perceived emotions during auditory stimulation ............................ 157
LIST OF FIGURES

Figure 4. 1. Examples of rhythmic patterns for Maracatu’s instrumental set. ................................. 46

Figure 4. 2. Guedes Peixoto’s Maracatu, mm. 1-10, with Alfaia Meião and Alfaia Repique rhythmic figurations highlighted................................................................. 50

Figure 4. 3. Guedes Peixoto’s Maracatu, mm. 30-37, with Alfaia Meião and Alfaia Repique rhythmic figurations highlighted................................................................. 51

Figure 4. 4. Guedes Peixoto’s Maracatu, mm. 11-21, with Alfaia Marcação (blue) and Caixa-de-Guerra (green) rhythmic figurations highlighted. .......................................... 52

Figure 4. 5. Guedes Peixoto’s Maracatu, mm. 60-69, with Alfaia Marcação rhythmic figurations highlighted................................................................. 53

Figure 4. 6. Guedes Peixoto’s Maracatu, mm. 70-73, with Gonguê/Agogô rhythmic figurations highlighted................................................................. 55

Figure 5. 1. Sound wave of Guedes Peixoto’s Maracatu, mm. 01-06, played by participant Clara Schumann........................................................................................................ 59

Figure 6. 1. Sound wave for Clara Schumann’s SEC1-1........................................................................ 76

Figure 6. 2. Sound wave for Clara Schumann’s SEC1-1, onsets highlighted........................................ 79

Figure 6. 3. Sound wave for Clara Schuman’s SEC1-1 showing anticipated attacks of the notes on the third beats, on mm. 5, 7, 8 and 9. ......................................................... 80

Figure 6. 4. Guedes Peixoto’s Maracatu excerpt, containing mm. 5, 7, 8 and 9 where Clara’s mistakes on SEC1 are found................................................................. 80

Figure 6. 5. Clara Schumann timeline for SEC1-1................................................................................ 81

Figure 6. 6. Clara Schumann's timeline for SEC4-1........................................................................ 83

Figure 6. 7. Sound wave for Clara Schumann’s SEC4-1 with mm. 31,34, 38, and 39 highlighted. .................................................................................................................. 84

Figure 6. 8. Clara Schumann’s SEC 4 with Alfaias stylization highlighted (mm.31-41)........ 85

Figure 6. 9. Sound wave for Clara Schumann’s SEC1-2 with mm. 2,3,6,7,8,9 and 10 highlighted. .................................................................................................................. 93

Figure 6. 10. Timeline for Clara Schumann’s SEC1-2........................................................................ 93
Figure 6. 11. Timelines comparing Clara Schumann’s SEC1-1 and SEC1-2. ...................... 94
Figure 6. 12. Timeline for Clara Schumann’s SEC4-2 ..................................................... 96
Figure 6. 13. Timelines comparing Clara Schumann’s SEC4-1 and SEC4-2. ..................... 96
Figure 6. 14. Sound wave of Borges’ performance for Peixoto’s Maracatú, mm. 1-11 ......... 99
Figure 6. 15. Sound wave for Clara’s SEC1-3 with 3rd beats highlighted ............................. 99
Figure 6. 16. Borges’s timeline for Guedes Peixoto’s Maracatú, mm.1 to 11 ......................... 100
Figure 6. 17. Timeline for Clara Schumann’s SEC1-3, after Modeling ............................... 100
Figure 6. 18. Timeline of Borges and Clara Schumann SEC1-3 ....................................... 101
Figure 6. 19. Sound wave for Borges’ performance of mm. 31-41, with Alfaia patterns and syncopations highlighted ................................................................. 102
Figure 6. 20. Sound wave for Clara Schumann’s SEC4-3 performance, mm. 31-41, with Alfaia patterns and syncopations highlighted .................................................. 103
Figure 6. 21. Clara Schumann’s timeline for SEC4-3, with exaggerated syncopation highlighted ................................................................. 104
Figure 6. 22. Timeline for Borges and Clara Schumann SEC4-3 ....................................... 104
Figure 6. 23. Timelines for Borges and Clara Schumann’s Final Result of SEC1 ................. 108
Figure 6. 24. Timelines for Borges and Clara Schumann’s Final Result of SEC4 ................. 108
Figure 6. 25. Comparison between Clara’s SEC1 Final Result to the Model and SEC1-2 ...... 109
Figure 6. 26. Comparison between Clara’s SEC4 Final Result to the Model and SEC4-2 ...... 109
Figure 6. 27. Sound wave for Eusebius’ SEC1-1 with anticipations highlighted .................... 117
Figure 6. 28. Approximation of the rhythmic distortion presented by Eusebius in SEC1-1 .... 118
Figure 6. 29. Timeline for Eusebius’ SEC1-1 ..................................................................... 118
Figure 6. 30. Sound wave of Eusebius’ SEC2-1, with anticipations highlighted .................... 120
Figure 6. 31. Approximation of the rhythmic distortion presented by Eusebius in SEC1-1 .... 120
Figure 6. 32. Timeline for Eusebius’ SEC2-1 ..................................................................... 121
Figure 6. 33. Timeline for Eusebius’ SEC1-2 ................................................................. 127

Figure 6. 34. Timelines comparing Eusebius’ SEC1-1 and SEC1-2. .............................. 127

Figure 6. 35. Eusebius’ timeline for SEC2-2 .................................................................. 128

Figure 6. 36. Timelines comparing Eusebius’ SEC2-1 and SEC2-2. .............................. 129

Figure 6. 37. Sound wave for Eusebius’ SEC1-3, with anticipations of Alfaías patterns highlighted. ................................................................................................................. 134

Figure 6. 38. Borges’s timeline for Guedes Peixoto’s Maracatú, mm.1-11 ...................... 135

Figure 6. 39. Eusebius’s timeline for SEC1-3, after imitating Borges. ............................ 135

Figure 6. 40. Timelines comparing Borges and Eusebius’s imitation for SEC1-3 .......... 136

Figure 6. 41. Sound wave for Borges’ interpretation of Eusebius’ SEC2, with syncopations correctly placed. ................................................................. 137

Figure 6. 42. Sound wave for Eusebius’ SEC2-3, with anticipated syncopations ............ 138

Figure 6. 43. Borges’s timeline for Eusebius’ SEC2 ...................................................... 138

Figure 6. 44. Timeline of Eusebius’ SEC2, after imitating Borges. ............................... 139

Figure 6. 45. Timelines for Borges and Eusebius’ SEC2-3 .......................................... 139

Figure 6. 46. Eusebius’ evolution in SEC1 ................................................................. 142

Figure 6. 47. Eusebius’ evolution in SEC2 ................................................................. 142

Figure 6. 48. Sound wave for Beethoven’s SEC1-1, with Alfaías patterns highlighted .... 151

Figure 6. 49. Timeline for Beethoven’s SEC1-1 ........................................................... 151

Figure 6. 50. Sound wave for Beethoven’s SEC4-1, with anticipations and changing in texture highlighted. ................................................................. 153

Figure 6. 51. Timeline for Beethoven’s SEC4-1 ........................................................... 153

Figure 6. 52. Sound wave for Beethoven’s SEC1-2, with no more anticipating the 3rd beats. .. 158

Figure 6. 53. Timeline for Beethoven’s SEC1-2 ........................................................... 158
Figure 6. 54. Timeline comparing Beethoven’s SEC1-1 and SEC1-2. .................................................. 159

Figure 6. 55. Sound wave for Beethoven’s SEC4-2, with 3rd beats correctly placed highlighted. ................................................................. 160

Figure 6. 56. Timeline for Beethoven’s SEC4-2. ................................................................. 161

Figure 6. 57. Timeline comparing Beethoven’s SEC4-1 and SEC4-2. ................................. 161

Figure 6. 58. Sound wave for Beethoven’s SEC1-3, with anticipations highlighted. .......... 166

Figure 6. 59. Timeline for Beethoven’s SEC1-3, after imitation process.......................... 167

Figure 6. 60. Timelines comparing Borges and Beethoven’s imitation for SEC1-3 .......... 167

Figure 6. 61. Timelines comparing Beethoven’s SEC1 before and after modeling process. .. 168

Figure 6. 62. Sound wave for Beethoven’s SEC4-3, after modeling................................. 169

Figure 6. 63. Timeline for Beethoven’s SEC4-3, after modeling................................. 170

Figure 6. 64. Timelines comparing Borges and Beethoven’s imitation for SEC4-3 ............ 170

Figure 6. 65. Comparison between Beethoven’s Final Result and Borges mm.1-11 .......... 172
ABSTRACT

Literature has been saying that auditory Modeling can be a useful tool in order to develop or broaden musical interpretive ideas. In the same way, literature ventilates that audiovisual stimuli can be applied to musicians in order to raise emotions that some scholars consider as indispensable when it comes to deliver expressive musical communications. More specifically, research in the Music Performance field points out that Modeling and Audiovisual stimuli are useful strategies in the learning process of building up a musical interpretation, both, fostering expressive tools for aiming musical performance.

This research is intended to empirically verify the applicability and effectiveness of these two tools on mastering a piano work - in this case, a piece named Maracatú written by Brazilian composer Guedes Peixoto that brings the stylization of a very unique and peculiar rhythm from Brazilian popular culture - when compositional and aesthetic style of the work are totally unknown by the performers. For that, three graduate piano performance students from the School of Music at Louisiana State University were subjected to two interconnected and deliberated interventions, while studying the piece, where audiovisual stimulation and auditory modeling were applied.
CHAPTER 1. INTRODUCTION

When I started my searches to find an American university where I could continue my piano studies at a Graduate level, I realized that the majority of national Master Music Performance programs in the United States of America do not require the student to do a written research paper, oriented to the performative practice field, as one of the requirements for graduation. Getting deeper into search, I learned that American scholars understand the development and mastering of the performers technical and expressive apparatus constitutes the academic research itself. The output of this research will be presented to the scientific and general community in the form of a public music recital, which is generally recorded for academic records purposes. In Brazil, my homeland, all academic Master Piano Performance programs necessarily require not only a graduate recital but also a written paper that should be presented and defended by the graduating student to a committee.

The Master Piano Performance program at Louisiana State University is among those that do not require a final written paper for graduation. It is optional. However, I am a piano teacher, a music educator, and a Fine Arts teacher at a federal institute in my country, which is nationally recognized for its successful format based on the teaching-research-extension tripod. Therefore, it seemed to be out of the question to complete a Master’s degree without developing a written research paper, that may not only impact my work as a teacher and pianist but also might be able to provide a sort of a cultural symbiosis between Brazil and the United States. That was my initial desire, hoping that exchange could result in practical benefits for my graduate colleagues at Louisiana State University (LSU).

Thus, I began learning the local academic output, always keeping in mind the cultural exchange goal as a guide to find my research subject. I remember that, initially, there was a very
strong desire to familiarize the American public with the vast, and certainly, here, unknown repertoire written for piano by composers born in my home state, Pernambuco.\footnote{Pernambuco is a Brazilian state located in the northeast portion of that country. Internationally known for its diverse and exuberant popular culture, especially in Recife, its capital, the state is also prolific in composers who wrote for the piano, especially from the second half of the nineteenth century up to the last decades of the twentieth century. For detailed information, see Diniz (1980) and Silva (1987).} However, given the huge compositional corpus that those pieces form, the duration of the Master program would probably be insufficient. I would also reject the possibility of focusing the research on only one of the composers because my idea was to provide a musical overview of those compositions, so rich and diverse in rhythms, styles and genres. Part of the richness of the work would be, precisely, to show the multiple performance possibilities of that repertoire.

When I became familiar with the scientific output developed by the Graduate School of Music of Brazilian Federal University of Rio Grande do Sul,\footnote{https://www.ufrgs.br/ppgmusica/ accessed in November 12th, 2017} the highest scored graduate Music program in Brazil, I realized that research in Music performance had departed from theoretical musicological approaches (around traditional form and harmonic analysis, and their developments) to empirical research aiming aspects of the musical phenomenon. The technological development had increased several areas of knowledge that could be paired with the research in Music, and, as a consequence, had brought out analytical tools developed specifically to be used in that field. That caused researchers to deviate somewhat from the traditional analytical approaches, leading them to investigate relevant aspects strictly related to the musical performance itself.

In this ongoing scenario, appears the researches related to the piano involving analysis of recorded performances, either commercial or especially made for scientific investigations. Buchanan conducted at LSU an investigation of the recordings left by composer Claude Debussy
for the player-piano company Welte-Mignon of 12 of his compositions, aiming to situate Debussy’s own performances within the tradition of French baroque keyboard music. In Brazil, Gerling studied the interpretation of rubato time in eight recordings of the piece Valsa de Esquina n.2 by Brazilian composer Francisco Mignone. Matschulat compared two recordings of J.S. Bach's Well-Tempered Clavier by pianist András Schiff made in 1984 and 2011, in order to corroborate the hypothesis that his latest recording is closer to the so-called rhetorical style, developed in the period of baroque music. Stoll observed two performance practices of Variationen für Klavier, op. 27 by Anton Webern comparing three recordings by Peter Stadlen, Yvonne Loriod and Charles Rosen, coming to the conclusion that the recordings exhibit two different styles of performance that he designated pre and post war styles.

However, the research with which I had the greatest empathy was the one conducted by Freitas. A pioneer in Brazil, her case study on the development of expressive resources on piano playing using Modeling piqued my interest immediately. For almost 7 years, I worked as a salesman in a well-known bookstore in my country. The facility had a section specifically for Classical Music recordings (CDs and DVDs). Working there, I had access to the most varied recordings of practically all the great Classical Music labels in the world. Using the high definition room’s sound system, I could listen, countless times, to the same work performed by different pianists. Thus, in order to build a better musical taste among my clients, I started guiding them in a comparative listening, highlighting the features of each interpretation. I did so

---

with J.S. Bach's Well Tempered Clavier played by Rosalyn Tureck, András Schiff and Angela Hewitt; with Beethoven's piano sonatas by William Kempf, Emil Giles and Daniel Barenboim; with Chopin's Nocturnes by Arthur Rubinstein, Maria João Pires and Nelson Freire, among other works.

Daily, working in that room, I started observing, little by little, changes related to my approach on the piano. My phrasing was outlined differently. Works that I had previously studied, when revisited, gained new interpretive design, and the most evident thing that had changed was the quality of my sound. Teachers and colleagues also noticed these changes. I began to consider the possibility of attributing that shift to the fact that I was immersed in that environment, with the best, in terms of commercial recordings that I could have. Thus, when I read Freitas's findings, I then realized that during the years I worked in the bookstore, I had certainly been subjected to some sort of nondeliberate Modeling process.

Broadly speaking, Modeling in Music is the process of learning by which the student listens to interpretations that serve as a model and, seeks to imitate, absorb or replicate interpretative elements and eventually transcends that phase by transforming what he\'she has absorbed into his/her own interpretive ideas. Thus, the student potentiates its expressive vocabulary and remains close to the artistic tradition of interpretation. In my case, if I may say so, this process has taken place unintentionally. However, we know that previously listening to commercial recordings of a work to be studied or of an ongoing work is widely practiced among music students, although not always stated by students, and even less through a deliberate process.

---

I remember that my former undergraduate piano teacher was totally against listening to recordings while working on a piece. She used to say that the musical score was enough by itself, that we should rely only on the musical elements indicated by the composer on the score, and from them build our own musical performance. Listening to the recording was only recommended by her when the piece was already matured, for comparison purposes only, but when she sat at the piano to give me examples of phrasing and interpretation wasn’t she conducting a modeling process being herself the model? According to Haston\(^9\) this is true, although through an unsystematic manner.

Therefore, from the search for answers derived from a personal experience, I thought it worthwhile to delve into the investigations about modeling as a tool for developing expressive resources on piano performance, taking a step forward in this still relatively embryonic field of study. The research format chosen - the case study – was convenient because it would allow me to combine my initial idea of provoking a cultural symbiosis between Brazil and the USA.

The piano work chosen to be used in the experiment is a stylization of one of the most unique Brazilian popular rhythms, the \textit{Maracatú}. Generally explained, \textit{Maracatú} is an Afro-Brazilian folkloric dance, typically found in the state of Pernambuco that arose in the middle of the eighteenth century. It is a courtship dance associated with Congo kings. Its music is essentially percussive and forms a very complex and elaborate rhythm that is danced with sometimes energetic swivel movements, sometimes in an austere but elegant and solemn way. In Pernambuco, during Carnival times, several traditional \textit{Maracatú} groups perform in parades exhibiting all their exuberance. The ensemble, a procession composed of African court characters, dancers, and percussionists evolve in energetic and captivating moments. All the

participants wear special colored clothes and perform its characteristic dance steps. It is a huge spectacle of colors and sounds.

The fact that I am myself a great enthusiast of the popular culture of my country was decisive in choosing Maracatú for the piece used in the experiment. Playing carnival in hometown since a very tender age, I was able to observe numerous times international tourists trying to understand what Maracatú was about, besides, maybe, an exotic cultural manifestation. Due to the lack of previous background information, the search for an understanding for that event used to take place right there in the streets, through the perception and apprehension of the sound and imagery elements.

Thus, observing (and eventually trying to imitate) the dance performed by the elegant, solemn and haughty couple, dressed with luxury costumes, dancing beneath a huge umbrella, observing the symbols they were carrying on (crowns, cloaks, scepter), tourists used to realize that the parade portrayed a royal court and all the participants were proudly celebrating the importance of their kings in a great party. Hence, from the audiovisual perception, they used to come to a closer understanding of that exotic and, so far, unknown manifestation for them.

In parallel, I could not fail to establish a comparison between those tourists and the participants of this research, who were carefully selected so that they had none or little contact with Brazilian cultural traditions, especially with Brazilian Music. I could not avoid delighting myself about the idea of having international students from different regions of the world in a search for expressive resources to arrive at a convincing interpretation of a Maracatú composed for piano. Furthermore, again from a personal perspective, the idea of using audiovisual stimuli with the subjects of this research arose, starting from the presumption that the type of stimuli can influence their search for a better understanding aiming performance, as they used to help those
tourists in my city. From what literature suggests, it is also the intention of this research to verify the effectiveness of audiovisual stimulation while studying and preparing a piece aiming piano performance. Can audiovisual stimuli also configure a strategy in the development of expressive resources for pianistic performance?

This paper will present: in chapter 2, a timeline on performance studies, reflections on performance, a brief literature review on auditory modeling and audiovisual stimuli towards musical performance. At the end of this chapter, are presented the Purpose of the Study and Research Questions. Chapter 3 presents a historical background and main characteristics of the Maracatú, and the main features of the piano piece to be studied by the subjects, the Maracatú, composed by Brazilian composer Guedes Peixoto. In chapter 4 is presented the methodology used for collecting data, discussion and the conclusions of this research. Quotations from texts in Portuguese will be presented already translated into English. All translations are my own.
CHAPTER 2. REVIEW OF RELATED LITERATURE

2.1. Brief Musical Performance Research Timeline

Musicology shows that the earliest researches on Musical Performance appear in treatises written in the 18th and 19th centuries, such as the works written by Francesco Geminiani (Art of Playing on the Violin Op. 9, 1751), Johann Joachim Quantz (On Playing the Flute, 1752), Carl P E Bach (Essay on the True Art of Playing Keyboard Music Part I 1753 and Part II, 1762), Leopold Mozart (Treatise on Fundamental Principles of Violin Playing, 1756), Muzio Clementi (Introduction to the Art of Playing the Piano op.42, 1801) and Carl Czerny (Complete Theoretical and Practical Pianoforte School, 3 Volumes 1838-39, 1846). According to Gabrielsson, first musical performance empirical research appeared during late nineteenth century and was intensified during 1920s and 1930s, especially due to the efforts of the research group at the University of Iowa, led by psychologist Carl Seashore. Their investigations covered mainly physical measurements of musical performances reaching parameters such as attack and speed, gradation of values, ritardando, phrasing, asynchrony between the hands on the piano, and aspects of the vibrato in the singing and the violin. However, World War II caused a decrease in the number of searches.

In the 1960s, Swedish musicologist Ingmar Bengtsson methodically studied the systematic variations on duration and intensity parameters and their relationship to the harmonic structure. From 1975, with the advancement of studies in the cognitive psychology field, there was a gradual increase in performance research from several angles and approaches, differing

---

from those that had guided performance research in its initial phase, when researchers’ thoughts were more influenced by behaviorist philosophy.

Between the 1980s and 1990s research on musical performance remained active with the works of Sundberg and Verrillo, Clynes, Epstein, Bowen and Palmer, among others. In 1980, Sundberg and Verrillo performed a statistical study with 24 performances of Bach works and calculated the average curve of the ritardandi commonly performed at the end of the pieces.

In 1989, Palmer conducted experimental studies in spontaneous and laboratory performance situations. In one of his experiments with three professional pianists and three university students he observed temporal patterns of rubato, chordal asynchrony and juxtaposition of notes, and concluded that these aspects are the preferences of interpreters to design and communicate their musical intentions, whether consciously or spontaneously. Palmer came to this conclusion after guiding participants to perform music in a non-musical way and found that these features were significantly minimized in comparison to actual musical performances.¹² In 1995, David Epstein and his coworkers investigated aspects related to timing in performances, especially aspects related to the flexibility of the beat and its relationship with rubato playing.¹³ Bowen investigated interpretive differences between Mozart, Beethoven, Brahms, Mahler and Tchaikovsky’s symphonic performances prioritizing aspects of time, duration, proportion and flexibility. The author states that time is an important variable to study, besides being easily quantifiable.¹⁴ In 1999, Friberg and Sundberg carried out an intriguing study trying to relate the execution of ritardandi at the phrase terminations of baroque style works with

---

the way a runner stops in a race, finding that the average of both actions follow approximately the same time curve.\textsuperscript{15}

Technological advances and the theoretical interest of the fields related to psychoacoustics, biomechanics, artificial intelligence, computer music and, music theory, among other areas, have made possible the development and improvement of numerous computational tools that enabled research with a considerable amount of data extracted from musical performances, mainly from sound files. The creation of the Center for the History and Analysis of Recorded Music (CHARM)\textsuperscript{16} in 2004 supports this new field, which is now known as Empirical Musicology, defined by Cook and Clarke as such:

Empirical Musicology (...) can be thought of as musicology that embodies a principled awareness of both the potential to engage with large bodies of relevant data, and the appropriate methods for achieving this; adopting this term does not deny the self-evidently empirical dimension of all musicology, but draws attention to the potential of a range of empirical approaches to music that is, as yet, not widely disseminated within the discipline.\textsuperscript{17}

Research conducted within the Center for the History and Analysis of Recorded Music (CHARM) has brought significant contributions to the development and advancement of musical performance research. Among them is the creation of Sonic Visualizer software. Developed by Chris Cannam of the Center for Digital Music at Queen Mary, University of London, this software allows us to analyze audio files from several angles, obtaining measurable data. The software calculates, for example, the distance between two times beat and generates a metronomic value for the points of each marking. The variation between one point and another is


\textsuperscript{16} http://www.charm.rhul.ac.uk/index.html

\textsuperscript{17} Nicholas Cook and Eric F. Clarke, \textit{Empirical Musicology: Aims, Methods, Prospects} (Oxford University Press, 2004), 5.
expressed in ascending and descending curves, which show the acceleration and deceleration, respectively. Sonic Visualizer was used in the interesting project called "Style, Performance, and Meaning in Chopin's Mazurkas", which intends to analyze more than 3,000 recordings of individual performances of Chopin’s Mazurkas, in order to detect historical and stylistic tendencies in the interpretation of these pieces.

2.2. Audiovisual Stimuli and Emotional Communication in Musical Performance

In general, a succinct but widely accepted definition of musical performance is that is an activity that communicates through coordinated sounds the musical output of a certain composer to a particular audience. In this way, the musical communication involves the 4 basic elements of any regular communication: source - message - receiver - feedback; in this case interpreter/performer - musical composition - audience - feedback. However, in a more technical way, musical performance, according to Palmer is “characterized by many temporal deviations from the written material[score], which are assumed to be related to the performer's intended meaning or to structural aspects of the material being produced.”

With this in mind, from the interpreter's point of view, musical performance seems to be the result of the combination of three interconnected factors: 1) reproduction, through his performance, of common stylistic rules perpetuated by the tradition over the years, which seems to be, however, influenced by 2) the interpreter's socio-cultural background, which interferes on the way in which the performer will

---

decode the musical symbology present on the score, that is in close connection with 3) the particular way of each interpreter deals with his/her expression.

As for expression, Juslin & Persson affirm that "Many performers consider expressivity to be one of the most important aspects of performance." They also point out that, according to some authors, the word expression in the realm of music performance has been used in two different ways. The first way, as Palmer says, is to refer the systematic variations in timing, dynamics, timbre, and pitch that form the microstructure of a performance and differentiate it from another performance of the same music. The second way is used to refer to the emotional qualities of music as perceived by listeners.

However, most research on music performance turn to analyzing musical aspects that can be measured more effectively, even though musical performance has a broader spectrum that includes more subjective spheres, such as expressiveness. Thus, to consider the matter of generating and communicating emotions towards musical performance becomes extremely important, since “performers use systematic variations in performance parameters to convey emotions to listeners.”

The topic of emotion in music, despite being a current subject as an object of research, is not a recent theme. As is known through the history of Philosophy, Greeks of Antiquity attributed to Music a cathartic, purifying function. According to

Plato, music had the property of putting the body in balance, harmonizing it with the cosmic order, preparing it for the apparition of the divine. Aristotle affirmed that Music had a mimetic and inductive function. To each musical mode was attributed an ethos, a specific character that the listener immediately would associate to a psychic meaning, that could infuse spirit and potentiate virtues of body and spirit.

During the 17th and 18th centuries, this idea was revived with the Doctrine of the Affect, where it was believed that certain specific and standardized technical resources used in the musical compositions could arouse emotions in the listener equally specific and common to all. In this age, research on emotions in the music field is discussed under various aspects, such as: means of perceived detection in music through facial activity23 or sensory-motor activity24. Perceived emotion in the performance of modern and historical commercials recordings25 and movie soundtracks from the point of view of episodic memory26 or the effect of the emotion provoked by music in occupational activity.27

In the scope of instrumental performance particularly, the communication of emotion has been investigated from different angles. Peretz & Zatorre developed neuroimaging techniques to observe how the relationships between emotion and

---

musical performance are established and processed in the brain. Leman & Camurri worked with interactive multimedia platform as a way to model some aspects of emotion in performance. In turn, Juslin et al. evaluated a computer program that automatically analyzes the musical performance and provides feedback in order to improve communication of emotional expression. Timmers & Ashley investigated strategies (duration, agogic, density, sonority and technical-motor complexity) employed in the ornamentation playing of a Handel Sonata aiming to communicate emotions, such as joy, sadness, love, and anger. Moreover, there are some researches that try to understand how the transmission of emotion between interpreter and audience is established.

However, although there seems to be a consensus about the importance of expressiveness for musical performance, and despite all the efforts and advances in this area of knowledge, some research points out that, nevertheless, some aspects of expressiveness in performance are neglected in terms of teaching and learning. What competes for this discrepancy is precisely the fact that expressiveness in performance is, as already said, intimately linked to the transmission of emotions, and emotions constitute a difficult parameter to foment, define and measure.

---

According to Juslin & Persson, there are basically two categories through which the emotions can be approached. The first one is the categorical approach, which says people experience emotions as categories that are distinct from one another focusing, therefore, on the characteristics that distinguish themselves; the other approach is the dimensional one, that focuses on identifying emotions based on their placement on a small number of dimensions that will show valence (positive/negative) and activation (high/low).

Within the second approach, the model proposed by James Russell\(^\text{32}\) has proved to be a very effective tool in the classification of emotions. In this model, Russel suggests that emotions are distributed in a two-dimensional circular space, containing arousal and valence dimensions. Arousal represents the vertical axis and valence represents the horizontal axis, while the center of the circle represents a neutral valence and a medium level of arousal, so the emotions can be represented at any level of valence and arousal, or at a neutral level of one or both factors.

Thus, there are emotions with positive valence and arousal, such as Happiness (when we are happy, we feel a positive emotion and, at the same time, a high state of physiological excitation) or emotions that represent positive valence and negative arousal, such as Serenity (when you are serene, you feel a positive emotion and, at the same time, a low state of physiological excitement). On the other hand, emotions that represent negative valence and positive arousal, such as Anger (when you are angry, you feel a negative emotion, and at the same time a high state of

physiological excitation), and finally emotions that represent negative valence and arousal, such as Sadness (when sad, we feel a negative emotion and, at the same time, a low state of physiological excitation).

Since the emotions can be classified and to some extent measured (we cannot forget that we are still dealing with a subjective material), it remains for the musical educational settings to take responsibility on this research field. The way in which the transmission of emotions from the interpreter to the audience is established has been pursued under various points of view within the scope of scientific research. However, the literature still shows a gap when it comes to the understanding on how foster these emotions in the interpreters, so that they can use them as expressive resource on their musical interpretations. This is certainly due to the fact that there is a very well established current of thought among teachers of musical instrument that from the very beginning disregards this possibility, advocating that expressiveness cannot be taught. Jusleen & Peerson attribute this conception to the nature of the emotion itself, explaining that:

Part of the problem that the music teacher faces resides in the tension between the subjective world of individual performers and the social and objective requirements of the educational settings. Hence, an important goal of any teaching strategy aimed at developing expressive skills should be to relate the subjective world of the performer (e.g., imagery, metaphor, emotion) to objective features of performance (e.g., articulation).

and they defend the possibility of this learning, noting that "[…]it is probably true that expressive skills to some extent reflect the emotional sensitivity of the performer. But this does not imply that it is impossible to learn expressive skills through training.”
In this sense, the matter of the stimulation of emotions in the active agents of musical communication (the interpreters) needs to be further studied. Nevertheless, one of the strategies that seems be used with music performers to foster the outbreak of emotions aiming conveying expressive sources towards the performance itself is the use of audiovisual stimulation. This approach has found support on the Neuroscience that, among other contributions, points out that audiovisual synesthesia can be helpful to the music education domain.

Synesthesia, cataloged by neuroscience as a neurological disorder, can also be understood as a faculty found in a greater or lesser degree in all people. It is through this faculty that most of the individuals are able to relate sensations of different nature. Thus, one can hear sounds but, as a reaction, visualize colors, shapes, images or textures, at the same time as the perception of visual stimuli can be converted into sound references.33

However, in what seems to be the most comprehensive review of literature found on the topic of communication of emotions in music, although perhaps it need to be update since it was published in 2010, the review made by Juslin & Laukka34 does not cover any study specifically investigating non-verbal audiovisual stimulation (the verbal approach has been well discussed) regarding music performance as a tool to stimulate emotions on performers. In our search, Palmer’s investigation was found, focusing on the cognitive appraisal of the music that may induce emotion through the

orchestral music of Bach, Brahms, and Mozart the relationship between music and colors that are mediated by emotional associations.\(^35\)

Gerling et al., focusing on the emotion expression of the performance, investigated the preparation of the Prelude in F minor of the Well-Tempered Clavier Book 2 by 9 piano students who were, among other activities, exposed to audiovisual stimuli, such as literature and baroque works of art, lecture on Doctrine of the Affect, as well as excerpts from vocal and instrumental works by composers of the same period. The research aimed to understand how students would perceive these stimuli, how they would classify them under a chosen parameter (Russel’s circumplex) and, above all, how they would transmute them into expressive resources toward the performance of the Prelude.\(^36\)

In the scope of the present research, audiovisual stimuli will be used to verify, in an empirical way, the effectiveness of its applicability in the sense of providing insights and acoustic cues that can approximate the investigated subjects to the general aesthetic of an unknown piano piece in order to help enhancing their performance of the music, a work which style the participants are completely unaware of and, yet, as a preparatory step integrated to the modeling process.

---


2.3. Short Literature Review on Modeling in Music

Basic concepts of musical modeling were already present, even if in an embryonic way, in the music teaching realm since at least the seventeenth century. In 1657, educator, philosopher and scientist John Comenius said "…the student should first examine, and then imitate, as though he were following in the footsteps of a guide…the use of instruments should be shown in practice and not by words; that is to say, by example rather than by precept."\(^{37}\) Although today Modeling is a widely used strategy by teachers and students, even unintentionally, it is still little known as an area of knowledge.

Main research on Modeling in Music seem to have appeared during late 70s going through 80s, reaching early 90s.\(^ {38}\) After that, a lack of published works on this field can be observed. More recently, the experiments conducted by Dr. Gerling and his wife, Dr. Caparelli Gerling, Dr. Domenici and coworkers at Federal University of Rio Grande do Sul seem to be a resumption of this field of research.

According to Haston, the transmission of knowledge within the musical field is basically established in two ways. The first way, through verbal instruction of basic concepts inherent to the musical phenomenon itself; the second way, through the practical demonstration of these concepts. When a teacher chooses the second approach, he is dealing with Modeling.\(^ {39}\) Thus, modeling concepts have been applied both to teach basic musical knowledge to the students, and

---


to build interpretive tools within the field of musical performance. When working on musical concepts, instead of the teacher only verbalizing the content and waiting for the students to absorb it, he demonstrates it through practical examples. In turn, when working with instrumental musical performance, the student's first model is the teacher's own practical demonstrations and, more often, models from commercial recordings of renowned musicians on media.

In musical education settings, in addition to the basic musical concepts mentioned above, aural skills must be developed in the students, since perception is the basis for an adequate aesthetic understanding. A traditionalist approach to musical perception is one that would deal with the question of musical arrhythmia, for instance, in ternary patterns only providing verbal instruction about the differences between a binary and ternary pattern, while the same approach by modeling the teacher would apply a practical activity by making the students experience the rhythm pattern through a music in ternary pattern, to absorb their elements and, thus, to reach the understanding of the concept.

A second possibility for a nonverbal approach, would make use of modeling. Dickey, seeking to verify the effectiveness of both types of instruction - verbal and nonverbal instruction - conducted a case study with 4 school band groups, where 2 of them underwent one of the types of instruction. The author found that the group exposed to nonverbal instruction / modeling presented more solid results regarding the question of musical perception, measured through tests applied after exposure: "the use of teacher demonstration-student imitation cycles to teach melodic patterns contributed significantly to the development of ear-to-hand coordination skills."  

---

When playing a musical instrument, the student must decode all the music symbology arranged on the score and interpret it within a certain character proposed by its composer through punctual indications throughout the music, respecting a certain style in which the work is historically inserted. However, the question of interpretation is sometimes difficult to comprehend. Often the student does not have the necessary elements to offer an expressive and personalized interpretation, since to interpret a musical composition depends on factors such as experience, maturity, abstraction capacity and analytical abilities, besides knowledge about several aesthetic patterns. Woody, after conducting a case study, found that students at different levels of musical development respond in different ways, not only to auditory modeling but also to other types of stimuli similar to the modeling process: “whereas advanced pianists can rely on automatized (unconscious) rules of expressivity to be manifested in secondary properties, less skilled performers cannot, and their performance…suffers.”

Sang attempted to develop quantitative support for a theoretical model of instructional effectiveness for beginning teachers in instrumental music education. He incorporated three observable teaching skills as independent variables: modeling skills, discrimination skills, and diagnostic skills, finding that although all the three skills positively contributed to the instructional effectiveness, modeling skills were the greater contributor among them.

In her dissertation, Freitas sought to verify how Modeling is established not through practical examples provided by the teachers, but rather by listening attentively and actively to interpretations of renowned pianists, recorded on media. Based on the hypothesis that modeling

---

assists in the acquisition of expressive resources for the musical interpretation, the author performed an experiment with pianists who had their study sessions recorded before, during and after exposure to Modeling. She concluded that Modeling promoted the increase and expansion of the vocabulary of expressive resources in performance and fostered the development of an autonomy and individuality in their interpretations.43

Nevertheless, some scholars do not believe in the effectiveness of modeling intervention as a powerful tool to acquire expressive resources, since modeling can lead subjects to routine learning, which is not desirable. Haston recalls that on several occasions the students who received musical instruction through methods based on modeling, such as the Suzuki method, have been characterized as musically inexpressive or have issues of inadequacy and production in contexts other than those based on imitation / repetition.44 In spite of that, Repp assures that “imitation is a necessary first stage in a development that, ideally, should lead to assimilation of the imitated patterns into a rich expressive vocabulary from which new and original patterns and combinations may emerge.”45 In the scope of this paper, modeling will be understood as a deliberate strategy of listening, imitation, absorption or negation and, finally, reflections on interpretative decisions, within the realm of the piano performance.

CHAPTER 3. RESEARCH QUESTIONS AND PURPOSE OF THE STUDY

As observed, research on Modeling in Music have, so far, shed light on a practice routinely used by teachers, students and music professionals, and they have indicated that, when properly manipulated, systematized and deliberately applied, it can be a valuable tool as a strategy for learning, not only, basic musical elements and concepts but also for the development of expressive resources in the field of musical performance.

Freitas, in her case study, recorded three undergraduate students on pieces of their repertoire. After that, she induced them to work on the same pieces under the influence of a model, asking that they imitate the model’s interpretation. Then, she recorded the performances of the subjects after the influence of the model (modeling) within a certain period under that influence and analyzed, through Sonic Visualizer application, the variations of certain parameters concerning the pianistic performance. After the experiment, Freitas concluded that:

…modeling promoted the increase and expansion in the vocabulary of expressive resources for the realization of the chosen sections; fostered the development of an autonomy and individuality in their interpretations and, as the most enriching result, encouraged the hearing and critical reflection on their processes of study.  

However, that study did not consider some factors that, in our opinion, could have influenced the modeling process, such as: a) the fact that the chosen pieces, used in the experiment, were widely known compositions within the traditional piano literature, could not have evoked a prior and striking musical memory of the subject, and that memory could have superimposed itself on the proposed model? b) would the interval between one intervention and another, around one month, not have been too broad, causing a dispersion in the effect of

47 Schumann’s Kinderszenen op. 15, Schubert’s Impromptu op. 90 n.3, and Chopin’s Nocturne op. 48, n.01. See Freitas, 16.
48 Freitas, 15.
imitation? c) would the results be the same when subjects already have a higher degree of artistic maturity? e) An intervention by audiovisual stimuli, in case of working with an unknown composition, would narrow the subjects to the aesthetics of the work? f) Would this intervention cause them to amplify their interpretive resources other than those deduced only by the decoding of the musical symbology presented by the score?

Such questionings led me to the following research problem: audiovisual stimuli and auditory modeling would be effective tools for the development of expressive interpretive resources at the piano performance realm when composition, composer and style of the studied piece are completely unknown to the research subjects, and these subjects already have a solid artistic personality?

Hence, I decided to replicate Freitas’ experiment by changing some variants in order to cover some points not considered in that work, adding to it an intervention by audiovisual stimuli, and finally verify how these two strategies would work under these new established circumstances. The subjects of this research were international students of the Master and Doctorate LSU Piano Performance program, carefully selected so that they had little or no contact with Brazilian music styles. The interval between the capture of the recordings was decreased. The work to be learned under modeling and audiovisual stimuli, as already said, is an unpublished piece, written during late 1970s by Brazilian composer Guedes Peixoto. This piece is a stylization of Maracatú, one of the most striking and peculiar rhythms of Brazilian popular culture found in the Pernambuco.

Based on the above considerations, I intend to verify if the processes of modeling and audiovisual stimuli would allow more experienced subjects the opportunity to increase their
expressive resources, to consolidate interpretive autonomy, incorporating new musical styles
and, above all, to reflect in a more conscious way about their learning processes.
CHAPTER 4. MARACATÚ: BACKGROUND INFORMATION, ORIGIN, MUSICAL FEATURES, AND GUEDES PEIXOTO´S MARACATÚ

4.1. Brazilian Historical Background

The country we call Brazil today was born within the context of the maritime expansions undertaken by some continental European countries, beginning in the fifteenth century. There is some controversy as to who would have arrived in the Brazilian lands first, whether French or Spanish, but the fact is that the discovery of Brazilian lands was claimed by the Portuguese crown after official announcement of its discovery on April 22, 1500 by the navigator Pedro Álvares Cabral.

As the prime interest of the Portuguese fleet at the time seemed to be finding a new route to reach India, perhaps the most important commercial center of the time, the actual colonization of Brazil occurred only a few years after its discovery, in the face of the French threat of invading the land recently discovered. From 1534, then, the process of colonization of Brazil begins. After slicing the territory hitherto known into several captaincies⁴⁹, Portugal begins the process of natural exploitation.

The very first native good exploited was the wood called pau-brasil. To this end, the Portuguese used the native people labor force, which, not without resistance, were the first to be enslaved by the Portuguese. In a second moment, the native Brazilians - called Indians (indigenous) - were also used in the cultivation of sugar cane, from which sugar was extracted, a product that was highly valued in Europe at that time. Sugar cane found in the Brazilian soil and climate a highly conducive environment for its cultivation and sugar was produced in Brazil on a large scale.

⁴⁹ Territorial divisions during Brazil's colonial period.
However, not only because of the poor physical resistance of the indigenous to the brutal labor exploitation they were not accustomed to, but also due to the fact that many tribes were decimated because they succumbed to diseases brought by Europeans, against which they had no biological defenses, indigenous labor proved to be ineffective. Thus, in the middle of the sixteenth century, when sugar became the main export product of Brazil, the Portuguese crown began to bring to its American colony, Africans of the most diverse origins and ethnicities, they were acquired as merchandise in the international slave trade, inflicting on them a cruel process of enslavement that would only cease near the end of the nineteenth century.

Colonial Brazil in its initial phase was essentially agrarian oriented, and the first large constructions arose to meet this demand. In the Northeast, this culture was around sugarcane. Thus, the Sugar Cane *Engenhos* (Sugar Mills or Sugar Houses) appear, a large agrarian complex composed of a main house belonging to the owner of the plantation and his family, a church for the practice of the Catholic religion, the mill itself to work the sugar cane and the *senzala*, a degrading space where black Africans were kept enslaved. It is also based on the mills complex that the urban spaces will be conceived and built. In this way, when the first cities appear, the urban agglomerations will be a kind of representation around the concept of the *Engenhos*, constituted of houses and mansions belonging to the Portuguese settlers, with their private *sensalas*, surrounded by catholic churches.

It is in this initial scenario that one observes the 3 main agents in the Brazilian society civilization process, an essentially mixed society formed by ethnic-racial interactions between the native indigenous, the white European, and the black African. The first interaction between races occurs betwixt the Portuguese men and the native female indigenous. When the Portuguese arrived for the first time in Brazil, they found indigenous experiencing a culture totally different
from the European, starting with the absence of clothes. The Brazilian indigenous, at most, wore small pieces of clothing made by bird feathers, which exerted a great fascination on the colonizer who spent months embarking across the Atlantic Ocean in long periods of sexual abstinence. When they arrived in Brazilian lands, they attacked the indigenous to satisfy their primary desires.

According to Freyre, during the first years of the Brazilian colonization, Portuguese misses and ladies were not sent to Brazil, certainly because of the little or almost no structure that the spaces possessed, in comparison to cities like Lisbon, for example. Only the prostitutes or orphaned girls were sent from Portugal to the colony in search of marriages with the settlers.\(^5^0\) Even so, the quantity of Portuguese ladies arriving in the country did not meet the demand. In this way, many indigenous women joined the Portuguese and became great procreators, taking the first great step towards miscegenation.

When indigenous labor appears to be inappropriate for the commercial purposes of colonization, and the Portuguese Crown decides to introduce enslaved Africans into Brazil, the second stage occurs in the process of integrating racial matrices. It is estimated that approximately 4 million Africans were enslaved in Brazil between the years 1550 and 1855.\(^5^1\) Individuals of various backgrounds were brought to Brazil from Africa. Fausto points out that “In the 16th century, Guinea (Bissau and Cacheu) and Mina Coast, that is, four ports along the coast of Dahomey, provide the largest number of slaves. From the seventeenth century onwards, as the regions closest to the African coast - Congo and Angola - became major export centers, from the ports of Luanda, Benguela and Cabinda.”\(^5^2\)

---

\(^5^2\) Fausto and Fausto, 1:29.
The contact between Portuguese and the black Africans was facilitated by the proximity that the conviviality inside the Sugar Cane Mills offered because black people - mainly the women - served not only as workers in the sugar cane plantations but also like domestic workers in the big houses of the Mills complex, and at regular houses and mansions in the cities. Thus, when they were not able to obtain consensual intercourse, the Portuguese men sexually assaulted African women.

These first two interactions, white-Indian and black-white, will generate the first categories of mixed individuals, later called mamelukes and mulattos, respectively. A third stage of this miscegenation occurred due to sexual intercourse between indigenous and blacks. The cafuzos, less numerous, arise from the fact that a large part of the indigenous who inhabited the coastal regions fled the newly formed urban centers, taking refuge in the interior of the country where they annexed other tribes already existing, as well as to find in a certain way the priests of allied religious orders in the struggle against the enslavement of the natives.

It is important to point out that during this embryonic civilizing process, the Roman Catholic Church played a prominent role. State and Church were the two great institutions responsible for organizing life in Brazil. From the beginning of the colonization, Cabral’s naval entourage arrived with official members of the Catholic Church belonging to several religious orders. Their first mission was to spread the Catholic religion in the face of the recent crisis provoked by Luther's Protestantism. In Colonial Brazil, the religious order that was most prominent in this work was the Company of Jesus, whose members were known as Jesuits. These were intended to establish and consolidate the Roman Catholic faith as the official religion of the colony. To this end, they took up the task of evangelizing, catechizing and converting the natives to the Christianism.
Thus, they taught the indigenous the Portuguese language and introduced them to European customs. Similar process happened when the first Africans were introduced in Brazil. The Jesuit priests achieved a great deal of success in the conversion task, mainly with the native indigenous, but were less successful with the black people, since it is known that many of the Africans converted to Catholicism only as a survival strategy, but in reality, they joined a process of religious syncretism, where, pretending to worship the Catholic saints, they were in fact worshiping the African deities. It is in this context that the first lay religious sodalities appear in Colonial Brazil.

4.2. Black Religious Sodalities in Colonial Brazil and the Kings of Congo Crowning Ceremonies

The sodalities were religious organizations that emerged in Europe during the middle Ages. Their main goals were worship Catholic saints, to carry out evangelizing activities, to develop assistance activities towards the poor and sick people, and to provide community services among the members, lay people. According to Farias, the Confraternities and Sodalities already existed in Portugal since the beginning of the sixteenth century. They were made up only of white people, and they “did not allow the access of those who did not possess patrimony or were considered impure of blood, such as Jews, Moors, Gypsies and Africans.”

Nevertheless, aiming to convert newly arrived Africans into Portugal, the Dominicans, who stood out in evangelizing actions, were willing to receive them in their associations, but what happened was that "incorporated at first to the white confraternities, they eventually created their own associations.” As Tinhorão observes, Africans that were brought to Lisbon from 1441

54 Marina de Mello e Souza, Reis Negros No Brasil Escravista: História Da Festa de Coroação de Rei Congo, vol. 71 (Editora Ufmg, 2002), 162.
established, at least from 1520, in the Saint Dominic’s Church, a confraternity parallel to that one which congregated white people, dedicated to Our Lady of the Rosary. Due to the racism faced by the Africans, they were not accepted among the white people and ended up creating their own confraternity that later became known as the Sodality of Our Lady of the Rosary of the Black Men.\(^{55}\)

In Brazil, the confraternities were created in the sixteenth century, during the colonial period. They had as a guiding principle, the philosophy practiced by the Holy Houses of Mercy of Portugal, whose duties were "giving food to those who are hungry, drink to the thirsty ones, dressing the naked, taking care of sick people and prisoners, sheltering travelers, the captives, and to bury the dead."\(^{56}\) Brazilian Confraternities were regulated by statutes that had to be approved by the State and by the Church, the so-called 'commitment'. This commitment established a set of rules that determined the association's objectives, the modalities of admission of its members, as well as its duties and obligations.\(^{57}\) It was from the acceptance of the commitment that members of the fraternity pledged themselves to venerate the patron saint, to maintain their worship and to promote their feast. However, even guided by such principles, Brazilian confraternities (also called brotherhoods) ended up having their own characteristics, constituting themselves as corporate associations that, through the devotion to a particular catholic saint, enabled the establishment of bonds of solidarity among their members, called brothers, while at the same time working with them as a path for social ascent and representativeness.\(^{58}\)

---

\(^{55}\) José Ramos Tinhorão, *As Festas No Brasil Colonial* (Editora 34, 2000), 87.


\(^{57}\) Teresa Cristina de Carvalho Cruz, “As Irmandades Religiosas de Africanos e Afrodescendentes The Brazilian Afro-Descendants’ Catholic Brotherhoods,” *PerCursos* 8, no. 1 (2008): 04.

\(^{58}\) Malavota, “A Irmandade Do Rosário e Seus Irmãos Africanos, Crioulos e Pardos,” 03.
In this way, as it already existed in Portugal, it was also possible to find in Colonial Brazil, confraternities made up of powerful men whose members were part of the white elite and confraternities of ‘men of color’, which means creoles, mulattoes and Africans. State and Church, believing that the confraternities formed by black Africans and their descendants would allow a certain social order and would be able to keep the enslaved population inert and under the power of European acculturation, not only allowing their activities, but they also even happened to support their existence. However, as Reis explains, the State and Church did not expect that by “Africanizing” the religion of the masters, the confraternities would come to represent a strong and important instrument for the constitution and maintenance of African identity in Brazil, even though “thought by lords and authorities as one more mechanism of domestication of the African spirit…”

Thus, enslaved Africans who earlier built churches for the white elite also began to build temples for themselves. In Recife, the Brotherhood of the Black People was founded in 1654, and between 1662 and 1668, Africans and descendants erected the first Church consecrated to Our Lady of the Rosary of the Black People. In the state of Bahia, the Our Lady of the Rosary of the Black People in Portas do Carmo Sodality was founded in the city of San Salvador in 1685, probably by Africans from Angola, and its church was built in 1704. Both are likely the first ones of a long list of confraternities founded by black men for the black community.

The devotion to Our Lady of the Rosary was very important to the Brazilian black community social life during Colonial period. According to Quintão, Our Lady of the Rosary

---

60 Recife is the capital city of Pernambuco since 1827.
61 Tinhorão, As Festas No Brasil Colonial, 87.
62 Reis, “Identidade e Diversidade Étnicas Nas Irmandades Negras No Tempo Da Escravidão,” 06.
Sodality was the most famous of the black confraternities. In them, it was common for the members to treat themselves as a large family, where not only the blood ties could unite them, but also solidarity, mutual help, festive moments and assemblies and funerals. Moreover, it was through the sodalities that many slaves were able to acquire their freedom, through the purchase of manumission papers.63

It is important to note that black sodalities represent in Brazil's cultural history an expression of what can be understood as a colonial pact between the black population and the lordliness elite. For whites, the confraternities were perceived as one of the ways in which blacks would be incorporated into civilized life in the colony, since black people were perceived by white people as animals to be domesticated, or objects in their possession. For black people, in turn, the confraternities were perceived as spaces where they could become protagonist agents within the urban spaces, taking part into a process of cultural inversion where they partially abdicated their original identities to experience the culture of the colonizer, which gave them a certain freedom to pass through the public spaces as if they were civilized, since they were now Catholics. At least, as long the celebrations of the Saints lasted, they could be seen, and consequently, see themselves as human beings, since through cultural castration they had their own identities violently affected.

However, it can be said that the confraternities did not really correspond to what the official and ecclesiastical authorities intended, since the black religious confraternities can also be understood as a strategy adopted by Africans of different ethnicities to define spaces of solidarity, of claiming, of creating identities, and of guarding themselves against the politics of

slavery and social exclusion, even though in certain moments it had been necessary to establish relationships both with the ecclesiastical hierarchy and with the white dominator. At a certain point, the number of black religious brotherhoods in Brazil was so great that it gave rise to concern for the Church and, with no doubt, also to the slavish colonizer, since many sodalities made clear in their commitments, criticisms about the slavery and lords who did not treat their captives well. They bothered the dominant social structures, because they had a great power of sociopolitical articulation and also were able to subvert official religious order, of time that in the moments of celebrations and parties to the patron saints they put in evidence their dances, their rhythms and, their traditions in the middle of the public space, causing outrage both to the elites and Church, denying the model provided by the white sodalities that used to reproduce Portuguese customs in their celebrations.

An example of this was what could be observed during the funeral processions that were of great importance to the black people. Such processions took place in the African style with accompaniment of drums and many palms, and were to be carried out with much pomp by the sodality of which the deceased was a member, since death for many African ethnicities would be celebrated as a festive moment. Thus, black religious sodalities, even in the face of forced acculturation, would behave as one of the first instances towards the preservation of the African cultural traditions. To a certain extent, the sodalities have publicly disputed the prestige of society in general. One of the acts of great importance that even happened before the African diaspora to Portugal and to the Americas, which was held in Brazil by the Our Lady of the

---

64 Antônia Aparecida Quintao. “As irmandades de pretos e pardos em Pernambuco e no Rio de Janeiro na época de D. José I”. In Silva, 170.
65 Farias, Cidades Negras, 120.
66 Farias, 112.
67 Farias, 119.
Rosary of the Black People sodalities, was the election and coronation of Kings of Congo and the festive moments to honor them.

Souza affirms that the elections and the crowning of black kings began to happen in Portugal from at least the beginning of 16th century, but there is no proof that they were designated Kings of Congo. However, there are indications of African traditions at parties promoted by black people in Portugal and the presence of kings chosen by certain groups of Africans, possibly within the framework of associations that remained apart from Portuguese society.68 Tinhorão, on the other hand, affirms that there have been crowning of the Congo kings in Lisbon since 1533, and that over time the coronation festivities "evolved into a street spectacle, mocked by white people in the 18th and 19th centuries."69 Thornton says that the Congo nation had elected a king and a queen in Brazil since the beginning of the 17th century, "at the time when slaves from Central Africa prevailed in the Brazilian trade."70 The author also points out that in Brazil the first elections of kings and queens of Congo nations were held by the Our Lady of the Rosary Sodality, in the state of Pernambuco. Tinhorão ponders that "In Brazil, the earliest documented references to the King of Congo coronation solemnities under the responsibility of the Our Lady of the Rosary Sodality appear in the books of expenses and revenues of its church in Recife from 1674 to 1675."71 Moreover, Souza adds that "in 1676 four Angolan kings, four Creoles, five Angolan queens and five Creoles were elected"72 in Recife.

As Quintão explains, the coronation ceremonies took place "on the feast day of Our Lady of the Rosary. The King and Queen of Congo represented an African system of government in

---

68 Souza, Reis Negros No Brasil Escravista, 71:165.
69 Tinhorão, As Festas No Brasil Colonial, 88.
71 Tinhorão, As Festas No Brasil Colonial, 88.
72 Souza, Reis Negros No Brasil Escravista, 71:205.
that they had authority over their subjects, and preserved cultural and social aspects of Africa, contributing to the integration and solidarity of the black people in Brazil."  

These acts, in parade style, used to be "festively celebrated with African dances and rhythms, in several localities of the Americas" although "it has been more widespread in Portuguese America."  

Kings and Queens of Congo were the highest positions within the hierarchy of the brotherhoods. American percussionist Scott Kettner was told, during his field studies in Recife on Maracatu that “the King of Congo was a black African (slave or freeman) who acted as an intermediary between the government and the African slaves He was expected to control and keep peace among his ‘pupils.’” However, within the sodalities were also elected Princes and Princesses, Counts and Countesses, and Judges. There was also Secretary, Treasurer, Registrar, Speaker and the choice of Governors of corporation or ‘nation’. This organization, nevertheless, gradually disappears shortly before the mid-nineteenth century, especially after the official abolition of slavery in Brazil, which only occurred in 1888. As a direct result of abolition, there was a huge displacement of the African matrix population from urban centers to outskirts areas, moving them away from their reference places, such as the churches where the confraternities used to develop their activities. At that time, the elections and coronations of the Congo Kings and Queens began to diminish. Understanding the systematics of the coronation ceremonies of the Kings of Congo in the scope of the Our Lady of the Rosary Sodalities is of the utmost importance because they unfold a series of Brazilian cultural manifestations that have an original

---

73 Antônia Aparecida Quintao. “As irmandades de pretos e pardos em Pernambuco e no Rio de Janeiro na época de D. José I”. In Silva, Brasil, 166.
74 Souza, Reis Negros No Brasil Escravista, 71:166.
75 Souza, 71:179.
link with those such as, *Congada, Folia de Reis, Reisados* and, specifically in the State of Pernambuco, the *Maracatú*.

4.3. **What does Maracatú Stand For?**

The quest for understanding about what a *Maracatú* stands for can go through many paths and gain various contours, depending on the angle from which it will be studied. For instance, if analyzed from the socio-anthropological point of view, a *Maracatú* Nation can be understood as an act of resistance and empowerment that affirms and legitimizes the African ethos in Brazilian lands. This bias would demand from the researcher a deep capacity to make complex connections with different elements, including aspects of Afro-Brazilian religiosity in order to reach a deeper result.

In the scope of this work, however, we will seek to envision a *Maracatú Nação*, *Maracatú Tradicional*, or yet *Maracatú de Baque Virado* (*Maracatú* Nation, Traditional *Maracatú* or “Turned-around Beat *Maracatú*”, three different terms to designate the traditional groups of *Maracatú*) through the prism of audiovisuality, analyzed within a cut in the folkloric-cultural context of African ancestry in which it arose. It will have an aesthetic orientation and that is what will impact, most directly, this research.

It is not exactly known when *Maracatú* as an organizational unit emerged, just as one is not sure about the etymology of the word *maracatú*. Regarding the name, Mario de Andrade raises the possibility that the name is a reference to a Brazilian musical instrument called *maracá* or the combination of the words *maracá* and *catu*, both originated from the Tupi, one of the}

---

77 Between 1930 and 1940, another cultural manifestation also named *Maracatú* appeared in Recife. Composer and musicologist César Guerra-Peixe, who conducted field research that resulted in perhaps the most complete work written on the *Maracatú* – *Maracatús* do Recife - called them *Maracatú de Baque Livre* (Free-Beat *Maracatú*) as opposed to the *Maracatú de Baque Virado* (Turned-Around Beat Maracatú), named “Turned-Around” due to its unique interplay of drums within the rhythm.
Native-Brazilian languages, which means beautiful. The author also indicates the existence of the word Maran, which means confusion, war, disorder and Maracatú would mean "beautiful war, beautiful fight... invoking the festive cortege, royal but warrior". However, Guerre-Peixe refutes such hypotheses, noting that any neologism using the term maracá in this context seems improbable, since this musical instrument is not used in the Maracatús Nation groups.

Guerra-Peixe seems to give more credence to the possibility offered by the anthropologist Gonçalves Fernandes, who links the origin of the word Maracatú to the African terms muracatucá or maracatucá, which were used by Afro-descendants as a synonym for "to spread", “to disperse” when they were about to leave Our Lady of the Rosary Church, saying goodbye to each other. He informs that people of the town explained that Maracatú meant "to beat". “If ‘maracatucá’ or ‘muracatucá’ expresses "to disperse", the action of going away would then be commanded by the performance of the music, since the cortege only leaves the church performing its characteristic musical rhythm.”

Thus, the evidences seem to indicate that the word Maracatú would have been a corruptela of Maracatucá or Muracatucá to designate the beat itself. In addition to this information, Guerra-Peixe brings a footnote that seems to leave no doubt about the African roots of the term Maracatú and its use to designate the batuque itself:

This work (Maracatús do Recife), was already in the press when we received answers to queries made to the Dundo Museum of the Diamond Company of

---

79 César Guerra-Peixe, Maracatus do Recife, 1st ed. (Brasil: Ricordi, 1955), 24-25.
80 Guerra-Peixe, 26–27.
81 Batucar is a verb in Portuguese used to designate the action of producing sounds percussively; to beat on a percussion musical instrument. The word Batuque derives from batucar and is generically used for some African-Brazilian dances accompanied by percussion, especially those originating from Congo and Angola. Several Brazilian composers wrote works based on African-Brazilian batuques. A Batuque relatively well-known in the United States is the third movement of Lorenzo Fernandez's Reisado de Pastoreio symphonic suite, which was sometimes performed by the Boston Symphony Orchestra under Koussevitzky and was recorded by Leonard Bernstein conducting the New York Philharmonic Orchestra.
Angola. The undersigned declares that he has known, by credit information, that "maracatu" means a dance still practiced today by the Bondo tribe, currently established in the area between the Cuango River and its affluent rivers, Lui and Camba, to the South and to the North, respectively. The Bondos, as indicated by old travelers and historiographers, lived, at the time of the Portuguese occupation, in the territory of the Dande river mouth - about 31 miles north from Luanda - then retreating to the Cuango riverbanks, by late 18th century.\textsuperscript{82}

More revealing, however, about the use of the term maracatú to designate the groups as known today is the testimony given in 1966 to the American historian Katarina Real (birth name Katherine Royal Cate) by João Batista de Jesus, nicknamed Mr. Veludinho, one of the older participants of the Maracatú Leão Coroado (Crowned Lion Maracatu) who reportedly died at the age of 104 years old. He said to her that “Maracatú [groups] was not always named like that. The name used was Nation... That word [maracatú] was used by wealthy people. When they used to listen to the beat of the drums they used to say 'that maracatú!' [Derogatory intonation]"\textsuperscript{83} which reveals through the background of someone who experienced the parades between the 19th and 20th centuries that the term used to designate the groups came, in fact, through a designation that sought to diminish any African-Brazilian dance-type gathering.

Concerning the birth of the Maracatú groups organized as nations, the most likely hypothesis is that the maracatú nations unfolded from the Kings of Congo coronation rituals. At a certain point, Catholic Church prohibits popular culture acts being carried out within their temples. Thus, the crowning that used to be held inside the Church of Our Lady of the Rosary in Recife by Catholic priests, came to be conducted by the Our Lady of the Rosary Sodality fellowship members themselves, possibly in front of the temple, and this act would have given origin to the royal processions that would characterize the Maracatú parades. Over the years,

\textsuperscript{82} Guerra-Peixe, Maracatus do Recife, 27.
\textsuperscript{83} Katarina Real, O folclore no carnaval do Recife, 2. ed., aum. e atualizada, com resumo em inglês, Série Estudos e pesquisa 75 (Recife: Fundação Joaquim Nabuco, Editora Massangana, 1990), 184. The comments are mine own.
maracatú would become a carnival play, where players would make a scenic representation of the Portuguese royal court. However, according to Guillen, primary sources realize that this hypothesis does not find support, since there is historical evidence informing that nations of maracatús existed concomitantly with the acts for elections of Kings. Therefore, the maracatús did not arise from that prohibition.84

From an aesthetic point of view, Maracatú can be visualized as a great dramatic representation of the acts that took place during the coronation ceremonies of the Congo Kings in the churches. The groups generally present themselves in a standardized way, to represent a European royal court, having as protagonists of royalty, however, Africans and their descendants. Thus, one can observe with curiosity the fact that the characters´ outfits refer to the Portuguese royalty and court, with symbols and insignias representative of that culture, instead of using the idiosyncratic elements of African royalty, so unique and peculiar. This is probably because black people were forced into a constant process of acculturation that impaired a more genuine and authentic cultural experience in its totality.

Maracatú groups were used as spaces of transformation and re-signification of primordial cultural elements in search of a better insertion in the society, in favor of a softer existence under the judgment of the slavery that would only be officially extinguished, as above mentioned, in 1888. And it is from the point that abolitionist thoughts and movements start happening also in Brazil, from the second half of the nineteenth century that the maracatú parades cease to be visualized only during the celebrations of the catholic saints and crowning of Kings and gradually pass to be seen within the context of carnival parties.

According to an interview given by Afonso Gomes de Aguiar Filho, leader of Maracatu Nação Leão Coroado, a Maracatu nation founded in 1863 and considered the longest still active nation, the disposition of the characters in the cortege follows a certain order (there may be variation between groups): first the nation’s banner, soon after the ladies of the Palace who carry the calungas, then the ladies with bouquets of flowers, the rich ladies (representing the ladies from the Sugar Houses), the baianas (wearing simple costumes), the Catirinas (court servants), a sequence of couples with titles of nobility: count and countess, duke and duchess, the ambassadors, princess, and finally the royal couple, protected by a large colored umbrella, carried by a servant. Behind the royal couple come the spearmen, in charge of the safety of the Kings, and lastly the batukeiros (drummers) who make up a percussive orchestra. This basic formation can vary from group to group, not only in relation to the disposition of the participants but also in relation to the absence or inclusion of characters.

Visually, perhaps the best description of Maracatu Nation is that one given by Pereira da Costa:

Opening the cortege a banner flanked by archers, followed by two rows of beautiful women adorned with their turbans of variegated colored ribbons, small mirrors and other ornaments, figuring in the middle of rows several characters, including those holding the religious fetishes - wood rooster, a stuffed alligator and a doll dressed up with a white dress and a blue mantle - and right after, formed in line, appear the dignitaries of the court, the king and queen closing the cortege. These two characters, bearing royal insignias, such as crowns, scepters, and long robes held by tails, march under a large umbel held by archers. The last session comes with the instruments: drums, whistles and other African-type instruments, accompanying the marching songs and various dances with a horrible din…

---

85 In the context of the maracatús nação, calunga is a religious fetish represented by a richly dressed doll that personifies ancestors of the Candomblé, African-Brazilian religious cult to which the traditional nations of maracatú are linked to.
86 https://www.youtube.com/watch?v=J5rdyq4d_OQ
However, it is undoubtedly the musical part of the ensemble that helps to make a Maracatú performance such a grandiose and impressive event.

### 4.4. Maracatú Musical Features

Maracatú music is formed by voices and percussion. The traditional instrumental set used by the Maracatús Nação groups is made up by the following instruments: alfaias/zabumbas, tarol, caixa-de-guerra, mineiro, gonguê/agogô, apito. This set, however, may suffer slight variation from nation to nation, as well as the number of instruments used by each set. For instance, in the years that Guerra-Peixe conducted his field research, only Maracatú Estrela Brilhante (Shining Star Maracatú) used the ganzá instrument in its orchestra. In turn, Maracatú Nação Porto Rico added atabaques and agbês to its instrumental set in 2000. Table 4.1 shows its description. Each of these instruments plays an important role, performing a series of rhythmic patterns that are directly related to the resulting musical balance.

The current musical dynamic of Maracatú is generally established as follows: Whistle-Master – the one who plays the whistle - makes a hiss to announce an upcoming toada. Everyone is silent. Then, the whistle-master sings a verse a capella that is answered in chorus by the players. This sequence is repeated a couple of times, ad libitum. While ‘the court" is answering, the caixa-de-guerra players begin to perform the rhythmic patterns for that instrument, which establishes a uniform beat. Once the beat is settled and perceived by the musicians, the Whistle-Master signals the entrance of the other instruments. The toada is then repeated several times, until the Master whistles again, indicating its completion. The whistle can

---

88 Guerra-Peixe, *Maracatus do Recife*, 58.
90 In the context of Maracatús, toadas are the chants, the unit made up by melody and lyrics. In the Candomblé context, toadas are the sacred chants addressed to the African gods.
also be used by the masters to indicate certain rhythmic variations and to initiate the "turn" of the beat. The resulting effect is grandiose and impactful, as the whole set of instruments begins to play at the same time.  

Table 4.1. Musical Instruments Used by Maracatú Nação Groups.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALFAIAS</strong> (brass drums)</td>
<td>Also called Zabumbas or Bombos, the alfaias have 3 different names, according to their size and consequent issued tone. The largest one is named Alfaia Marcação (bass tone), the smallest one Alfaia Repique (treble tone), and the one of medium size is named Alfaia Meião (middle tone).</td>
</tr>
<tr>
<td><strong>TAROL</strong></td>
<td>A shallow snare drum with an average of 6 guitar strings attached to its bottom, which produces a sharp and peculiar sound.</td>
</tr>
<tr>
<td><strong>CAIXA-DE-GUERRA</strong> (War-Box)</td>
<td>Similar to Tarol, it is a snare drum made of metal or wood, slightly taller in size and has no more than 4 strings attached to its bottom.</td>
</tr>
<tr>
<td><strong>MINEIRO</strong></td>
<td>Also known as Ganzá, it is a long metal tube, filled with tiny stones or beans and it is used as a shaker.</td>
</tr>
<tr>
<td><strong>GONGUÉ/AGOGÔ</strong></td>
<td>A very large, oversized cowbell. The sonorities are explored by hitting the bell closer to its ‘mouth’ for bass tones, and closer to its stem, for treble tones. The Agogó has two bells, one for each type of tone.</td>
</tr>
<tr>
<td><strong>APITO</strong> (Whistle)</td>
<td>A regular whistle used by the Master to indicate the beginning and finalization of the chants, as well as to indicate breaks and changes in the arrangement.</td>
</tr>
<tr>
<td><strong>ATABAQUES</strong></td>
<td>A set of 3 drums used in the Candomblé ceremonies.</td>
</tr>
<tr>
<td><strong>AGBÉS</strong></td>
<td>A hollowed-out gourd with a beaded skirt around it, used as a shaker.</td>
</tr>
</tbody>
</table>

---

91 For a sample, access https://www.youtube.com/watch?v=GmuOoaeuubs
92 Candomblé is an Afro-Brazilian animist religion derived from traditional African cults from present-day Nigeria and Benin regions. In Candomblé, one believes in the existence of a Supreme Being (Olódumáarê or Olórum) and adepts worship the Òrixás (Xangó, Oyá, Oxum, Yemonjá, among others), nature forces personified in the form of divinized ancestors.

43
The set of *Alfaia*s, even the *Alfaia Repique*, emit a bass and bombastic tone. Their tone is contrasted by the sharp sound of the shaker instruments, but above all by the *Gonguê/Agogô*, which emit sharp notes of defined pitch. Together with the tunes sung by the Master, their sounds provide, let’s say, a harmonic substance to the ensemble, essentially percussive.

The tunes sung are generally in question-and-answer style. They can be made of a single section or in binary form with ritornello. Sometimes, they are preceded by an introduction. The form, because it is vocal music, obeys therefore the strophic construction of the *toadas*. Thus, sometimes the answer is the mere repetition of the verse sung by the Master, sometimes the group complements a stanza in its response. The tunes are based on major, minor or modal scales. In this case, Mixolydian and Eolian scales are more frequent.

The poetic content of the traditional *toadas* is about episodes related to the African diaspora for Brazil, the conditions of African people during the slavery times, the Afro-descendant people as royalty under the protection of Our Lady of the Rosary and other black saints, such as Saint Benedict, the empowerment and exaltation to Maracatu’s own nation and its symbols (for instance, mention to the animal mascot of the group, to the *Calunga*, to their queens). However, contemporary *toadas*, composed in democratic times of total freedom of expression, can exalt the African ancestors and the *Orixás* - Yoruba deities - or gain content of protest and social criticism. Therefore, concerning their character, the *toadas* may either have a lamenting, grieving, and suffering mood, or can be solemn, processional, exalted, and happy.

The tempo of the *toadas* usually goes from andante or moderato to allegro, with possibilities to be accelerated during the execution. The time signature used is simply quadruple, with possibility of variation in the introductions. The combination of the chosen tempo, along with what is called *virada* (the turn-around), is an emblem that characterizes and identifies the
batuque of each nation. According to Santos et al. "Each nation considers its beats a sacred rite, the esthetic patrimony that, owing to its symbolic dimension, is included in the ethos of each community ..."\textsuperscript{93} Thus, for instance, while the beat of Maracatú Nação Leão Coroado is known to be more paced, retained and austere, the beat of Maracatú Nação Porto Rico is known to be more vibrant and accelerated, with more groove. The virada, or the "turning-around" beat action is due to the beat performed by the smaller drums, the ‘turners'. These instruments play a more frenetic and more subdivided rhythm with accentuations in different places that, in conjunction with the other rhythms of the Alfaia Meião, generate the polyrhythmic texture so peculiar to a Maracatú. Lima better explains:

The term virada is used by drummers to designate a short phrase, a variant of the leading and marking pattern, performed on a song or part of it. This variation acts as an introduction, as a bridge between two parts of a song or as a phrase to end the song. It is generally short, lasting one or two bars at most, depending on the tempo and metric of the song. In case of Maracatú Nação, the virada of the Alfaia Repique represents a moment in which these instruments play freely through the virada patterns until the Master signals with the whistle so percussionists resume playing the regular beat patterns or move to another moment in the toada.\textsuperscript{94}

Hence, Maracatú Nação is also called Maracatú de Baque Virado (Turned-Around Beat Maracatú), as opposed to Maracatús de Baque Solto, as previously mentioned. The virada is the most emblematic aspect of each Maracatú and creates an aesthetic identity for each nation.

In general, when analyzing Maracatú music it is important to keep in mind that: a) the musical dynamics described above may suffer some variations among nations; b) each nation will have its own instrumental formation maintaining, however, the traditional instrumental set of Alfaias, Mineiro, Gonguê, Tarol, and Caixa de Guerra; c) the performance of the toadas vary between

\textsuperscript{93} Santos, Resende, and Keays, Batuque book maracatu, 29 Translation by the authors themselves.
Andante and the Allegro, and each group has an average tempo that characterize it; d) each
nation has its own characteristics rhythmic patterns for their viradas, as well as the way the
virada is realized also varies between nations. Figure 4.1 shows a short outline of the basic
rhythmic patterns played by the instruments in the Maracatú Nação orchestras. Recall that each

![Rhythmic Patterns Diagram]

Figure 4.1. Examples of Rhythmic Patterns for Maracatú’s Instrumental Set.
nation has their own performance features and variations. The only exception of patterns with no
variations seems to be the one played by the shakers (Mineiro and Agbês) that, regardless the
group, they will play a pattern of one eighth note followed by two sixteenth notes, played
repeatedly. Thus, the notation shown below functions as a general pattern rather than as an
absolute scheme to be followed.
Regarding this research, it is important to be familiar with these rhythmic patterns, since the work to be studied by the participants is freely inspired on them. Thus, understanding the way they sound and how they interchange with each other when played on the instruments will be crucial for creating interpretive ideas by the research subjects while studying the piece aiming a final piano performance.

4.5. Guedes Peixoto’s Maracatú

*Maracatú* (Appendix A and B) is a piano piece written in 1976 by the Brazilian composer Mario Peixoto Guedes Alcoforado or simply Guedes Peixoto. The piece was composed at the request of the Brazilian musicologist Father Jaime Diniz to integrate the repertoire of Pernambuco Piano Music Cycles, which were idealized by the priest and took place in Recife, during early 80’s. The cycles were meant to present to the general public the vast output of compositions for piano written by local musicians born during the 19th and 20th centuries, so far almost unknown.

In an interview given to us in December 2018, when asked if he had done some field research on which he had based his *Maracatú*, or if he had been inspired by the *batuque* of some specific nation or even had borrowed any traditional *toadas*, Guedes Peixoto told us about the genesis of the piece. He reported he was contacted by Father Jaime, who, aware of his strong

---

95 Mário Peixoto Guedes Alcoforado was born in Goiana, Pernambuco, Northeast Brazil, on January 25, 1939. He started his musical training while was still young in the Pernambuco Music Conservatory. He had great Brazilian musicians among his teachers, such as Guerra Peixe, Jaime Diniz, and Severino Revoredo. He served for many years as a conductor of the Recife Symphony Orchestra, the older orchestra in Brazil. Guedes Peixoto has one of the most representative outputs in the musical movement in Pernambuco, especially concerned to the composition of carnival music. Among his works, can be found sonatas, popular Masses and numerous Frevos, another unique rhythm found in Pernambuco and one of the Brazilian carnival symbols. He was also conductor and orchestrator of the extinct Tupi Television in São Paulo, and Jornal do Commercio Television, in Recife. Moreover, he served as the musical director of the Opera Society in Recife and as the director of the Order of Musicians in Pernambuco.
connection with Pernambuco traditional popular music, decided to invite him to write what, according to his musicological research, would be the first *Maracatú* written for solo piano.\(^96\)

However, assuming himself not sufficiently familiar with the piano language to write a solo piece for the instrument, Guedes Peixoto hesitated and declined the invitation. So, Father Jaime, who had been one of his teachers and knew Guedes not only as a popular musician but also as a symphonic conductor, stated that he would be totally capable to compose the work, within 3 days, if he so wished. So, he set the challenge for him, which was accepted and completed within the time stablished, basing the composition solely on his previous experiences as a popular musician.

Dedicated to the Brazilian pianist Elyanna Caldas, the piece is a rhapsody-type composition. There are almost no dynamic indications on the score, the only one presented is a *crescendo* and *decrescendo* mark on m.31 and m.72.\(^97\) Asked about why he was not more prescriptive, Guedes Peixoto gave us three main reasons. The first one is that, in the case of a piece that portrays a rhythm from the popular culture, a spontaneous expression of a group, it did not seem appropriate to him to keep the interpreter following various indications here and there of dynamics, letting the dynamics to be worked by pianist’s own imagination, as long as he or she knows the basics of how a *Maracatú* sounds; second because *Maracatú* is essentially a

\(^{96}\) There are at least 2 previous pieces composed by Lourenço da Fonseca Barbosa, better known as Capiba, that have the word *Maracatú* as subtitle; they are: *É de Tororó* (1932) and *Eh! Uá! Calunga* (1937). However, these pieces were originally written for voice and piano. What happens is that some pianists synthesize the voice part on the piano, presenting them as solo piano compositions.

\(^{97}\) After the experimental phase of this research has been completed, we have discovered a small error in the editing of the work, made exclusively for this research. The problem was generated basically due to the fact that the editing program used - Finale - did not accept the somewhat unusual writing of the composer, who considers, for example, measure 17 as a single measure, while the editor program, because of the values of used figures, understood to be 2 bars. This created a change in the general numbering of the bars in the work. A second edition was then presented (Appendix B) with another error correction, found in beats 7 and 8 of bar 27, changing the natural note E to E flat. This alteration had already been made manually on the scores given to the participants, but the numbering of the bars was not. However, this problem did not jeopardize nor the music neither the performance of it by the participants, being only a technicality. Nevertheless, it is necessary to inform that all the indications of measures in this work are referring to the numbering constant in the first score given to the subjects.
rhythmic music with no much degrees of variety when it comes to dynamics, and third it’s because there are several styles on how Maracatú can be played, although there is a basic pattern that gains different characteristics, depending on each nation is playing. He also said that the tempo indication *Moderato* is to be considered as a reference. The performer has freedom to play it slower or faster, according to the ranges of tempo Maracatú music can be played.

The composer, however, provides lots of accented notes throughout the work that reflects his stylization to the characteristic Maracatú patterns played by its percussive orchestra. It is valid to remember that Guedes Peixoto does not reproduces the exact rhythms shown on Figure 4.1, even because, as we have already stressed here, each Maracatú group has its own ways to play the rhythms. The main features are presented as follow:

1) *Alfaias* patterns:

These rhythmic figurations can be found on the left hand of mm. 1-6, mm. 7-11, and mm.31-41 (also found on mm.42-52 that are basically a more variegated repetition of the previous section). They are a combination of *Alfaias Marcação* and *Alfaia Repique* patterns (highlighted on Figures 4.2 and 4.3); on the left hand of mm.12-15, mm.18-20, mm. 25-26, mm.60-64, and mm.66-69, there is a more prominent figuration of the *Alfaia Marcação* pattern (highlighted on Figures 4.4 and 4.5)

In order to have an accurate expressive interpretation of *Alfaias Marcação* and *Alfaia Repique* patterns, the performer may to pay close attention not only to the accents provided by the composer but also, and perhaps more important, on how the notes around the accented notes should sound. In the case of this pattern found on mm. 31-52, accents are not provided but, instead, the dotted 8<sup>th</sup> notes on the right hand will give the same effect on the sound, which is directly related to the swing of Maracatú style, Scott Kettner explains:
Figure 4. 2. Guedes Peixoto’s Maracatú, mm. 1-10, with Alfaia Meião and Alfaia Repique Rhythmic Figurations Highlighted.
Figure 4. 3. Guedes Peixoto’s *Maracatu*, mm. 30-37, with Alfaia Meião and Alfaia Repique Rhythmic Figurations Highlighted.
Figure 4. Guedes Peixoto’s *Maracatu*, mm. 11-21, with *Alfaia Marcação* (blue) and *Caixa-de-Guerra* (green) Rhythmic Figurations Highlighted.
Figure 4.5. Guedes Peixoto’s *Maracatu*, mm. 60-69, with *Alfaia Marcação* Rhythmic Figurations Highlighted.
It's very important to pay close attention to the accents in this groove. With the exception of some maracatu groups, the ‘strong’ hand [of the drummer player] always holds a large wooden mallet while a smaller stick is held in the ‘weak’ hand, therefore further emphasizing the accents in this groove. The ‘weak’ hand should be played as if it were a ghost note, being felt more than heard.98

2) *Caixa-de-Guerra* pattern:

It is found, for example, on the right hand of mm. 12-15.3, mm.19-20 (highlighted in green on Figure 4.4), and repeated on mm.19-20, mm.20-26, and mm.74-75.

Here, the accents must be really pronounced in order to reproduce the groove of that the instrument.

3) *Gonguê /Agogô* pattern:

Found on mm. 70-73 (Figure 4.6). This pattern is, along with the *Alfaias*’ patterns, one of the most iconic and characteristic sounds of *Maracatú* music among all the others in the whole ensemble.

4) The hybrid section: mm. 60-69 (Figure 4.5)

It is a section that comprises a right hand in a improvisatory-type style, accompanied by a left hand with a *Alfaiá Marcação* pattern. This section is inspired by American Jazz and, according to the composer, was place there to bring closure to the development of the previous part; also to evidence African roots that both styles, *Maracatú* and Jazz, have in common.

5) The *Apito* call: m.80.

By the end of the piece, a *tremolo* represents the sound of the whistle, ‘calling’ (a *Maracatú* slag) the musicias’ attention that the *toada* is about to end.

---

Figure 4.6. Guedes Peixoto’s *Maracatu*, mm. 70-73, with Gonguê/Agogô Rhythmic Figurations Highlighted.

It is very important to be familiar with these *Maracatu* characteristic rhythmic patterns because our analysis will be focused, along with tempo fluctuations, on them.
CHAPTER 5. METHODOLOGY

This investigation was built based on the Case Study format with a qualitative design, focused on the subjects and their idiosyncrasies as a piano performer. Three Piano Performance students at Louisiana State University School of Music served as research subjects. These subjects were previously probed from our acquaintance in the theoretical and piano studio classes in common during the course. The main selection criteria for participation in the research, as previously mentioned, was the fact that the student have little or no contact or familiarization with Brazilian music, whether popular or concerto music. Our intention was that the expected interventions - by audiovisual stimuli and by auditory modeling - occurred without any previous influences that might have affected the subjects, whether cultural influence (to be familiar with Brazilian cultural manifestations in general) or, specifically, musical influences.

Given this, preference was given to international students within the program, although at the time we started the research, we counted on 4 Brazilian piano performance students enrolled. After the explanation about the goal, stages and methodology of the research, when all the subjects accepted to participate spontaneously in the investigation, they were asked to choose fictitious names: subject 01 is Clara Schumann, subject 02 is Eusebius, and subject 03 is Beethoven.

The first stage of the investigation consisted of an interview (Appendix C) and delivery of the score of the work to be studied. Through this first interview, it was possible to get a little closer to the personal history of each of the subjects, as well as their main characteristics as piano students and pianists, getting to know aspects such as their first musical training, musical preferences, methodologies and study strategies in the preparation of a work, main qualities, limitations and expectations.
After the interviews, the participants were gathered and received the score of the work to be studied. Regarding the score, as the original work is still in manuscript, it was made an edition of it using Finale music editor program to facilitate the reading of the participants, and also to facilitate the extraction of illustrative excerpts in the course of the work. In addition, all textual information that could situate the work within the style in which it is inserted into the Brazilian concert music - the nationalist-regionalist style - and which could encourage participants to seek information that could assist them in the preparation of work were removed from the score. Thus, the title of the work, the name of the composer and the name Maracatú put by the composer in bar 12 were excluded.

The score was given to the participants during the second week of 2019 Spring Semester and was accompanied by information on how the subjects should proceed. In this way, the participants were instructed to learn the work without seeking any kind of information about Brazilian music styles or rhythms in any type of source. After receiving the score, the participants were given approximately one month and 15 days to study the work in order to arrive at a musical, intelligible execution point that could be recorded for analysis. This period was established according to the subjects' answers to one of the questions in the first interview, where they established the average time of 1 month as a deadline to reach a fluent execution of a work considered of intermediate or advanced difficulty to be played in class for the teacher. It was also requested from the subjects to identify, during the study of the work, 6 sections with a well-defined musical meaning, been 3 of them where they thought to know how they should be interpreted (labeled as the green section), and 3 in which they were not sure or even did not know how they should interpret (labeled as the red section). These excerpts were later used as data for analysis purposes.
After the period established for the preparation of the work, we proceeded with the first recording session. Between February 25 and March 1, 2019, the subjects were staggered in the Piano Lab of the Music and Dramatic Arts building of Louisiana State University where there is a Yamaha Disklavier model Mark IV / PRO Series Piano. One hour was booked for each participant. During this time, they indicated the 6 chosen sections and, after a brief time for familiarization with the instrument, we recorded the excerpts mapped by the participants. Yamaha Disklavier allowed us to obtain files in MIDI format from the recordings that were later converted to AUDIO format, so that they could be read by the Sonic Visualizer program.

The Sonic Visualizer software enables different ways of viewing audio files, which implies various options for extracting data. The software also features a range of plug-ins that can be used for a variety of purposes, such as automatic note detection, height estimation, and intensity data. When importing the audio data to the software, the program automatically shows its wave form, relating sound intensity (vertical axis) to the duration time (horizontal axis). These features were useful in the data analytical process, especially with regard to the timing mapping and the location of the accents, so important to reach a characteristic and convincing interpretation of Maracatú. The accents can be perceived observing the present onset/indentation on the sound wave that, depending on its extension in relation to the surrounding notes, will show if an attack was more or less accentuated.

Timing mapping consists of making graphs that show the inflections of time during the execution of a composition. For this, the pulse of each measure was first marked, and, sometimes, the beat of each measure, in order to compare and analyze the temporal conduction between each beat in the selected sections. Depending on what was been analyzed, it was used the quarter note or eighth note as marking unit. The software visually registers these markings
through vertical bars and calculates the distance between two timing marks, generating a metronomic value for the points of each marking. The variation between one value and another is expressed in ascending curves showing the acceleration, and descending curves showing the deceleration, as shown in Figure 5.1.

![Figure 5.1](image)

**Figure 5.1.** Sound Wave of Guedes Peixoto’s Maracatú, mm. 01-06, Played by Participant Clara Schumann.

Thus, we can visualize on the graph the agogic curves that allow us to evaluate, for example, the phrase leadings and fluctuations of time. In addition, such information provided by Sonic Visualizer can be exported to the Excel program, where graphs can be generated from them. These graphs were very useful in comparing, for example, the variations in bpm tempo of the recordings of each participant, since it allowed us to overlap and compare timelines of the 3 recordings, helping to understand the evolution on mastering the piece.

After the first recording session, the subjects answered another interview (Appendix D) with the general purpose of obtaining the first impressions about the piece, main musical characteristics and arisen difficulties, besides sharing the reasons that made them delimit the sections as understood and not understood in the interpretation. From this point, the research
unfolds in two consecutive and interconnected stages to which all subjects were submitted. These stages were named interventions: 1) intervention by audiovisual stimuli, and 2) intervention by auditory modeling. Each of these stages will have its specific methodology and both will be investigated as possibilities of strategies to be used when building up interpretation of an unknown piano composition, within the environment of a graduate school of Music.

5.1. Methodology for Audiovisual Stimuli Intervention

This stage occurred on 02/28/19 and 03/01/19. The subjects were taken to a classroom equipped with an image projector. Participants were asked to bring their cellphones and headphones. In the room, after a brief explanation about the intervention, subjects were accommodated in front of the big screen and received a pencil with eraser and a guide with 3 instructions (see Appendix G). The audiovisual stimuli intervention consisted in a guided exposure of the subjects to a collection of images and audios carefully selected.

The visual portion of the intervention consisted in exposing the subjects to a total of 36 figures related to the *Maracatú* universe. The criteria for selection of these images sought the privileged aspects inherent to the *Maracatú* experience as a cultural manifestation. These images were collected in free banks of images available on the Internet, and were grouped into 6 categories, as shown in Table 5.1. Each of the 6 categories of images was presented to subjects in slideshow style sequence with an average interval of 10 seconds between each image. Beginning, for example, with the image from number 01 to the image number 5; then backward from image 5 to image 01, returning to image 5 again. In this way, the subjects were able to revisit each collection 3 times. At the end of each one of the categories described above, the subjects were asked to write down on the guide provided, next to the interval relative to that collection, an adjective, name, feeling or emotion that would best describe the images they had just visualized.
Table 5.1. Categories of the Images Used in the Visual Portion of Audiovisual Stimuli Intervention.

<table>
<thead>
<tr>
<th>NUMBERING</th>
<th>CATEGORY</th>
<th>NAME</th>
<th>DESCRIPTION</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>OBJECT</td>
<td>AGBÊS</td>
<td>MUSICAL INSTRUMENT</td>
<td>5</td>
</tr>
<tr>
<td>02</td>
<td>OBJECT</td>
<td>ALFAIAS</td>
<td>MUSICAL INSTRUMENT</td>
<td>5</td>
</tr>
<tr>
<td>03</td>
<td>PEOPLE</td>
<td>AGBÊS AND ALFAIAS PLAYERS</td>
<td>PERCUSSIONIST AND MUSICAL INSTRUMENT</td>
<td>5</td>
</tr>
<tr>
<td>04</td>
<td>OBJECT AND PEOPLE</td>
<td>MARACATÚ’S NATIONS</td>
<td>BANNERS AND MARACATÚ COURT MEMBER.</td>
<td>6</td>
</tr>
<tr>
<td>05</td>
<td>PEOPLE</td>
<td>DAMAS-DO-PASSO AND CALUNGAS.</td>
<td>CALUNGAS, MARACATÚ COURT MEMBERS.</td>
<td>5</td>
</tr>
<tr>
<td>06</td>
<td>PEOPLE</td>
<td>QUEENS AND KINGS</td>
<td>MARACATÚ COURT MEMBERS.</td>
<td>10</td>
</tr>
</tbody>
</table>

In addition to the guidelines on the paper sheet, oral instructions were given on what to look for when absorbing the images. For instance:

- “When looking at these images, try not only to get the general idea but also look into the details”.

- “You want to look at the different colors and geometric patterns. Try to remember if they find any significance on your own culture or in another culture you are aware of. Try to bring that information up into your mind before making your word choice and, do not make your decision until you get to the end of each category”

- “If the images show a person or persons, you will want to look at the place where they are, the clothes they are wearing, their facial expressions, posture, gestures and,
“Try to capture their emotions, their feelings. Facial expressions can help you to figure that out.”

The auditory part of the intervention consisted in the appreciation of 7 audio files, 2 audiovisual files and 1 lecture. These files were arranged as shown on table 5.2.

Table 5.2. Categories of Files Used in the Auditory Portion of Audiovisual Stimuli Intervention.

<table>
<thead>
<tr>
<th>NUMBER ORDER</th>
<th>TYPE</th>
<th>TITLE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>AUDIO FILE</td>
<td>EVOLUÇÃO DA PERCUSSÃO DO MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>6'39''</td>
</tr>
<tr>
<td>02</td>
<td>AUDIO FILE</td>
<td>A BANDEIRA É BRASILEIRA – MARACATÚ LEAO COROADO</td>
<td>3'11''</td>
</tr>
<tr>
<td>03</td>
<td>AUDIO FILE</td>
<td>SAMBA LÊ LÊ - MARACATÚ LEAO COROADO</td>
<td>4'43''</td>
</tr>
<tr>
<td>04</td>
<td>AUDIO FILE</td>
<td>NAGÔ É A NOSSA RAÍNHA – MARACATÚ PORTO RICO</td>
<td>1'44''</td>
</tr>
<tr>
<td>05</td>
<td>AUDIO FILE</td>
<td>POUT-POURRI PORTO RICO – MARACATÚ PORTO RICO</td>
<td>5’20’’</td>
</tr>
<tr>
<td>06</td>
<td>AUDIO FILE</td>
<td>COSTA VELHA - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>3’45’’</td>
</tr>
<tr>
<td>07</td>
<td>AUDIO FILE</td>
<td>CHEGUEI MEU POVO - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>3’22’’</td>
</tr>
<tr>
<td>08</td>
<td>AUDIOVISUAL FILE</td>
<td>MARACATÚ ESTRELA BRILHANTE DO RECIFE – DESFILE DE CARNAVAL 2017</td>
<td>12’</td>
</tr>
<tr>
<td>09</td>
<td>AUDIOVISUAL FILE</td>
<td>NAÇÃO MARACATÚ ESTRELA BRILHANTE DO RECIFE NA AVENIDA 2017</td>
<td>21’16’’</td>
</tr>
<tr>
<td>10</td>
<td>AUDIOVISUAL</td>
<td>SCOTT KETTNER: MARACATÚ FOR DRUMSET 2: HISTORY AND INTRODUCTION OF TRADITIONAL INSTRUMENTS (LECTURE)</td>
<td>14’33’’</td>
</tr>
</tbody>
</table>

The audio file n.1 consists of a Maracatú percussive section evolution, showing its basic pattern and its different variations. Files n. 2 -7 contain Maracatú chants (toadas) sung by 3 different Maracatú Nations, active in the city of Recife at the time of the research. Files 8 and 9
are audio visual. They show a full evolution of a Maracatú cortege during the Carnival, in Recife, 2017. File 10 contains a lecture given by American percussionist Scott Kettner. The lecture contemplates a brief historical context about Maracatú as a cultural manifestation and exhibition of the musical instruments used by Maracatú Nations (Table 4.1) with performance of their respective basic rhythm patterns.

For the audio stimulation, participants read the instruction number 2 on the guide provided. A brief oral explanation was given about Russell's circumplex. Then, the subjects were asked to access through their cell phones the playlist named Audiovisual Stimuli Intervention, created on the YouTube platform.99 This playlist was created with the material informed on Table 5.2, freely available on YouTube. In addition to the guidelines on the paper sheet, oral instructions were given on what to look for on the audio and audiovisual files, as well as the information contained in the lecture, such as:

- "When listening to the audio files, let the music penetrate into your minds to naturally allow emotional states to emerge in you."
- "Try also to feel musical elements like pulse, tempo, characteristic rhythms, and timbre of the instruments, overall character and mood."
- "Although apparently similar, the different audio files have certain differences in relation to their musical elements. Try to capture what those differences are."
- "Try to make connections from what you are listening to with the piano piece you are studying."

99 Found at https://www.youtube.com/playlist?list=PLsAr_P6QB79_kSJBvoTgLrXT8DuzLMWZb
Participants were then asked to listen to each audio file for at least 3 minutes (except file n.4) and, on Russell's Circumplex, place their equivalent order number next to the word that best describes the emotion felt after listening to the music. Some translation of the terms of the Russel Circumplex needed to be made at the time by participants whose native language was not English. It was opened the possibility of adding terms to the circumplex if the participant thought that the terms defined by Russell were not enough to describe the emotion felt. In these cases, the participant who added terms also had to indicate an approximate term on the circumplex so that the question of valence identification, as explained on Chapter 2.2 would not be jeopardized.

After Russel's circumplex activity, participants were exposed to selected moments of number 8 and 9 files (Table 5.2). After this exhibition, we presented a short introduction about the historical origins of Maracatú, opening space for inquiries and discussion. Then, participants watched to the full lecture presented on file n. 10 and were asked to answer question number 3 on the guide. The whole intervention lasted 1 hour and 25 minutes.

At the end of the intervention, participants were informed that the audiovisual material presented in the intervention would be made available online for 15 days. Within this period, subjects should revisit the material as often as necessary so that the fruition of emotions and the identification musical elements were established continuously, not limited to the moment of intervention. Later, Audiovisual Stimuli Intervention guides were collected for further analysis and also it was established the interval between 03/15 and 03/18/19 to perform the second recording session.

After this second recording session, subjects were again interviewed (Appendix E), this time with the intention of investigating not only what they have learned about Maracatú as a cultural manifestation and as a musical rhythm but mainly to understand in which ways and how
they were impacted by audiovisual stimulation. The procedure for the second recording sessions, after intervention by audiovisual stimuli, was the same as for the first session. Participants recorded the 6 excerpts again. These interviews, along with the audio files from the recordings, and data obtained during the intervention (present on Audiovisual Stimuli Intervention Guides), will be the main sources of data collection of this stage. After the second recordings, the YouTube link with the material used in the intervention was disabled and we proceeded to the auditory modeling intervention, described ahead.

It should be recalled that up to this point participants were working on the piano piece without having any idea of the origins of rhythm and cultural manifestation from which the composer stylized his piano piece. As this step is first to empirically verify if the perception of emotions and feelings present in the visual material provided, as well as the effect that these images can provoke in the participants in the sense of feedback to them with the emotions related to the character of the Maracatú as a cultural manifestation, the criteria for the image selection was based on the relevance of the symbolic content presented by the figures. Thus, preference was given to images that brought a special coloring that exhibited the geometric patterns so characteristics of the African culture objects. In the case of figures displaying people, it was chosen those that demonstrated the moment of joy, pride, empowerment and relaxation, but also those showing the solemn and sometimes austere and bellicose characters that are typical of a Maracatú cortege parade. In the case of audio material, preference was given to the files that showed more clearly the difference in tempo that each nation of Maracatú use in their

---

100 I am referring to characteristic movements of its dance, gestures of the percussionists when playing their respective instruments, posture of the various characters when parading, especially the one related to the royalty, among other aspects that we assumed to be of extreme relevance in the communication of emotions when of the interpretative construction for a stylized work from Maracatú.
performances which work, as explained in Chapter 4.4, as a trademark of each group, and is directly connected to the characteristic groove of each nation. Obviously, the quality of the files found was also considered as criteria.

5.2. Methodology for Auditory Modeling Intervention

Upon concluding the intervention by audiovisual stimuli, all the participants went through auditory modeling intervention. On 03/18/19, the recording of Maracatú, by the Brazilian composer Guedes Peixoto, was sent by email to the participants, as well as made available on the YouTube platform.\textsuperscript{101} Participants were gathered and received instructions on how to proceed regarding the modeling process. These guidelines were also strengthened in the email sent. The recording (model) of Guedes Peixoto’s Maracatú was made by Brazilian pianist Henrique Borges, especially for the present investigation.

At this stage, participants had 15 days to work on the piano piece under auditory modeling. Thus, during this period, the subjects were instructed to imitate the interpretation of the model. The method of imitation was left to the choice of each participant, either listening to the recording and then imitating or playing while listening. After the 15-day period devoted to the modeling process, a new recording session was held. The recordings followed the same procedure as the previous ones.

After the third recording session, new interviews (Appendix F) were conducted. These interviews were accompanied by the hearing of the first and last recordings performed by each participant and aimed to discuss the implications of modeling in the study practice and in the interpretive ideas of each of the subjects. Finally, after the modeling intervention, the subjects were asked to record their own interpretation of the piece, this time no longer under the

\textsuperscript{101} Available at https://www.youtube.com/watch?v=Ty8jC4k_ZsE&feature=youtu.be
incidence of the model, putting in it their own interpretative ideas. This last performance was also captured for analysis purposes.

When this research was idealized and the stages of the investigation were structured, it was a goal from the very beginning to verify the applicability of audiovisual stimulation and auditory modeling as study strategies, through which piano performance students at a graduate level could use to expand their expressive resources, aiming the musical interpretation of an unknown piece. The focus on graduate students is due to the assumption that they already have a certain artistic maturity that allows them to work autonomously.

In this way, the interventions were designed to be applied, in case of possible positive verifiability, from the point of view of the student-performer, who may make use of them when in need of gathering expressive resources for their interpretations, especially when in a short time. Thus, during the stages, any kind of pedagogical interference was made by the researcher, that is, no interaction was made with the research subjects in their individual learning processes on mastering the piece, in the sense of eventually helping them with our stylistic knowledge about Maracatú. Obviously, this approach does not invalidate the applicability of strategies from the teacher's point of view, within a teaching process. On the contrary. They can be a powerful tool for teachers who need to deal with students of the most varied nationalities, as is the case of American universities, which, as a rule, brings together students from the most varied regions of the world.
5.3. Data Analysis

Data analysis was performed after each of the interventions, as it was set out to investigate 2 possibilities study strategies. For the audiovisual stimuli intervention, the data was analyzed by the auditory investigation of their interpretations through the recordings, the reports collected during the interviews after this intervention that were paired with the information provided by the participants on the Audiovisual Stimuli Intervention Guide, and by the analysis of the technical information obtained from the reading of the recording files through the software Sonic Visualizer. During the auditory modeling intervention, data analysis was performed in a similar way as described above, except for the data in the guide, which was exclusive to that intervention.

On both interventions, analysis was basically focused in two main instances: tempo and timing. The choice of these two parameters is justified for two reasons. The first one is a technical issue. The available analysis tools, such as Sonic Visualizer, privilege the study of tempo as an essential parameter in musical performance. Bowen states that "Tempo is an especially important variable to study. In addition to being easily quantifiable, tempo has a long history of being considered the key interpretive element for all performers and especially for conductors." and historical musicology corroborates this conception, including composers. It is well known, for example, the great interest Beethoven had about his works being performed on the tempo he had thought for the piece, and that he saw in the invention of the metronome a way of avoiding that the character conceived by him for a certain composition would be misrepresented by a wrong tempo choice, making it clear that, for him, the character of a work was directly linked to the given tempo.

102 Bowen, “Tempo, Duration, and Flexibility,” 112.
The other reason it is related to the style of the piece itself. *Maracatú* is a dance-type rhythm based on specific rhythmic characteristics patterns that are articulated in a very unique way. Thus, it seems obvious to us that data analysis should also aim on detecting the deliberate manipulation of these expressive resources, which focus here on how the *Maracatú* rhythmic patterns should be articulated. Regarding articulation, Friberg & Battel explain that “Articulation strongly affects motional and emotional character.”\textsuperscript{103} Moreover, regarding the dance-type quality of the piece, our analysis choice is corroborated by the above-mentioned authors, when they explain that “Music that is rhythmically regular often exhibits consistent patterns of timing and dynamics within metrical units as the measure. […] This kind of patterning is often associated with dance, suggesting that these patterns serve to characterize the motional character of the piece.”\textsuperscript{104}

\textsuperscript{104} Ibidem
CHAPTER 6. THREE CASE STUDIES

6.1. Case 1: Clara Schumann

Background Information and Musical Preferences

Clara Schumann started having piano lessons at the age of 5 years old, encouraged by her mother who, noticing that her daughter used to respond positively to music, enrolled her in a preparatory school for musically talented kids. There, she had general music training and piano lessons. She reported that musical training was very traditional, with no room for alternative learning processes. To pursue an undergraduate degree in piano performance was never a question for her, but a natural consequence after all the years studying piano.

Clara loves Schumann and her favorite composer is Beethoven. She also likes Russian music. She also likes some contemporary music and Jazz. She says she does not have a favorite style, listening to different styles, depending on her mood.

Questioned about what kind of repertoire attracts her to a piano recital she said “I don’t know…I actually like not the repertoire but how is performed. Sometimes I do not like some music, but I listen to someone playing it and it’s just so amazing… […] but if the repertoire is completely contemporary and I never heard about the performer, I would never go.”

We can also notice that the performance itself plays an important role for this student when it comes to musical appreciation because, when questioned about what features, in her opinion, define a good pianist, she says:

Oh, many of them [features]…of course physical ability is very important, but also, on top of that, I appreciate umm umm the school. I can hear if the person is really well trained. […] We have, like, some common rules in piano playing and, if the person was studying for a very long time you can hear all these features in his playing, and some, like, stylistic elements are there, and…what else? Charisma! Sometimes, you know, people don’t have a good technique, but you can hear, like, charisma and you get attracted to that part.
However, when asked about her favorite pianist, she consciously steps back to explain that, although she can see the features that she has pointed out above all together in many pianists, the repertoire guides her choices, not the performer himself:

I love Richter [Sviatolav]. He is very wise. Sometimes he is very objective. He doesn’t even put his feelings [when interpreting]. He respects music so much that he doesn’t think he is allowed to put his feelings in it…umm but, for example, French music when he plays, I don’t like! Because I don’t feel it has enough, like, feelings…something is missing! But, like, his Beethoven is great! I love it! […] So, it depends on the music, and depends on my mood, also [laughing]!

The participant declared during the first interview that she is not familiar with Brazilian music – classical or popular – and the only Brazilian composed she is aware of is Heitor Villa-Lobos.

**Clara Schumann as a Piano Student, Study Practices, and First Thoughts about the Piece**

Clara Schumann is pursuing a Doctoral degree in Piano Performance at LSU since fall 2018. She was in her second semester of the program (spring semester) when she accepted to be one of the participants of this research. During this semester, she gave two recitals. A chamber recital with works for cello and piano, and a solo piano recital. Table 6.1 shows the repertoire she has performed during this investigation.

**Table 6.1. Clara Schumann´s Repertoire During Academic Spring Semester, 2018.**

<table>
<thead>
<tr>
<th>COMPOSER - WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bach/Busoni: Chaconne from Violin Partita n.2</td>
</tr>
<tr>
<td>L. Beethoven: Piano Sonata op. 110</td>
</tr>
<tr>
<td><strong>SOLO PIANO RECITAL</strong></td>
</tr>
<tr>
<td>Cesar Frank: Sonata for Piano and Violin.</td>
</tr>
<tr>
<td>D. Shostakovich: Sonata in D minor for Cello and Piano</td>
</tr>
<tr>
<td>L. Desyatnikov: Variations on Obtaining Home for cello and piano</td>
</tr>
<tr>
<td><strong>CHAMBER RECITAL: Cello and Piano</strong></td>
</tr>
</tbody>
</table>


Talking about her methods and strategies when study a new piece, she is emphatic to say:

If recording is available, that’s going to be the first thing I am gonna [going to] do. I’m gonna [going to] listen to a recording but, you know, then I stop listening to recording and I practice by myself, and then, like in…, for example, in two months, if I listen to the same recording, I will not recognize the piece. I would note the differences of the same recording I have listened. I usually try not to follow the recording, but not on purpose; because I am too opinionated about music, I have my own opinion and I try to play my own opinion, and then it’s usually, like, it doesn’t matter the recording I listened […] I take a recording just to know how it is supposed to sound and if it is a good performance…Like tempos and maybe characters, but sometimes characters are very different, not what I think about it. After listening to some recordings, I start working on the piece. If the piece is too hard, I usually practice with hands separated first, then I usually divides the work into small sections and try to break them down.

In addition to this, also about the use of recordings, she says: “I am very, like, a ‘21st century person’ right now, because, you know, when I have to play something I go and listen to the recording, and then I play.” About her main concerns when she starts studying a new piece she points out: “The first thing is how to reach certain chords because I have very small hands. Then, I try to figure out if I will be able to reach the tempo on the piece. I am usually less concerned about character because if the previous things are o.k. I can work on character. It’s enjoyable.”

Asked if she consider herself as a good sight-reader, she honestly answers: “I am not good. I am getting better. I had to sight-read a lot in my former school. So, I can read [sight-read] some stuff but not, like, very complicated stuff. But it’s getting better, it’s improving!”

Before the first recording, Clara Schumann was interviewed again and expressed her first thoughts about the piece (Guedes Peixoto’s Maracatú):

In the beginning I did not enjoy it because I did not know how it sounds. It’s really hard for me not knowing. It’s like, umm, learning how to walk. So, you have to go through all stages, like, growing…like, when you try to stand up but it’s not working, and then you start to walk, and then, at some point, you can walk, right? And then you can see something. It’s coming…and you have some idea. Maybe it’s a wrong idea but at least some idea about…and I, honestly, really
like this session here [she starts singing the melody on 32-33. It’s, like, a breath on the previous music and sounds somehow more popular…and it’s something catchy! I like this section […] And the rhythm on measure 31, for example, the right hand doesn’t go on the beat, it is syncopated, makes me feel something folk, maybe…not classical, for sure, but something more related, like, to popular music. And maybe mixed with folk music.

As can be observed, although having had an initial strangeness because of her unfamiliarity with the style, Clara Schumann was able to get closer to the overall atmosphere of the piece, only from the musical elements on the score, making an accurate guess of the general style, that is a stylization of a Brazilian cultural manifestation, with some elements of Brazilian folk music. She also is quite right when she talks about measures 60-69.105

To me, maybe it’s completely wrong, but, to me, some spots sound like improvisation. Like, starting from measure 60. It sounds like a passage that, even though is written in measures, inside [she meant between quadruple meter], I would not put it inside measures [bars] because it’s so free! You can take time in some spots and it’s still gonna [going to] be fine and, it’s not that rhythmical. It is more, like, a big gesture.

Yet related to this aspect, Clara Schumann also felt uncomfortable with the fact of a supposedly popular music being written in traditional notation:

It sounds, like, easy because it’s written in traditional Western notation but it’s not classical music, it sounds like popular music. This music is probably freer, based in something else…They tried to put in classical notation and it doesn’t fit to this kind of music, so it’s like a code or a riddle that you have to solve to get to the point. The notation somehow limits the music. It shouldn’t be used in this context.

From these initial statements, it can be observed that the participant has not only a sharp analytical ability but also a very satisfactory aural perception. Without having any clue as to

---

105 The section she is referring to is, indeed, an improvisatory-type section. According to the composer Guedes Peixoto: “That section is a concert license. It is an improvisatory jazz section that I decided to put there because I felt that section needed closure, before jumping back to the Maracatú marked section. It is also a reference to some similarities that our music has with jazz music in its origins.”
which musical style she was dealing with, she was still able to perceive that the piece *Maracatú* is a stylization from popular music material, being placed in the context of classical music. She also appears to have a definite artistic personality, in regard to her own interpretive ideas, preferring to be consistent with her own thoughts paired to the information that she can obtain on the score itself, even when she is not totally appropriated by the style, as is the case at hand.

Although admitting frequently listen to recordings when working on a new piano piece, the recording is placed aside soon after the participant gets a general idea of the work, serving only as an initial reference. Moreover, when listening to recordings, she usually critically listens to them, even if the pianist is one of her favorites, not fully accepting his interpretive ideas. These characteristics are quite compatible with the type of musical and pianistic training that Clara Schumann had in her base, as she explains, quite traditional, with no room for alternative learning processes or strategies.

**Clara Schumann´s Selected Sections and Data Analysis**

The 06 sections Clara Schumann selected from Guedes Peixoto´s *Maracatú* after she had studied the piece during the established period are shown on Table 6.2. Sections 1-3 (marked in green color), were considered well understood by the participant concerning to its interpretation. Sections 4-6 (marked in red color), were selected because she did not have any ideas on how to interpret them, or she was not so sure of how to interpret them.

Table 6.2. Clara Schumann´s Selected Sections Chart.

<table>
<thead>
<tr>
<th>SECTION NUMBER</th>
<th>MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION N. 01</td>
<td>1 - 11</td>
</tr>
<tr>
<td>SECTION N. 02</td>
<td>12-15.2</td>
</tr>
<tr>
<td>SECTION N. 03</td>
<td>15.3 - 30</td>
</tr>
<tr>
<td>SECTION N. 04</td>
<td>31-41</td>
</tr>
<tr>
<td>SECTION N. 05</td>
<td>42-53</td>
</tr>
<tr>
<td>SECTION N. 06</td>
<td>60-69</td>
</tr>
</tbody>
</table>
During the interview before the first recording, Clara Schumann expressed her specific difficulties or doubt about these sections. The matter of the notation, which means, notating popular music in classical music patterns that she had already pointed out was one of her main concerns and made her struggle about how to interpret some sections, notably the improvisatory section (Section 06, 60-69). However, for analysis purposes, I decided to choose from the red part, section n. 04 (mm 31-41), and from the green section, section n. 01 because they both comprise, as explained in chapter 4.4, one of the main features related to Maracatú’s playing style, that must be perceived by the performers in order to imitate Maracatú’s catchy groove.

Proceeding now to an overall analysis of Clara Schumann’s first recordings for the two selected sections that will abbreviate from here on as SEC1-1 and SEC4-1. The first number indicates the section on the above chart (Table 6.2) and the second number indicates the order of the recording.\(^{106}\)

During the first recording session, after mapping her green and red sections, Clara Schumann established as her overall tempo the indication *Andante con Motto*. It is valid to remember that participants were free to choose as their tempo, a range from *Andante* to *Allegro*. The metronome mark for *Andante* corresponds to a range from 75 to 107 BPMs (beats per minute). However, the expression “con motto” is not a tempo mark but a character indication, so there is no specific metronome mark for *con motto*. Clara Schumann’s tempo for SEC1-1 is 77

\(^{106}\) All the participants, as explained in Chapter 05, were subjected to 4 recording sessions: the first one (1) under no intervention, the second one (2) after audiovisual stimuli intervention, the third one (3) after auditory modeling intervention, and the last one, labeled as Final Result. Therefore, SEC1-1 means: SEC1 = section n.01 on the participant’s selected excerpts chart; -1 = first recording, with no intervention, whereas SEC2-3, for instance, would mean: SEC2 = section n.02 on the participant’s selected excerpts chart; and -3 = third recording, after auditory modeling intervention. Final Result will be call on this way. This labeling will be applied to all participants henceforth.
bpm, within the range chosen by her.

Figure 6.1 shows the sound wave for SEC1-1, obtained through Sonic Visualizer. The visual analysis of sound wave for SEC1-1 brings some important information about Clara Schumann’s first performance of this section:

1) The sound wave thickness shows that Clara did not approach this section with lots of dynamic contrasts or even heavy sonority, which is compatible to the score. However, as the section evolves, she performs a crescendo as the harmonic tension increases, and a decrescendo, at the end of the section, when harmonic tension is released. That can be noticed by the tips of the wave peaks, which reflect the dynamics of each attacked note. Almost all note attacks remain within the range from 0.0 to 0.1 decibels (dB), on the left column that reflects the intensity, but, within this range, we can see an upward momentum, bar to bar, with
an apex at m.6, exceeding range 01 and then a *decrescendo*, at the end of the section, when sentence rests.

This is confirmed with Clara Schumann´s statements:

[As] I had no name and I didn’t have the country of the piece, I didn’t have any information behind. I only had, basically, notes, and even, like, somehow, umm, no explanation…just like, play it! Like, play it free, but how free? I was just really confused, and then I…I just tried to go with harmony, so I saw some tension and I just tried to emphasize a little bit.

In addition to this, she says:

Also, music [the score] gives some accents, so I was listening to how it works, not just, like, mechanically, not automatically but…actually what kind of effect these accents create, those were my thoughts…and then I tried to make it, not like a machine, but like… [she sings the rhythm of the left hand of the first measures] something different, not like machine.

It is true that Clara tried to musically work out on the accentuation provided by the composer. The analysis of the sound wave corroborates Clara Schumann´s intentions. The accents Clara Schumann is referring to are those related to the *Alfaias* basic patterns (see figures 4.1 and 4.2), which brings the following analysis:

2) The *Alfaias* characteristic rhythm figuration, present throughout in this section from mm.01-10 on the left hand, 3rd and 4th beats are played somewhat irregularly. This can be perceived by observing the onsets on the wave representing each, as previously explained, an attacked note. The stems of the peaks of each of these indentations will represent the intensity of the attack. Thus, accented notes will have a longer stem extension than non-accented notes. Figure 6.2 shows the same sound wave now with indentations highlighted. We can notice that, while on measures 01 and 2 the accents are irregularly played, on measures 3 and 4, the second onset inside the red circles are higher than their predecessor and successor,
representing the accent marked by the composer. Within the *decrescendo* that the participant performs, it can be seen in bars 07 and 09 by the size of the first stem (8th note) in relation to the following two stems (16th notes) that Clara performs well the accent in the eighth note while softening the attack of the next two 16th notes, achieving the effect of the ‘ghost notes’, as Kettner\(^{107}\) explains, that is what produces the groove of Maracatú. However, in bars 08 and 10, the participant does not achieve the same result, where we can observe the edges of the stems almost at the same height. Thus, besides the efforts of musically interpreting this section, coming up with the idea of a *crescendo* and *decrescendo*, overall, Clara's SEC 1-1 is performed in a deregulated manner, concerning the accentuations envisaged by the composer, which implies a failure in achieving the expressive effect intended by Guedes Peixoto.

\(^{107}\) Kettner, “Maracatu de Baque Virado: A Living and Changing Tradition from Brazil,” 29.
3) A third point to be noticed, listening to SEC1-1 is an anticipation of the E natural that is supposed to be played on the third beat, in m.5. Clara plays some seconds before. Further up, on measures 7, 8, 9 and 10, she anticipates E natural (mm.7 and 8) and F natural (mm. 9 and 10) from the weak part of the 3rd beat to the strong part of the 3rd beat, deconfiguring the syncopation, also so important in Maracatú style. As an example, Figure 6.3, shows highlighted the notes attacked before the 3rd beats on measures 5, 7, 8 and 9.
Figure 6. 3. Sound Wave for Clara Schuman´s SEC1-1 Showing Anticipated Attacks of the Notes on the Third Beats, on mm.5, 7, 8 and 9.

Figure 6. 4. Guedes Peixoto´s Maracatú Excerpt, containing mm. 5, 7, 8 and 9 where Clara’s Mistakes on SEC1 are Found.
Figure 6.5 helps us to summarize Clara Schumann’s timing on SEC1-1. The horizontal axis shows the 44 beats between mm. 01-11.

Proceeding now with the analysis of an excerpt from the red section. SEC4 was selected by Clara Schumann as a passage where she was not sure on how to interpret. When interviewed, she discussed about her difficulties on how to approach this section:

I am talking about measures 38-39 [reproducing the melody of these measures]. I mean, I can play exactly what is written but…sounds strange…because, it’s not like that [hitting the table to mark the beats and singing the melody]. It’s more, like, circled, it breathes, it’s not like that [marking the beats again], not pointing but rounded, you know what I mean, right? And that’s what I feel about these exact two measures but since I don’t know anything about the piece, I was just trying to play everything exactly on time and trying not to put any additional imagination of my own.

Furthermore, referring to mm. 42-43, that is part of SEC5 but is a repetition of the rhythmic-melodic fragment present on SEC4, mm 32-33, she exemplifies singing the melody and saying: “I don’t know if I should play, like, taking time [she sings the melody in a *rubato* manner], with ‘swing’[groove] or not.”
We can notice that Clara Schumann was one more time, able to perceive from the beginning the peculiar rhythmic phenomenon in the mentioned bars and that they should be played in a certain way, even without knowing exactly what it is. Although she had wondered how it should sound, she did not feel comfortable to dare an approach other than that suggested by the score information, due to a lack of more solid stylistic information. How to make it sounds ‘circled’ and ‘rounded’ instead of pointed and metronomic, according to her own perceptions. Moreover, that was also probably the reason for Clara having slowed down the overall tempo for SEC4-1, which stayed at 69 bpm versus 77 bpm of SEC1-1.

Figure 6.7 shows the sound wave for SEC4-1, obtained through Sonic Visualizer. Visual analysis of sound wave for SEC4-1 provides some important information, such as:

1) The sound wave thickness shows that Clara also did not approach this section with lots of dynamic contrasts or even heavy sonority. Only a slight increase in volume can be observed in bars 35 and 36 (highlighted on Figure 6.7), exactly where the melodic motive previously stated in this section (measures 35-36) is restated;

2) Likewise SEC1, SEC4 comprises another Alfaia pattern, as seen on mm.31 and 34 (figure 6.8), for instance. Here, the ghost notes effect is also wanted in order to achieve the Maracatú groove. However, Clara doesn’t perceive that, playing these repetitive patterns in SEC4 with no differentiation;

3) A third aspect one can also note an attempt to bring out the syncopated motif, that so much intrigued Clara, present on bars 38 and 39, again with an increase in volume given by Clara.
Thus, the result of the visual analysis corroborates our auditory analysis for SEC4-1 that, indeed, Clara had difficulties to come up with interpretive ideas of her own, unlike SEC1, where she was able to envision and work on some interpretation. Figure 6.6 helps to better understand her approach, summarizing Clara’s timing for SEC4-1.

Figure 6.6. Clara Schumann's Timeline for SEC4-1.
Figure 6. 7. Sound Wave for Clara Schumann’s SEC4-1 with mm. 31, 34, 38, and 39 Highlighted.
Figure 6. 8. Clara Schumann’s SEC 4 with Alfaïas Stylization highlighted (mm.31-41).
Clara Schumann under Audiovisual Stimuli Intervention

Interviewed after 15 days after the audiovisual stimuli intervention, right before the second recording session, Clara Schumann was able to summarize Maracatú background information, delivering a concise but detailed response. She also talked about the musical instruments, their shape and the way the Alfaias are built. She was even able to recall the name of the Caixa (war-box) instrument, which is not so simple when one does not have any familiarity with the language (Portuguese) being used. Clara said that she visited the material available online at least 2 times for all the audio files, having listened to some of them more than twice, and watched the lecture 3 times.

Asked about her first thoughts on Maracatú music, she answered:

Considering my background [she emphasizes her nationality], honestly when I heard this for the first time, it was like, sounds like cacophony because there are so many sounds at the same time, and then, like… it seems like… ten different rhythms at the same time, and for [saying her nationality again] people, our music is really straightforward […] so in this music [Maracatú] I couldn’t put it into Classical measurements! But then once you start listening and get used to it, you figure out the rhythms and you start thinking in a Western European way, then the music starts making sense. But it’s not something only rhythmic, it’s not the same. You have actually to swing it, correctly, to sound it like, like you guys do in Brazil. We don’t do that exactly [in her country]. And that’s why notation is not good [she is talking about Guedes Peixoto’s notation on Maracatú score], not completely accurate.

Clara ended up enjoying Maracatú music. She says:

In the beginning, when I listened for the first time, it was a little bit too much but when I listened for the second time, I could distinguish a little bit more, and then for the third time, it was like, I got it! And it is not that easy! Because for you guys from Brazil, you are born there, you are surrounded by this kind of music, it is part of you as a human being, it is in a deep level of your psyche, you know? And for me, an alien, I had actually to study …and then, it was like, it became part of me!

And later she shows her excitement about Maracatú music:
This music is good! I must be wrong, but it is basically the rhythm and the singers…and that’s it! I didn’t see any other instruments playing, right? So, it is very, very percussive, but it sounds like music! I don’t recall encountering this kind of music before. Because, I used to go to drum concerts and it’s not the same…I did not like that…I could not listen to more than 5 minutes and I had to leave after that because it was so boring, but this music [Maracatú] is like meditation, you can just sit down and listen to it for three hours probably. You become a part of it!

Related to Maracatú music and Guedes Peixoto’s score Clara makes an interesting point, saying, “You know what I don’t like? Maracatú music does not have pitch somehow. The vocal part usually doesn’t not sing the rhythm, it sings melody but he [the composer] tries to reproduce the rhythm, right? And… he uses pitch with rhythm. So, pitch distracts from rhythm”. Moreover, yet pairing both music, Clara had some complaints about the accents asked by the composer on the score:

I heard that the accents in this music [Maracatú music in general] are irregular. Some of them are longer, some are a little shorter…you know what I mean? So, that is not possible [to notate]! […] Even though he [Guedes Peixoto] is trying to dissect it and put it in Classical notation, in Western notation to our understanding, it’s not the same! It’s not completely accurate… I notice that especially in the video when the guy was talking about his book [she is referring to Scott Kettner’s lecture, audiovisual file n. 10 on table 5.2], he asks the other guy to play the caixa so we could understand the rhythm but then he says that we have to swing down to Brazil, in order to play with the right swing feeling, to make it sound Brazilian and that can’t be notated!

Asked if she thought that the audiovisual stimuli intervention was useful for the emergence of interpretive ideas towards the performance of the piece, she honestly responded:

I have to be honest [laughing]! In the beginning of the intervention, I was thinking that none of that would make sense, I mean…looking at those images. I was not understanding where you wanted to go with that! But then I began to realize that it made perfect sense because I saw the colors on the instruments, I saw people’s facial expressions and I thought to myself - Well, I guess I have to play the piece with happiness, with joy and fast. But then when I saw some people dressed up like kings and queens, so I realized that it might involve some sort of celebration to them. So, I started paying attention to the queen’s expressions and I noticed that, even though they are happy, dancing and smiling they still keep umm, like a solemn and umm… austere attitude, you know what I mean? And even though
there are other characters and people dancing frenetically around the kings, I realized that it’s all about the kings. They are there to umm… revere their monarchs, right? So, I thought I could not play too fast, too frenetic because there is no nobility if you play on that way, frenetically, right?! I have to play with energy, vibrantly but at the same time in a sober and solemn way. I have to play steady, without much changing in tempo!

Further on, she continues:

Then, when we started listening to the music, and I started numbering the emotions on the paper you gave…the one with a circle, I realized that Maracatú music can be both happy and sad in character, and sometimes even mournful, which had not gone through my mind yet, while I was just seeing the pictures. And, although there is a lot of rhythmic variety, and sometimes differences in speed between the various songs, the overall tempo is steady. Then I was right! [Laughing] And after I watched the lecture and with the additional information you [referring to the interviewer] provided, I confirmed that it was really a celebration of kings, so I don’t think it matches to Maracatú being played frenetically, too much agitated. It has to be more solemn! So you have to hold it back, the time! So, my thoughts and ideas about Maracatú music and the way I should play the piece were changing during the process.

Table 6.3 shows an extract from the visual portion of Clara Schumann’s Audiovisual Intervention Guide (Appendix G) and summarizes her answers for the images within the categories a to f that she was exposed to. According to her answers, we can note that she was accurate in her perception, being able to identify the images as being related to some sort of traditional cultural manifestation that might take place during carnival time, that makes use of musical instruments playing folk music, and evolves in a parade-like style; that this cultural manifestation has, amidst its participants, kings and princess who show power, and participants in a proudly celebrating mood. It is valid to remember that, at this point, participants were not aware about Maracatú background yet.
Table 6.3. Clara Schumann’s Perceived Emotions During Visual Stimulation.

<table>
<thead>
<tr>
<th>CATEGORY/TYPE</th>
<th>DESCRIPTION</th>
<th>CLARA SCHUMANN’S ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) OBJECT</td>
<td>AGBÊS (MUSICAL INSTRUMENT)</td>
<td>FOLK, MUSICAL INSTRUMENT</td>
</tr>
<tr>
<td>b) OBJECT</td>
<td>ALFAIAS (MUSICAL INSTRUMENT)</td>
<td>CARNIVAL, CELEBRATION</td>
</tr>
<tr>
<td>c) PEOPLE</td>
<td>AGBÊS AND ALFAIAS PLAYERS</td>
<td>CULTURAL CELEBRATION, IDENTITY, UNIQUENESS</td>
</tr>
<tr>
<td>d) OBJECT AND PEOPLE</td>
<td>MARACATÚ’S NATIONS BANNERS AND BANNER HANGER.</td>
<td>PROCESSION, PARADE, PROUD</td>
</tr>
<tr>
<td>e) PEOPLE</td>
<td>DAMAS-DO-PASSO AND CALUNGAS (MARACATÚ CHARACTERS)</td>
<td>PRINCESS, QUEEN</td>
</tr>
<tr>
<td>f) PEOPLE</td>
<td>QUEENS AND KINGS (MARACATÚ CHARACTERS)</td>
<td>POWER, QUEEN, TRADITION</td>
</tr>
</tbody>
</table>

Proceeding to the auditory portion of intervention, Clara Schumann was prolific in attributing adjectives to the listened audio files, annotating on the Russel’s circumplex more than one emotion for a single audio file. She also added one name/emotion – complaining - to the circumplex. Although she had perceived different emotions related to one particular audio file, we can observe that they are mostly comprised into the same quadrant on the circumplex, linked, therefore, to the same arousal and valence dimensions. For instance, for audio file number 01, Clara placed 2 emotions into the upper right quadrant (excited, happy), one into the upper left quadrant (alarmed), and one into the lower right quadrant (pleased). The emotion “pleased” on Russel’s circumplex is the first name below the upper right quadrant. The emotion “alarmed” is the second one to the left of the upper right quadrant. Emotions “pleased” and “alarmed” are in close proximity to the quadrant where Clara concentrated most of the emotions perceived for audio file n.01.

A similar situation happened with audio file n. 04. Clara pointed out 4 emotions in the lower right quadrant (content, at ease, satisfied, relaxed) and 01 in the upper right quadrant (happy). Thus, the placement of different names in different quadrants on the circumplex did not
jeopardize our understanding of the emotion perceived by Clara Schumann, once in terms of arousal and valence dimensions they are close to each other. Table 6.4 summarizes the perceived emotions by Clara Schumann while listening to the audio material during the audiovisual stimuli intervention.

Table 6.4. Clara Schumann’s Perceived Emotions During Audio Stimulation.

<table>
<thead>
<tr>
<th>NUMBER ORDER</th>
<th>TYPE</th>
<th>TITLE</th>
<th>EMOTIONS PERCEIVED BY CLARA</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>AUDIO FILE</td>
<td><strong>Evolução da Percussão do Maracatu</strong> Estrela Brilhante do Recife</td>
<td>ALARMED, EXCITED, HAPPY, PLEASED</td>
</tr>
<tr>
<td>02</td>
<td>AUDIO FILE</td>
<td><strong>A Bandeira É Brasileira – Maracatu Leao Coroado</strong></td>
<td>PLEASED, GLAD, TIRED</td>
</tr>
<tr>
<td>03</td>
<td>AUDIO FILE</td>
<td><strong>Samba Le Le – Maracatu Leao Coroado</strong></td>
<td>FRUSTRATED, SAD, DROOPY</td>
</tr>
<tr>
<td>04</td>
<td>AUDIO FILE</td>
<td><strong>Nagô é a Nosso Rainha – Maracatu Porto Rico</strong></td>
<td>HAPPY, CONTENT, ATEASE, SATISFIED, RELAXED</td>
</tr>
<tr>
<td>05</td>
<td>AUDIO FILE</td>
<td><strong>Pour-Pourri Porto Rico – Maracatu Porto Rico</strong></td>
<td>TENSE, CALM, RELAXED, SAD</td>
</tr>
<tr>
<td>06</td>
<td>AUDIO FILE</td>
<td><strong>Costa Velha – Maracatu Estrela Brilhante do Recife</strong></td>
<td>FRUSTRATED, SAD (AND, ADDED, COMPLAINING)</td>
</tr>
<tr>
<td>07</td>
<td>AUDIO FILE</td>
<td><strong>Cheguei Meu Povo – Maracatu Estrela Brilhante do Recife</strong></td>
<td>DELIGHTED, HAPPY, SATISFIED, RELAXED</td>
</tr>
</tbody>
</table>

Thus, we can infer that the emotions perceived by Clara while listening to the audio files during the audiovisual stimuli intervention were, likewise it happened during the visual portion of the intervention, quite accurate, since Maracatu toadas (chants) embrace a variety of
characters and mood, ranging from happiness and excitement for celebrating the kings to sadness, frustration, nostalgia, and melancholy due to the suffering of the Africans in slavery conditions, and also for being far from their homeland.

Clara Schumann was also able to make specific and important connections between the audio files and some musical elements on the score. When I inquired about that, she affirms:

Yeah, yeah, for example, here [she points on the score measure 12 and starts singing and beating the Alfaia patterns for the left] that’s Maracatú rhythm. Even in the beginning [she sings the rhythm for the left hand on m. 01], sounds like Maracatú too. And here in measures 15-16 is probably singing imitation, like the women singing [she sings the melody for the right hand on mm.15-16, then she sings the melody of audio file n. 07 – Cheguei meu Povo – paring both melodies, showing that she had memorized the last one] on one of the audios we listened to.

Analyzing Clara’s recording for SEC1-2, one can notice some important characteristics, and confirm her thoughts on how to interpret Guedes Peixoto’s Maracatú, after audiovisual stimuli intervention:

1) Clara has speeded the tempo up. She is playing SEC1-2 in 80 bpm, versus the 77 bpm for SEC1-1. She is still playing within the Andante range, which was her first tempo choice, but now with more energy and emphasis;

2) The energy and emphasis which I am referring to can be confirmed observing the sound wave thickness that, now, reaches higher dynamic levels (0,5 dB);

3) The participant also tries to keep tempo and dynamics steady, seeming to have given up on her initial idea of crescendo and decrescendo throughout the section. She answered the last question on the Audiovisual Stimuli Intervention Guide as follow: “… I can hear the rhythm that they played in the
piece now. I feel like I must be more rhythmical playing the piece and use freedom only when it is indicated in [sic] the score.”

4) Clara seems to have incorporated, through the listening of the audio files, the correct way of performing the Alfaia rhythmic figurative pattern present in this section throughout. She got it correctly on measures 2, 3 and 6, missing them on measures n. 01, 04 and 05. It can be also noticed that she generally plays it correctly on the 3rd beat but not when the repetition of this pattern comes again on the following 4th beat. In the sequence, she only loses it on m.8, getting it right on measures 7, 9 and 10, playing the notes around the accented notes more gently, softer, approaching the ghost notes more effectively.

5) She is no longer anticipating the 3rd beat on m.5. She also fixed the anticipations of the 3rd beat on measures 7, 8, 9 and 10, as was happening in SEC1-1. Therefore, the syncopations now are placed on the right spot.

Figure 6.9 shows the sound wave for Clara’s SEC1-2, with some of the above observations highlighted. Figure 6.10 shows Clara Schumann’s timeline for SEC1-2. The differences between Clara Schumann’s performance for SEC1-1 and SEC1-2 are summarized on Figure 6.11. Observing the graphic, we can see the way Clara handles timing. An overall look shows that Clara keeps SEC1-2 more stable than SEC1-1. From m.1 to m.05 (highlighted), timing is practically the same but slightly more rushed.
Figure 6.9. Sound Wave for Clara Schumann’s SEC1-2 with mm. 2, 3, 6, 7, 8, 9, and 10 Highlighted.

Figure 6.10. Timeline for Clara Schumann’s SEC1-2.
Figure 6. 11. Timelines Comparing Clara Schumann’s SEC1-1 and SEC1-2.

From m. 07 ahead (highlighted), we can notice more variety between the two timelines. Differences might come from the adjustment of the 3rd beat anticipations that Clara has almost completely fixed, and also probably due to Clara's attempts to perform the syncopations and accentuations correctly in order to achieve the *Maracatú* groove she had heard in audiovisual stimulation material.

Proceeding with Clara’s SEC4-2, the analysis shows that:

1) She was able to play SEC4-2 in 80 bpm, strictly the same tempo of SEC1-2, been consistent, therefore, with her idea of keeping overall tempo steady in the spots where the composer does not provide any other indication;

2) Clara also approached the *Alfaías* patterns, seen on mm. 31 and 34 for instance, now more effectively, although yet not totally correct. She plays the dotted 8th notes for the right hand as they were accented and more balanced in relation to the notes of the left hand. This approach results in an effect similar to the one wanted for the ghost notes, bringing up the “swing” feeling Clara was looking for;
3) She seems to be still struggling with the syncopations on mm. 38 and 39, trying to figure out a way to achieve the exact effect she is pursuing (highlighted on Figure II) for that she hits the syncopations with more emphasis in order to bring up the rounded effect she was pursuing. Plus, she is now playing the notes on the off-beat.

4) Overall, Clara increased the level of dynamics for SEC4-2, as she intended to employ a more energetic character to the music. However, keeping the proportions, the dynamics handling resembles SEC4-1, there being a clearer variation only when the melodic motif of the beginning of the section is repeated on m.35.

Figure 6.12 summarizes Clara’s SEC4-2. Figure 6.13 gives a comparison of SEC4 before and after audiovisual stimuli intervention. The two timelines show more variety in timing. The main differences are the increase on speed, which Clara decided to adopt after having acquired a more definite conception of the possibilities in mood and character through which Maracatú music can be expressed. The other variations that can be observed on the timeline are due to the changes of attack in her attempt of approaching the characteristic Alfaias rhythmic patterns, as well as the syncopations that Clara, now, seems to have reached a better understanding about.
Figure 6. 12. Timeline for Clara Schumann’s SEC4-2.

Figure 6. 13. Timelines Comparing Clara Schumann’s SEC4-1 and SEC4-2.
Given the above, we can infer that the audiovisual stimuli intervention provided subsidies for Clara Schumann to have a better understanding of *Maracatú* music. Thenceforth, she was able to start making connections with the piano piece, getting into a process of interpretive construction of her own performance, based on the musical elements and emotions perceived during the intervention and during the revisit to the material available online.

A look on Clara’s Audiovisual Stimuli Intervention Guide (Appendix G) will show that she placed most of the emotions perceived on the lower right quadrant of Russel’s circumplex (out of 10 against 5 in each of the other quadrants) which means that they are in a positive valence and negative arousal. That might corroborate Clara Schumann’s decision of approaching Guedes Peixoto’s *Maracatú* in a strong and energetic way but with sobriety and solemnity in character, not necessarily fast.

Furthermore, the audiovisual stimulation seems to have delivered sufficient content for a better understanding of the rhythmic microstructures that characterize *Maracatú* and, consequently, a resultant improvement in her performance, due to the incorporation of *Maracatú* characteristic groove style, identified and aimed by the participant.

**Clara Schumann under Auditory Modeling Intervention**

After 15 days with the recording of Guedes Peixoto’s *Maracatú* by Brazilian pianist Henrique Borges (model) available, Clara Schumann was interviewed again. During her imitation process, she said she had listened to the whole recording at least 5 times before start imitating. Clara struggled before initiating the imitation process itself. She explains why, saying that, for her, “it’s not so easy to imitate because sometimes you can’t understand what is so different from, like… you’re listening to something and you feel it’s different from what you would play but, sometimes, you still have to think what is so different about it.” In the beginning
of the modeling process, she tried to imitate each section separately, until she realized that she was not doing it properly. Then, she went back to the recording a couple of more times until she felt more secure about Borges’s interpretation, and then she resumed the imitation process.

While imitating, Clara found herself very uncomfortable due to some conflicts between the model’s interpretive ideas and the ones she had developed so far. She gives the example of measure 15 where the composer gives the indication *a vontade*, which means ‘freely’. She says that while Borges slows tempo down in the beginning of the melodic motif, she feels that it should be the opposite. The same situation happened in some other spots on the score and gave Clara a hard time figuring out how to do the imitation properly.

Performing an audio and visual analysis of Clara’s SEC1-3 recording through Sonic Visualizer, I was able to collect the following data:

1) Clara performs SEC1-3 in 92 bpm, against the 80 bpm she was doing after audiovisual stimulation. Actually, in her attempt to imitate the model, she ended up playing slightly faster than the model’s performance for this section. Borges plays it in 90 bpm;

2) The dynamic levels now are also closer to the model’s ones. Borges’ dynamic peaks reach 0.9 dB (Figure 6.14) and Clara’s reach 0.6 dB (Figure 6.15).

3) She is no longer anticipating the 3rd beats (highlighted on Figure 6.15) throughout this section, placing all of them on their expected time, therefore, no more deconfiguring the syncopations;

4) She was able to perform the accents for the *Alfaias* figurations much clearer now, during the imitation, than her previous attempts for this section;
Figure 6.14 shows the sound wave for Borges’s performance of Guedes Peixoto’s *Maracatú* (mm. 1-11).

Figure 6.14. Sound Wave of Borges’ Performance for Peixoto’s *Maracatú*, mm. 1-11.

Figure 6.15 is the sound wave showing the result of Clara’s imitation for Borges’s model, with some of the above information highlighted.

Figure 6.15 - Sound wave for Clara’s SEC1-3 with 3rd beats highlighted.
Now are presented, on Figures 6.16 and 6.17, the graphs obtained from these two sound waves, respectively. Following them, on Figure 6.18, a comparative graph between Borges’s performance (the model) and the result of Clara’s imitation (modeling).

Figure 6.16. Borges’s Timeline for Guedes Peixoto’s *Maracatu*, mm.1 to 11.

Figure 6.17. Timeline for Clara Schumann’s SEC1-3, after Modeling.
Proceeding with the analysis of SEC4-3, data are as follow:

1) Clara plays SEC4-3 at 85 bpm, exactly the same tempo that Borges gives for the same section;

2) She is approaching the *Alfaia* patterns, seen on mm. 31 and 34 and in all their recurrences, even more effectively, not only concerning the duration of the attacks for the dotted 8th notes on the right hand but also in regards to their balance with the notes on the left hand;

3) In order to get closer to Borges’s levels for this section, Clara also tries to increase the dynamics levels for SEC4-3, which gives more energy to the excerpt. While Borges’s maximum peaks of dynamics range from 0.3 to 0.6 dB, Clara’s range goes from 0.3 to 0.45, against 0.3 dB, that she was reaching so far, before the modeling process.
Figure 6.19 exhibits the sound wave for Borges interpretation of measures 31-41 (which is Clara’s SEC4) with highlights on the Alfaia patterns (mm. 31 and 34), and on the syncopations on mm. 38 and 39, for a visual comparison to the same excerpt, played by Clara, below on Figure 6.20.

Figure 6.19. Sound Wave for Borges’ Performance of mm. 31-41, with Alfaia Patterns and Syncopations Highlighted.

Figure 6.20 is the resulting sound wave for Clara Schumann imitation on SEC4 with the problematic parts highlighted. Visual analysis of both sound waves shows that, although the proportions of dynamics are not exactly the same yet, the Alfaia rhythmic patterns, and the syncopations are placed practically on the same way.
Next, Figure 6.21 exhibits Clara imitation for the section above. We can note how Clara is still struggling to figure out the correct way to approach the syncopations on mm.38 and 39, this time trying, as an alternative, to attack the notes exaggeratedly, seeking the desired rounded effect (highlighted). Figure 6.22 summarizes the timelines for the model performance, and Clara Schumann’s imitation for SEC4-3.
Figure 6. 21. Clara Schumann’s Timeline for SEC4-3, with Exaggerated Syncopation Highlighted.

Figure 6. 22. Timeline for Borges and Clara Schumann SEC4-3.

As can be seen when analyzing the sound waves and graphs presented above, Clara was mostly accurate, regarding the imitation process on both SEC1 and SEC4 (Figures 6.17 and 6.21, respectively), despite her alleged struggling with the imitation process, whether due to the
difficulties of the imitation itself or due to some conflicts between her owns interpretive ideas at that point and the model's ones. Besides that, when asked if she thinks her performance has changed under the influence of the model, she says:

> Of course it has affected because, for example, in the section that it’s like a Jazz improvisation [she is referring to mm. 60-69], before I heard the recording I wasn’t sure if I was supposed to play like Maracatú or Jazz, and then, after I heard Jazz, I was like, finally I can play like that, because I was not sure if I was allowed to do it, stylistically [speaking].

Still about the same section, she informs: “… also phrasing, he emphasizes bass, I liked it, so I just took it [laughing]. I am trying to do the same but when I play, it doesn’t sound the same but I was influenced.”

Moreover, when asked what was easier and what was harder to imitate, she gives another example, stating that she had, effectively, imitated the model:

> ...here, on measure 15, a vontade [a composer indication], I tend to take more time in the beginning and then to rush through it but he [the model] is, actually [she starts singing the melody of the mentioned excerpt], he is not rushing. It's really nice and slow...but, in general, I tend to rush too much [laughing], so it was really hard for me not to do it. But, after I actually, tried to imitate, I actually could play this section better, because before that I was rushing too much and missing notes

Furthermore, when questioned how she felt specifically about Maracatú characteristic rhythms, after have listened to the recording, she affirms:

> I think I am getting much better, because I actually can hear, when I listen to recording, I can hear that when I play I can feel a little bit better. Of course I still have to work because I am not Brazilian [laughing] but I am getting better. Comparing now with my first recording, my first recording was just, like, garbage!

However, although admitting not only have been influenced by the model and have copied some of his interpretive ideas, that, according to her, only came up after the deliberate imitation process, but also have improved her performance approach [“…after I actually, tried to
imitate, I actually could play this section better, because before that I was rushing too much and missing notes”], when asked if she would use modeling as a study strategy, she surprisingly replies: “No, no… I would never use that, even for a moment in my life. I would never study imitating someone else performance, because I think it’s useless. And, even though the result is going to be different, because it’s gonna [going to] be mine, I think it’s a waste of time!” contradicting what she had experienced until then.

In addition, when inquired if she would have reached a different level of understanding on the piano piece if she had been submitted only to the modeling process, she says: “No, no, no. I am sure not. I think audiovisual stimuli worked much better for me than actually recording.” And she goes on, trying to make herself clear:

…because if I didn’t know material about *Maracatú* [She means, *Maracatú* and its characteristics], I wouldn’t even hear it in the recording, in the modeling. I would say, ok this a really nice performance but I wouldn’t know that is *Maracatú*, what *Maracatú* is. I think, actually, going through audiovisual stimuli is much more helpful.

Nevertheless, observing the sound waves and graphics above, we can clearly see that Clara Schumann had a good accuracy on her attempts of imitating the model, regardless her complaints about the process. Auditory analysis of both passages seems to leave no doubt that the imitation process was well performed. Timelines for SEC1-3 and SEC4-3, quite similar in orientation and extent, corroborate this analysis. Thus, we can infer that Clara Schumann seems to have incorporated the model’s interpretive ideas, at least for the recording section. As an example, we can mention the *Alfaías* rhythmic patterns. Although she has improved between the initial stage and the audiovisual stimuli intervention on both SEC1 and SEC4, achieving a better level of understanding on how to accurately approach these rhythms, the regularity with which she succeeded playing them correctly was still inconstant. After modeling, however, the problem
seems to have been solved. Plus, the syncopations now seem to be more accurate, placed on the correct beat.

After the recording sessions for SEC1-3 and SEC4-3, now no more under modeling intervention, Clara Schumann was asked to play the excerpts again, presenting her own interpretation for Guedes Peixoto’s *Maracatu*. This performance was also recorded. The outcomes are presented on Figure 6.23 and 6.24 as her Final Result, paired with Borges’s timeline for the same sections to facilitate the understanding. Data analysis shows that:

1) Clara’s Final Result for SEC1 and SEC4 are played both in 85 bpm, meaning that she kept stuck to her initial idea of holding the time stable. Borges plays SEC1 in 92 bpm and SEC4 in 85 bpm.

2) In SEC1, the two major discrepancies, regarding the model, are located only at the beginning and at the end of the section. This is due to the fact that Clara now begins the section taking time in the opening bars (Figure 6.23, beats 1-8) and performs a *rallentando* and *diminuendo* at the end (see Figure 6.23, beats 33-44). The rhythmic patterns of the *Alfaias*, however, are quite similar to the model almost throughout.

3) In SEC4, Clara applies a smooth texture to the melodic motives of the section, while Borges plays more sharply. However, in the intersections with rhythmic *Alfaias* patterns, the playing is quite similar.

Given the above, it is evident that Clara Schumann was, indeed, influenced by the model in her Final Result. Not only regarding tempo itself but also timing.
This evidence becomes even clearer when double comparing timing between Clara’s Final Result to Borges’s recordings, and to the ones made after Audiovisual Stimuli Intervention (SEC1-2 and SEC4-2), when she had not received Borges’s recording yet. Figures 6.25 and 6.26
show this comparison. It can be seen that Clara's Final Result is much closer to the model’s timing than to her recording after audiovisual stimulation, although the influence of this intervention is also present.

Figure 6. 25. Comparison between Clara’s SEC1 Final Result to the Model and SEC1-2.

Figure 6.26. Comparison between Clara’s SEC4 Final Result to the Model and SEC4-2.
6.2. Case 2: Eusebius

Background Information and Musical Preferences

Eusebius started his piano training informally at the age 4, with his mother, who was a self-taught church pianist. At the age of 5, he joined a private teacher's studio. After high school, encouraged by one of his aunts, he decided to get a degree in Piano Performance.

During his undergraduate studies, Eusebius faced a very traditional program where there was no room for alternative learning methods. Eusebius needed to have all the scales and arpeggios in all keys prepared for the classes and juries. The participant also says that his teacher was very traditional and strict, requiring the students to have the repertoire ready almost during the first lessons.

Eusebius enjoys both listening and playing the classical repertoire because that is his favorite style. However, he says he would probably be less inclined to attend a recital whose program features only overly played pieces. He is also attracted by contemporary music, being perfectly able to attend a full contemporary program recital. It is not, then, by chance that his favorite pianist is the Canadian Marc-Andre Hamelin. When asked if he usually critically listens to his recordings or just accepts everything he performs, Eusebius says: “I hate to admit that I accept every… [Interrupting] most of the things that he does. I mean… if I am listening to Marc-Andre Hamelin, I think I am getting that from God!”
Eusebius as a Piano Student, Study Practices, and First Thoughts about the Piece

Eusebius was pursuing a Master’s degree in Piano Performance at LSU since Fall 2017. He was in his graduate semester when he agreed to be one of the subjects of this research. During the course of this investigation, Eusebius was preparing for his graduate solo piano recital, featuring the repertoire shown on Table AA. He was also working on Liszt Piano Concerto n. 01 during this project.

Table 6.5. Eusebius’s Graduate Solo Piano Recital Repertoire, Spring Semester 2018

<table>
<thead>
<tr>
<th>COMPOSER - WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>J.S. Bach: French Suite N. 06</td>
</tr>
<tr>
<td>F.J. Haydn: Sonata in D Major, Hob. XVI:37</td>
</tr>
<tr>
<td>C. Debussy: Three Preludes – Sails, The Wine Gate, The Hills of Anacapri</td>
</tr>
<tr>
<td>F. Liszt: Ballade n. 02.</td>
</tr>
</tbody>
</table>

About his study process, when asked about his method to start working on a new piece, he explains:

I first try to get the rhythms right because that’s really hard to correct once, you know… once it’s ingrained on you. Get the rhythms… and then, as slow as I can play it perfectly I start the piece, and then start building the habits because, you know, whenever we practice we’re practicing habits and…so, it’s very important to play it at the correct tempo with all the correct notes no matter how slow it is, and then slowly build it up from there…

Asked if he has the habit of listening to any recordings before starting to work on a new piece, he says: “Yes, I do listen to the recordings at the beginning…umm, not so much during my process, because I don’t want to interfere with my own ideas, my interpretation; but at the beginning I will listen to. It’s, like, having a picture, with the whole canvas is eventually gonna [going to] look like at the end.”

Eusebius considers himself a good sight-reader, and as a piano student he mentions technique as his best quality. About his greatest limitation, he says:
Not listening enough to the music, not paying attention enough to the music when I play it. Sometimes, it becomes too mentioned in my head that I am performing, and there are people listening, and, you know…even our professor…So, it’s just something that I am still struggling with.

Asked if he had ever tried to imitate interpretative ideas of a certain pianist by listening to his or her recordings, he says: “Yes. Horowitz! Not so much recently but I remember doing that when I was a teen. It was fun, trying to imitate him and, frustrating at the same time, but… I mean…I had fun trying to[laughing].”

About Brazilian music, Eusebius said he has little knowledge about it, not even to a point of being able to list some of its characteristics, other than the rhythms are more syncopated, not listing any Brazilian composers.

Before the first recording session, Eusebius was interviewed again and expressed his first thoughts about the piece: “It was very rhythmic, a lot of different places on syncopations, the [compositional] technique wasn’t classical, so, umm, it doesn’t get into the hands easily. So, I have wrestled a bit with the rhythms.”

When asked to point out on the score some spots where he was having difficulties to figure out the rhythms, he mentioned m. 16, saying “I was trying to figure out what was going on musically but…I think, I have an idea”

Questioned if he had any issues specifically related to the rhythms on the opening bars – that comprise Alfaiai patterns – he said: “Yes! The good thing is that the rhythm is pretty repetitive, so once you get it, it takes care of itself but, getting it started initially was the challenge. I was subdividing by the 16th note, like, micro-managing it.”

Another spot with Alfaiai patterns that made Eusebius struggle with was the section starting on m. 31. He says: “the hardest thing here was the dotted rhythms and, again, it had to
subdivide by the 16th notes and, you know, just meticulously practice until I got stuck, you know…”

Inquired on how he had felt having to study an unknown piece with no background information about it, he says:

Initially, overwhelmed…umm…but I think it really turned on my counting because I didn’t want to get it wrong…you see…double check, triple check, quadruple checked! So, that was an interesting experience because we usually go into a piece knowing how it sounds like, or, like, with a good idea what it sounds like, and certainly this wasn’t the case.

From these initial statements, we could infer that Eusebius had some difficulty in coming up with interpretive ideas in this initial phase of the study, since during the 2nd interview he apparently did not have yet any insights on how to interpret the piece, concentrating his efforts basically on the overall reading, as well as on decoding and understanding its rhythms, possibly because he assumed that would be the most striking feature of the work, which is correct. However, the great question lies on how to interpret these rhythms, as the participant states himself, musically, and in this case, musically means being able to express the feeling, the swing, the Maracatú groove.

The participant admits making use of recordings when working on a new piece but not to the point of allowing himself to be influenced when building up his own interpretation. However, we can note a certain partiality in this statement, since if this recording is provided by his favorite pianist, there will be a certain tendency to accept everything that comes from it, in terms of interpretation, remaining to know how much influence he gets from the model when it comes to be from his favorite pianist.
Eusebius’ Selected Sections and Data Analysis

The 06 sections Eusebius selected from Guedes Peixoto’s Maracatu after he had studied the piece during the established period are shown on Table 6.6. Sections 1-3 (marked in green color), were considered well understood by the participant concerning to its interpretation. Sections 4-6 (marked in red color), were selected because he did not have any ideas of how to interpret them, or he was not so sure of how to interpret them.

Table 6.6. Eusebius’ Selected Sections Chart

<table>
<thead>
<tr>
<th>SECTION NUMBER</th>
<th>MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION N. 01</td>
<td>1 - 11</td>
</tr>
<tr>
<td>SECTION N. 02</td>
<td>12-26 (2nd beat)</td>
</tr>
<tr>
<td>SECTION N. 03</td>
<td>50-66</td>
</tr>
<tr>
<td>SECTION N. 04</td>
<td>31-41</td>
</tr>
<tr>
<td>SECTION N. 05</td>
<td>38-49</td>
</tr>
<tr>
<td>SECTION N. 06</td>
<td>56-69</td>
</tr>
</tbody>
</table>

During the interview before the first recording, Eusebius expressed his specific difficulties or doubt about these sections. As already said before, the most problematic question for him was, in fact, how to understand and play the rhythms of the piece correctly, not only from the metrical side but also from the interpretative point of view.

Indeed, the problematic regarding the rhythms of the piece seems to have played an important role during the study and performance of Eusebius.Analyzing the audios obtained in the first data collection, we notice an intriguing phenomenon that was repeated during all the other stages of this investigation. Curiously, this phenomenon is concentrated into two sections indicated by the participant as well understood. Nevertheless, I will focus the analysis on these two sections, namely SEC1 (mm. 1-11) and the first four measures of SEC2(mm. 12-15), not only to bring this phenomenon up but also because SEC2 comprises a combination of two stylizations of Maracatu characteristic rhythmic patterns: the one played by the Caixa-de-
Guerra, and the other one is a reduction of the pattern played by the Alfaias de Marcação. I will proceed now to an overall analysis of Eusebius’ first recordings for the two above indicated sections, abbreviated here as SEC1-1 and SEC2-1, following the system explained on footnote n.81.

During the first recording session, after mapping his green and red sections, Eusebius established Andante as his overall tempo. It is valid to remember that participants were free to choose as their initial tempo, a range from Andante to Allegro. The audio analysis of SEC1-1 brings the following data:

1) Eusebius’ tempo for SEC1-1 is 65 bpm, which is not within the Andante range he was supposed to play, but within the Larghetto range;

2) In terms of dynamics, Eusebius offers a somewhat timid performance. The sound wave for SEC1-1 shows that Eusebius plays the whole excerpt reaching no more than 0.1dB;

3) Regarding tempo, the participant initiates the opening measures of the section irregularly, not only referring to keeping tempo but also regarding the accentuations. Concerning the accents requested by the composer in the syncopations of the third times, exactly where the Alfaias characteristic rhythmic patterns are located throughout this section, Eusebius performs them in a not very assertive way, sometimes effecting the accentuation, sometimes not.

4) About his timing, he plays the first two bars slower than the others. On m.01, he takes time from beat 1 to beat 2, resulting almost in a dilution of the beat. At the end of the section, there is an allargando and diminuendo somewhat
disproportionate that, along with the aspects pointed out above, gives to the whole section a hesitant character;

5) Eusebius adds a tie between the two A natural from the 3rd to the 4th beats, mm.7-10, not repeating the 2nd A. That might probably be a reading mistake;

6) Eusebius also shows a constant tendency to anticipate the entrance of the third beat, placing it on or close to the second beat, thus shortening the duration of the previous dotted quarter note.

Figure 6.27 shows the sound wave for SEC1-1 with some of the commentaries above highlighted. The numbering on the top of the wave does not represent bar numbers but beat and off-beat subdivided by the 8th note, comprehended between bars 1 to 11. The vertical orange columns help to visualize and locate the anticipated onsets. The stems into the red circles represent the onsets of the groups that portrait the Alfaias rhythmic motive. They are placed before the 3rd beat of each measure, which means that Eusebius is anticipating its timing.

In addition, Eusebius shortens the duration of the dotted quarter note from 1 time and a half to just 1 time. Thus, he ended up shifting the entire rhythmic framework of the section forward.\(^{108}\) Figure 6.28 shows an approximation of what Eusebius is, in fact, playing. The numbers represent beat and off-beat. The 8th notes placed below the line are the beat level, to

\(^{108}\) As a matter of curiosity, similar phenomena occur in Dance. During Carnival time in Recife, I could observe for several times, international or even local tourists failing to dance Maracatu exactly because, unconsciously searching for the strong beat, they tend to deconfigure the syncopation, anticipating it to the strong beat. In this way, they move their bodies forward, with the natural flow of the movement, driven by the feeling of the anticipation. It happens that, this anticipated movement does not match with the syncopation, on the off-beat. Thus, as soon as they realize they are out of the pulse of music, they try to correct the step, resulting in a clumsy movement, curious and funny at the same time.
help to visualize the displacement of the rhythms above the line. Figure 6.29 summarizes Eusebius’ timing for SEC1-1.

Figure 6. 27. Sound Wave for Eusebius’ SEC1-1 with Anticipations Highlighted.
Figure 6. 28. Approximation of the Rhythmic Distortion Presented by Eusebius in SEC1-1.

Figure 6. 29. Timeline for Eusebius’ SEC1-1.
Proceeding to SEC2-1, the visual and auditory analysis of the audio file bring the information below:

1) Eusebius plays SEC2-1 in 68 bpm, now within the *Adagio* range that he had established initially;

2) Dynamic levels remain practically the same of SEC1-1, again reflecting a timid performance;

3) The accents on the right hand are not played by Eusebius. Plus, he plays the left hand without any expressive value;

4) A similar phenomenon to the one observed on SEC1 can also be seen here. It happens with the rhythmic figurations that portray the *Caixa-de-Guerra* pattern. On the right hand, instead of placing the syncopation on the weak part of the 2nd beat to the strong part of the 3rd beat, Eusebius adds a repetition of the notes G and A natural, precipitating them to the beginning of the 3rd beat, cutting the syncopation off (first and last circles highlighted on Figure 6.30). In addition to this, on the left hand, he does not play the 8th notes (second and third circles highlighted on Figure 6.30) on the off-beat but on the 3rd and 4th beats, deconfiguring the intent of the composer of portraying the *Alfaia Marcação* basic pattern. Here, once more, the whole rhythmic framework is replaced, this time, back.

Figure 6.30 shows some of the commentaries highlighted above. Figure 6.31 shows an approximation of how Eusebius is, in fact, playing the excerpt. The numbers represent beat and off-beat. The 8th notes placed below the line are the beat level, to help to visualize the
displacement of the rhythms above the line. Figure 6.32 summarizes how Eusebius’ timing is for SEC2-1.

Figure 6. 30. Sound Wave of Eusebius’ SEC2-1, with Anticipations Highlighted.

Figure 6. 31. Approximation of the Rhythmic Distortion Presented by Eusebius in SEC1-1.
Figure 6. 32. Timeline for Eusebius’ SEC2-1.

It is curious to observe how the problem of the deconfiguration of the syncopated rhythms and the consequent displacement of the whole rhythmic framework on both selected sections were not perceived by Eusebius. It is worth mentioning that these excerpts are on the green section, which means that they were considered well understood by the participant. It is also worth remembering his testimony when he says “The good thing is that the rhythm is pretty repetitive, so once you get it, it takes care of itself, but, getting it started initially was the challenge.” Also intriguing is knowing that the participant stated that he made all the efforts to not get the rhythms wrong, because “that’s really hard to correct once, you know… once it’s ingrained in you.” Thus, in order to make sure he was playing them correctly, he “double check, triple check, quadruple checked!” them.
Eusebius under Audiovisual Stimuli Intervention

Eusebius was interviewed 15 days after the audiovisual stimuli intervention, right before the second recording session. He reported that he reviewed the audiovisual material available online 2 times.

When asked to provide a summary of what he had learned about Maracatú, he was succinct, saying that it is "A dance ... a Brazilian dance, that is played by the ... umm ... for the Royalty, I mean, during the festival ... and it's marked by the accents on beats 2 and 3... or, sorry... the accents, you know, the rhythm [laughing confused]." Encouraged to deepen his response, bringing up more historical content to it, he added "I remember seeing the videos you showed of the festivals ... the royalty ... the parades ... the instruments ... the music ... there was a lot of singing and, umm, drums."

Asked how he liked Maracatú, the answer was: “It was, at first, it was a lot! It’s very complex… but during the video [ Scott Kettner’s lecture], when he was breaking it down and kind of explaining the different layers that are happening at the same time, I kinda [kind of] understood.” Questioned about the main characteristic of Maracatú as a cultural manifestation, Eusebius pointed out “the amount of enthusiasm in the festivities where, as a party, everybody is involved with, you know…the music and everything. Just very festive.” As the main musical characteristic of Maracatú, he emphasizes: “The rhythmic complexities. It is like polyphony but for percussion. It’s very dense, it’s very…impressive…”

Questioned if, in his opinion, the composer Guedes Peixoto made a good job in his stylization of Maracatú, Eusebius says:

…this is the only piece I know of that has a Maracatú rhythm in it umm...whether if he transposed to the piano effectively or not, I’m not sure but...as far as the rhythm is concerned, the notation is very well done. It kinda [kind of] forces you to play it. I’m not sure if I was doing it right or maybe...
because now that I am aware of how it’s supposed to go, I play it differently…because maybe now I’m looking at it and it’s like: - yeah, of course…! So…I’m not really sure if I can be the judge of that, but as far as what is on the paper, it appears clearly Maracatú rhythm.

Responding on whether he thought there had been any changes in his way of playing Maracatú after audiovisual stimulation, Eusebius remarked that:

Yes! Again, going back to the rhythms, it’s been my first difficult with it, listening to the rhythms performed and the style of music helped me to see the bigger picture and, …you know…instead of flossing over every little detail when it gets difficulty you will be able to see the big picture and present it how is supposed to sound.

Reading his answers, we can note that Eusebius was only able to pinpoint random information about Maracatú as a cultural manifestation, not being accurate in bringing up to his response a more consistent historical contextualization. With respect to the Maracatú’s musical characteristics Eusebius was also succinct, though able to provide a more assertive response. It is also perceived that the question of rhythm remains a constant preoccupation for him, although he affirms that the material provided helped him to improve his performance of the selected sections.

Table 6.7 shows an extract from the visual portion of Eusebius’ Audiovisual Intervention Guide (Appendix H), summarizing his answers for the images within the categories a to f that he was exposed to.
Table 6.7 Eusebius’s Perceived Emotions during Visual Stimulation

<table>
<thead>
<tr>
<th>CATEGORY/TYPEn</th>
<th>DESCRIPTION</th>
<th>EUSEBIUS'S ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) OBJECT</td>
<td><em>AGBES</em> (MUSICAL INSTRUMENT)</td>
<td>CELEBRATION</td>
</tr>
<tr>
<td>b) OBJECT</td>
<td><em>ALFAIAS</em> (MUSICAL INSTRUMENT)</td>
<td>EXCITEMENT</td>
</tr>
<tr>
<td>c) PEOPLE</td>
<td><em>AGBES AND ALFAIAS PLAYERS</em></td>
<td>FESTIVITIES</td>
</tr>
<tr>
<td>d) OBJECT AND PEOPLE</td>
<td><em>MARACATU NATIONS BANNERS AND BANNER HANGER.</em></td>
<td>PARADE</td>
</tr>
<tr>
<td>e) PEOPLE</td>
<td><em>DAMAS-DO-PASSO AND CALUNGAS (MARACATU CHARACTERS)</em></td>
<td>BALLET FOLKLORE</td>
</tr>
<tr>
<td>f) PEOPLE</td>
<td><em>QUEENS AND KINGS (MARACATU CHARACTERS)</em></td>
<td>ANCESTRAL</td>
</tr>
</tbody>
</table>

According to his responses, we can trace his thoughts about *Maracatu* being an exciting and festive folkloric celebration, in parade style, involving ancestral aspects.

Proceeding to the auditory portion of the intervention, Eusebius added two more adjectives to the existing ones on Russell's circumplex, relating the audio file 01 (Table 6.8) to the adjective ‘restless’ and to the audio file 03 the adjective ‘festive’. For audio n. 01 he also labeled ‘excited’ on the circumplex. The noun ‘festive’, however, Eusebius seems to have forgotten the instructions given before the intervention to not substitute words, but add if wanted. However, according to online Merriam-Webster Dictionary ‘festive’ has ‘merry’ as synonym\(^\text{109}\). Merry, in turn, is a synonym for ‘happy’, a term on the circumplex. Therefore, both adjectives are related. All other audios files were characterized with the adjectives already present on Russell’s circumplex.

Table 6.8 summarizes the perceived emotions by Eusebius while listening to the audio material during the audiovisual stimuli intervention.

\(^{109}\) https://www.merriam-webster.com/dictionary/festive
Thus, we can infer that the emotions perceived by Eusebius while listening to the audio files during the audiovisual stimuli intervention were accurate to one of the moods that Maracatú music portrays, that is a happy, exciting and festive side, not having reaching, however, other moods present in Maracatú music, such as sadness, frustration, nostalgia, and melancholy, also covered by the audio files.

When questioned if he was able to make any connections between the audio files and some of the musical features on Guedes Peixoto’s Maracatú, Eusebius says:

Not as much as I would like to. Yeah...ummm...but...It’s definitely useful to know what the rhythm is and it helps you to find it throughout the piece, you know, especially when things get busier ...but as far as looking for other elements of the music I would have to go and look through it again and pick up more.

Table 6.8. Eusebius’s Perceived Emotions during Auditory Stimulation

<table>
<thead>
<tr>
<th>NUMBER ORDER</th>
<th>TYPE</th>
<th>TITLE</th>
<th>EMOTIONS PERCEIVED BY EUSEBIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>AUDIO FILE</td>
<td>EVOLUÇÃO DA PERCUSSÃO DO MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>EXCITED</td>
</tr>
<tr>
<td>02</td>
<td>AUDIO FILE</td>
<td>A BANDEIRA É BRASILEIRA – MARACATÚ LEAO COROADO</td>
<td>DELIGHTED</td>
</tr>
<tr>
<td>03</td>
<td>AUDIO FILE</td>
<td>SAMBA LÊ LÊ - MARACATÚ LEAO COROADO</td>
<td>FESTIVE</td>
</tr>
<tr>
<td>04</td>
<td>AUDIO FILE</td>
<td>NAGO E A NOSSA RAINHA – MARACATÚ PORTO RICO</td>
<td>PLEASED</td>
</tr>
<tr>
<td>05</td>
<td>AUDIO FILE</td>
<td>POUT-POURRI PORTO RICO – MARACATÚ PORTO RICO</td>
<td>HAPPY</td>
</tr>
<tr>
<td>06</td>
<td>AUDIO FILE</td>
<td>COSTA VELHA - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>DELIGHTED</td>
</tr>
<tr>
<td>07</td>
<td>AUDIO FILE</td>
<td>CHEGUEI MEU POVO - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>HAPPY</td>
</tr>
</tbody>
</table>
showing once again that his main concerns gravitated around the rhythmic matter, perhaps ignoring the fact that the audios files were useful sources in order to build up moods and characters on the interpretation of the piece.

Data analysis of Eusebius’ SEC1-2 shows:

1) He plays SEC1-2 in 68 bpm, which is located within the *Andante* range, the tempo he had chosen in the beginning of the experiment;

2) He still plays the excerpt in a timid way. Dynamic levels are practically the same as SEC1-1, reaching no more than 0.1dB;

3) Tempo is now more regular and stable. He is no more taking time from beat 1 to beat 2 in m.01. Plus, the assertiveness of the accents in the *Alfaias* rhythmic patterns is also more regular, but the notes not accented around the accented ones are still played without a clear differentiation in terms of volume and attack. Thus, Eusebius still does not achieve the *Maracatú* swing;

4) Eusebius is still adding a tie between the two A naturals from the 3rd to the 4th beats, mm.7-10;

5) He is still anticipating the third beat, placing it on or close to the second beat, and shortening the duration of the previous dotted quarter note.

Figure 6.33 shows the timeline for SEC1-2. Figure 6.34 shows a comparison between Eusebius’ SEC1-2 and SEC1-1. It is quite clear that the main differences between the two recording sessions remains on tempo. He tends to keep tempo more stable than in SEC1-2, but the way Eusebius handles overall timing is practically the same, except for the *allargando* and *diminuendo* on SEC1-1, no more seen in SEC1-2.
Figure 6. 33. Timeline for Eusebius’ SEC1-2.

Figure 6. 34. Timelines Comparing Eusebius’ SEC1-1 and SEC1-2.

Data analysis of Eusebius’ SEC2-2 shows:

1) Eusebius plays SEC2-2 in 76 bpm, speeding up tempo not only related to SEC2-1 but also to the previous section SEC1-2 (mm. 1-11), played in 66 bpm, as seen above;
2) Dynamic levels remain below 0.1dB, although it is perceived a more decisive and firm performance, concerning character;

3) Eusebius is giving more attention to the accents on the right hand. They represent the *Caixa-de-Guerra* pattern and, now, can be more perceived. Likewise, the *Alfaia Marcação* pattern on the left hand is also more prominent, although yet incorrectly placed on m.13 and 15;

4) The distortion and displacement of the rhythmic structure of the passage was not yet perceived by the participant and, therefore, not corrected.

Figure 6.35 brings Eusebius’ timeline for SEC2-2. Figure 6.36 provides a comparison of SEC2 before and after audiovisual stimuli intervention. It can be seen that the two timelines are almost identical. The main differences are the faster speed with which Eusebius plays SEC 2-2, and a firmer and more decisive character.

![Figure 6.35. Eusebius’ Timeline for SEC2-2.](image-url)
Given the above, we can infer that the intervention by audiovisual stimuli was partially helpful to the participant in order to increase his performance of the selected sections. The only aspects that seem to have been somehow consistently modified after the intervention was the increase in speed and a more energetic approach to SEC2-2. However, it was not clear from the interviews whether this change of character in SEC2-2 came as a consequence of the increase in speed that, in a way, made him play stronger, or if it was a result of the musical design of the passage, with repeated notes and accentuations or, yet, due to the audiovisual intervention, that has approximated the participant to the characteristic rhythmic patterns of the *Caixa-de-Guerra* and *Alfaia de Marcação*.

A look at the Eusebius Audiovisual Stimuli Intervention Guide (Appendix H) will inform us that the participant has allocated 7 out of 8 emotions in the upper right quadrant on Russell's circumplex, which means that Eusebius' perceived emotions were placed both in a positive valence and arousal. That might corroborate Eusebius' decision of speeding tempo up, once he
might have realized that Maracatú music has a considerable range of mood and character, through which its music can be approached.

However, we must consider the fact that the participant has revisited the audiovisual material, which was available online for 15 days, only twice. It is also important to remember his somehow vague answers when asked to talk about what he had learned from audiovisual stimulation. Another aspect that needs to be put into question, is that Eusebius has been too careful about the rhythmic matter, as his testimonies leave no doubt, that he apparently neglected the interpretive side of the work.

6.2.5. Eusebius under Auditory Modeling Intervention

After 15 days being able to listen to the recording of Guedes Peixoto’s Maracatú by Brazilian pianist Henrique Borges (model), Eusebius was interviewed once more. For the imitation process he said he had listened to the recording 4 times: once right after receiving it (15 days before the modeling recording session), after his graduate piano recital, some days ahead the recording day session, and then the last one at the day of the recording. He explains how his procedure to the imitation process was:

I listened to it [recording], from the beginning to end with the music, and then I sat down with the music and just tried to remember from the beginning, and then with some other parts I would fast forward or rewind it if I needed to review. Other than that, after the first hearing, I had an idea of the interpretation was...

Asked what was harder and easier to imitate, he says, “The harder were the tempos, that some of the parts that I had more difficulty with, they [model] took it faster, and easier was probably the freer parts, because I was trying to micromanage, subdividing by the 16th note, do you remember that? And in the free parts, it’s not necessary...I was going barking up the wrong tree [laughing]!”
To avoid that Eusebius would recur in the same type of vague response he provided in the previous interview (about audiovisual intervention), and knowing that one of the guidelines given to the participants for the Modeling process was to make notes on the score about Borges’ interpretive features that they might think interesting while listening to recording, before starting the imitation process itself, I decided to find out if he had, in fact, delved into observing the model’s interpretation, deepening my questions. This time, the answers were very analytical and punctual, bringing up some interesting information about the model’s performance, from his perception.

Talking about the opening bars, for example, Eusebius says that “the model plays fast, bold and strong. There was a lot of fast tempos than I expected to be. The dynamic level changes the character quite a bit...and they [Borges, the model] played it forte; definitely brings out the character. It was just kinda [kind of] bold, dance-like character [...] also, the accentuations on the off beats are pretty prevalent in the recording.”

Questioned how those accentuations would be related to Maracatú style, he says:

That’s the accents on the off-beat, kinda [kind of] syncopated but it’s funny because it takes the person to play it fast, with stronger dynamics to bring that out. It was hard to hear it at first. I guess after the first intervention, when I became aware of the rhythm, what to look for it still wasn’t clear. I could see what happened but, it’s funny... just small changes, playing it faster [the overall tempo], you know, can bring that out.

Asked if he had noticed how the model approaches the notes around the accented notes, he answers:

they [the model] use the accent kinda [kind of] as a point of...a goal [he starts singing the Alfaia pattern, trying to reproduce the effect of the accents on the E naturals, softening the notes not accentuated around them], so the other notes become subservient to the note with the accent, you know, little up to it or little way from it.
At this point, I asked if he could establish a connection between this answer and the material previously provided during audiovisual intervention, as it seemed to be that he had not noticed that aspect during that stage, even though it is a point covered by Scott Kettner’s lecture. He says: “I’m not sure if I am drawing that line yet...”

Another aspect noticed by Eusebius was that Borges takes a lot of liberty on the passages marked *a vontade*, pointing out that “here [m.22] where you have the 16th and 8th notes, there was almost no differentiation between them [its rhythm], and it happens every time *a vontade* comes back.”

He also does some considerations about the section that comprises the other *Alfaias* pattern, mm.31-52:

> Where we have this kind of harmonic and melodic interludes, the performer makes differences in texture between these, taking the chords almost plastically, and, by that, I mean stiff, kinda [kind of] dry, and then when the melody comes in, it is always very singing, and takes me a little bit more time but it’s not as strict. But there is a difference in texture between the interludes which I call plastically and the singing quality of the melody.

Once more, the participant was encouraged to make connections between the considerations he had just made and the *Maracatú* in its natural habitat and he says: "I see the connection between the melodic parts as the vocals and the dry parts as being the percussive orchestra playing by itself.”

Moreover, Eusebius talked about the closing theme by the end of the improvisatory section that reproduces the *Gongue /Agogo* patterns (mm.70-73), seeming to be the only participant to be intrigued by this section that is so representative of *Maracatú* music style:

> Well, here [pointing to m.70 on the score], where the right hand suddenly has 8th notes on the top, the performer takes it suddenly very dry and bright, which I’m still kinda [kind of] trying to think about how that would made sense, because before it was pretty free, as far as rhythmically but then, all of a sudden, once it gets here, it’s like, straitjacket! But it’s notably dry...
It is curious to note how these considerations seem to fit more like answers to the interview related to the audiovisual stimuli intervention. However, at that stage, let us remember, his answers were somewhat superficial. It seems that Eusebius needed an external reference - the recording - corroborating his own thoughts and perceptions on the piano piece and, in a broader perspective, on *Maracatú* as a musical rhythm itself.

Auditory and visual analysis for Eusebius’ SEC1-3 showed the following data:

1) Eusebius plays SEC1-3 in 72 bpm, against the 68 bpm he was doing after audiovisual stimulation. That might reflect his attempt to get closer to Borges’s tempo for the same excerpt (90 bpm), although there is still a considerable difference in speed between them;

2) Dynamic levels have increased but not to the point of getting closer to the model’s levels. Peaks are still within the range of 0.1 dB, whereas Borges’ levels go up to 0.9 dB;

3) Eusebius improved the way he plays the syncopations in the *Alfaia* patterns. He is stressing now the central E natural of the group. Also, we can see his attempts to soften the notes around the accented ones, to make them “become subservient to the note with the accent”, as he had stated. That can be confirmed looking to the thickness of the indentions on the sound wave, highlighted on Figure 6.37;

4) Eusebius did not notice that he was shortening times and anticipating beats. Therefore, he is still replacing all the rhythmic framework forward.
Figure 6.14 shows the sound wave for Borges’s performance of Guedes Peixoto’s *Maracatú* (mm. 1-11), which corresponds Eusebius’ SEC1. Figure 6.37 is the sound wave showing the result of Eusebius’s imitation with some of the above information highlighted. It can be observed on the wave as the displacement forward of the *Alfaias* rhythmic pattern, characterized by the repetition of the figures \( \text{\texttt{i} \text{\texttt{i} \text{\texttt{i}}} \). These figures on the wave are represented by 3 onsets, 3 pointed stems. The first group is supposed to be played on beat 3 of the first measure, but Eusebius anticipates it, shifting it somewhere between beat 2 and beat 3. In the next bar, the group is shifted to the beat 2; in m.3, for just before the beat 2, in m.4 to the first beat, and so on. Ahead, on mm. 7-10, it is found the variation of these figures in the bass. This variation should be played on the off-beat of the third time (mm. 7-10) but Eusebius anticipates it, displacing again the rhythmic framework.

![Sound Wave for Eusebius’ SEC1-3, with Anticipations of *Alfaias* patterns Highlighted.](image)

Figure 6.37. Sound Wave for Eusebius’ SEC1-3, with Anticipations of *Alfaias* patterns Highlighted.
Following, I present on Figures 6.38 and 6.39 the graphs obtained from the two above mentioned sound waves, respectively. After them, on Figure 6.40, a comparative graph between Borges’s performance (the model) and the result of Eusebius’s imitation (modeling).

![Borges's Timeline](image)

**Figure 6. 38.** Borges’s Timeline for Guedes Peixoto’s *Maracatú*, mm.1-11.

![Eusebius's SEC1-3 - Modeling](image)

**Figure 6. 39.** Eusebius’s Timeline for SEC1-3, after Imitating Borges.
Analyzing now Eusebius’s SEC2-3 recording, data is as follows:

1) Eusebius plays SEC2-3 in 85 bpm, while Borges plays in 92 bpm. This reflects his attempts to imitate, considering that his previous tempo was 76 bpm;

2) Dynamic level is practically the same, up to 0.1 dB, while Borges’s ones range from 0.4 to 0.6dB;

3) Even though shifting the tempo and playing without much dynamic variation, we can see on the sound wave, the efforts Eusebius made in order to play the representative accentuation of the *Caixa-de-guerra* pattern correctly. He eventually achieves them, but they are placed in the wrong spots;

4) The whole rhythmic framework of SEC2 is still displaced. Eusebius did not realize the mistake, therefore not correcting it.
Figure 6.41 shows the sound wave for Borges’ interpretation of Eusebius’ SEC2. On this wave, one can see the correct placement for the syncopation of *Caixa-de-guerra* patterns (m.12.2 tied to 12.3). Borges begins the attack of the notes that follow the syncopation almost immediately after the third beat, whereas Eusebius prolongs the syncopation by suspension, beginning the attack of the next note almost close to the 4th beat (see Figure 6.42). In addition to this, as already said, he adds one more 16th note to the group, hence the deconfiguration. Moreover, one can see that on Borges’s sound wave, the stylization for the *Alfaia de Marcação* on the left hand are correctly placed, on the off beats of mm.13.3 and 13.4, whereas on Eusebius’ sound wave they are played on the beat, which completely changes the feeling of *Maracatu* swing.

Figure 6.41. Sound Wave for Borges’ Interpretation of Eusebius’ SEC2, with Syncopations Correctly Placed.
Figure 6.42. Sound Wave for Eusebius’ SEC2-3, with Anticipated Syncopations.

Below, on Figures 6.43 and 6.44, are the timelines for the excerpts above, respectively.

Following them, Figure 6.45 with both timelines compared.

![Borges - Timeline MM. 12-15.3](image)

Figure 6.43. Borges’s Timeline for Eusebius’ SEC2.
Since the participant has displaced the entire rhythmic framework of both analyzed sections, data analysis ended up becoming problematic, as the participant did not perceive the error and, therefore, did not correct it. The problem lies in the fact that, if during the audiovisual intervention, even with the displaced structure, the comparison could be made between...
Eusebius’s SEC1-2 with SEC1-1 and SEC2-2 with SEC2-1, that does not work for the auditory modeling intervention. This is because there was a desynchrony between the regular temporal patterns presented by Borges, without displacements, and the temporal patterns played within a displaced rhythmic structure of Eusebius. In the case of SEC1, as Eusebius shortened the notes, he starts the structure ahead of Borges, however, Borges plays the section faster. Thus, there is some compensation, and the rhythmic structures end up approaching themselves in certain passages, causing the temporal patterns to hit each other on certain points.

These points can be observed in the comparative timeline on Figure 6.40 but do not serve as reliable data in terms of verifying the effect of modeling. In the case of SEC2-3, as the displacement of the whole rhythm structure went back, the two lines seem to portray a kind of visual *canone* which, however, cannot also be considered for verification of the imitation process as well.

Nevertheless, Eusebius agrees that modeling helped him in the interpretation of the piece, despite the fact that he has not been able to perform some aspects of Borges’s interpretation, but just in a certain way, helping him to have a broader idea of the piece, not necessarily having to faithfully imitate the model but listening to it. When asked if he thinks it is valid to study someone else ideas through modeling, he says, “I don’t know about that... Because all it took from me was just to hear it. Then, after that, I had a much better picture of the whole piece and what to do. I don’t think it was necessary for me get on the piano and try to imitate the performer... but definitely listening to it was a big help.”

In addition, when asked if he would use Modeling as a study strategy, Eusebius declares, “Yes, [but] in the process I just explained [above], not imitating then right at the piano... You know, just listening and getting an idea for the character of the music.” He goes on,
… maybe[modeling] helps in listening because you are busy listening to how the interpreter plays in your mind and, trying to reproduce on the piano, so it’s a good exercise in listening while playing…umm as far as helpfulness in the overall picture, I don’t think just imitating would help anything. I felt like I’ve been helped a lot more just after listening to it. Sitting down and trying to play out maybe could have helped, you know, getting… seeing what it feels, like, playing at that tempo, getting the muscle memory but…as far as my interpretation, I think I could have done with just listening to it, ‘and then my interpretation would have changed after that (our emphasis).’

However, if we look at graphics comparing the evolution of Eusebius’s SEC1 (Figure 6.46) and SEC2 (Figure 6.47) throughout the process, we can note that his performances, at least in terms of timing, have not changed considerably. The main perceptible differences remaining those related to the speed and, in SEC1, the attempts at adjustment of the Alfaia patterns on the left hand (mm.7-11, highlighted on Figure 6.45) in SEC1.
Figure 6.46. Eusebius’ Evolution in SEC1.

Figure 6.47. Eusebius’ Evolution in SEC2.
6.3. Case 3: Beethoven

Background Information and Musical Preferences

Beethoven was born in a musical family where he was exposed to Classical Music since he was a baby. He started having piano lessons at the age of 3 with his mother, who was also an accomplished pianist, to whom he could listen either teaching or practicing. At the age of 11 he enrolled in a formal music school in his hometown, where he had a traditional music training. He decided to pursue a degree in Piano Performance after participating in a piano festival, where he met other teachers and realized that there were many possibilities and ways of making music. After that, he traveled to the United States where he got a scholarship to complete his undergraduate studies. In this degree, Beethoven faced a very traditional program, where there was no room for alternative learning methods, which was considered very strict and demanding but also very beneficial, especially the piano training.

Beethoven spends most of his time listening to Classical Music, giving attention to other genres, like pop music, only when he goes out with friends or going to the gym. He loves both playing and listening to music from the Classical, Romantic and especially late Romantic period. He enjoys going to concerts but he says he would never attend a recital featuring only contemporary music because the music makes him fell stressed.

He points out honesty as the main feature that defines a good pianist in his opinion, that means being honest to the score and to the composer, following the general rules of the genre and style. His favorite pianist is Murray Perahia because, in his opinion, there is a lot of variety in his music. Asked if he critically watches the way his favorite pianist plays, he says:

It really depends…because they have live recordings which, sometimes are not the best because they are human beings, you know…? They can get stressed there, they can mess up…umm but in their level, you know, it’s hard to criticize
because, even if they mess up, there is so much intelligence behind, that…you know…

6.3.2. Beethoven as a Piano Student, Study Practices, and First Thoughts about the Piece

Beethoven started his Master’s in Piano Performance at LSU in Fall 2017. He was in the last semester of the degree when he agreed to take part in this investigation as a subject. During this semester, he gave his Graduate Master’s Piano solo recital, after having served as a collaborative pianist to several other students throughout the course. Prior experiences include some 1st prizes in national and international piano competitions and soloist performances with orchestras. Table 11 shows his Graduate recital repertoire.

Table 6.9. Beethoven’s Repertoire During Academic Spring Semester, 2018

<table>
<thead>
<tr>
<th>COMPOSER - WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. Beethoven: Piano Sonata Op.02, n. 03</td>
</tr>
<tr>
<td>B. Bartok: Piano Sonata Sz. 80</td>
</tr>
</tbody>
</table>

During the 1st interview, asked about his study process when working on a new piece, he says “I listen to recordings umm a lot! Which sometimes is good sometimes is not so good because if I find a recording that I really like I almost, like, memorize it [laughing] and then it’s hard for me to get out of that ‘bubble’ [the recording] … Then I just pay attention to their timing, I would say, the way they shape the music.”

He says his main concerns when he starts working on a new piece are the technical challenges that are found, and also to find a way on how to convince his audience of his interpretation because “…you have not only to be close to the perfection but, at the same time,
you have to find a way to put your own mark on the piece and say – ‘Yes, this is me and I don’t sound like the other five hundred people performing this piece’”.

Beethoven’s best quality as a piano student is to “get the piano on fire [laughing]! I feel I have too much energy that umm…Yeah, overall, I am an introverted person, so I have some energy that I have to let it out, so I think piano helps me.” As his greatest limitation, he says that sometimes it’s hard to control his excitement when playing, as well as some difficulties with pedaling, and how to find the better way to use it for each piece. Asked about the most challenging piece he had studied so far, he said Bartok’s Piano Sonata, “because it’s very hard in rhythm, very hard to memorize, and requires a lot of energy…and can become, like, very aggressive but it’s hard because you have to project the folky sides of the piece, so that is a challenge if you think the amount of notes that you have to play [laughing], and the jumps on the piano.”

When asked if he considers himself a good sight reader he said, “Umm not really…It really depends on the music I have to deal…like…if it’s chamber music in Classical Era, yeah, then it’s fine but…when it comes to 20th century stuff it gets very hard for me. I am in the middle way.” Despite this fact, he says he is able to learn music really fast. When asked how long it would take him to learn an intermediate or advanced level piece, to a point of decently performing it in class to his teacher, he says “umm it can be maybe 1 to 2 weeks.

Beethoven said he had already tried to imitate interpretive ideas of a pianist through a recording. He was a kid and he was studying Liszt’s Hungarian Rhapsody n. 05, but he said he soon realized that could not happen. He said that “… was a totally failure for me, so I realized I just could grab the ideas from the pianist, but I cannot perform the exact way de does.”
The participant reaffirmed during the interview that he was not strongly familiar with Brazilian music, but he thinks he had listened to some Brazilian carnival music in his country. He did not know how to identify genre, composer or song, however. About Classical Brazilian music, the only composer he knows is Villa-Lobos, and that “his music has very distinguished rhythmic patterns.”

Before the first recording session, Beethoven was interviewed again and expressed his initial thoughts about the piano piece studied, saying that “the entire thing is based on a characteristic rhythm, so I think that’s the main element through the piece…umm with umm…not a lot of contrasts…” And he points out that that main element can be found in the 1st page of the piece.

He said he felt uncomfortable having to play a piece with no background information and no clues about the style, so he did not know how to interpret it, just having to imagine that “the piece should be something rhythmical and steady just because of the way the piece is written, not with so much flexibility, just because of the way it’s written [repeating].”

Regardless of that, when asked if he had any difficulties in understanding the style, Beethoven said he was able to pick up some ideas from the score, guessing that “…is very folky and steady…It has this element that goes through the whole piece, so it should be something very characteristic, very usual for the composer” and “…so I just guessed, just based on the rhythmical pattern. I just felt that there was some kind of intensity because if it was slow, it wouldn’t have so many dotted rhythmic [notes].”

Beethoven affirmed he had faced some technical and musical difficulties while practicing the piece, giving the example of mm. 31-33 (a spot with Alfaías pattern) where he thought the
rhythm was very awkward to put the hands together. He also thought that some background information about the style would be helpful in order to better understand the piece.

From these first statements, one can notice that although being able to pick up some important elements solely from the information on the score, they were not enough to make the participant come up with an initial idea on how to interpret the piece. The only idea seemed to be that the music should be played in a steady way with some intensity. In addition, the *Maracatú* characteristics rhythmic patterns also gave to the participant a hard time trying to figure them out. Beethoven also confirmed making use of recordings while working on a new piece but only to pick up some ideas, ‘not for imitating’. However, it was not clear for us how far this borrowing goes, on these bases, once he had said that when it comes to his favorite pianist, he is not so judgmental when listen to his recordings.

**Beethoven´ Selected Sections and Data Analysis**

After the period given for the preparation of the piece, we proceeded with the first recording session. During this session, Beethoven mapped his 6 sections of study and had an opportunity to talk about the excerpts. Table 6.10 shows his selected sections. Sections 1-3 (marked in green color), were considered well understood by the participant. Sections 4-6 (marked in red color), were selected because he did not have any ideas on how to interpret them, or he was not so sure on how to interpret them.

Table 6. 10. Beethoven´s Selected Sections Chart.

<table>
<thead>
<tr>
<th>SECTION NUMBER</th>
<th>MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION N. 01</td>
<td>1 - 06</td>
</tr>
<tr>
<td>SECTION N. 02</td>
<td>15  (4&lt;sup&gt;th&lt;/sup&gt; beat) - 17</td>
</tr>
<tr>
<td>SECTION N. 03</td>
<td>54-59</td>
</tr>
<tr>
<td>SECTION N. 04</td>
<td>07-11</td>
</tr>
<tr>
<td>SECTION N. 05</td>
<td>12-15(3&lt;sup&gt;rd&lt;/sup&gt; beat)</td>
</tr>
<tr>
<td>SECTION N. 06</td>
<td>31-37</td>
</tr>
</tbody>
</table>
Then, we noticed that the participant had chosen quite short excerpts, sometimes a closing section, other times a transitional section (as is the case of his SEC3, mm. 54-59), contrary to the initial guidelines given that the participants should select sections that would have a musical meaning. Invited to rephrase the excerpts, maybe merging 2 sections in one, for example, the participant did not respond to our request, claiming that the excerpts he had chosen were based on what was expected to be called agreed upon, for instance, understood and not understood sections. I gave in to the participant's argument, expecting to understand how a musical stretch containing the same rhythmic nature, as is the case of mm.1-11 may have been half understood and half not understood by the participant.

After he had established the sections, Beethoven was questioned about the challenges he had faced, specifically on the 3 red selected sections, and he was succinct, pointing out again the rhythm as their main challenge. When asked to talk about the green selected sections he said:

Nothing is coming…it’s like the same thing… all over…Just like, in the first element [he is referring to the Alfaias patterns on mm.1-11] is more clear [sic.], and it was more straightforward because it is just in one hand but in other examples it was getting more complicated because it was combining two different patterns [for both hands].

About section 02, where it is marked a vontade, Beethoven considered them as a transitional contrasting material that should be played in a more lyrical way, since the composer does not put any accents on it, as opposed to the rest of the piece. That was the reason why he did not have any difficult to understand them. Section n. 3 was considered quite straightforward, comprising just one rhythmic pattern, therefore, well understood.

During the recording session itself, I noticed that Beethoven committed some considerable basic mistakes (wrong notes, wrong regular rhythms, such as triplets) in some of the excerpts, including the ones he had labeled in the green section. Then, I asked for how long he
had been preparing for the recording session and he said he had started reading the piece in the beginning of the week scheduled for the recording. Beethoven, probably relying on his ability to learn music quickly, might have underestimated the somewhat intricate rhythm of the piece. Let's remember the participant's testimony when he said that understanding how to interconnect the rhythm was the most challenging point of the work. Let us also remember another part of his testimony when he stated that 2 weeks were enough to learn a piece of intermediate or advanced level to the point of decently playing it in a lesson. Beethoven had, like all the other participants, 1 month and 15 days to prepare the work.

That, along with the fact that the participant chose short sections, made it difficult to select and treat a more varied data, since it was our intention to cover characteristic sessions of the work that had not yet been contemplated, such as the marked section, a vontade, chosen by Beethoven. However, the errors presented brought me back to parts where the data could be better evaluated. Thus, I selected SEC 01 (mm.1-6) from the green part, and SEC4 (mm.7-11) from the red part, which together comprises the first page of the piece, a complete musical sequence. They both comprise, as Beethoven well noticed, one of the basic Maracatú characteristic patterns.

I will proceed with an overall analysis of both SEC1-1 and SEC4-1. During the first recording session, after mapping his green and red sections, Beethoven established as his overall tempo mark the indication Allegro. The metronome mark for Allegro corresponds to a range from 120 to 156 bpm.

Auditory and visual analysis for Beethoven’s SEC1-1 through Sonic Visualizer brings the following information:
1) Beethoven plays SEC1-1 in 85 bpm, which is an *Andante*, not an *Allegro*, which he had previously established as his overall tempo for the piece. He keeps the tempo steady throughout the section;

2) Dynamic levels are within 0.1 dB range, except for some attacks by the end of the section that exceed this level;

3) Beethoven placed correctly the *Alfaias* rhythmic stylizations on the 3rd beat. However, concerning the accentuated notes, when he plays with no accentuation at all (Figure 6.48, 2nd and 4th measures) he places the accent on the 1st note of the group 🎵🎵🎵 (Figure 6.48, 1st, 3rd, and 5th measures) instead of accentuating the central note, as envisioned by the composer, which does not bring out the expressive effect of the syncopation.

Figure 6.48 shows the sound wave for Beethoven’s SEC1-1 with some of the above commentaries highlighted. Thus, we can infer that, despite maintaining a stable tempo during the passage, Beethoven presented an interpretation that contradicts his two main interpretive ideas so far, namely: the time is not an *Allegro*, but an *Andante*, and the dynamics that do not reflect an interpretation with intensity, as he thought it should be.
Figure 6.48. Sound Wave for Beethoven’s SEC1-1, with *Alfaias* Patterns Highlighted.

Figure 6.49 helps to summarize Beethoven’s timing for SEC1-1. It shows a steady timeline mostly ranging between 80 and 90 bpm.

Figure 6.49. Timeline for Beethoven’s SEC1-1.
Auditory and visual analysis for Beethoven’s SEC4-1 brings the following data:

1) SEC4-1 is played in 78 bpm, an Andante tempo mark;
2) Dynamic levels are still within 0.1 dB;
3) Beethoven anticipates the 3rd beat through the section;
4) Beethoven adds notes not written on the score to the Alfaia patterns on the left hand throughout, in this section (with only one exception on m. 7 where he plays correctly), making the excerpt become even more difficult to understand.

Beethoven once more is inconsistent to what he had planned for the piece. He does not play SEC4-1 in Allegro, but in Andante which is even farther from what he had previously established. He also does not reach enough dynamic levels to give to the excerpt the intense character he wanted.

In addition, the participant anticipates most of the 3rd beats, from the off-beat to the down beat, deconfiguring the expressive effect of the syncopation present on the Alfaia Meião and Repique characteristic patterns. Moreover, from m. 8 ahead, he starts adding notes to the pattern that are not on the score and he plays them in such a manner, let’s put it, in a fluffy way that makes it not musically intelligible. This is quite intriguing, since he had not done the same on m. 7, in the beginning of the sequence, playing only this measure correctly.

The visual analysis of the sound wave for Beethoven’s SEC4-1 confirms the auditory analysis. On the next page, Figure 6.50 shows it with highlights for the 3rd beat anticipations, and for the changing in texture when Beethoven starts playing in an unintelligible way. Note that the texture of the sound wave becomes rarefied between beats 3 and 4 of each measure. On them, the onsets on the wave, that represent the attacked notes, are less shaped than what can be seen in
earlier examples of this same passage and in the same step on this work.

Figure 6.50. Sound Wave for Beethoven’s SEC4-1, with Anticipations and Changing in Texture Highlighted.

Following, figure 6.51 gives the timeline for Beethoven’s SEC4-1 for a better understanding on how the participant handled timing in this section.

Figure 6.51. Timeline for Beethoven’s SEC4-1.
Beethoven under Audiovisual Stimuli Intervention

Beethoven was interviewed 15 days after the audiovisual stimuli intervention, right before the 2nd recording session. He admitted have coming back to the material available online just once, after the intervention. It must have been for this reason that when asked to give a summary of the historical context in which Maracatú appeared, a topic covered during the intervention and reinforced by the material available online, Beethoven was vague and inaccurate, saying that “Umm…It’s related to New Orleans…right? I don’t know…I don’t remember much…but…I remember the videos we were exposed to. It showed that it’s a very ancient tradition…” Then, I insisted with him to try at least to remember in which country Maracatú was originated, he answered with another question, “In Brazil…?”

Encouraged to make an effort to remember the moment of the intervention and come up with a more solid response, Beethoven, even still somewhat confused, seems to have recovered his impressions, saying:

I wasn’t quite sure who were the people in the photos…It was definitely not like a Carnival. It just gave me the impression of a [thinking]…actually, some of them might be in carnival because people were dressed up but, some other times, I remember showed almost like a king, it was almost like a spiritual thing…It was like…hold on, I have to think…it was almost like a ceremony…it just gave this impression. It’s like to accompany [Maracatú music] a ceremony to give umm, these vibes.

After that answer, I assumed that Beethoven had remembered about Maracatú’s historical context, so I asked once more for a quick summary, but he said “Umm I don’t remember…” Nevertheless, he said he liked the rhythm, saying “It was very catchy. I am not quite sure if it is only for happy [moments], like dancing…because it gave me the impression that sometimes it’s very dark…like, ceremonious, you know what I mean? Even though it’s the same rhythm, it is not only like playing carnival…It’s like, sometimes, with more gravity.”
About his opinion on *Maracatú*’s most impressive musical characteristic, Beethoven mentioned “the rhythm with accents not necessarily on the beat, but on the off-beat”, characterizing the syncopation, pointing out that it gives some sort of intensity. Questioned if he was able to pick up some elements from the material provided online, which stayed uploaded after the intervention for 15 days, that could be helpful in his interpretation of the piece, he said “Maybe in the last one, when the guy was explaining [he is referring to Scott Kettner’s lecture)…I cannot recall that they were identical but it kinda [kind of] gave you the feeling.” matching the rhythms found on the 1st page left hand on the score to the first explanations given on the lecture (when it explained the rhythmic patterns of the *Caixa-de-Guerra* and *Alfaias*).

After having gone through the audiovisual stimuli intervention, questioned if he had noticed any improvement on the 3 red selected sections at that point, Beethoven reflected, saying “Maybe…just to be more confident about what I had on my head before, and…It just helped to get a better idea of what was happening […] but, still, I am not a 100 % sure since the rhythm was not identical, so…I’m still not quite sure about details. I still might have a better general scope but…”

Through the answers obtained during the interview, it seems that the participant did not pay much attention to the online material available, having revisited it only once. However, despite the fact that he had listed the lecture as his main source of interpretive ideas, it seems that the stimuli used in the intervention well succeeded, having an impact on the participant. Although not providing more precise answers regarding the historical context of *Maracatú*, and even not being so sure yet about some features, Beethoven was still able to situate *Maracatú* as a manifestation that may have a folkloric connotation, inserted within the context of the carnival celebrations, when it gains a happy and festive mood; but it may also be within a
spiritual context, serving almost like ritualistic music for some sort of religious ceremony, when it then gains a more serious, solemn, and dark character, which is quite accurate with the context. These impressions can be paired with the information found on Beethoven’s Audiovisual Intervention Guide, summarized on Table 6.11.

Table 6.11. Beethoven’s Perceived Emotions During Visual Stimulation.

<table>
<thead>
<tr>
<th>CATEGORY/TYPE</th>
<th>DESCRIPTION</th>
<th>BEETHOVEN’S ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) OBJECT</td>
<td>AGBÊS (MUSICAL INSTRUMENT)</td>
<td>CARNIVAL</td>
</tr>
<tr>
<td>b) OBJECT</td>
<td>ALFAIÀS (MUSICAL INSTRUMENT)</td>
<td>MARCHING</td>
</tr>
<tr>
<td>c) PEOPLE</td>
<td>AGBÊS AND ALFAIÀS PLAYERS</td>
<td>REBELLIOUS</td>
</tr>
<tr>
<td>d) OBJECT AND PEOPLE</td>
<td>MARACATÚ’S NATIONS BANNERS AND BANNER HANGER</td>
<td>SPIRITUAL</td>
</tr>
<tr>
<td>e) PEOPLE</td>
<td>DAMAS-DO-PASSO AND CALUNGAS (MARACATÚ CHARACTERS)</td>
<td>CORONATION</td>
</tr>
<tr>
<td>f) PEOPLE</td>
<td>QUEENS AND KINGS (MARACATÚ CHARACTERS)</td>
<td>CELEBRATION</td>
</tr>
</tbody>
</table>

Proceeding with the auditory portion of the intervention, the emotions annotated by Beethoven are as shown on Table 6.12. Thus, we can infer that the emotions perceived by Beethoven while listening to the audio files during the audiovisual stimuli intervention were accurate to one of the moods that Maracatú music expresses, that is a happy, exciting, festive celebration but sometimes can get other characters, such as tense, sometimes gloomy. This extract corroborates with what Beethoven had already felt when just looking at the images.
Table 6.12. Beethoven’s Perceived Emotions During Auditory Stimulation.

<table>
<thead>
<tr>
<th>NUMBER ORDER</th>
<th>FORMAT</th>
<th>TITLE</th>
<th>EMOTIONS PERCEIVED BY BEETHOVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>AUDIO FILE</td>
<td>EVOLUÇÃO DA PERCUSSÃO DO MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>ALARMED/TENSE</td>
</tr>
<tr>
<td>02</td>
<td>AUDIO FILE</td>
<td>A BANDEIRA É BRASILEIRA – MARACATÚ LEAO COROADO</td>
<td>DELIGHTED</td>
</tr>
<tr>
<td>03</td>
<td>AUDIO FILE</td>
<td>SAMBA LÊ LÊ - MARACATÚ LEAO COROADO</td>
<td>GLOOMY</td>
</tr>
<tr>
<td>04</td>
<td>AUDIO FILE</td>
<td>NAGÔ É A NOSSA RAINHA – MARACATÚ PORTO RICO</td>
<td>PLEASED</td>
</tr>
<tr>
<td>05</td>
<td>AUDIO FILE</td>
<td>POUT-POURRI PORTO RICO – MARACATÚ PORTO RICO</td>
<td>HAPPY</td>
</tr>
<tr>
<td>06</td>
<td>AUDIO FILE</td>
<td>COSTA VELHA - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>AT EASE</td>
</tr>
<tr>
<td>07</td>
<td>AUDIO FILE</td>
<td>CHEGUEI MEU POVO - MARACATÚ ESTRELA BRILHANTE DO RECIFE</td>
<td>EXCITED</td>
</tr>
</tbody>
</table>

Data analysis of Beethoven’ SEC1-2 shows:

1) Beethoven now plays SEC1-2 in 94 bpm, which is considered an *Andante Moderato*, against 85 bpm in SEC1-1;

2) Dynamic levels were also increased to a 0.1 - 0.2 dB range, with some peaks reaching sometimes 0.3 and 0.4 dB;
3) He is no longer anticipating the 3rd beats; it is still not possible to listen to an effective accentuation for the Alfaias patterns. The sound wave shows again a rarefied texture with no outlined onsets in these spots.

Figure 6. 52. Sound Wave for Beethoven’s SEC1-2, no more anticipating the 3rd beats.

Figure 6. 53. Timeline for Beethoven’s SEC1-2.
Figure 6.52 shows the sound wave for SEC1-2 where some of the above information can be confirmed. Figure 6.53 brings the timeline for the same section, and Figure 6.54 shows a comparison between SEC1-1 and SEC1-2.

![Beethoven's SEC1-1 and SEC1-2](image)

Figure 6.54. Timeline Comparing Beethoven’s SEC1-1 and SEC1-2.

The two timelines are quite similar. However, we can note Beethoven’s efforts to keep tempo steady in SEC1-2, coming with this interpretive idea after having his initial thoughts confirmed during the audiovisual stimulation. Another interpretive decision was speeding up tempo, in order of, as he said, giving more intensity to the character, along with an increasing of the dynamic level, which can be observed on the sound wave for the same excerpt.
Data analysis of Beethoven’ SEC4-2 shows:

1) The section is played at 88 bpm, which is an *Andante*, against 74 bpm of SEC4-1;
2) Dynamic levels are kept raised, yet in the range between 0.1 and 0.3 dB;
3) Beethoven is no longer anticipating the 3rd beat. He placed them correctly after the 3rd beat, bringing up the expressive effect of the syncopation that characterizes the *Alfaias* pattern;
4) In addition, Beethoven seems to have incorporated the idea of the ghost notes, when he softens the attack of the notes after the accentuated ones achieving, in a very effective way, the sound effect intended by the *Alfaias*.

Figures 6.55, 6.56, and 6.57 show respectively sound wave, timeline, and compared timeline for Beethoven’s SEC4-1.

Figure 6.55. Sound Wave for Beethoven’s SEC4-2, with 3rd Beats Correctly Placed Highlighted.
Comparing the two timelines for SEC4, one can observe that they are quite different. SEC4-2 shows a Beethoven more organized and in charge of the music, employing higher dynamic levels to give a more intense character to the excerpt, without, however, incurring in an
unintelligible and disorganized timing, as occurred in SEC4-1. This is evident just by observing the shapes of the two timelines in Figure 6.57: while SEC4-2 is more stable, without big variations, SEC4-1 timeline is practically a zigzag.

The changes Beethoven achieved in SEC4-2 were due to the corrections he was able to make after being exposed to the audiovisual stimuli. He realized that, because Maracatu can be at once a festive manifestation that comes up during Carnival time, but also could be part of religious ceremony (which is quite accurate, considering Maracatu origins), he would have to play the piece in a steady manner, not so fast, not so slowly, bringing to his performance a more intense atmosphere through the increase in dynamics. In addition, the ghost notes effect was really effective, although it was not possible to identify if it had come as a result of the exposure itself or from an analytical understanding of the matter of the accentuation.

A look at Beethoven’s Audiovisual Stimuli Intervention Guide (Appendix I) will show that he concentrated 3 perceived emotions on the higher right quadrant of Russel’s circumplex, and 2 in the lower right quadrant, which means that they are in a positive valence, but ranging in an arousal curve that can relate to his thought about Maracatu being either festive or serious music. That also might corroborate Beethoven’s decision of approaching Guedes Peixoto’s Maracatu with some more intensity, with energy but something in the middle when it comes to its speed.

Thus, we can observe that the audiovisual stimulation intervention seems to have delivered some musical content that was incorporated by the participant, although he did not spend too much time on that. Our conclusion is more inclined to believe that Beethoven was more involved by the stimuli in a natural way than in an analytical way, since he had said that he just revisited the material one time and, during the interview, he did not provide any answers
related to the proper way of playing the articulation of the accentuated notes on the Alfaia patterns.

**Beethoven under Auditory Modeling Intervention**

Beethoven had 15 days with the recording of Guedes Peixoto’s *Maracatu* by Brazilian pianist Henrique Borges (model) available to get started with the modeling process. He said he had listened to the recording 10 times and had tried to imitate 7 times. Before the recording session, Beethoven was interviewed once more. Asked again if he had ever tried to reproduce someone else’s interpretive ideas by imitating a recording he said, “I mean, overall, we always try to imitate pianists. You try to get influenced, but I never had tried to play identically with a recording. I mean, I listen to recordings but I just try to grab ideas, I never tried to play identically.” probably forgetting the experience that he had reported earlier in his first interview, when he said he had tried to imitate Liszt Hungarian Rhapsody n. 5, when was younger.

Beethoven said he had enjoyed the model’s interpretation, pointing out that “…in the middle part the performer brought out some, I would say…impressionistic ideas or maybe more jazz rhythms that I didn’t quite thought about it, because in my mind it was more straightforward but, actually, there were more space for flexibility.” Questioned about the main differences between his interpretation so far and the model’s he said that “More flexibility, I would say, on his interpretation, more flexibility on tempo.”

About the imitation process itself, when questioned what was hardest and easiest to imitate, Beethoven said that:

The harder umm…was to be accurate with the rhythm and, at the same time, to be flexible. Because the rhythm itself is very tense but umm… there is somehow…some freedom, so it was hard to keep the balance between freedom and accuracy. The easiest thing to imitate was the first page of the piece…because it’s much more simply, the rhythm is really straightforward, and not too many thematic materials are involved.
Still talking about the first page, when questioned if he had noticed any differences between the way he was playing so far and the model’s interpretation, specifically related to the articulation of the *Alfaia* patterns, he said he noticed that the main idea of the model was “to focus in the outer parts, I mean, the lower parts of the left hand and the top parts of the right hand.” He was considering this section as a texture in at least three parts, been the *Alfaias* motives the inner part of it.

In view of this, I insisted with him about the ‘middle’ part, because I was interested to know if the accuracy that he had demonstrated on his previous recording of this excerpt (SEC4-2, after audiovisual intervention), where the participant had effectively brought out the *Maracatú* swing - by achieving the effect of the ghost notes - had come as an analytical result from what had been explained on the lecture or if it had come naturally, by simple auditory exposure. I wanted to know if that was a conscious or unconscious result, and how the participant was, now, relating his previous performance to the model’s performance. My goal was to understand about his autonomy as an interpreter, in relation to keeping an interpretive acquisition because he understood and incorporated the idea, if he would give it up or even transmute it after the modeling process. Then, Beethoven answered:

> I am not quite sure about that…I would just say that the recording was more focused in the outer parts, and the middle part of course was brought out because it’s *Maracatú* dance, it’s like the main theme of the piece but it was not just that. I had on my mind maybe that was the most important part but, actually, it’s also important but not the only one.

not doing any further considerations about the *Alfaias* patterns.

Questioned if he had noticed any changes in his interpretation under the model influence, he said, “Yes, specially, I would say, the third example that ‘I know’ (the green section), here on
m.54, because I kind of ignored the slur on the left hand the first two times I did, but the third time I realized I should play this melodic and a little bit different of the other times.” Then, I asked him about the sections where *Maracatu* rhythm is specifically written. He said “Yeah, that sections too, actually, because it was much more… quieter…much softer…yeah, in my mind it was something very strong but actually it was less present.”

About the main differences between his first and last recordings, Beethoven said, “In the first recordings, I played much slower, also louder, for example, in m. 12.” Asked if there were any mistakes that he had corrected after listening to the model, he said, “Yes, here on m.12, the rhythms.”

Beethoven said he does not think Modeling as a valid strategy when studying someone else’s interpretive ideas, explaining that “you can listen to recordings just to give you a better idea of what is happening or grabbing some ideas, but you don’t have to imitate, otherwise it’s fake. Imitating is not good. I would say listening [to].” Therefore, he said he would not use modeling process as a study strategy.

Proceeding with auditory and visual analysis of SEC1-3, data shows as follows:  

1) Beethoven plays the section in 95 bpm, 1 point faster than SEC1-2, which is still considered *Andante Moderato*. Actually, he was already playing faster than Borges (90 bpm) before the modeling process. He has not slowed down his tempo for the imitation;

2) Dynamic levels are mostly within 0.2 and 0.3 dB, with peaks going up to 0.5dB. Borges’ levels are mostly in 0.2 to 0.4 dB with peaks going up to 0.8 or 0.9 dB;
3) Beethoven is again making some anticipations of the 3rd beats, the Alfaia patterns. He had corrected them after audiovisual stimuli intervention but now he is failing again, on m. 3, 4, 5 and 6.

4) He also did not approach the accented notes with a clear differentiation regarding the notes around, not applying here what he had done in SEC4-2. Therefore, here, he does not bring out the expressive effect of the Alfaia patterns.

Figure 6.58 is the sound wave showing the result of Beethoven’s imitation for Borges’s model, with some of the above information highlighted. Figure 6.59 shows the timeline for Beethoven’s SEC1-3, and Figure 6.60 compares Beethoven to Borges’ timeline.

Figure 6. 58. Sound Wave for Beethoven’s SEC1-3, with Anticipations Highlighted.
Although, at a first glance, the timelines look similar, and this may be due to the fact that they reflect the musical shape on the score, common to both lines, a point-to-point analysis between the two lines did not leave us convinced that, as far as imitation is concerned,
they can be considered similar. Although they share coincident points, much of the orientation points are divergent. The auditory analysis of SEC3-1 also does not corroborate imitation. Furthermore, this becomes clearer when we compare SEC1-3 with SEC1-2. This comparison shows that the result of the imitation is much closer to the way Beethoven was playing before Modeling than to Borges ‘model. Figure 6.61 shows this comparison.

![Figure 6.61. Timelines Comparing Beethoven’s SEC1 Before and After Modeling Process.](image)

Proceeding with the analysis of SEC4-3, data is as follows:

1) Beethoven plays the section in 88 bpm, staying at the same tempo of his SEC4-2. Borges plays it in 90 bpm. The participant did not speed the tempo up for the imitation process;

2) Dynamic levels were raised, mostly within 0.2 and 0.3 dB, probably in his attempt to reach Borges levels;

3) Beethoven went on to make a note mistake, something similar to what he had already done in SEC1-1. Instead of playing 2
times the A natural on the left hand (E-A-A / E-A-A) he starts to play 2 times E natural (E-E-A / E-E-A), inverting the order of the notes. It is also observed that the accent on the *Alfaia* Pattern is no longer as clear as what he managed to perform in SEC4-2; nor does it approach the articulation offered by Borges (model).

Figure 6.62 shows the sound wave for SEC4-3 with some of the above observations highlighted. Note the rarefaction of the wave in the marked stretches, reflecting the absence of accents asked on the score.

![Sound Wave for Beethoven’s SEC4-3, After Modeling.](image_url)
Next, it is displayed the graphs of SEC 4-3 (Figure 6.63) and its comparison to the model (Figure 6.64).

Figure 6.63. Timeline for Beethoven’s SEC4-3, After Modeling.

Figure 6.64. Timelines Comparing Borges and Beethoven’s Imitation for SEC4-3.
Here, again, although they share some similarities, a point-to-point comparison on the two timelines does not allow us to state that the modeling process was successful. Auditory analysis corroborates this conclusion. Beethoven gives a smooth texture to the whole excerpt, while Borges plays it more articulated and sharply, giving special emphasis to the Alfaia patterns.

After the recording sessions for SEC1-3 and SEC4-3, no longer under modeling intervention, Beethoven was asked to play the excerpts again, presenting his own interpretation for Guedes Peixoto’s Maracatú. This performance was also recorded. He played SEC1 and SEC4 together, that is mm. 1-11. The outcomes are presented on Figure 6.65 as his Final Result, paired with Borges’s timeline for the same section, to facilitate the understanding. Auditory and visual analysis show that:

1) Beethoven plays Final Result in 87 bpm;
2) Dynamic levels now decreased to the 0.2 to 0.3 dB range;
3) Beethoven now plays mm. 1-6 sometimes on tempo, sometimes taking time between the octave on the left hand and the chords on the right hand, in a rubato manner;
4) He is now blurring the notes of the Alfaia patterns, playing them sometimes inaudibly, on mm.1-6;
5) The participant is playing mm. 7-11 on the same way he was playing in the beginning of the experiment, unintelligibly. In addition to this, he is again anticipating the 3rd beats, deconfiguring the syncopations. Moreover, he accumulated the wrong notes that he presented in the first recording that he had corrected in the second recording, but then went back to them.
in the third recording, when he had available Borges model. The error persisted and moved into his Final Result.

![Graph](image_url)

**Figure 6. 65. Comparison Between Beethoven’s Final Result and Borges mm.1-11.**

The visual analysis of the graphs presented along with the Final Result auditory analysis convinced us that this version does not resemble the version of the model, which obviously the participant was not compelled to mirror, but also does not remember, for example, the way he was playing before the modeling intervention.

In fact, Beethoven's Final Result - which encompasses not only SEC1 and SEC4 but the other excerpts played together - seemed to us to be a sort of alien version, unlike anything the participant had ever presented until then, except for the errors of rhythms and notes that Beethoven presented in the initial stages of the project, but which had already been corrected during the second stage of the experiment. It did not seem coherent to us to accept that the expressive vocabulary, acquired by the participant in the previous stage, has not been sedimented, or has been demoted, in little more than 15 days, between one stage and another.
CHAPTER 7. DISCUSSION

From the analysis of the data collected during the interviews, we were able to identify some traces in common among the participants. Everyone started studying piano very early, between the ages of 3 and 5; Eusebius and Beethoven coincidentally started the studies with their mothers, and all had a very traditional and rigid initial training with no room for alternative learning methods. We also found that everyone has in their study practice the habit of listening to recordings when they are working on a work, especially when it comes to a new piece in the repertoire. This listening basically happens within 3 aspects:

1) in the initial phase of the work, to get a general idea of the piece and/or to take some interpretive ideas ("how [it] is supposed to sound" or "having a picture" or to see "the way they shape the music");
2) to analyze different interpretative aspects such as tempo, phrasing and textures;
3) as a source from which participants can import or borrow as interpretive ideas, but never copy.

All were unanimous in affirming that they would not use Modeling as a strategy of study.

The interviews with Clara Schumann revealed that from the beginning of the experiment the participant demonstrated a strong analytical side and a keen aesthetic intuition because, as soon as Clara spoke about her first thoughts on the piece, she was already able to make accurate considerations only from the information on the score. These inferences were corroborated during her first recording, because although they were obviously not played yet with the appropriate aesthetic elements of the style, they had already emerged with a certain musical meaning, consistent with the insights she had made.
Regarding the stages of the experiment, the intervention by audiovisual stimuli seemed to have had the expected effect in Clara, in the sense that it introduced the participant to the aesthetic universe of *Maracatú*, causing her to gather not only expressive elements that she did not yet have but also causing the participant to re-evaluate some of the interpretative decisions present in the initial phase. An example of this was the idea of *crescendo* and *decrescendo* in SEC1-1 that disappeared in SEC1-2 since Clara realized that *Maracatú* music does not suffer much oscillations in dynamics or tempo. In addition, the audiovisual intervention provided interpretive autonomy for the participant, because, as she had appropriated the aesthetic elements of the style, she began to make new connections and reflections, now aesthetically based. This is very clear at various points during the interview after intervention. I highlight here 2 moments. The first, when the participant compares the writing of the stylization made by the composer and her current perception of the *Maracatú* rhythm, acquired after the audiovisual stimulation:

> I heard that the accents in this music [*Maracatú* music in general] are irregular. ‘Some of them are longer, some are a little shorter’ (our emphasis) …you know what I mean? So, that is not possible [to notate]? […] Even though he [Guedes Peixoto] is trying to dissect it and put it in Classical notation, in Western notation to our understanding, it’s not the same! It’s not completely accurate…

showing that she had noticed that *Maracatú* 's music articulates the accents in a different way (also highlighting a topic that many musicologists point out as a problem, which is precisely the question of the notion of African or Afro-descendant music in traditional European notation.). The perception about the articulation of the *Maracatú* accentuations had a direct impact on the improvement of the excerpts, especially in SEC4-2, when the participant started playing the ghost notes more regularly, getting closer and closer to the reproduction stylized sound of the *Alfaias*. 
The second moment, more emblematic, happens when it is questioned if she thought audiovisual intervention useful as a way to have her emotions and imagination raised for the interpretation of the work. I reproduce the testimony again, in full:

I have to be honest [laughing]! In the beginning of the intervention, I was thinking that none of that would make sense, I mean…looking at those images. I was not understanding where you wanted to go with that! But then I began to realize that it made perfect sense because I saw people's facial expressions and I thought to myself - Well, I guess I have to play the piece with happiness, with joy and fast. But then when I saw some people dressed up like kings and queens, so I realized that it might involve some sort of celebration to them. So, I started paying attention to the queen’s expressions and I noticed that, even though they are happy, dancing and smiling they still keep umm, like a solemn and umm… austere attitude, you know what I mean? And even though there are other characters and people dancing frenetically around the kings, I realized that it’s all about the kings. They are there to umm… revere their monarchs, right? So, I thought I could not play too fast, too frenetic because there is no nobility if you play on that way, frenetically, right?! I have to play with energy, vibrantly but at the same time in a sober and solemn way. I have to play steady, without much changing in tempo!

These new decisions, taken after the intervention by audio-visual stimuli, had a direct impact on the performance of the chosen sections, both green and red sections, since Clara started to play both in a more energetic way (evidenced in the sound waves presented, with the increase in decibels) but not agitated, working the character of the stretches through the manipulation of the parameters tempo, articulation and intensity.

Concerning auditory modeling intervention, the participant put effort on the imitation, tending to approach the maximum of the model's performance, in terms of tempo and articulation. This is very clear when we see Clara jumping from 80 to 92 bpm in SEC1 (even, exceeding the model, which plays in 90 bpm) and from 80 to 85 bpm, and through the sound waves when we perceive the improvement and consolidation of the articulations of the Alfaia patterns, in SEC1 and SEC4, which, until then, were still irregular. The modeling was shown to
be effective also in non-selected sections for the analysis, as was the case with SEC6, the hybrid section. Remember that the participant admitted to being influenced by the model:

Of course it has affected because, for example, in the section that it’s like a Jazz improvisation [she is referring to mm. 60-69], before I heard the recording I wasn’t sure if I was supposed to play like Maracatu or Jazz, and then, after I heard Jazz, I was like, finally I can play like that, because I was not sure if I was allowed to do it, stylistically [speaking].

And yet on the same section, she informs: "... also phrasing, he emphasizes the bass, I liked it, so I just got [laughing]. I'm trying to do the same, but when I play, it does not sound the same, but I was influenced.”

Clara, who had already outlined an aesthetic idea about the style of Maracatú in the previous stage, adjusted the manipulation of some parameters in her playing to this point, due to the modeling. Clara's Final Result proves this statement.

For Eusebius, the audiovisual intervention seems not to have had the expected effect, at least not in the same intensity as with Clara Schumann, for example, concerning providing him aesthetics elements of the style. During the intervention, although his notes on the Audiovisual Stimuli Intervention Guide are consistent with the character of the images and audios used as stimuli, Eusebius seems unable at that moment to establish relationships between the emotions raised by the intervention and the piano piece. In addition, during the interviews of this phase, the participant did not present answers that would support the effectiveness of the stimulation, delivering, instead, vague and dispersed answers. Recall his hesitation when asked to briefly summarize what he had learned about Maracatú as a cultural manifestation: “A dance ... a Brazilian dance, that is played by the ... umm ... for the Royalty, I mean, during the festival ... and it's marked by the accents on beats 2 and 3... or, sorry... the accents, you know, the rhythm [laughing confused].”
Perhaps the fact that, during this stage, the participant was still struggling with the question of how to understand and solve the rhythm of the piece has made it more difficult to expose him to the stimuli; or, differently, perhaps because of its sharpened analytical side, the participant has been more concerned with analyzing the technical parameters of the stimuli than with allowing himself to be imbued by them.

In several of his statements he reveals the concern with the rhythm, which, as Eusebius himself has also stated, is the first stage that he tries to overcome when studying a new work. He said “I first try to get the rhythms right because that’s really hard to correct once, you know… once it’s ingrained on you. Get the rhythms…” And when talking about Guedes Peixoto’s Maracatú, he said “It was very rhythmic, a lot of different places on syncopations… so, umm, it doesn’t get into the hands easily. So, I have wrestled a bit with the rhythms.” Furthermore, he states “the hardest thing here was the dotted rhythms and, again, it had to subdivided by the 16th notes and, you know, just meticulously practice until I got stuck, you know…” Another factor that we must consider is that Eusebius declared to have revisited the available content only 2 times.

Despite Eusebius's preoccupations about playing the rhythms correctly; although the participant, when asked if the audio-visual stimulation would have helped him in the interpretation of the ceilings, said that "Yes! Again, going back to the rhythms, it's been my first difficult with it, listening to the rhythms performed and the style” the analysis of the data did not identify a significant change of the sections that can be attributed as a result of the intervention. Data analysis of the graphs of both sections shows almost identical timelines.

The parameter that was most clearly manipulated by Eusebius, after the audiovisual stimulation, was the tempo. We noticed an increase of speed in his playing. The observation of
the graphs that compare his evolution shows that the velocity was practically the only variable.

We tend to believe that this change has been a direct result of the subject's exposure to stimuli. However, we could not find during the previous interview a confirmation, through the participant's answers, that validated our suspicion. Nevertheless, a testimonial occurred in the interview after the modeling intervention, and if used retroactively, can confirm our suspicions. Explaining how the accentuations perceived by him on Borges’ performance would be related to Maracatú, the participant says:

That’s the accents on the offbeat, kinda [kind of] syncopated but it’s funny because it takes the person to play it fast, with stronger dynamics to bring that out. It was hard to hear it at first. I guess after the first intervention, when I became aware of the rhythm, what to look for it still wasn’t clear. I could see what happened but, it’s funny... just small changes, playing it faster [the overall tempo], you know, can bring that out (our emphasis).

With respect to Eusebius in the Modeling intervention, our view is that, once again, the changes presented by the participant would not justify saying that there was a considerable influence of the model. First, the data indicates that the samples presented by Eusebius as a result of the imitation did not approach in almost any aspect of the model. Not even the tempo parameter, which was what the participant had been manipulating more often. Recall that although Borges played Eusebius' SEC1 in 90 bpm, the participant in his imitation rose from 68 to just 72 bpm. Besides the tempo parameter, Eusebius is shown to have noticed how the articulation of the Alfaías patterns are established:

They [the model] use the accent kinda [kind of] as a point of...a goal [ he starts singing the Alfaías pattern, trying to reproduce the effect of the accents on the E naturals, softening the notes not accentuated around them] , so the other notes become subservient to the note with the accent, you know, little up to it or little way from it.

and the data shows an attempt to play them in the imitation process. However, this parameter does not reappear in a well-delineated form in Eusebius' Final Score. Second, the statements
made by Eusebius suggest that the imitation he made was not really based on trying to imitate the model but reproduced the common practice of listening to have a general idea of the work:

I listened to it [recording], from the beginning to end with the music, and then I sat down with the music and just tried to remember from the beginning, and then with some other parts I would fast forward or rewind it if I needed to review. Other than that, after the first hearing, I had an idea of the interpretation was...

leading us to believe that Eusebius had not actually submitted himself to an induced imitation.

The comparative analysis of sound waves and the auditory analysis of the files also do not point to a consolidated imitation, thus not providing us with more consistent material to verify the effectiveness of modeling.

In turn, Beethoven was the participant who presented the most irregular course throughout the process. Because, taking Eusebius himself as a reference, even though he did not present a degree of acquisition of expressive resources, as Clara Schumann, for example, one can still perceive an ascent path in its trajectory within the experiment, keeping the proportions.

Beethoven, on the other hand, started from an initial sample already quite compromised by note and rhythms mistakes. These errors were present in almost all his collections and were more constant in Beethoven than in his peers. Then, after the first intervention, we notice a qualitative leap when there is a clear change in the expressive character of the sections presented, especially in SEC4, where the subject presents the Alfaías patterns with the expected articulation, reaching the swing of the Maracatú, as expected and with greater regularity. Perhaps he was, among his peers, the one who managed to get closer to the effect at that moment.

However, in the following stages, the sections are again permeated by errors of notes and rhythms that had already been corrected in the previous stage. This is surprising, since, in a process like this, what is expected is that either the participant evolves or, at least, maintains the current pattern of playing of the previous step, as occurred, in this case, only 15 days earlier.
This was not the case with Beethoven, who played the excerpts in a manner similar to the initial sample, where at times there were even excerpts of confusing playing, which seemed to be quite incongruous with his trajectory as a student. In fact, during the collection, it was necessary to ask the participant to re-record SEC4, due to the degree of distortion of the sample.

The most coherent moment of Beethoven was, indeed, after the intervention by audiovisual stimuli. Although the participant admitted that he returned to the material only once, the data showed, as we have just said, that there was a clear improvement at least in the section SEC4. The SEC1 excerpt was correctly played in terms of notes and rhythms but failed in articulation of the accented notes.

Moreover, like Eusebius, Beethoven begins to manipulate the Tempo parameter, in his case, allied to the Intensity parameter, as a way of arriving at the character 'Intensity' that he had defined as being the main Maracatú feature. Thus, he increased the tempo and dynamics levels to reach the desired character, which was awakened in him during the audiovisual stimulation. However, it was not clear to us how impacted Beethoven was by audiovisual stimulation. The responses provided by the participant were somewhat laconic, in order to provide clues that would lead us to consolidate the effectiveness of the intervention. The participant himself, when asked if he felt any differences in his playing of the selected sections, was not able to specify:

Maybe…just to be more confident about what I had on my head before, and…It just helped to get a better idea of what was happening […] but, still, I am not a 100 % sure since the rhythm was not identical, so…I’m still not quite sure about details. I still might have a better general scope but…

Let us remember his truncated answer when asked to provide a brief summary about Maracatú as a cultural manifestation: “Umm…It’s related to New Orleans…right? I don’t know…I don’t remember much…but…I remember the videos we were exposed to. It showed that it’s a very ancient tradition…”
In the modeling phase, Beethoven, like Eusebius, does not seem to have undergone an imitation process, in fact. The analysis of the data showed that although there are some matching points, because after all the musical contour is the same, the result delivered by Beethoven in his imitation did not approach the model offered by Borges, except for the Tempo parameter. Eusebius also attempted to manipulate this parameter during his imitation.

With respect to time and character, let us remember, as we have already said in this work, that some scholars affirm that tempo manipulation can drastically change the character of a work. However, in the case of Maracatú, and certainly of other characteristic rhythms, the change of tempo only will not impact its character. Remember that Maracatú can be played from a range of tempos that basically go from Andante to Allegro. In this case, it is precisely the manipulation of the rhythmic patterns of each instrument, that is, the type of articulation given to them when playing these patterns that will result in its so-called swing.

It seemed to us that Beethoven, like Eusebius, did not undergo an induced modeling process, although he said that he had heard the recording ten times and tried to imitate it seven times. The analysis of the data, especially the auditory one, shows a distant result from the model, especially in SEC4, when the participant returns to present the section in an unintelligible way, close to what he had presented at the beginning of the experiment. In view of the above, and despite the participant's assertion that he has noticed that modeling has modified his playing, the data does not verify the model's influence.
CHAPTER 8. CONCLUSION

Most of the research in musical performance is focused on analyzing the musical parameters that can be quantified and, therefore, conducted into a quantitative perspective. The qualitative design of the present investigation, however, allowed us to analyze the two proposed strategies - the audiovisual stimulation and auditory modeling - from the angle of the student, considering their personalities, individualities and idiosyncrasies.

Thus, the research has a great emphasis in the reports obtained from the interviews, during data collection. These reports gave a voice to the participants and helped to value their own musical experiences, giving space for each one to expose their ideas, impressions and feelings throughout the process, thus balancing the focus of the analysis between research subject and research object, helping to understand how the subjects reacted to the proposed interventions.

Studies on musical performance field have suggested that both audiovisual stimulation and induced auditory modeling may constitute effective strategies in the production and / or absorption of expressive resources for musical interpretation. Our initial premise suggested that both strategies, applied through deliberate and periodical interventions on the participants, would affect their approach in the temporal aspects of the studied work influencing the participants’ playing. This influence would be observed in the interpretative aspects which could be detected, measured and, consequently, analyzed and evaluated in pairs with the reports from the participants.

The case studies demonstrated that each subject reacted differently to the interventions. To a certain extent, this seems to be obvious because each human being is different, and reactions are not the same between different individuals. This means that characteristics such as
cognitive and aural skills, capacity to abstract, socio-cultural background, and, still, interest and availability, can always have an impact on the results of the research.

Therefore, the research was able to understand that in the case of audiovisual stimulation, the aural and imaginative capacity, combined with the ability to link the stimuli with the work to be studied, would be essential. The stimuli alone fostered emotions in the subjects but these emotions still depend on the ability of each one in making connections and contextualization, in the sense of applying the perceived emotions into their performances on the piano. An example of this was the case of Eusebius who, despite making accurate statements about the way Maracatú rhythmic patterns should be played, he was not able, at least during the time of this research, to apply them to his performance.

In the case of auditory modeling, all three subjects stated that they make use of recordings when they are preparing a piece of work, but much more in the sense of visualizing the big picture of the work or borrowing one or another interpretive idea. Everyone also said that they do not need to have to imitate the model in order to achieve this. However, just listening to the recordings and then trying to reproduce the ideas, in the case of a process that is intended to be a deliberate one, it is not enough. In this case, the present investigation has found that imitation, which must be done by induction, runs into a kind of prejudice on students who seem to see the verb ‘to imitate’ in this context as a shame, even this practice being, as the literature shows, out there over the centuries, although in an nondeliberate way. It happens that, for research purposes, this step must be traversed to identify what was imitated, what was transmuted and what was absorbed, since these are the modeling premises.

In the scope of this research, whose initial goal was to verify audiovisual stimulation and auditory modeling as interconnected strategies for mastering a piano work whose style and
composer were totally unknown to the participants, the discussion showed that the interventions performed caused, within the proposed scenario, a broadening of the repertoire of expressive resources by the incorporation of stylistic parameters derived from a different cultural aesthetic, which provoked a greater autonomy as individual agents in the musical performance realm even when the performers have a more solid artistic maturity. At the same time, the interventions provoked a better reflection on the listening process, so important on the music field. Those aspects were fully and significantly observed at least in one of the cases. The method was therefore pertinent to reach a conclusion about the research questions raised previously, positively verifying audiovisual stimuli and auditory modeling as valid strategies on mastering Guedes Peixoto's Maracatú.


Cruz, Teresa Cristina de Carvalho. “As Irmandades Religiosas de Africanos e Afrodescendentes The Brazilian Afro-Descendants’ Catholic Brotherhoods.” *PerCursos* 8, no. 1 (2008).


APPENDIX A. GUEDES PEIXOTO’S MARACATÚ (1ST SCORE)

Maracatú

Guedes Peixoto
Maracatu

Pno.

 segmentation

 a vontade

 Pno.

 segmentation

 a vontade
APPENDIX B. GUEDES PEIXOTO'S MARACATÚ (2ND SCORE)

Maracatú

Guedes Peixoto
APPENDIX C. FIRST INTERVIEW GUIDE

GUIDE FOR THE FIRST INTERVIEW
BEFORE THE FIRST RECORDING

MUSICAL TRAINING PRIOR TO GRADUATE SCHOOL

01 - What made you been interested in Music and in the piano?
02 - How old were you when first started having piano lessons?
03 – Where and with whom you first started having musical training and piano lessons?
04 – When did you begin to consider the idea of pursuing a degree in Piano Performance? There was a triggering event?
05 – How was your piano training during this period? What were its main characteristics? Would you label it as a traditional or nontraditional approach?

MUSICAL PREFERENCES

01 - What kind of music do you prefer to listen to? (Classical, Pop, Ethnic music…)
02 - What is your favorite music style? What style of music do you prefer to play? Why?
03 - How often do you attend piano recitals?
04 - What kind of repertoire attracts you to a piano recital?
05 - In your opinion, what features define a good pianist?
06 - What is your favorite pianist, and why?
07 - Do you usually critically watch the way your favorite pianists play?

YOU AS A PIANO STUDENT AND YOUR STUDY PRACTICE

01- How is your study process when you start working on a new piece?
02 - What are your main concerns when studying a new piece?
03 - Do you consider yourself a good sight-reader?
04 - In average, how long do you take to read a new piece considered of intermediate or advanced level of difficulty to a point of being able to decently play in class?
05 - What is your best quality as a piano student? And your greatest limitation?
06 - What are the most common difficulties when studying a new piece and how do you solve them?
07 - What was the most difficulty work you have studied so far? Why?
08 - Have you ever tried to imitate interpretive ideas of a pianist through a recording of his performance? If so, how was the experience? What was the result?

ABOUT BRAZILIAN MUSIC

01 – Have you ever travelled to Brazil? If so, where have you been there? Impressions?
02 - Are you familiar to Brazilian Music? If so, what kind? (Pop, Classical, Ethnic)
03 - Would you be able to point out some general information about Brazilian music, and its characteristics?
04 - Are you able to list any Brazilian composers? Who?
APPENDIX D. SECOND INTERVIEW GUIDE

GUIDE FOR THE SECOND INTERVIEW
AFTER THE FIRST RECORDING

FIRST THOUGHTS ABOUT THE WORK

01 – What were your thoughts about the piece studied?
02 – How did you feel having to study the given piece with no background information about it?
03 - Could you point out its main musical characteristics?
04 – Did you have any difficulties to understand the piece and its style?
05 – Did you have any difficulty while practicing the piece? If so, what is the nature of that difficulty? Technical? Musical? Both?
06 - Do you think an academic formal and harmonic analysis of the composition would have been useful in this first stage of study?
07 – Do you think some background information about the piece would be helpful in order to better understand the work?
08 - Have you ever heard about Maracatu? If so, what can you tell about it?

LOCATING COMFORTABLE AND UNCOMFORTABLE SESSIONS

01 - Choose 3 excerpts on the score in which you are sure about the way they must be interpreted.
02 - Identify on the score 3 sessions where you do not have yet any interpretative ideas and you have doubts on how to perform them.
03 – What are your difficulties or doubts in these sections?
04 – Where your doubts exactly begin and end in the above selected sections?
05 – Did you have any difficulties related to the musical terminology used by the composer?
APPENDIX E. THIRD INTERVIEW GUIDE

GUIDE FOR THE THIRD INTERVIEW
AFTER AUDIOVISUAL STIMULI

ABOUT MARACATÚ BACKGROUND INFORMATION

01 – Could you tell me what you have learned about Maracatú after going through the audiovisual material provided?
02 – Would you be able to name some of the musical instruments used by the group that performs Maracatú?
03 – For you, what are the most impressive characteristics of that cultural manifestation?
04 – How did you like Maracatú?
05 – Do you think you would be able to dance Maracatú, reproducing its movements?

MUSICAL AND PERFORMANCE ELEMENTS

01 - Now that you are aware of what Maracatú is, what are the most impressive characteristics of the music used to play it, in your opinion?
02 - How did you like its musical rhythm?
03 - Do you think the composer did a good job on the stylization and transposition of the rhythm from its natural site to the piano writing?
05 - Were you able to pick some musical elements from the provided audiovisual material that might be helpful in your work on the piece? If so, what are they?
06 - Was the Russell Circumplex activity somehow helpful? If so, in what way?
07 - Do you think there was any variation of the 3 previously selected difficulty sessions, after you have gone through the audiovisual stimuli process? If so, what are they?
APPENDIX F. FOURTH INTERVIEW GUIDE

GUIDE FOR THE FOURTH INTERVIEW
AFTER MODELING

ABOUT MODELING PROCESS

01 - Have you ever tried before to reproduce the interpretive ideas of a pianist imitating a musical recording?
02 - Did you like the performance/interpretation provided by the model?
03 - What is the main difference between your interpretation so far and the interpretation of the model?
04 - Do you think you would have reached a different level of understanding about the piano piece if you had been subjected only to the modeling process?
05 - How was your study process to do the imitation?
06 - What was easier and what was harder to imitate?
07 – Did you notice any considerable discrepancy between the information provided by the score and the information reproduced by the model? If so, which are?
08 - Do you think your performance of the selected sessions has changed under the model influence?
09 - What are the main differences between your first and last recordings?
10 – Do you think modeling has changed the way you used to understand those 3 sessions you were asked to point out where you did not have any doubt on how to interpret?
11 - Have you refuted any interpretive ideas of the model?
12 - Do you think modeling was a valid study on someone else interpretive ideas?
13 - Would you use modeling process as a study strategy?
APPENDIX G. CLARA SCHUMANN’S AUDIOVISUAL STIMULI INTERVENTION GUIDE

AUDIOVISUAL STIMULI INTERVENTION GUIDE

PARTICIPANT NAME: CLARA SCHUMANN
DATE: 3/1/19

VISUAL STIMULATION -

1) Look carefully to the images shown on the screen. Try to comprehend as many symbolic elements as possible. Allow the images to penetrate your imagination. Then, write down a word (that can be an ADJECTIVE, a NOUN, a FEELING or an EMOTION) that, in your opinion, better portrait the images showed. There is no right or wrong answers.

   a) 1 to 5: folie, instruments, music, rhythm, ensemble, carnival, celebration, bright mood, cultural
   b) 6 to 10: musical, festive, pride, enjoy
   c) 11 to 15: celebrating, cultural identity, uniqueness, pride, parade
   d) 16 to 21: joyful, woman, princess, queen
   e) 22 to 27: old woman, princess, queen
   f) 28 to 37: power, beauty, tradition

AUDIO STIMULATION -

2) Listen carefully to the audio files played. On the Russel’s circumplex (next page), place the sequential number of the played song next to the word that, for you, best describes the feeling, emotion or expression that the music transmits. Feel free to add to the framework other terms that in your opinion would better describe what you have in mind (you should not substitute words, but you might add terms).

VIDEO LECTURE

3) How do you think the lecture given by percussionist Scott Kettner about Maracatu can help you to enhance your work on building a performance for the given piano composition?

A: I think I can hear the rhythm that they played in the piece now. I feel like I must be more rhythmic when it's indicated in the score.
APPENDIX H. EUSEBIUS’ AUDIOVISUAL STIMULI INTERVENTION GUIDE

PARTICIPANT NAME: Eunachs
DATE: 02/26/19

VISUAL STIMULATION –

1) Look carefully to the images shown on the screen. Try to comprehend as many symbolic elements as possible. Allow the images to penetrate your imagination. Then, write down a word (that can be an ADJECTIVE, a NOUN, a FEELING or an EMOTION) that, in your opinion, better portrait the images showed. There is no right or wrong answers.
   a) 1 to 5: Celebration
   b) 6 to 10: Excitement
   c) 11 to 15: Festivities
   d) 16 to 21: Parade
   e) 22 to 27: Ballet folklorico
   f) 28 to 37: Ancestral

AUDIO STIMULATION –

2) Listen carefully to the audio files played. On the Russel’s circumplex (next page), place the sequential number of the played song next to the word that, for you, best describes the feeling, emotion or expression that the music transmits. Feel free to add to the framework other terms that in your opinion would better describe what you have in mind (you should not substitute words, but you might add terms).

VIDEO LECTURE

3) How do you think the lecture given by percussionist Scott Kettner about Maracatú can help you to enhance your work on building a performance for the given piano composition?

A: By making myself aware of the rhythms & where they come from. Also, the instruments used in this music.
APPENDIX I. BEETHOVEN’S AUDIOVISUAL STIMULI INTERVENTION GUIDE

PARTICIPANT NAME: Beethoven
DATE: 3/1/2019

VISUAL STIMULATION -

1) Look carefully to the images shown on the screen. Try to comprehend as many symbolic elements as possible. Allow the images to penetrate your imagination. Then, write down a word (that can be an ADJECTIVE, a NOUN, a FEELING or an EMOTION) that, in your opinion, better portrait the images showed. There is no right or wrong answers.

a) 1 to 5: Carnival
b) 6 to 10: marching
c) 11 to 15: reverent
d) 16 to 21: Spiritual
e) 22 to 27: Coronation
f) 28 to 37: Celebration

AUDIO STIMULATION -

2) Listen carefully to the audio files played. On the Russel’s circumplex (next page), place the sequential number of the played song next to the word that, for you, best describes the feeling, emotion or expression that the music transmits. Feel free to add to the framework other terms that in your opinion would better describe what you have in mind (you should not substitute words, but you might add terms).

VIDEO LECTURE

3) How do you think the lecture given by percussionist Scott Kettner about Maracatu can help you to enhance your work on building a performance for the given piano composition?

A: Presentation of background history helps me to understand in an easier way the rhythmical patterns in combination of maracatu live performance.
APPENDIX J. GUEDES PEIXOTO’S LETTER OF PERMISSION

12/20/2018

Mario Peixoto Guedes Alcoforado
nivel.alcoforado@hotmail.com

Dear Mr. Mario Peixoto Guedes Alcoforado:

I am completing a master theses at Louisiana State University provisionally entitled “Modeling and Audiovisual Stimuli as Strategies for Mastering a Piano Performance on Guedes Peixoto’s Maracatú, an Unknown Composition.” I would like your permission to use and reprint the following material in my paper:


The requested permission extends to any future revisions and editions of my dissertation, including nonexclusive world rights in all languages. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own the copyright to the above-described material, or that you otherwise have sufficient rights to the material in order to grant the requested permission.

To grant this permission, please sign where indicated below and return it to me in the enclosed return envelope. Please contact me should you have any questions or need additional information. Thank you very much.

Sincerely,

Rodrigo Clementino Diniz
275 West Roosevelt. Apt. 3264
Baton Rouge, LA 70802

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

Mario Peixoto Guedes Alcoforado

Signature: [Signature]

Date: 12/24/2018

Acknowledgment: Mario Peixoto Guedes Alcoforado, composer and owner of the copyright to MARACATÚ (c. 1976) hereby authorize Rodrigo Clementino Diniz to use my musical composition as part of his Master Theses to be submitted to the Graduate Faculty of Louisiana State University and Agricultural and Mechanical College.
APPENDIX K. IRB EXEMPTION

ACTION ON EXEMPTION APPROVAL REQUEST

TO: Rodrigo Diniz
Music

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: February 5, 2019

RE: IRB# E11473

TITLE: Verifying Modeling and Audiovisual Stimuli as Strategies for Mastering Guedes Peixoto’s Maracatu


Review Date: 2/5/2019

Approved X Disapproved

Approval Date: 2/5/2019 Approval Expiration Date: 2/4/2022

Exemption Category/Paragraph: 2b

Signed Consent Waived?: No

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

By: Dennis Landin, Chairman

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU’s Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
8. SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.

* All investigators and support staff have access to copies of the Belmont Report, LSU’s Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb
VITA

Born in Recife, Brazil, Rodrigo Clementino Diniz began his piano studies in 1994, with piano teacher Sony Lessa. In 2003, he graduated with academic honor in Music with emphasis in Piano Performance by Federal University of Pernambuco, under the guidance of Andreia da Costa Carvalho. In 2017 he began his Master’s program in Piano Performance at Louisiana State University, in the studio of Professor Michael Gurt.

Rodrigo is a Music Educator, Piano and Arts teacher at Federal Institute of Sertao Pernambucano, a nationally high respected community college in Brazil.