Marcos Suzano and the Amplified Pandeiro: Techniques for Nontraditional Performance

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MARCOS SUZANO AND THE AMPLIFIED **PANDEIRO**: TECHNIQUES FOR NONTRADITIONAL PERFORMANCE

By

Brian James Potts

A DOCTORAL ESSAY

Submitted to the Faculty of the University of Miami in partial fulfillment of the requirements for the degree of Doctor of Musical Arts

Coral Gables, Florida

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MARCOS SUZANO AND THE AMPLIFIED PANDEIRO: TECHNIQUES FOR
NONTRADITIONAL PERFORMANCE

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Marcos Suzano and the Amplified Pandeiro:
Techniques for Nontraditional Performance

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Widely recognized in Brazil as the nation’s quintessential percussion instrument, the pandeiro (or Brazilian tambourine) has long been an integral part of samba and other popular styles of Brazilian music. However, in recent years, the pandeiro has increased in prominence within the international percussion community as performers have used contemporary techniques to broaden the possible applications of the instrument. These advancements arose largely from the work of the percussionist Marcos Suzano, whose name has become almost synonymous with the pandeiro itself. Born in Rio de Janeiro in 1963, his innovative use of sound reinforcement and development of new performance techniques have redefined the use and perception of the pandeiro.

This study sheds light on the details of his revolutionary inverted technique and explains the process of its development. In addition, it documents the exact electronic equipment Suzano uses in conjunction with the pandeiro for both live performances and studio recordings, and reveals how he makes use of these components so that interested percussionists can better explore the capabilities of the amplified pandeiro. Finally, this work investigates Suzano’s progressive view of the pandeiro and its future, and how its ability to emulate a large number of percussion instruments allows it to function in a wide
variety of musical styles from both Brazil and around the world. The majority of
information presented in this work derives from an interview that I myself conducted
with Suzano on August 16, 2011 in his home in Rio de Janeiro.
ACKNOWLEDGEMENTS

To begin with, I wish to thank Marcos Suzano for his incredible generosity and support. This study would not have been possible without his involvement, and I thank him and his family for inviting me into their home. He was extremely forthcoming in the interview, and his desire to assist aspiring pandeiristas was remarkable. I hope that his passion for the pandeiro and its growth is evident in this work.

I cannot express enough gratitude towards my family and friends. I am humbled to have your support and encouragement. Throughout the years, good or bad, you all have been there for me more times than I can recall. I would like to especially thank my parents, Douglas and Sally Potts, for giving me every opportunity to pursue my passion. You believed in me and supported my endeavors wholeheartedly, even when I gave you reason to think otherwise. Thank you, you exceptional Trachodons.

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CHAPTER 1
INTRODUCTION, REVIEW, AND METHOD

Widely recognized in Brazil as the nation’s quintessential percussion instrument, the pandeiro has long been an integral part of samba and other iconic styles of Brazilian music. However, in recent years, the pandeiro has increased in prominence within the international percussion community as performers have used contemporary techniques to broaden the possible applications of the instrument. These advancements arose largely from the work of the Brazilian percussionist Marcos Suzano, whose name has become almost synonymous with the pandeiro itself. His innovative use of sound reinforcement and development of new performance techniques have redefined the use and perception of the pandeiro. Despite Suzano’s popularity, scant literature is available for percussionists who wish to understand his revolutionary performance practice.

Introduction

A single-headed frame drum with a row of embedded jingles, the pandeiro resembles the orchestral tambourine in construction, yet differs from its classical counterpart in several important areas. While many tambourines feature multiple rows of jingles, the pandeiro bears a single row, usually divided into five pairs. These jingles, known as platinelas, are two small concave metallic discs stacked horizontally with the edges of one disc resting on another, similar to a set of hi-hat cymbals. In order to
dampen their sound, a small and flat disc rests inside each pair. This disc minimizes both the volume and duration of the sound produced by the vibrating platinelas. The dry and dark timbre of the pandeiro contrasts sharply with the bright and resonant sonority of the tambourine, which possesses loose and flared jingles that rattle freely. The diminished sound of the platinelas allows the drumhead, made from either goatskin or nylon, to speak prominently. As a result, the performer, or pandeirista, can blend the sound of the drumhead and platinelas as desired, making the pandeiro a naturally versatile instrument.

One of Suzano’s great innovations was to attach a small condenser microphone to the frame of the pandeiro and position it underneath the drum, close to the drumhead and platinelas. In this position, Suzano found that by lessening the tension of the drumhead, he was able to capture a powerful low-frequency sound similar to that of a bass drum. By

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combining this technique with the sharp sound of the *platinelas* and the snare-like pop of the slap tone (achieved through striking the middle of the head with an open palm), he created a new “sound set” of low, medium, and high tones through which he could create the illusion of multiple percussion instruments played simultaneously. He began using the *pandeiro* in place of other percussion instruments, such as the drumset, and he expanded this process by utilizing preamps and effect pedals to shape the sound of the new amplified *pandeiro*. By combining these developments with his inverted technique—a new approach to performance that increased his facility on the instrument—Suzano transformed its capabilities.

**Rationale, Purpose, and Limitations of the Study**

Although there are many fine *pandeiro* methods, such as Vina Lacerda’s *Pandeirada brasileira*, and Roberto Sampaio’s *Pandeiro brasileiro*, these studies deal with a mixture of modern and traditional techniques and applications of the instrument. They do not address the concept of amplification, except to mention that it is possible to amplify the *pandeiro* through the attachment of a clip-on microphone. The particulars of Suzano’s methods of sound reinforcement, as well as his specific performance techniques that relate to amplified *pandeiro*, are largely unavailable in the modern literature.

As a percussionist interested in Suzano’s work, I designed this study to shed light on the details of his revolutionary inverted technique and explain the process of its development. In addition, I determine the exact electronic equipment Suzano uses in conjunction with the *pandeiro* for both live performances and studio recordings, and

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2 Vina Lacerda, *Pandeirada brasileira* (Curitiba, Brazil: Published by Author, 2007)

3 Luiz Roberto Ciorce Sampaio, *Pandeiro brasileiro* (Florianópolis: Bernuncia Editora, 2007)
reveal how he makes use of these components so that interested percussionists can better explore the capabilities of the amplified pandeiro. Finally, I investigate Suzano’s progressive view of the instrument and its future, and show how its ability to emulate a large number of percussion instruments allows it to function in a wide variety of musical styles from both Brazil and around the world.

*Pandeiro* performance techniques vary greatly among Brazilian percussionists, and this study does not represent a comprehensive *pandeiro* method. Many fine Brazilian *pandeiro* method books cover both traditional and modern techniques of the instrument, but I have focused solely on the particular approach of Marcos Suzano, whose innovations in performance practice and sound reinforcement distinguish him as a unique and influential *pandeirista*.

**Review of Related Literature**

Because only a nominal amount of published information is available on Suzano and his performance practice, a need for this study exists. In order to carry out the necessary research I not only examine the specific resources on Suzano, but also delve into related areas. These topics include the most influential *pandeiro* method books, studies of *candomblé* (a style of Brazilian music that directly affected Suzano’s techniques), and technical aspects of sound reinforcement.

A basic introduction to Suzano and his musical philosophies and contributions is Malcolm Lim’s interview, titled “Marcos Suzano: Expanding the Pandeiro.”

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collaborations, influences, inspirations, instruments, and basic electronic components of Suzano’s setup. From the article, the reader can gain a general understanding of his work with the pandeiro, but there are few details regarding his unique performance technique and use of sound reinforcement, two areas that separate Suzano from his contemporaries.

A more exhaustive article on Suzano is Frederick Moehn’s “A Carioca Blade Runner, or How Percussionist Marcos Suzano Turned the Brazilian Tambourine into a Drum Kit, and Other Matters of Politically Correct Music Making.” This article, based upon multiple interviews with Suzano, has great information on his microphones and preamps, as well as the recording techniques he pioneered with the help of audio engineer Jim Ball. In addition, the article addresses Suzano’s creative process and the how he brought percussion back to the forefront of the Brazilian recording industry. At the time of Suzano’s early experimentations with the amplified pandeiro, a commercialized form of samba known as pagode had reduced Brazilian percussion from the driving force behind the music to a mere embellishment. Producers placed great emphasis on the use of drumset and Afro-Cuban percussion, utilizing Brazilian percussion sparingly and in a simplistic manner. By basing his music on the unique attributes of Brazilian percussion instruments like the pandeiro, Suzano rebelled against established music industry trends and served as an inspiration to a younger generation of musicians. The article frames this conceptual revolution in the context of Brazilian struggles with political correctness, providing an interesting take on Suzano’s work. However, there is not much specific information about Suzano’s pandeiro technique, as the article focuses mostly on his work with electronics to enhance and “corrupt” acoustic percussion.

The primary source available for insight into Marcos Suzano’s performance technique is his *Pandeiro brasileiro*, a DVD that amounts to a private lesson with Suzano. In this DVD, Suzano talks about his basic approach to the instrument, explains and performs a multitude of patterns and groove ideas, and mentions some specifics about his electronic setup. Apart from seeing Suzano perform live or having a lesson with him, this is the best window available into his way of thinking and playing.

By providing a framework of readily available information regarding Suzano’s performance and recording techniques, these resources helped to focus my interview with Suzano on areas that still required clarification. Apart from the DVD, there is not much work intended to present Suzano’s ideas to aspiring *pandeiristas*, an issue that I struggled with when I began to explore this instrument nine years ago.

In addition to reviewing works on and by Suzano, I have studied various other *pandeiro*-based resources in order to broaden my perspective. These methods, from leading educators in the field, are valuable and popular ways to approach learning this instrument, for both the beginning and advanced student. Although there are conceptual similarities with Suzano’s teachings, they demonstrate both the diversity of technique that exists among *pandeiristas* and the range of musical settings to which the *pandeiro* can be adapted.

The first published method book for *pandeiro* is Luiz D’Anunciação’s *O pandeiro estilo brasileiro*. Written in 1990, it is part of a series of works by the author entitled *A percussão dos ritmos brasileiros*. In addition to information on traditional *pandeiro*

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technique and its use in popular styles of Brazilian music, this book introduces the first published system of notation for the instrument. This notation, which expresses the motion of both hands, inspired later authors to develop their own systems to express modern pandeiro techniques.

One of the more comprehensive pandeiro methods available is Vina Lacerda’s *Pandeirada brasileira*. In addition to exercises designed to develop tones and technique, this book contains information on the history and construction of the instrument—a unique aspect of this method. Of particular interest to this study is the equal importance assigned to exercises that start with the thumb (which reflect the traditional method of pandeiro playing) as well as those that begin with the fingertips (a modern technique popularized by Suzano).

The first two volumes of Luiz Roberto Sampaio’s *Pandeiro brasileiro* contain exercises designed to develop an array of modern performance techniques. As in Lacerda’s book, each exercise intends to maximize the student’s ability to lead patterns with either the thumb or fingertips. These books help to develop a fluid and flexible technique that expands the capabilities of the pandeiro and frees the pandeirista from pattern repetition, granting the performer the ability to engage in creative and spontaneous music-making.

In the 15 years since Suzano’s first solo album, *Sambatown*, the pandeiro has experienced increased global exposure, facilitated by a wealth of audio and video content available on the Internet. Since 2004, one of the central resources for viewing, studying,

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8 Lacerda, *Pandeirada brasileira*.

9 Sampaio, *Pandeiro brasileiro*. 
and purchasing this instrument outside of Brazil has been Pandeiro.com, a website
created and maintained by Scott Feiner.10 An excellent pandeirista himself, Feiner
maintains a website that contains short biographies and discographies of influential
pandeiristas, along with a selection of YouTube clips of several of the artists. Suzano is
featured prominently, and Feiner describes one of the few handmade pandeiros for sale
on the website as having the “Marcos Suzano sound.”11 In addition, Pandeiro.com lists
upcoming pandeiro clinics, and provides an online location to purchase pandeiro-related
literature, including the two method books discussed above.

Gerard Béhague’s “Patterns of Candomblé Music Performance: An Afro-
Brazilian Religious Setting,” found in Performance Practice, a book edited by Béhague,
focuses on the role and realization of candomblé music.12 The author defines and
describes central elements of candomblé, and details several important ceremonies.
Béhague’s work focuses on the music of candomblé, but also presents relevant religious,
linguistic, and social information. This context is helpful for those interested in the study
of candomblé music. Béhague discusses the three drums, or atabaques, of candomblé:
the rum, rumpi, and the lè. He delineates the importance of the rum, the lowest pitched
atabaque, and the role it plays in directing and controlling the music—a concept at the
forefront of Suzano’s mind as he worked with the strong low frequencies of the amplified
pandeiro.

11 Ibid.
12 Gerard, Béhague, “Patterns of Candomblé Music Performance: An Afro-Brazilian Religious Setting,” in
Performance Practice: Ethnomusicological Perspectives, ed. Gerard Béhague (Westport, Conn:
Greenwood Press, 1984)
Another important resource on the topic of *candomblé* is Larry Crook’s *Brazilian Music: Northeastern Traditions and the Heartbeat of a Modern Nation*. While this book addresses a multitude of Northeastern genres, Crook illustrates the structure of the music of *candomblé* as well as its influence on popular music of Brazil. Additionally, he examines other Northeastern music that features the *pandeiro*, including *côco* and *baião*, and important *pandeiristas* such as Jackson Do *Pandeiro*.

*The Recording Engineer’s Handbook* by Bobby Owsinski is a fundamental look at tracking and recording procedures.\(^\text{13}\) The author presents attributes and functions of popular microphones, preamps, and other audio equipment for quick reference. Basic stereo tracking is the emphasis of this book. Owsinski also includes advice on microphone placement for a variety of percussion instruments, and although he makes no specific mention of the *pandeiro*, many of the demonstrated principles are relevant.

Detailing technical aspects of the construction and internal operation of microphones and other recording technologies, John Eargle’s *Handbook of Recording Engineering* contains information on the science behind sound reinforcement, acoustics, signal processing, and recording operations.\(^\text{14}\) Eargle’s book also includes sections on the creative usage of some of Suzano’s most frequently used equipment, such as microphones, equalizers, and filters.

Colby Leider analyzes another of Suzano’s favored implements in *Digital Audio Workstation*. Leider describes the Digital Audio Workstation (DAW) as “more than just

\(^{13}\) Bobby Owsinski, *The Recording Engineer’s Handbook* (Boston: Thomson Course Technology PTR, 2005)

a tool, but in fact a musical instrument.” Suzano’s frequent use of “non-linear” recording to assemble digital audio recordings into musical ideas accords with this concept. In his book, Leider delves into the detailed functions of a DAW and covers basic digital audio editing, mixing, recording, as well as MIDI capabilities. Along with the discussion of software, Leider clarifies the use of hardware in conjunction with the DAW, addressing items such as mixing consoles and control surfaces, both of which can be seen in Suzano’s instructional DVD.

Preparation for the Study

In addition to reviewing the available literature on Marcos Suzano and his work with the amplified pandeiro, I made plans to travel to Brazil in order to conduct a face-to-face interview with Suzano. To better prepare myself for this interview, I researched the following areas: Suzano’s concepts as presented in various pandeiro method books, the music of candomblé—one of Suzano’s greatest influences, and general knowledge of the type of sound reinforcement Suzano is known to use.

Although Suzano does not have a pandeiro method published, aspiring pandeiristas can find exercises based on his technique in existing pedagogical literature. Method books such as Roberto Sampaio’s have sections devoted to starting rhythms with the fingertips rather than the heel of the hand, a development that virtually all

16 Moehn, 296-297.
17 Suzano, *Pandeiro brasileiro*. 
pandeiristas attribute to Suzano.\textsuperscript{18} Researching and working through these methods not only shed light on Suzano’s technique, but also provided insight on how others regarded his work. The placement and emphasis of Suzano’s concepts within more comprehensive and traditionally-focused methods demonstrated where Suzano’s techniques deviate from the norm, and also how his technique applies to time-honored Brazilian grooves like samba and choro.

In previous interviews, as well as his DVD, Suzano makes frequent references to the music of the Afro-Brazilian religion \textit{candomblé}, which he regards as a central element of all Brazilian music.\textsuperscript{19} He explains that: “It was only after I studied the music of \textit{candomblé} that things were clarified for me.”\textsuperscript{20} Before interviewing Suzano, I explored both the musical and religious aspects of \textit{candomblé} through literature and recordings in order to have a better understanding of this important topic.

In addition to developing his innovative \textit{pandeiro} technique, Suzano also has long been a champion of electro-acoustic music. His interest in this area began when he developed a method of attaching a microphone to the frame of the \textit{pandeiro} in order to amplify the instrument. This not only bolstered the overall volume of the \textit{pandeiro}, but also drastically altered the capabilities and function of the instrument. He further shaped the resulting sound through use of preamps, equalizers, and effect pedals. Suzano’s knowledge of sound reinforcement was an integral part of his development, as his work with the electronic manipulation of sound affected his views on technique and vice-versa. Having studied \textit{pandeiro} for ten years with very little experience in the realm of sound

\begin{flushright}
\textsuperscript{18} Sampaio, 18-21.
\textsuperscript{19} Lim, 24.
\textsuperscript{20} Ibid.
\end{flushright}
reinforcement, I spent a great deal of time working with a setup that was as close to Suzano’s as I could manage. As a result, I better understood the nature of his electronic equipment, and was able to conduct a more detailed interview.

The Interview

In August of 2011, I traveled to Rio de Janeiro, Brazil, in order to interview Marcos Suzano. After meeting with him on three separate occasions over the course of a few days, we sat down in his home studio to record our conversation. Suzano was incredibly generous with his time, and his responses to my questions were detailed, forthcoming, and animated. He showed a strong desire to share the details of his work so that others could build upon it. During the course of the interview, it became clear that the growing popularity of the amplified pandeiro resulted not only from the astonishing properties of the instrument, but also from the magnanimous nature of its innovator.

I recorded the first 30 minutes of the interview with audio only. During this time, we discussed Suzano’s background, early career, details of his performance technique, and the events that guided his revolutionary work with the pandeiro. I recorded the second portion of the interview with both video and audio. It was 45 minutes long and covered in detail Suzano’s methods of sound reinforcement, current work as an educator and performing artist, and vision for the future of the instrument. By recording this segment to video, I was able to visually document the exact arrangement and nature of his electronic setup. Suzano was kind enough to let me conduct the interview in English,
as his proficiency in the language far exceeded mine in Portuguese. As a result, I have edited some of his quotations for clarity in a written medium, but have left them largely intact, so as to preserve their original intent.

**Organization of the Study**

Chapter 1 of this study has provided the requisite background information, a review of the literature, and clarification of research methods. In chapter 2 that follows, I explore Suzano’s youth, training, and influences. In addition, I cover the formative years of his career, the development of his innovations, and his influential accomplishments.

Chapters 3–4 detail his progressive work in the areas of *pandeiro* technique and his use of electronic equipment in conjunction with this instrument. The third chapter begins with an overview of traditional *pandeiro* technique to provide a context for Suzano’s advancements. It includes sections on grip, basic tones, and left-hand rotation. From there, the chapter continues to discuss Suzano’s major contributions to *pandeiro* technique: his concept of the division of the hand and his inverted technique. The chapter concludes with information on the types of *pandeiros* Suzano employs, as well as the necessary modifications he makes to the instrument in order to achieve his desired sound.

The fourth chapter begins with an investigation of Suzano’s microphones, as well as his means of attachment. Next, the chapter focuses on Suzano’s method of sound reinforcement for live performances, his array of guitar pedals, his home studio equipment, and the different microphones he utilizes for studio recording.

The fifth and final chapter starts with Suzano’s thoughts on the potential of the amplified *pandeiro* and its future. It examines his continued presence and influence in
Japan, and it delves into the work of some of his former students. Finally, the chapter
demonstrates how Suzano’s techniques allow pandeiristas to perform a variety of
contemporary drumset grooves. Four drumset transcriptions from selected styles of
popular music, which I have arranged for pandeiro, illustrate the unique possibilities of
the instrument.
CHAPTER 2
MARCOS SUZANO: BACKGROUND AND INNOVATIONS

In order to provide context for Suzano’s advancements, this study first explores his musical upbringing, early career, important works, as well as the development of his main contributions to pandeiro performance. The majority of the information presented in this chapter, as well as those that follow, originated from an interview that I conducted with Suzano on August 16, 2011.

The Bloco

Suzano’s interest in Brazilian music began in 1977 at the age of fourteen when he and his brother observed a bloco, a group of percussionists playing samba rhythms, in the Copacabana neighborhood of Rio de Janeiro. Struck by the incredible groove of the ensemble, he and his brother decided to pool their resources to purchase instruments and form their own group. They started small at first, acquiring one surdo (large bass drum), two caixas (snare drums), and one repinique (a double-headed drum similar in size to a tom-tom, but tuned to a high pitch). Eventually they bought another caixa and repinique, as well as two more surdos, which gave Suzano and his friends the instrumentation necessary to begin playing samba on the sands of Copacabana beach.

The addition of the extra surdos was important, because escolas de samba use three different sizes of surdos that play distinct interlocking parts. The largest two provide a steady quarter-note pulse, while the smaller third improvises syncopated
rhythms, filling in the spaces and giving the bloco its characteristic balanço, or swing.\textsuperscript{21} Those of Suzano’s friends who “did not have so much swing” played the first two surdos while Suzano himself played the third, driving the bloco with the low frequencies of his surdo in the same manner that he would later lead other groups with the prominent bass tones of his amplified pandeiro.

The bloco increased in size as it amassed more percussion instruments, such as tamborim and cuica, to broaden the group’s timbral palette. Ultimately, the last instrument Suzano purchased for the bloco, the pandeiro, became the focal point of his career. Like most beginning pandeiristas, he struggled with the left-hand rotation, the weight of the pandeiro, and the coordination between the two hands. He did not initially pursue study of the instrument with any passion, as he was “too much into the groove, the samba, the heavy stuff,”\textsuperscript{22} referring to the louder surdo, caixa, and repinique.

**Discovering the Pandeiro**

Suzano’s interest in the pandeiro stems from a particular moment that he still recalls. One day, while watching television, he came across a performance of an influential pandeirista who performed under the stage name of Jorginho do Pandeiro. He played with prominent choro\textsuperscript{23} and samba artists of the forties, fifties, and sixties such as Jacob do Bandolim, Cartola, and Paulinho da Viola.\textsuperscript{24} “The sound was incredible,”


\textsuperscript{22} Marcos Suzano, interview by author, Rio de Janeiro, Brazil, August 16, 2011.

\textsuperscript{23} Choro is an instrumental predecessor to samba that features traditional Brazilian string instruments such as the seven-string guitar, cavaquinho, and bandolim.

\textsuperscript{24} Feiner, “Pandeiro.com.”
Suzano reflects, “and I said, ‘well this sound is the same sound of Paulinho da Viola’s pandeirista … and the same sound of some Cartola albums.” He then scoured his father’s collection of samba records and studied every album he could find that Jorginho had played on. Given his high demand among popular recording artists of the day, Suzano discovered a considerable amount of music. Jorginho’s son Celsinho Silva, another pandeirista, also influenced Suzano. As he stated, “it was this family that was responsible for my playing.”

Suzano then set out to develop that same sound that he had heard on television. He bought a handmade pandeiro and, as he had no instructor, began to experiment. Initially, he played the instrument backwards due to his self-education, executing the first stroke of the samba pattern with his fingertips instead of his thumb. He now refers to this style of playing as “inverted technique” since traditional samba patterns begin with the thumb. Wanting to emulate his idol, Jorginho, Suzano quickly abandoned his first attempts at the inverted technique in favor of the traditional method. However, years later he would revisit this inversion and develop it into a flexible and independent technique, one that freed him from traditional patterns and allowed him to create an entirely new sound.

**Early Career**

By the mid 1980s, Suzano was playing pandeiro in various choro ensembles in Rio de Janeiro. One group of special importance was that of choro and jazz.

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25 Suzano, Interview, August 16, 2011.

26 Suzano, Interview, August 16, 2011.
clarinetist/saxophonist Paulo Moura. In his group, Suzano worked with the Brazilian percussionist Carlos Negrerios, from whom he learned much about the music of *candomblé*. This religious style of Afro-Brazilian drumming influenced the development of samba and folkloric rhythms from the northeastern region of Brazil, such as *baião* and *maracatu*. Suzano’s work with Negrerios altered his conceptualization of Brazilian music, and signified a turning point in his career. He remarked that: “It was only after I studied the music of *candomblé* that things were clarified for me.”

Suzano’s firm base in *candomblé* manifests itself in two important attributes of technique and sound. Part of his revolutionary approach involves organizing the tones of the *pandeiro* into high, medium, and low categories. In Suzano’s conception, these tones directly relate to the primary instrumentation of *candomblé*, three conga-like drums referred to as *atabaques*. There are three types of *atabaque*; arranged from lowest to highest, they are the *rum*, *rumpi*, and *lê*. The *rumpi* and *lê* maintain regular patterns, but the leader of the group is the *rum*, which dominates the low frequencies of the *candomblé* ensemble and directs the other musicians with its improvisations. Many styles of Brazilian music, including samba, also feature this concept of a low, active, and extemporaneous voice. Suzano experienced this phenomenon at a young age while improvising rhythmic ideas on the third *surdo* of his neighborhood *bloco*. The sound of his amplified *pandeiro* also reflects this hierarchy, as the placement of his microphone strongly emphasizes low-frequency bass tones.

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27 Lim, 23.

28 Suzano, *Pandeiro brasileiro*.

29 Larry Crook, *Brazilian Music: Northeastern Traditions and the Heartbeat of a Modern Nation* (Santa Barbara: ABC-CLIO, 2005), 41.
After playing in Paulo Moura’s traditionally oriented *choro* group and similar ensembles, Suzano began performing in two progressive bands, Nó em Pinga d’Agua (A Knot in a Drop of Water) and Aquarela Carioca (Carioca Watercolor). The former is a modern adaptation of a *choro* ensemble and incorporates nontraditional instruments such as electric bass, electric guitar, and saxophone. Its repertoire consists of many standard *choros* played with a jazz-fusion influence. Aquarela Carioca combines similar elements, but also draws from the classical world through the inclusion of cello and the arrangement of many orchestral works. Many of the performers in this group were multi-instrumentalists; in addition to *pandeiro*, Suzano played *tabla*, congas, *moringa* (a clay water jug), and various other percussion instruments, coloring each piece with a different timbre.

**Development of Innovations**

While playing with Aquarela Carioca in the late 1980s, Suzano began to cultivate the revolutionary concepts that came to define his sound by using the *pandeiro* to synthesize drumset and *candomblé* patterns. He experimented by leading rhythms with his fingertips, and rediscovered the inverted technique with which he began. By breaking free of the traditional technique, he was able to create grooves that were unique to him and Aquarela Carioca. In search of new directions, he lowered the pitch of the *pandeiro* and attached a microphone to its frame. Denilson Campos, the group’s audio engineer, worked closely with Suzano and encouraged his experimentation. Suzano recalled that he “made me believe that I could play a low-tuned *pandeiro*.“ At one of Aquarela

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31 Suzano, Interview, August 16, 2011.
Carioca’s performances, Suzano and the other multi-instrumentalists were limited to the use of one instrument each due to time constraints. Because of his new technical and sonic experimentation he chose the *pandeiro*, and used it on every piece the group performed, replacing his entire percussion setup with a single instrument. Speaking about this performance, Suzano recalled that:

> With Aquarela Carioca, I used to play one song with congas, another one with tabla, some shakers and *pandeiro* … many different things. But one day we had a concert with many other groups, and there was no chance to [sound check] many instruments. So the cello just played cello, the saxophone player played only flute, and I played only *pandeiro* … But after the concert everybody said: “Man, that was the best concert, that was the best sound,” and I understood. I understood very well. Now, forget about these [other percussion instruments].

The feedback Suzano received from that concert convinced him of the path he needed to follow. Although he still used a wide range of instruments in both live and studio environments, the subsequent years of his career clearly revolved around the *pandeiro*.

**Important Works**

Suzano gained national recognition with the release of the album *Olho de Peixe*, a collaboration with Pernambuco-based *MPB* artist Lenine. *MPB*, an abbreviation for *Música Popular Brasileira*, is a wide-ranging genre that mixes Brazilian popular styles with folk, rock, pop, and jazz influences. Although there are many trends and subgenres within *MPB*, the music generally features voice and acoustic guitar, often backed by electric bass, electric guitar, and drumset. However, many Brazilian musicians regard
Olho de Peixe as a groundbreaking album because of Suzano’s innovative use of percussion. He replaced the conventional rhythm section of bass and drums by overdubbing layers of intricately orchestrated Brazilian percussion instruments.

Frederick Moehn highlights the significance of this album in his article on Suzano, noting that in the 1980s, the national recording industry had reduced the use of percussion instruments to only a “seasoning.”\textsuperscript{32} Furthermore, as Afro-Cuban percussion instruments such as congas were very much in vogue at the time, much of the percussion utilized in the recording industry was not of Brazilian origin. Suzano’s work with engineer Denilson Campos on Olho de Peixe changed that. Whereas the status quo dictated that producers should sparsely add percussion to existing rhythm section tracks, Suzano’s percussion effectively supplanted the rhythm section. The pandeiro and other percussion instruments served as the backbone of the songs, giving the album a unique sound that attracted many musicians to Suzano’s work. After this, musicians recognized Suzano as someone who “had turned the pandeiro into a drum kit.”\textsuperscript{33} His exposure grew from this album, and the newfound visibility led him to perform with legendary Brazilian musicians, including Gilberto Gil and Djavan, and international artists such as Sting.

In addition to his work with other musicians, Suzano developed a solo career by releasing a series of albums under his own name. He recorded his first CD, Sambatown, in 1996 with Jim Ball, an audio engineer from the United States. Suzano had worked with Ball in a previous visit to Nashville, when he recorded with Joan Baez,\textsuperscript{34} and the U.S. engineer impressed him with the sound he captured from the pandeiro. On

\textsuperscript{32} Moehn, 288.

\textsuperscript{33} Ibid., 289.

\textsuperscript{34} Ibid., 288.
Sambatown, Suzano presented a “clean” pandeiro sound, but in his subsequent releases, Flash and Atarashii, he employed effect pedals and filters to modify his sound, including extensive use of his Belgian-made Sherman Filterbank V2. This device allowed Suzano to distort the sound of his pandeiro completely, creating the illusion of an electronic instrument.

In particular, Atarashii contrasts sharply with Sambatown. Whereas Sambatown presented the pandeiro in a jazz-like group setting, with bass, keyboards, saxophone, and voice recorded in a large studio, Atarashii delved within, utilizing only percussion instruments recorded and electronically altered by Suzano in his home studio. He heavily processed all the percussion on this album with his audio equipment, and the resulting sound was so bizarre that most of the instruments became completely unrecognizable. Suzano created the melody on the first track, “yoroshiku onegaishimasu,” by playing a cuica run through a delay pedal. Suzano sampled the sound of his cuica, and adjusted the pitch to create a scale from which he derived the melody. He constructed Atarashii entirely in this fashion, a process that he refers to as “non-linear recording.” Instead of recording pre-conceived ideas, Suzano created the structure of each track as he recorded. He looped grooves, applied various effects, and rearranged recorded material to assemble his musical ideas, stating: “So the bass lines are my cajón, my moringa, my tabla, and my surdo. And the melodies are tabla, cuicas, and berimbau … the record was all like this.”

This method allowed Suzano to make compositional decisions based upon his sonic experimentations, giving Atarashii a unique character in comparison to his other recorded works.

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35 Suzano, Interview, August 16, 2011.
Educational Activity

Aside from his recording and performance career, Suzano has been active as an instructor for many years. Although he has given clinics and masterclasses in Europe and Asia, the heart of his instructional work has always been in his home city of Rio de Janeiro. In 1996, he began to conduct month-long courses in Rio’s Botofogo district. Here he taught his unorthodox inverted technique, combined with his *candomblé*-influenced concept of groove, to groups of around 40 students. At the time, he received a fair amount of backlash to his ideas, as there were those who felt he was “destroying” the tradition of the *pandeiro*. Yet, the success of his group classes and the interest he received from the younger generation encouraged him. As more and more *pandeiristas* took to his technique, these criticisms subsided.

Through these classes, as well as recordings and performances, Suzano began to share his many achievements and innovations with the Brazilian musical community. He popularized his inverted technique, which simultaneously reinvigorated traditional *pandeiro* patterns and gave *pandeiristas* an increased freedom to improvise and interact musically. Suzano had also radically altered the sound of the *pandeiro* by loosening the drumhead and attaching a microphone to the frame. As a result, he dramatically boosted the low frequencies and increased the overall volume of the *pandeiro*, and attained further modification of this sound through the application of filters, preamps, and effect pedals. Consequently, by experimenting with technique and sound reinforcement, he redefined the perception of percussion in popular Brazilian music by freeing it from the
confines of tradition and expanding its role within the ensemble. While Suzano
developed the above concepts concurrently throughout the length of his career, this paper
will proceed by delving into acoustic properties of his *pandeiro* methods.
CHAPTER 3
THE ACOUSTIC PANDEIRO

Some years later, I realized that the inversion was the solution, and this was my contribution to pandeiro technique.
—Marcos Suzano, Interview, 2011

During the late 1980s, while working with the Brazilian fusion group Aquarela Carioca, Suzano developed several technical and technological advancements in the realm of pandeiro performance. In order to address his innovations in an organized fashion, I have divided the next two chapters into separate areas—the acoustic pandeiro, and the amplified pandeiro. Whereas the latter focuses on the electronic aspects of Suzano’s work, in the acoustic pandeiro, I address issues that do not pertain to sound reinforcement. These topics include traditional and inverted technique, Suzano’s preferred pandeiros, and his modification of these instruments.

Traditional Technique

In cultivating his individual style, Suzano has added a new and expansive dimension to pandeiro performance, increasing the flexibility and versatility of the instrument. However, prior to these developments, playing the pandeiro in a traditional manner required a uniquely Brazilian set of gestures. Instruments from a variety of cultures that fall into the tambourine family share the same basic construction: a single
animal-skin drum head attached to a shallow wooden frame, with affixed metallic jingles that rattle when the drum is struck. The difference between each of these instruments lies in the size, construction materials, and manner in which the performer strikes and holds the drum. In the case of the pandeiro, the technique requires detailed coordination of the hands to provide the distinctive feel of Brazilian music.

Suzano’s musical background is rooted in samba and choro, two styles that flourished in his hometown of Rio de Janeiro. As the use of the pandeiro in samba developed from its tradition in choro, the two styles are closely related. In fact, the basic pandeiro pattern for both is identical. For the purposes of this paper, I will refer to this pattern as samba-choro. This is the tradition that Suzano learned and from which he later departed when designing his inverted technique.

**Gripping the Pandeiro**

Pandeiro performance requires the use of both hands working in tandem; as the dominant hand strikes the drumhead, the other is required to hold and rotate the instrument. In accordance with the photographs shown below, I will assume the right hand to be dominant. Thus, as shown in figure 3.1, the left hand holds the drum by the wooden frame, with the thumb placed on top of the head and the fingers pressed against the inner portion of the frame.

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36 The northeastern Brazilian styles of frevo and baião, popular throughout Brazil, make use of the pandeiro as well. There are some slight differences in technique when approaching these styles that are outside the scope of this discussion.
It is important to keep the grip firm, yet flexible, as the left hand must maintain the fluidity necessary to rotate freely while still supporting the pandeiro and absorbing the force applied by the right hand strokes.

**Basic Samba-Choro Pattern**

Samba-choro consists of a repeated pattern of four sixteenth notes, and it requires the use of three different areas of the right hand: the thumb, fingertips, and base of the palm. The pandeirista begins by rotating the right wrist inward so that the thumb strikes the drumhead, causing the fundamental pitch of the head to sound prominently while the platinelas rattle against one another. The thumb maintains an extended yet relaxed position and must rebound quickly in order to allow the drumhead to resonate.
The next three strokes only activate the sound of the platinelas, as the fingertips, base of the palm, and fingertips again strike the edge of the drumhead. This pattern must be repeated twice in order to complete an entire bar of samba-choro, felt in a 2/4 time. In order to accentuate beat two, the strong beat of samba, the first thumb stroke is muffled either by dampening the underside of the drumhead with the middle finger of the left hand or by simply not allowing the thumb to rebound off the drumhead. The second thumb stroke falls on beat two and rebounds normally, causing the drumhead to resonate freely.

**Left-Hand Rotation and Traditional Embellishments**

Although the above strokes produce the basis for the samba-choro pattern, it is necessary to rotate the pandeiro with the left hand in order to impart the quintessential Brazilian feel. On the second note of the pattern, the top of the pandeiro rotates upward and then returns to its original position on the third stroke.
The rotation of the drum somewhat alters the space between the individual sixteenth notes. Furthermore, by striking the drum in a vertical position, the performer adds a small amount of sustain to the sound of the *platinelas*, giving the second stroke a slight emphasis. In the hands of an experienced performer, these natural idiosyncrasies enhance the samba-choro groove.

The use of additional tones to embellish the samba-choro pattern is common. Striking the center of the drum with a flat palm produces a slap tone, a sharp, high-pitched, loud sound that provides an accent similar to a rimshot. By rubbing the middle finger along the edge of the drumhead, the performer creates a finger roll, inducing friction that sustains the vibration of the *platinelas*. The *pandeirista* can control the texture of this roll through the amount of pressure he applies with his middle finger. This roll can be sustained like a buzz roll on a snare drum, or can consist of only two strokes, like the double-stroke roll, another common snare drum rudiment. In order to increase adhesion to the head, the performer may apply candle wax or beeswax to the edge of the
In addition, it is possible to create a tone similar to that of the thumb stroke by striking the drumhead with the tips of the fingers between the edge and center of the *pandeiro*.

![Figure 3.4. Using the fingertips to simulate a thumb stroke](image)

**Division of the Hand and Organization of Tones**

One of the primary benefits of Suzano’s technique is that when applied correctly, it allows the performer to embellish and alter patterns in a spontaneous fashion without disrupting the rotation of the left hand. The tonal palette of the *pandeiro* consists of three different sounds: 1) the open sound of the resonating head, like that achieved by the thumb stroke, 2) the sound of the *platinelas*, and 3) the high-pitched slap tone. Suzano’s method of dividing the right hand in half and creating access to each of these sounds on either portion of the hand allows the performer to create unique combinations and interact

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37 Lacerda, 22.
extemporaneously with other musicians. This is not to say that improvisation was impossible on the pandeiro before Suzano’s developments. Innovators such as Jorginho do Pandeiro and Celsinho Silva are accomplished improvisers and skillful musicians whose creativity inspired Suzano and paved the way for his contributions. However, for less experienced musicians, samba-choro technique can be quite limiting. Improvisation necessitates awkward repetition of certain strokes (the thumb stroke especially), as well as uneven left hand motions that may not leave the performer in an optimal position to resume the basic pattern. Suzano’s solution to this dilemma requires a reorganization of the pandeiro’s tones.

Suzano bases his conception of these tones on the three atabaque drums of candomblé, which are arranged by pitch: low, medium, and high. On the pandeiro, he defines the low pitch as the open sound of the resonating drumhead, the medium pitch as the platinelas, and the high pitch as the sound of the slap tone. For clarity, I will refer to these as “bass,” “platinela,” and “slap” tones. He then divides the hand in two segments—the upper hand (the fingers) and lower hand (the thumb and base of the palm). Using Suzano’s technique, both the upper and lower hand can independently produce identical bass, platinela, and slap tones. Since these six tones indicate unique motions and sounds, I have named them in English using Suzano’s Portuguese terminology as a starting point. The use of these expressions allows one to reference the motions used in Suzano’s technique without repeated explanation for the English reader.
In another deviation from traditional samba-*choro* technique, Suzano constantly rotates the *pandeiro* with his left hand, alternating contact between the upper and lower hand with each partial of the beat. As he is able to access the bass, *platinela*, and slap tones from either portion of the hand, he can elicit them on any sixteenth-note partial. Through deft control of his left-hand rotation, he can create various subdivisions of the beat, further enhancing the flexibility of the *pandeiro*.

### Inverted Technique

A substantial contribution to *pandeiro* performance, Suzano’s inverted technique redefined the perception and use of Brazil’s most ubiquitous percussion instrument. Whereas the samba-*choro* pattern always began with a thumb stroke, (and indeed, most all traditional patterns led with the lower portion of the hand), Suzano reversed this concept and started his grooves by leading with his fingertips. Yet, as described above,
all tones are possible in either portion of the hand; so it may seem curious that he would have chosen to start in one position over the other. However, Suzano’s decision to invert his technique stems from his interest in candomblé and drumset rhythms.

In the late 1980s, Suzano’s work with progressive ensembles and audio engineers led to a new understanding of pandeiro sound and technique. He attached a microphone to the frame of the pandeiro, very close to the head, which captured and augmented the low frequencies before they could dissipate. This bottom-heavy sound, enhanced by the low-pitched tuning of his pandeiro, showed similarities to the candomblé drum patterns he had studied with Carlos Negreiros, which he endeavored to recreate on the pandeiro. Because it is not a traditional candomblé instrument, Suzano’s effort to incorporate the pandeiro in this way was unique. In time, he found that the use of traditional pandeiro technique presented difficulties when dealing with the driving syncopations of the rum, the lowest drum of candomblé.

Leading with the thumb causes the performer to place the downbeats on the lower portion of the hand and the upbeats on the upper portion of the hand, and necessitates either the use of finger bass tones or repeated thumb bass tones to play the upbeat-dominant patterns of the rum. There are drawbacks to both of these solutions: the finger bass tone is more difficult to execute than the thumb bass tone,38 and repeating strokes disrupts the motion of the left hand. Suzano felt that he needed “a different position,”39 and attempted to lead candomblé patterns with his fingertips. By doing so, Suzano could

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38 It is worth noting that traditional pandeiro patterns begin with the thumb rather than the fingertips simply because it is easier to get a bass tone with the thumb. When using the thumb bass tone, Suzano strikes the drumhead with the entirety of his thumb, which has more surface area than the three fingertips he uses to generate the same tone with the upper portion of his hand. This extra contact with the drumhead produces a naturally fuller sound than that of the fingertips. However, with practice it is possible to balance the two bass tones and make them nearly indistinguishable.

39 Suzano, Interview, August 16, 2011.
play the syncopations of the *rum* with his thumb, which allowed him to propel these rhythms in a forceful manner. This inversion of technique permitted him the ability to recreate these patterns on the *pandeiro* in a stylistically accurate fashion. As he viewed *candomblé* as the heart of all Afro-Brazilian rhythms, he began to use his inverted technique across all Brazilian genres, including samba, *choro*, *baião*, and *maracatu*, emphasizing the low-frequency syncopations in each of these styles.

Another advantage of Suzano’s inverted technique became apparent as he explored the adaptation of drumset grooves to the *pandeiro*. When amplified, the increase in low frequencies causes the sound of the instrument to resemble that of a small drumset, with the bass, *platinela*, and slap tones emulating the bass drum, hi-hats, and snare drum respectively. Suzano noticed this correlation, and surmised that one could use the sonic possibilities of the amplified *pandeiro* to imitate the sound and function of a drumset. Inspired by drummers such as Bill Bruford (the drummer of the rock group Yes, who popularized the Simmons electronic drums), Sly Dunbar (a reggae icon), and John Bonham (Led Zeppelin’s drummer, and a pioneer of rock drumming), Suzano played along with their recordings, striving to reproduce the contours of their grooves on his *pandeiro*. By paying attention to the unique nuances of each drummer, he found new avenues of expression on the *pandeiro*. Because he was interested in popular styles of music, such as rock and funk, he had to adapt his technique to accommodate a central feature of these styles: the backbeat.

The backbeat in American popular music is most often accentuated with snare drum hits on the second and fourth beat of a measure in 4/4 time. When playing *pandeiro* in a traditional manner, these notes fall on the lower portion of the hand. To
imitate the sound of the snare in this position, the pandeirista must use the thumb slap, a traditionally uncommon tone achieved with the lower portion of the hand. The thumb slap utilizes a similar motion as the thumb bass, yet the player’s thumb must land in the center of the head rather than near the rim. Because of the slightly awkward nature of this motion, it can be difficult to incorporate this tone in a fluid manner. Again, the inverted technique presents a solution to this issue. Leading with the fingertips places the backbeat on the upper portion of the hand, where the performer can use the slap tone, the counterpart of the thumb slap. Achieved by striking the center of the drum with an open palm, the slap is easier to produce, and allows for effortless execution of backbeat-oriented grooves. Moreover, sixteenth-note based funk patterns, which often include both a backbeat and syncopated bass drum figures, lay especially well on pandeiro when using Suzano’s inverted technique.

The “Suzano” Pandeiro

Suzano has a large collection of pandeiros of various types and constructions. However, the quintessential Suzano “sound,” found on his seminal recordings, Sambatown and Olho de Peixe, requires a pandeiro with particular features. One of Suzano’s former students, a luthier simply named Bira, crafts a pandeiro dubbed the “Suzano” model. This instrument highlights the features Suzano values in a pandeiro and comes highly recommended by him.
Due to its shallow frame made from pine, Bira’s drum is light, weighing approximately 17 ounces. A pandeiro with too much weight causes great strain on the performer’s left hand, reducing speed and endurance. Suzano’s inverted technique can be especially demanding, and a light and well-balanced pandeiro makes the constant left-hand rotation less arduous. Like most pandeiros with heads made from animal skin, Bira’s drumhead is made of goatskin. Yet, the head is thicker than the normal pandeiro head and maintains a focused sound when loose. Because the dominance of the lower frequencies characterize Suzano’s sound, it is essential that the head possesses good resonance and punch when tuned to a low pitch, and the thick goatskin head on Bira’s pandeiro delivers both of these attributes.
The rim used to tighten the head around the frame, known as the counterhoop, comes in two types: the flat rim, and the round rim. Both are circular pieces of metal that attach to the tension rods of the pandeiro, which pull the rim down around the edges of the drumhead and control the pitch of the instrument. The flat rim is the most common of the two, as it is lighter, but is not Suzano’s preferred rim. The round rim adds a slight amount of extra weight to the pandeiro, but also improves the sound of the instrument when tuned to a low pitch. As this style of tuning is essential to attain Suzano’s sound, Bira’s drum features a round rim.

![Figure 3.6. Example of a round rim counterhoop](image)

**Nylon Head Pandeiros**

In addition to goatskin heads, Suzano has a number of nylon head pandeiros. These synthetic heads are extremely popular among samba and pagode percussionists, who tune them to a very high pitch. Because of the extra pressure necessary to hold this
elevated pitch, instrument builders frequently attach extra tension rods to the counterhoop. However, the additional metal increases the overall weight of the instrument. While Suzano rarely uses a nylon head pandeiro as his primary instrument, he often experiments with them in his home studio, and occasionally uses one to achieve a different timbre in a live performance. He is especially fond of running these drums through various effect pedals, as their brilliant tone elicits a different sound than that of his goatskin-head pandeiros. Another one of Suzano’s former students, Marcelo Pizzott, makes a lightweight nylon-head pandeiro with a round rim, mixing aspects of Suzano’s preferred drum with the bright sound of a synthetic head.

Figure 3.7. Nylon-head pandeiro made by Marcelo Pizzott
Japanese *Pandeiros*

Suzano’s performances and clinics in Japan have given rise to a generation of Japanese *pandeiristas*. Along with developing their skills as performers, many of his students there have also devoted themselves to the craft of instrument-building. Their pandeiros, although not very loud, tend to be extremely lightweight and have a well-balanced sound. Because of these traits, Suzano often prefers to record with his Japanese pandeiro. The minimal weight of the instrument increases speed and dexterity, which makes difficult patterns easier to play. Although the drum is relatively quiet, the *platinelas* and the drumhead balance each other in a manner that requires only nominal adjustments to the recorded sound. In a studio setting, the overall volume is easy to increase, so the fact that the drum itself is somewhat quiet is a non-issue.

**Modifications to the Pandeiro**

In his home studio, Suzano keeps many of the pandeiros he has collected over the years neatly stacked, forming a tower that is nearly two feet tall. Every pandeiro in his collection has a unique build and sonority, but Suzano has altered most of them to suit his sonic ideal. While he treats some of these pandeiros to the point where more tape is visible than wood, he subtly marks others with a single crucial adjustment. In either case, some amount of modification is necessary due to the peculiar attributes of the amplified pandeiro.

Because the attached microphone heavily emphasizes the low frequencies of the pandeiro, Suzano often tailors the sound of the *platinelas* to blend with that of the drumhead. He commonly uses sandpaper to widen the openings that house the
platinelas. This extra room increases the volume and allows the platinelas to vibrate against one another for a split second longer, fattening their sound. Suzano also alters the platinelas themselves. Depending on the instrument, he may attach rubber discs to muffle them, hammer them to darken their sound, and insert flattened bottle caps between them. Each modification colors the sound of the platinelas in a unique fashion, and Suzano may use all, none, or some of these methods to achieve his desired sound.

When unaltered, the goatskin head produces an array of overtones that the performer must quell in order for the bass tone of the pandeiro to imitate the low frequencies found in the music of candomblé or on a drumset. At higher pitches, these overtones are less perceptible, but, at Suzano’s favored tuning, they are obtrusive and cloud the fundamental tone of the head. To resolve this issue, Suzano places several layers of masking tape on the underside of the drumhead, arranged in the shape of an “X” placed inside a square. The tape helps to focus the pitch of the drumhead by eliminating extraneous overtones. The amount of tape necessary, as well as its exact placement, depends on the natural characteristics of the goatskin, which vary greatly from head to head. While this type of treatment is not unique to Suzano’s pandeiros, his style of low-pitched tuning usually requires a greater amount of tape to deaden the overtones.

In addition, Suzano sometimes places a small circle of museum putty directly in the center of the drumhead, on the underside of the pandeiro. The putty not only eliminates overtones, but also drops the pitch of the head significantly and yields a round and warm sound quality. The idea for this modification comes from the syahi found on Indian tabla drums. The syahi is a round black mass of dried paste placed in the center of the tabla’s drumhead to both lower and center the pitch. To achieve a similar effect on
the *pandeiro*, Suzano uses a small amount of museum putty as a substitute for the *syahi*. Both masking tape and museum putty can work on any type of *pandeiro*, including nylon-headed drums, but Suzano cautions that the museum putty does not produce the same result on every drumhead. In fact, he maintains that some *pandeiros* sound better without this particular modification.

![Figure 3.8. Drumhead modified with tape and museum putty](image)

While these alterations will have an effect on the sound of an acoustic *pandeiro*, Suzano mostly employs them for use with a microphone. To clarify the mode of amplification, this study will next touch upon the details and inner workings of Suzano’s amplified *pandeiro*. 
CHAPTER 4

THE AMPLIFIED PANDEIRO

In addition to his inverted technique, Suzano developed another revolutionary advancement in pandeiro performance by attaching a small microphone to the frame of the drum. Suzano’s choice of microphone and its placement freed him from the restraints of a stand-mounted microphone and gave him a new perspective on the function of the pandeiro. The combination of the pandeiro, attached microphone, and the other electronic equipment Suzano would also add to the equation affected the sound and function of the instrument so profoundly that it could now be conceived as something entirely new—an amplified pandeiro.

Effects of the Attached Microphone

Before Suzano’s work with an attached microphone, pandeiristas commonly found themselves in situations in which the size of the audience and venue necessitated amplification. The solution involved placing a microphone on a stand and pointing it upwards to the underside of the pandeiro, as shown in figure 4.1.
Figure 4.1. Position of a pandeiro held over stand-mounted microphone

Engineers usually placed the microphone at least six inches away from the pandeiro, because the rapid left-hand movement of the drum required enough space to keep the frame of the drum from contacting the microphone. Yet, this type of placement frequently resulted in an inconsistent sound, due to the significant variations in distance caused by the natural motion of such a kinetic instrument as the pandeiro. By attaching a small condenser microphone to the frame, Suzano kept this relationship at a consistent distance and created a uniform sound. He found this new freedom of movement extremely useful, because it allowed him to interact with other musicians without feeling
physically restrained. Furthermore, as the timbre of the *platinelas* depended on the orientation of the *pandeiro*, he gained a nuanced control over their texture.

Another effect of the attached microphone had a profound impact on Suzano’s conception of the *pandeiro*. When he tuned the instrument in the traditional manner and played above a stand-mounted microphone, a reasonably honest representation of the sound of an acoustic *pandeiro* resulted. The balance between the sound of the drumhead and the *platinelas* remained the same whether amplified or not. Yet, with the microphone affixed to the shell, Suzano found that the volume of the drumhead increased greatly and gained prominence in the context of the overall sound, due to an increase in bass response caused by the short distance between the microphone and the drumhead, otherwise known as the proximity effect. This development gave rise to his innovation of tuning the *pandeiro* to an extremely low pitch.

When played acoustically, the volume of the drumhead has a direct relationship to the pitch of the drum. In order to lower the pitch, the player must loosen the drumhead. This decreases the tension of the head, and thereby diminishes the volume. Eventually, if one loosens the head enough, the sound of the *platinelas* will drown out the sonority of the drumhead completely. Suzano discovered that the boost in volume that the attached microphone provided more than compensated for this loss and allowed him to tune the head to a lower frequency range similar to that of a bass drum or *surdo*. Once he heard this sound, he began to envision new possibilities for the *pandeiro*. As Suzano notes: “Because of the low tuning, I could play a different role. I could be underneath [the ensemble] and give a good supporting groove.”

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40 Suzano, Interview, August 16, 2011.
cultivate the *candomblé* and drumset influences that were so integral to his unique approach. In a separate interview, Suzano described the importance of the lower tuning, when he stated:

> In Afro-Brazilian music the low end is the soloist. The low drum [in *candomblé*], man, the *rum*, that is where it’s at. The bass from reggae, the [bass runs on] seven string guitar [in Brazilian choro], the kick drum in funk, this is all *rum*…because the African origin is the same. \(^{41}\)

Suzano’s assertion is not literal and it is clear that he does not see reggae, choro, and funk as sub-genres of *candomblé*. Yet, it is an honest expression of his belief as a Brazilian percussionist that in these styles, which all share a large element of African influence, the lowest pitched instruments drive the ensemble. Because of this mindset, he saw the great possibilities that an attached microphone could afford him, and he strove to find the perfect fit.

**Microphone Selection**

When Marcos Suzano initially attempted to amplify his *pandeiro* in the late 1980s, he first used a Sony ECM-16T condenser microphone. This lavalier microphone was relatively inexpensive and its small size allowed Suzano to attach it to the frame of the instrument without adding an excessive amount of weight. However, he soon began to explore other alternatives, as the Sony device was relatively inexpensive and designed for public speaking. Two other microphones Suzano tested were the AKG C519M and the Audio-Technica Pro 35, both clip-on condenser microphones primarily intended for

\(^{41}\) Moehn, 293-294.
use on wind or brass instruments. Both of these directional microphones featured cardioid polar patterns that rejected peripheral sound and increased the bass response due to the proximity effect. On both models, the microphone was seated atop a short flexible gooseneck that allowed for precise positioning and could be clipped onto the bell of a horn or, as was the case here, the shell of the pandeiro. While Suzano appreciated the improved sound quality from both microphones, especially the Audio-Technica, he felt that they were not sturdy enough for the pandeiro. Specifically, the gooseneck and clip mechanisms could not hold the microphone steady when attached to the pandeiro due to the constant left-hand rotation of Suzano’s inverted technique.\

While on tour in New York City in the early 1990s, Suzano came across the Shure SM98 microphone. This model better suited his needs, and it became his preferred choice for a large part of his career. Comparable to the AKG and Audio-Technica microphones in sound quality, it came without any mounting apparatus: just a small electret condenser microphone capsule 1.5” in length. As such, Suzano had to create his own mounting system, which needed to be more durable and compact than the AKG or Audio-Technica versions. After a few attempts, Suzano found a design that held the microphone securely while only adding minimal weight. Later, he settled upon the Shure Beta98, a higher quality version of the SM98. The Beta98 is still Suzano’s preferred microphone for live applications.

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42 I have used the Audio-Technica Pro 35 on my personal pandeiro for over three years, and have not encountered these problems. I discussed this issue with Suzano, and it seems that the construction of the gooseneck and clip has improved in recent years.
Figure 4.2. Shure Beta98 microphone with Suzano’s homemade mounting system

**Attaching the Beta98**

Suzano uses electrical tape to affix the Beta98 to a small rubber eraser, in order to reduce the amount of noise transmitted through the wooden frame of the *pandeiro*. With another few layers of tape, he attaches the eraser and microphone to a small “L” bracket along the length of one of its sides. After removing the nut, he puts the bracket onto one of the screws used to secure a tension rod to the shell of the drum. He selects the screw nearest to the underside of his left hand in order to minimize the effect that the weight of the microphone has on the rotation of the drum. He replaces the nut on the screw, securing the bracket so the microphone rests parallel to the drumhead. Because the Beta98 is directional, this positioning ensures that the microphone captures the maximum amount of sound from the *platinelas* to balance that of the drumhead.
Sound Reinforcement for Live Performances

For some concerts, Suzano occasionally brings only his pandeiro and microphone. If the event requires minimal use of pandeiro, perhaps in conjunction with a large setup of various percussion instruments, this simple configuration will suffice. He sends the signal from the microphone directly to the mixing console, where the audio engineer can adjust the sound at the console with built-in preamps and equalizers. On the other hand, when the performance calls for Suzano to utilize the pandeiro as his primary instrument, he incorporates his own electronic equipment in order to enhance its sound and broaden its timbral possibilities. He places these components in a specific order that has evolved to its present configuration through years of experience and experimentation.
The signal captured by the attached Beta98 first travels into a small vacuum tube preamp that was custom-built in Japan for Suzano. The preamp boosts the signal level while adding an adjustable amount of harmonic distortion via the internal vacuum tube, giving extra warmth to the sound of the pandeiro. Six interchangeable tubes allow Suzano to alter the fundamental sound the preamp generates and can be further fine tuned with knobs that control the drive (distortion level) and gain (volume). In a situation with good equipment and attention to detail, the tube preamp can have a great impact on the overall sound of the pandeiro. Suzano finds that, besides adding warmth, the preamp clarifies the sound by separating the high, middle, and low frequencies of the drum in a way that causes the pandeiro to sound full, detailed, and musical.

From the preamp, the signal passes into a microphone splitter such as the Radial Engineering JS-2. This small box has one input and two outputs, splitting the signal from the preamp so that the signal can separate into different directions from this point. One signal, the “clean” line, carries the unaltered sound of the pandeiro directly to the mixing console. The other signal, the “effect” line, passes through a series of guitar pedals before it goes to the mixing console. The latter may have as many pedals in it as Suzano wishes, each offering its own unique timbre that he can alter and mix with the other pedals. Some obscure the sound of the pandeiro to the point that it is almost unrecognizable as a drum and unable to support a groove in the manner that the unaltered sound of an amplified pandeiro can. It is for this reason that Suzano always employs both a “clean” line and an “effect” line. When balanced properly at the mixing console, the pandeiro maintains the integrity of its original sound no matter how much Suzano distorts the “effect” line.
Both signals feed into individual channels of the mixing console for final detailing. The mixer’s equalizer gives Suzano (and the engineer) control over the volume of the low, middle, and high frequencies of the signals. The amount and type of adjustment necessary will vary depending on the location, the audio equipment at the venue, and the other instruments on stage. However, Suzano generally has to raise the levels of the low and high frequencies slightly in order to get a balanced sound.

**Effect Pedals**

Another unique aspect of Suzano’s playing is his use of guitar effect pedals to modify and warp the sound of the amplified pandeiro. Since playing the pandeiro occupies both hands, the ability to transform its sound with the feet can be useful and effective. For instance, Suzano often utilizes a volume pedal. When setting his desired level, he leaves the pedal in the halfway position so that he can increase or decrease the volume as needed with his foot. Rarely does he use this pedal for dynamic shaping, but in situations where the noise level of other performers onstage begins to drown out his sound, he can use the pedal to boost his volume without having to overplay.

In many instances, because the pedals are designed for the electric guitar—a tonal instrument capable of sustaining sound with prominent mid-range frequencies amplified through pickups—they have little effect on the pandeiro, a rhythmic instrument incapable of this kind of sustained sound with prominent high and low frequencies amplified through a microphone. However, quite often, the pairing of the pandeiro with guitar pedals produces interesting and musical results. As Suzano notes in his instructional
the only way to harness these pedals in a useful manner is to spend a great deal of time experimenting with them. Because the pedals create new sounds when used in conjunction with one another, the possible configurations are endless. Although many guitarists attach many of their pedals to a pedalboard for ease of use and transportation, Suzano does not. Rather, he studies them all individually and in various combinations, taking only what he needs to each performance.

Many of his pedals contain multiple effect possibilities and, as such, are cost-effective for percussionists just beginning to delve into electronic equipment. The Line6 FM4 and DL4 represent two such examples. These pedals are modelers; they each can emulate 12 different vintage and modern guitar pedals. Although the quality of these models may not match those of the pedals they intend to duplicate, the quantity alone is valuable. Additionally, since the sound of the amplified pandeiro is so wildly different from that of a guitar, this discrepancy is hardly noticeable. The FM4 contains models of different filters, such as auto-wah and low-pass filters, and Suzano notes that this pedal in particular is “very good with the pandeiro,” due to the fact that the majority of the options available in the FM4 respond well and have a striking effect on the sound of the instrument. The DL4 has a wealth of delay options that can cause the pandeiro to sound haunting and psychedelic when set to a long delay, or can thicken the sound in a subtle fashion when set to a shorter delay. When using this pedal in conjunction with others, Suzano usually places the DL4 last in the chain, right before the signal travels to the mixer, in order to take advantage of its stereo output. As a result, he can send the “effect” line to two different channels in the mixer and pan them left and right to

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43 Suzano, Pandeiro brasileiro.
surround the “clean” channel in the center. Other multi-effect pedals that Suzano uses regularly are the TC Electronic Nova Modulation pedal and the TC Electronic Nova Delay pedal.

Two of the more expensive and versatile pedals Suzano employs are the Moogerfooger LowPass Filter and Ring Modulator, both designed by Moog. Both pedals are made entirely of analog components and have many adjustable parameters that allow Suzano to fashion uniquely specific sounds for the amplified *pandeiro*. He can control parameters such as the delay, cutoff, and envelope of a filter, through use of an expression pedal that adjusts these values in real time when rocked back and forth. He often pairs these pedals with others, since the Moogerfooger pedals can react to input from attached devices.

Suzano also regularly uses the T-Rex Mudhoney Distortion pedal, the Digitech Whammy pedal, and the Boss RE-20 Space Echo pedal. The Boss can create a wide range of effects for its price and size and is similar in cost-effectiveness to the Line6 pedals. Suzano’s favorite capability of the Digitech pedal is its ability to shift the pitch of the *pandeiro* down two octaves, and the T-Rex pedal creates a distortion that gives the impression of an electric guitar doubling the rhythm of the *pandeiro*. However, with all pedals, especially the distortion pedal, the possibility of feedback is always present, since the attached microphone collects more ambient noise than the pickups found on an electric guitar and is therefore more susceptible to feedback. Suzano spends a great deal of time learning how these pedals interact with both the *pandeiro* and all the electronic aspects of his setup, and he takes care to preset the parameters on each pedal to ensure
that feedback does not disturb his performance. Although his primary use for the effect pedals is live performance, he occasionally employs them in his home studio, in conjunction with his stationary audio equipment.

**Home Studio Recording Equipment**

Suzano became enthralled with the recording process through his work with audio engineers such as Denilson Campos and Jim Ball. Campos recorded *Olho de Peixe*, Suzano’s breakthrough collaboration with singer/songwriter Lenine; Ball served as the lead engineer on *Sambatown*, Suzano’s first solo album. He used the knowledge he gained from Campos and Ball to build a home studio that featured much of the same equipment he used to record the aforementioned albums, albeit on a smaller scale. As a result, he became more autonomous and spontaneous in his studio work. He recorded the vast majority of his collaboration with Vitor Ramil, *Satolep Sambatown*, as well as the entirety of his most recent recording, *Atarashii*, in his single-room home studio. The heart of his home operation is his Apple Power Mac G5, on which he runs the popular digital audio workstation, Pro Tools. This is a common setup for many home studios, but in order to augment his recording capabilities, Suzano also employs a number of powerful external devices akin to those used by professional engineers such as Campos and Ball.

In addition to the portable version that he uses for live performances, Suzano has two rack-mounted preamps at his home studio; a Universal Audio 2-610 and a Neve 1073DPD. Audiophiles prize these preamps for their distinct sound coloration capabilities. They are dual channel models, meaning that they each have two microphone
inputs, allowing Suzano to record his *pandeiro* with two (or more) microphones simultaneously. Like the portable preamp, the Universal Audio contains vacuum tube technology and warms the sound of the *pandeiro* in a similar manner; however, it boasts a greater sonic flexibility due to the number of adjustable parameters accessible on the front panel. In contrast, the Neve is a transformer-based preamp, and accordingly has a different effect on the sound of the *pandeiro*. For Suzano, neither of these preamps present clear-cut choices for any specific application, but instead serve as tools for ongoing experimentation.

Sitting atop the two preamps, the Sherman Filterbank V2 is the device that Suzano seems to enjoy discussing the most. In his words: “This is where I destroy my sound.” An analog filtering and distortion unit, the Sherman has an array of knobs and switches with which Suzano transforms the tone of the *pandeiro* until it is completely unrecognizable. He uses this filterbank extensively on his third solo album, *Atarashii*. This album is comprised solely of acoustic percussion instruments, such as *pandeiro*, *cajón*, and *cuica*. Through use of the Sherman Filterbank, Suzano processes the recordings of these instruments to create textures that resemble those of electronic music, even generating melodic material from rhythmic instruments. On rare occasions, Suzano brings the Sherman to live performances, but only when he feels very secure with the audio engineer. When mishandled, the Sherman can overload the speakers and other audio equipment, causing severe amounts of damage.

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44 Suzano, Interview, August 16, 2011.
Microphones Used in Studio Recording

While Suzano prefers the Beta98 for all live performances, his microphone selection for recording purposes has varied throughout his career. As a result of his work with Denilson Campos and Jim Ball, Suzano recorded with a wide range of microphones before settling on the Neumann TLM103 and KM184 for his home studio, where he now records most of his new material. Like the Beta98, both are condenser microphones, but the higher quality of their internal components yields a superior sound that is cleaner and more detailed. However, unlike the attached microphones, the Neumann TLM103 and KM184 are large, fragile, expensive, and cannot fasten to the frame of a pandeiro. Consequently, Suzano finds them unsuitable for live performance and uses them only in a studio setting.

Unlike Suzano’s method for live amplification, in which he uses only the Beta98, his approach to recording pandeiro remains fluid and open to experimentation. The TLM103 is a large-diaphragm microphone and generally produces a warmer sound than the KM184. However, the specific microphone selection and placement depends on which of his many pandeiros he attempts to record; he may use either or both Neumanns in order to achieve his desired sound. To capture the best balance between the platinelas and the drumhead, he positions the microphone no more than a foot away from the pandeiro. In most instances, he mounts the microphone underneath the instrument and aims it upwards at the drumhead; yet, at times he favors placing it above the drum and angling it downwards. Suzano finds only a subtle difference between the two positions, which he attributes to the quality of the TLM103 and KM184. When using two
microphones, he utilizes both placements and creates his sound by mixing the two signals together. In rare situations, he also uses the Beta98 in conjunction with a Neumann to enhance the punch of the low frequencies produced by the drumhead.\textsuperscript{45}

Although many college-educated percussionists have little to no experience with home recording and sound reinforcement, Suzano feels strongly that it is important for percussionists to “be comfortable in the electronic side as well as the acoustic side.”\textsuperscript{46}

Suzano’s attention is not limited to the sound that emanates from his \textit{pandeiro}, but encompasses the microphones, preamps, filters, and all other audio components he utilizes. In a world where most live performances are enhanced electronically, even through simple sound reinforcement, it is paramount that musicians understand and use these tools in a way that allows them to focus on the most important sound—that which the audience hears.

\textsuperscript{45} Shortly before our interview, Suzano recorded at a local studio in Rio de Janeiro using a Coles ribbon microphone. He and the engineer working at the studio were both so impressed with the initial sound captured by this microphone that they decided no adjustments to the sound were necessary and began to record immediately. “The ribbon brought exactly [the sound] I want,” Suzano noted in an interview I conducted in August of 2011. He plans to add a pair of Coles ribbon microphones to his personal microphone collection in order to upgrade his home studio.

\textsuperscript{46} Lim, 24.
CHAPTER 5

FUTURE APPLICATIONS OF THE “DRUMSET IN A BAG”

Having detailed Marcos Suzano’s immense contributions to pandeiro technique as well as his substantial work with sound reinforcement, this essay will next touch upon the current and potential applications that Suzano’s methods offer the aspiring pandeirista. The possibilities are constantly expanding, so in order to present them in a useful fashion, I will focus on Suzano’s thoughts on the matter, as well as on the progressive work of some of his former students. However, the most effective way to explore the positive and negative idiosyncrasies of the amplified pandeiro is to delve into concrete examples of its application. For this reason, I have selected and transcribed four drumset grooves from varying musical styles and have arranged them for amplified pandeiro in order to illuminate the unique characteristics of Suzano’s methods.

Why Pandeiro?

Although Suzano had little interest in studying pandeiro during his childhood, it became his primary focus since his early work with amplifying the instrument in the late 1980s. At the time, Suzano was performing regularly with Aquarela Carioca, the instrumental Brazilian fusion group. The pandeiro was only part of his setup; in equal amounts, he also played congas, cajón, moringa, and tabla. Even though he still uses these instruments, his innovative work with the pandeiro has caused his name to become
nearly synonymous with the instrument in Brazil. When I asked Suzano to explain why he gravitated toward the *pandeiro*, he praised its capabilities in comparison to the congas, stating: “In my opinion, it’s more useful than congas. Because [with the *pandeiro*] I work with all frequencies … really high [ranges] like 6K [Hz]. I can work with the mids, the lows like 80 to 100 [Hz].”

By contrast, a conga drum produces frequencies between 80 Hz and 1.5 KHz. The superior range of the *pandeiro* is due to the *platinelas*, which produce the high frequencies. The combined sounds of the drumhead and *platinelas* not only expand the breadth of frequencies the *pandeiro* can create, but also augment its textural capabilities, making the instrument simultaneously a membranophone and an idiophone. The low-frequency resonance of the goatskin drumhead, the attack of the slap tone, and the brilliance of the *platinelas* are three distinct and separate sounds that the *pandeirista* can manipulate and blend in myriad configurations. As such, Suzano views the *pandeiro* as more useful than the congas because of its multi-faceted sound. He also prefers the *pandeiro* to the congas for a simpler reason: “It’s way more portable.”

Suzano chooses to use congas for this comparison because of their popularity and prevalence in a wide variety of musical genres. This rise in popularity began through the early Latin jazz efforts of the Cuban percussionist Chano Pozo and the jazz icon Dizzy Gillespie in the late 1940s; their addition of congas to jazz ensembles sparked a great awareness of these instruments. Soon percussionists included congas in more commercial music and adapted their sound and technique to assimilate them into new and developing musical genres. Although congas are distinctly Afro-Cuban in origin, their

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47 Suzano, Interview, August 16, 2011.


49 Suzano, Interview, August 16, 2011.
widespread use in popular styles of non-Latin music, such as jazz, rock, and funk transformed them from instruments closely associated with a specific tradition of music to a ubiquitous sound that can function in almost any musical vein. Their evolution over the past 70 years is an important model, because Suzano envisions a similar path for the amplified pandeiro.

Presently, Suzano feels that many listeners view the pandeiro as an instrument inexorably chained to Brazilian music. He explains this general perception in the following words: “Percussion is [always linked to] tradition … but I don’t think so.” Later, he sarcastically notes that: “If a guy [uses] an electronic [instrument], it’s modern.” However, he believes that through the combination of his inverted technique and the amplified pandeiro, the instrument can assimilate into a plethora of non-Brazilian musical styles. As in the case of the congas, the he feels that the perception of the pandeiro will change as it is more commonly included in non-Brazilian music. Just as Latin jazz was born out of the collaboration between a Cuban percussionist and an American jazz trumpeter, new styles of music involving the pandeiro will arise from similar types of cultural exchange. Suzano also maintains that as musicians from other cultures adjust the sound and technique of the amplified instrument to suit their own music, they will find solutions that will be “so crazy that [their] grooves will change because of this.” Listeners will begin to think of the pandeiro as commonplace in a wide variety of musical genres and not simply as a Brazilian instrument.

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50 Suzano, Interview, August 16, 2011.

51 Ibid.
According to Suzano, one reason why listeners have a limited understanding of the capabilities of the pandeiro is that, as the quintessential Brazilian percussion instrument, there is a sense of national pride in playing pandeiro in an “authentic” manner. While this association has resulted in the national popularity of the pandeiro, and provided innovators like Suzano with a foundation upon which to build, this mentality can hinder creative efforts by young pandeiristas, especially those who are not of Brazilian origin. In an interview with Malcolm Lim, Suzano indicates: “You’ve got to have a strong musical foundation. In my case it is Afro-Brazilian music; the East Indian musician has East Indian music. And from there, you explore other things, but you have to have a solid foundation.”

However, once a musician has that foundation, Suzano maintains that it is possible to expand beyond it and embrace the traditions and instruments of other cultures. Because of this belief, Suzano has found great success teaching his style of pandeiro performance to both a Brazilian and an international audience.

Performances and Educational Activities in Japan

As of August 2011, Marcos Suzano has traveled to Japan 32 times. While he has been there on several occasions to perform alongside other artists, most of his visits are for his own projects. Through clinics and innovative performances, he has introduced his unorthodox methods to a receptive foreign audience. Because of his efforts, the pandeiro has grown in prominence within the Japanese musical community. Yet, due to the unique

52 Lim, 24.
nature of these performances, those who attend Suzano’s concerts view the *pandeiro* not as an instrument limited to Brazilian music, but rather as a Brazilian instrument that can function in a wide variety of musical styles.

One of Suzano’s favorite projects in Japan is his collaboration with the Japanese drummer Takashi Numazawa. Their performances generally take place in small underground clubs that cater to a young, progressive, and artistic crowd. The ensemble consists of Suzano, Numazawa, and an engineer who alters their sound in real time with audio equipment. In this situation, the engineer is an active participant on stage, using echo, reverb, delay, distortion, and other effects to interact with the musicians. The music of this trio is entirely improvisational and is generally devoid of melodic instruments. Suzano and Numazawa play continuously for up to two hours, creating spontaneous *pandeiro* and drumset grooves and reacting to the nuanced effects of the engineer. Yet, despite the presence of the *pandeiro*, Suzano notes that “we don’t play Brazilian music, we just start playing strange stuff.”\(^5\) To Suzano’s audience, the *pandeiro* is a cutting-edge component of electronic music and is not solely a traditional instrument. This change in perception is precisely the sort of phenomenon that Suzano envisions will change what constitutes the generally-accepted use of *pandeiro*.

In addition to performances, Suzano also conducts *pandeiro* workshops similar to those he holds in Brazil. However, while the Brazilian classes focus on samba, *choro*, and *candomblé*, Suzano observes that in Japan “there are nice players now. They play

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\(^5\) Suzano, Interview, August 16, 2011.
their music, they don’t play Brazilian music. That’s cool; that’s the idea.”\(^5\) Although Suzano cannot accurately predict how percussionists will utilize the *pandeiro* in the future, it is clear that he is observing a pattern of behavior in Japan that he feels will take place in many cultures. This type of assimilation is one way that many *pandeiristas* are expanding the musical range of the instrument.

**Students of Suzano**

Since Suzano began conducting *pandeiro* workshops in 1996, he has had a large number of successful students; at the very least, most modern *pandeiristas* credit him as an inspiration. There are many incredible percussionists pushing the envelope of *pandeiro* performance, however, for the purposes of this essay I will make special mention of two of Suzano’s former students: Bernardo Aguiar and Sergio Krakowski. Having studied closely with the leading innovator in their field, these musicians are building upon his achievements in the areas of technique and music technology.

The Brazilian percussionist Bernardo Aguiar began studying *pandeiro* with Suzano at the age of fourteen and quickly became one of his most impressive students. Born in 1984, Aguiar’s interest in Brazilian percussion at an early age stemmed from his involvement with a local group of samba percussionists known as a *bloco*. This experience caused him to enroll in one of Suzano’s group classes, held in the Botafogo neighborhood of Rio de Janeiro. When Aguiar first encountered Suzano’s technique, the possibilities of the small drum were entrancing. As Aguiar recalled in an interview with the ethnomusicologist, Larry Crook: “The pandeiro is a drumset in a bag. He [Suzano] picked up [the pandeiro], studied it, tuned it, and didn’t play beginning on the bottom

\(^5\) Ibid.
[thumb]; he began on top [fingers]. And nobody had done that [singing the Suzano pandeiro funk beat]. Everybody always began on the bottom."55 Within a few years, Suzano became so impressed with Aguiar’s prowess that he began sending him to perform with many of Rio de Janeiro’s top musicians as his substitute.

Currently, at the age of 28, Aguiar is one of world’s foremost pandeiristas. While he champions Suzano’s method, he is constantly developing new extended techniques for the instrument. One of his explorations is his application of an Italian tamburello technique to the pandeiro. The tamburello is a common Italian version of the tambourine, and, like the pandeiro, the performer generally holds the instrument in the left hand while striking it with the right. However, the positioning of the drum is vertical, and one strikes it in a wholly different manner. In the eye-catching pizzica style of playing, the thumb, back of the hand, and fingertips execute a rapid succession of three strokes, creating a quick triplet feel. Aguiar applies this same technique to the pandeiro, having developed the swift ability to reposition the pandeiro for the pizzica motion while maintaining a steady pulse. This agility allows him to utilize the pizzica technique as an embellishment without disturbing the underlying groove.

This is just one instance of Aguiar’s involvement in the continued evolution of pandeiro technique, but Suzano makes special note of it in our interview, remarking that “this [type of technical advancement] is the solution.”56 A great showcase for this type of innovative playing is the Pandeiro Repique Duo, which is a collaborative effort between

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56 Suzano, Interview, August 16, 2011.
Aguiar and Gabriel Policarpo. Policarpo is another young Brazilian percussionist who has made similar innovations in the technique of the repique, a two-headed drum used to lead the percussion section of an escola de samba.

Sergio Krakowski is another Brazilian pandeirista who studied with Suzano at his masterclasses in Rio de Janeiro. Born in 1979, Krakowski began playing pandeiro at age 15. A virtuosic player, he founded his technique on Suzano’s principles, but his style of playing frequently utilizes multiple subdivisions. Rapidly switching between a triple and duple feel can be a difficult task for a pandeirista, but Krakowski makes these transitions sound smooth and natural. In addition to his work as a performer, he is also an accomplished scholar who holds a master’s degree in Applied Mathematics from the Federal University of Rio de Janeiro (UFRJ) and a doctorate in Musical Computation from the National Institute of Pure and Applied Mathematics (IMPA).

While at IMPA, he completed his dissertation entitled, “Rhythmically-Controlled Automata Applied to Musical Improvisation.” The purpose of this project was to develop computer software that responded to rhythmic cues from Krakowski’s pandeiro. This software allowed him to trigger computer-generated sounds, switch between these sounds, and record rhythmic passages. However, these actions were not controlled by a MIDI keyboard, but instead by Krakowski’s pandeiro. Borrowing an idea from Afro-Cuban bata drumming, he developed a series of distinct rhythmic cues that the software could recognize. Each of these cues provoked a different action from the computer. Through this method, Krakowski was able to improvise short three to five minute pieces

using his *pandeiro* and computer-generated sounds. While Suzano was the first to apply
electronic equipment designed for other instruments to the *pandeiro*, Krakowski clearly
paved a new path by using the amplified *pandeiro* as a software controller. He continues
to discover new possibilities for this software by mixing acoustic and computer-generated
music in his instrumental ensemble, Chorofunk.

**Interpreting Drumset Rhythms on the *Pandeiro***

One of the attributes that attracted Suzano to the *pandeiro* was its ability to act as
a rhythmic synthesizer. With its wide frequency spectrum and dual sound sources, the
*pandeiro* offered Suzano the capacity to synthesize Brazilian rhythms that normally
necessitate multiple percussion instruments, such as samba, *candomblé*, and *maracatu*.
He further explored using the *pandeiro* in non-Brazilian genres such as funk and reggae,
and he used the challenges that these styles presented as opportunities to enhance his
technique. Today, Suzano feels that the popularity and usefulness of the *pandeiro* will
expand, as international *pandeiristas* adapt the instrument to their own musical tastes.

As a musician and *pandeirista* from the United States, I draw the bulk of my
inspiration from the drumset, the most prevalent percussion instrument in American
popular music. Suzano and other *pandeiristas* have already made the natural connection
between these two instruments as evidenced by the nickname that many have already
given the *pandeiro*: “*bateria no bolso*,” or drumset in a bag. When viewed this way, the
*pandeiro* can function like a small drumset with the bass, *platinelas*, and slap tones
representing the bass drum, hi-hat, and snare drum respectively. However, there is no
direct translation between these instruments, and the replication of a drumset groove on
amplified *pandeiro* will have a noticeably different sound quality than the original, even if it still serves the same function. Additionally, the idiosyncrasies of the amplified *pandeiro* force the performer to find creative solutions in order to balance the original intent of the groove with the possibilities of the instrument. In order to highlight these issues, as well as the strengths and weaknesses of the amplified *pandeiro*, I will present four arrangements of drumset grooves in the following sections. I created these arrangements on the amplified version of the instrument, using the increased bass response to imitate the sound of the toms and bass drum. After each arrangement, I will explain both the issues each groove presents as well as the reasons for my decisions. First, however, I will provide a key for both the drumset and *pandeiro* notation that I use in the transcriptions.

**Drumset and *Pandeiro* Notation**

At this point in the history of the drumset, the musical community at large has generally accepted a standard system of notation based on a five-line staff. Yet, as there is no standard size drumset, this notation can be adapted to suit the number of cymbals, drums, and other percussion instruments at the performer’s disposal. Therefore, I have included a key for drumset notation to accompany my transcriptions. For the sake of clarity, figure 5.1 contains only the notation necessary to represent four grooves transcribed later in the chapter.
The pandeiro notation I use in this essay draws upon the excellent system found in the first two volumes of Luiz Roberto Sampaio’s *Pandeiro brasileiro*. These method books are valuable resources that provide exercises to build technique, important Brazilian rhythms realized on the pandeiro, and fully notated etudes for the instrument. Again, I am only including the specific notation necessary for this essay, but I have also added a few elements not originally included in Sampaio’s notation that are needed for my interpretation of these grooves.

One great advantage to this system, especially as it relates to Suzano’s division of the hand, is that it visually separates tones produced by the upper portion of the hand from those of the lower portion. Notes above and below the staff line represent tones realized by the upper and lower portions of the hand respectively. I will explore specific issues with each tone in the context of the following grooves, but the last two notes in the
key do require explanation. They are not notes meant for the pandeiro, but rather for a hi-hat operated with a performer’s foot. Because the pandeiro requires the use of both hands, pedal-operated percussion instruments are great options to add color to the setup and augment the sound of the amplified pandeiro.

“As If You Read My Mind”

The fifth track of Stevie Wonder’s 1980 album Hotter Than July, “As If You Read My Mind” provides an avenue for a clear and direct application of Suzano’s principles. When realized on pandeiro, this sixteenth-note based funk groove sounds very similar to some of Suzano’s pandeiro funk grooves, which fit very naturally on the pandeiro through use of his inverted technique.

Figure 5.3. “As If You Read My Mind,” drumset transcription and pandeiro arrangement

\[\text{Figure 5.3. “As If You Read My Mind,” drumset transcription and pandeiro arrangement}\]

This is a straightforward arrangement, with the platinela, bass, and slap tones emulating the hi-hat, bass drum, and snare drum parts. By rotating the pandeiro back and forth with the left hand in a constant sixteenth-note rhythm, the pandeirista can mimic
the driving sound of the hi-hat. Following Suzano’s inverted technique by leading with
the fingertips allows the performer to execute the backbeat (originally played on the snare
drum) with a slap tone on the upper portion of the hand. This slap is much easier to
execute than the thumb slap and results in a more powerful sound. The five-stroke roll
on the hi-hat at the end of each measure exists in the pandeiro arrangement as a double-
stroke finger roll on the penultimate sixteenth note. Although this is not an exact copy of
the initial drumset groove, it both lays well on the pandeiro and captures the intent of the
original feel. It is up to the pandeirista to make creative decisions that result in an
effective arrangement, even if it means straying from the original pattern.

“Africa”

The previous pattern lays especially well on the pandeiro in part because it is
based on a constant stream of sixteenth notes. Many Brazilian styles of music, like
samba and baião, share this attribute; consequently, the pandeiro patterns Suzano uses
for these styles feature consistent left-hand rotation. However, using the left-hand
rotation to execute patterns comprised of a mixture of eighth notes and sixteenth notes
requires the pandeirista to start and stop the rotation of the pandeiro in rhythm, which is
a more difficult task. The R&B song “Africa,” written by neo-soul singer/songwriter
D’Angelo, contains a good example of this type of groove. The drumset part, performed
by Ahmir “Questlove” Thompson, features multiple issues that necessitate solutions from
the pandeirista, as it deviates slightly from a conventional R&B groove.
Thompson’s right hand plays steady eighth notes, but instead of maintaining that feel on the hi-hat as is common in many R&B grooves, he plays only the downbeat of each measure on the hi-hat. He plays the remainder of the bar on the snare drum, with the right hand striking the rim and the left hand playing the backbeat and syncopated ghost notes on the drumhead. In my arrangement, I use the sound of the platinelas to represent both the sound of the rim and the ghosted notes. This causes the pandeiro to rotate in an uneven fashion, requiring the pandeirista to focus on keeping an consistent sound throughout the rhythm. For the purpose of facilitating a strong backbeat, I have arranged the pattern so the note prior to each backbeat falls on the lower portion of the hand, creating a smooth striking motion into the slaps on beats two and four. Two thumb bass strokes, raised in pitch, replace the sound of the floor tom. In order to increase the pitch of the drumhead, the pandeirista squeezes the head with the left thumb. As this
pitch is directly proportional to the tension of the drumhead, the pandeirista can emulate multiple toms by adjusting the amount of pressure administered. One could achieve the open hi-hat sound, found on the first beat of the passage, with a finger roll on the pandeiro. Yet, in order to create contrast between that note and the following platinela tones, I have chosen to add a hi-hat to the setup, operated with the foot, to cover the original hi-hat part.

“Small Axe”

Triplet-based swing and shuffle rhythms are especially difficult to negotiate on the pandeiro due to the uneven motion required to replicate them. When I asked Suzano about this issue, he explained that the shuffle groove of the platinelas is strongest when he leads with the lower portion of the hand. However, by placing the downbeats on this section of the hand, the performer must produce the backbeat with a thumb slap. This motion can produce a weaker sound than that of the slap of the upper hand, so the backbeat suffers. If the pandeirista reverses course and performs the downbeats of the pattern with the upper portion of the hand, the backbeat sounds fuller, but the swing of the platinelas is less convincing. This issue of technique requires experimentation on the part of individual performers. The Bob Marley reggae song “Small Axe,” from the album Burnin’ (1973), demonstrates this concern. The drumset groove, a “one-drop” feel, is a four-bar phrase that contains swing eighth notes.
Figure 5.5. “Small Axe,” drumset transcription and *pandeiro* arrangement

I made the decision to place the downbeats on the lower portion of the hand for two reasons. First, I agree with Suzano that the “swing” of the eighth notes feels more natural in this position. Secondly, because the wrist (or heel in this case) has more mass than the fingertips, the *pandeirista* can greatly exaggerate the contrast between the accented and unaccented notes. The other issue I experienced in translating this groove to the *pandeiro* occurs on the third beat of every measure. This note, known as the “one-drop,” consists of the drummer striking the hi-hat, snare drum (rim click), and bass drum simultaneously. On the *pandeiro*, the motion needed to produce each “snare” (slap) and “bass drum” (bass) tone always activates the sound of the “hi-hat” (*platinelas*). However, it is impossible to obtain a simultaneous bass and slap tone due to the nature of the head. Therefore, the *pandeirista* has a decision to make—slap or bass? In the context of reggae, the bass drum is the most predominant sound on the third beat, so I chose to use a thumb bass tone in this instance.
“Bag Lady”

The final selection for this section highlights the adaptive nature of the *pandeiro* and supports Suzano’s belief that innovations in *pandeiro* technique will drive the future of the instrument. The New Orleans-inspired groove found in “Bag Lady” is an especially challenging pattern to arrange for *pandeiro*. The song, from Erykah Badu’s neo-soul album entitled *Mama’s Gun* (2000), also features Ahmir Thompson on drumset. Like his unique work on “Africa,” Thompson creates an original sound by incorporating a second line drumset groove into an R&B song.

Figure 5.6. “Bag Lady,” drumset transcription and *pandeiro* arrangement

Thompson plays the bulk of this groove on the snare drum, with rudimental ornaments such as flams, buzz rolls, and double-stroke rolls. Flams, or grace notes, are not a part of the standard *pandeiro* vocabulary, although it is certain that they are a source of experimentation for many advanced *pandeiristas*. Nevertheless, there is no standard approach for this rudiment on *pandeiro*, leaving *pandeiristas* to explore this sound through their individual conceptions of technique. In “Bag Lady,” I found it easiest to
manufacture this sound by using a toe stroke for the main beat. In order to actualize the grace note, I led this motion with the bottom of my hand, resulting in a glancing heel tone just before the sound of the toe.

It is also important to bring out the difference in sound between the buzz roll and the double-stroke roll. Although I use a finger roll for both, it is possible to obtain different textures by varying the pressure applied in the finger rolls. For the buzz roll, the pandeirista must apply enough pressure to cause rapid vibration of the platinelas, resulting in a smooth texture. Yet, by rubbing the middle finger across the head with less pressure, the percussionist can create a roll that is less dense and more reminiscent of a double-stroke roll. By slightly increasing the pressure through the duration of this roll, the performer can also create a small crescendo, just as Thompson does on the snare drum. The sound of the hi-hat is so low in the mix of this particular groove that I chose to omit it entirely; however, pandeiristas could add hi-hat cymbals to their setups in order to account for this sound.

These four examples represent only a few styles of non-Brazilian music, and only some potential applications of the pandeiro. They cannot account for every possible issue that a performer may encounter. Rather, they intend to show a method to help the performer further explore this world. Other problems remain when using the pandeiro to perform popular American styles; the issue of sustained sound is one of them. Whereas a drumset player can strike a crash cymbal and let it sustain over a continuing groove, the pandeirista has no such recourse. Yet when I brought up this issue with Suzano, he offered me his own solution: electronic pedals that trigger samples of cymbals. The addition of pedals allows the pandeirista to control cymbal sounds with the feet, while
leaving the hands to maintain the groove of the instrument. The amplified pandeiro is a relatively young innovation, and its capabilities will grow as more performers become familiar with the instrument and test its boundaries.

**Conclusion**

As the father of the amplified pandeiro, Marcos Suzano has made great strides in the areas of technique and technology. His greatest assets, however, may be his love of the instrument and his incredible generosity to those who seek to learn from him. Because of these attributes, the amplified pandeiro continuously accumulates a great deal of interest from percussionists throughout the world. The foundation Suzano has laid has expanded the capabilities of the instrument and inspired a new generation to build upon his achievements. During our interview, Suzano discussed the phenomenon that inspired his work with the amplified pandeiro. His sentiments reflected those I felt when I first heard him play. I would like to conclude with this thought, best expressed in his own words:

I think a lot about this. It’s kind of metaphysical. For example, you see the instrument and your mind identifies it as a pandeiro … and suddenly you hit it, and the sound that comes out is completely different from what you expect. Your mind erases the image of the pandeiro and goes straight to the sound … and in seconds you get lost in the sound. Then, when you come back to look for the origin of this sound … you realize it’s the pandeiro … you hear something that you can’t believe is coming from this instrument … you listen to the sound, and then you start to look for the sound. That’s crazy. This is the most interesting [aspect of the amplified pandeiro].58

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58 Suzano, Interview, August 16, 2011.
BIBLIOGRAPHY


