Technologies of Musical Knowledge in 19ᵗʰ Century Rio de Janeiro: The *Viola* Case

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Abstract

This article discusses methodological strategies for dealing with historical sources in (ethno)musicology research. I name this approach "technologies of musical knowledge" and besides a review of the importance of technologies for the development of (ethno)musicology, I support my perspective through visual examples from my own investigation about the *violas* in nineteenth century Rio de Janeiro. I argue that despite the myriad of sources available, including iconographic representation (drawings and paintings), travelogues, chronicle and fictional literature, musical scores and tutors; their ethnographic information can only emerge out of a process of interpretation that involves a full assessment of the representational medium in which the data is presented. In other words, I defend that a thorough analysis and interpretation of musical documents depends on the awareness of the technological enablements and constraints in which the historical representations are inscribed.

Keywords: Historical sources in ethnomusicology, historical (ethno) musicology, technologies of musical knowledge, *viola,* Debret, Rugendas

Tecnologías del saber musical en Río de Janeiro en el siglo XIX: el caso de la *viola*

Resumen

Este artículo analiza estrategias metodológicas para abordar fuentes históricas en la investigación (etno)musicológica. Denomino este enfoque como "tecnologías del saber musical" y, junto con una revisión de la importancia

de las tecnologías para el desarrollo de la (etno)musicología, apoyo mi perspectiva en ejemplos visuales de mi investigación sobre las *violas* en el siglo XIX en Río de Janeiro. Sostengo que a pesar de la gran cantidad de fuentes disponibles, que incluyen representaciones iconográficas (dibujos y pinturas), relatos de viajes, literatura de crónicas y ficción, partituras musicales y métodos del instrumento; su información etnográfica solo puede surgir de un proceso de interpretación que implique una evaluación completa del medio de representación en el que se presentan los datos. En otras palabras, defiendo que el análisis y la interpretación exhaustivos de los documentos musicales depende de la conciencia de las potencialidades y limitaciones tecnológicas en las que están inscritas las representaciones históricas.

Palabras clave: fuentes históricas en etnomusicología, (etno)musicología histórica, tecnologías del saber musical, *viola,* Debret, Rugendas

Tecnologias do saber musical no Rio de Janeiro do século XIX: o caso da viola

Resumo

Este artigo discute estratégias metodológicas para lidar com fontes históricas em pesquisas (etno)musicológicas. Denomino essa abordagem de "tecnologias do saber musical" e, além de uma revisão da importância das tecnologias para o desenvolvimento da área de (etno)musicologia, apoio minha perspectiva através de exemplos iconográficos sobre as violas no Rio de Janeiro do século XIX. Argumento que, apesar da miríade de fontes disponíveis –incluindo a representação iconográfica (desenhos e pinturas), narrativas de viagens, crônicas e literatura ficcional, partituras e métodos do instrumento– a sua informação etnográfica emergirá somente em um processo de interpretação que envolva uma avaliação completa do meio representacional no qual os dados são apresentados. Em outras palavras, defendo que uma análise e interpretação meticulosa dos documentos musicais dependem da consciência das potencialidades e restrições tecnológicas nas quais as representações históricas estão inscritas.

Palavras-chave: fontes históricas em etnomusicologia, (etno)musicologia histórica, tecnologias do saber musical, viola, Debret, Rugendas

1. Introduction

"The viola is the heart of Brazilian music […] gave form to the melodies and cadences of the poetics that slowly defined the musical profile of the

land. If the first Brazilian [...] was the Indian, who played rattles and bamboo flutes, the second was the caipira 'holding' the viola" (Nepomuceno, 1999, p. 55).[1]

When the Jesuits arrived in Brazil during the government of Tomé de Souza in 1549, the systematic entrance of European musical instruments into Brazilian territory began, one being the Portuguese *viola,*[2] an instrument similar to the guitar. The influence of the traditional Portuguese *viola* in Brazilian culture is undeniable. Since colonial times it has been used in many contexts and considered one of the mainstays of Brazilian music. In the sixteenth century, the *viola* was played to convert the natives to Christianity as part of the *orquestra jesuítica* (jesuitic ensemble), in which Portuguese melodies were mixed with Indian ones (Castagna, 1999). The Portuguese *viola* was used in the *cantorias*[3] of Bento Teixeira (1561-1618), who was the author of the Prosopopéia, a foundational work of Brazilian literature (Taborda, 2011). In the seventeenth century, the poet Gregorio de Matos Guerra (1636-1696) played the Portuguese *viola* in the style of the *bailado* dance of the *mulatas*[4] of the Recôncavo Baiano, in the countryside of northeastern Brazil. In the eighteenth century, the *viola* secured a foothold in Brazilian colonial music, when the poet and composer Domingos Caldas Barbosa (1739-1800) used it to give harmonic support to his *modinhas*[5] and *lundus,*[6] styles that would later stand as pillars of Brazilian popular music (Araújo, 1963).

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[1] "A viola é o coração da música brasileira [...] deu forma às melodias e cadências às poesias que aos poucos definiram o perfil musical do povo da terra. Se o primeiro brasileiro [...] foi o índio, que tocava chocalho e flauta de bambu, o segundo foi o caipira, *garrado* na viola" (Nepomuceno, 1999, p. 55).

[2] Portuguese *viola* or only *viola*, in this paper, is considered a generic term to designate a myriad of plucked chordophones found in Brasil before the arrival of the *violão* in nineteenth century. It has in general a "round sound-hole, tall box without accentuated incurved sides, median neck, fretboard on the level of the top soundboard, drawn rosette, strings attached under a narrow bridge glued on the top board, and the pegbox slightly inflected backwards" (Oliveira, 2000, p. 201).

[3] *Cantorias* or *cantorias* of *viola* are admittedly some of the most important traditions of sung poetry in Brazil. Rooted in the Northeast region of the country, they also receive the names of "repente" –an allusion to the mandatory improvisation of verses and "desafío" (challenge) –an allusion to the intensely competitive practice of singers who sing in pairs, alternating the verses and trying to supplant the partner-opponent in the correction and originality of the verses. (Travassos, 2004, pp.126-129).

[4] Female *mulattos.*

[5] *Modinha* is a derivation (diminutive) of the word "mote" or motif, a general term to denominate song. The *modinha* crossed centuries keeping its lyric and sentimental character and accompanied song (in Portugal and Brazil), but had not defined form. Alongside the *lundu* it can be considered some of the first musical expressions of a Brazilian society and sometimes the 'sentimental' *modinha* and the 'sensual' *lundu* had not clear stylistic difference (Oliveira, 2001).

[6] *Lundus* or *lundu* is one of the three primary dance genres developed (alongside the *fofa* and the *fado*) by withes and mestizo Brazilians under the influence of the rhythm and choreography of Afri-

Following the transfer of the Portuguese court to Brazil, the relocation of around fifteen thousand aristocrats to Rio de Janeiro in 1808 brought economic and cultural change and quickly transformed Rio de Janeiro into a cosmopolitan city, attracting travellers and immigrants from much of Europe. It was during the nineteenth century that the classical guitar, known as the *violão* arrived in Brazil, supplanting the *viola* as the main instrument used in the popular music of the time. *Choros,*[7] *modinhas*, *lundus*, *fados,*[8] *maxixes,*[9] *sambas*, and other musical styles used *violão* accompaniment. We do not know how the *violão* or its prototype versions such as the French guitar, first arrived in Brazil, but it was probably brought either by the Portuguese elites that accompanied the Portuguese court or by some of the many travellers who visited Brazil in the first half of the nineteenth century. It is not yet known why or how the *violão* or its prototype, such as the French guitar (*viola francesa*), became so important to Brazilian popular music, and especially that of Rio de Janeiro; however, over the course of the nineteenth century, the *viola*, that had been very common, lost visibility in urban areas and became predominantly known as a rural instrument. At the same time, the *violão* increased in importance among *Cariocas* (inhabitants of the city of Rio de Janeiro) gaining its preferred place in the popular music of Rio de Janeiro.[10]

In this paper I discuss methodological strategies for dealing with historical sources in (ethno)musicology research. I name it "technologies of musical knowledge" and support my perspective through examples from my own investigation about the *violas* in nineteenth century Rio de Janeiro. I argue that despite the myriad of sources available, including iconographic representation (drawings and paintings), travelogues, chronicle and fictional literature, musical scores and tutors; their ethnographic information can

can and Creole *batuques*. From the *lundu* dance was developed the *lundu-canção* (*lundu* song) accompanied at the *viola* (Tinhorão, 2008).

[7] *Choro* is an instrumental musical genre originated in Rio de Janeiro in nineteenth century. "In 1880s, groups based on the terno, or trio of guitar [violão], cavaquinho (a small four-stringed guitar), and flute, formed to play popular European dances for parties and social occasions" (Livingston and Garcia, 2005, p. 2).

[8] *Fado* was one of the primary dances developed in Brazil by the mestizo population influenced by African and Creole cultures. It was also a song genre which became popular in the second half of nineteenth century Portugal. (Tinhorão, 2008).

[9] *Maxixe* is a Brazilian urban popular dance that appeared in Rio de Janeiro around 1870. Originally the term 'maxixe' referred only to the free manner of dancing fashionable European dances such as the polka, mazurka and schottische; soon it became synonymous with the Brazilian popularized polka and the Brazilian (but not the Argentine) tango. (Behague, 2013).

[10] A small part of this introduction was read at the ANPPOM–Décimo Quinto Congresso/2005. Retrieved from https://antigo.anppom.com.br/anais/anaiscongresso_anppom_2005/sessao14/renato_varoni.pdf

only emerge out of a process of interpretation that involves a full assessment of the representational medium in which the data is presented. In other words, I defend that a thorough analysis and interpretation of musical documents depends on the awareness of the technological enablements and constraints in which the historical representations are inscribed.

Regarding the *viola*'s accounts in Rio, I give some visual examples available, which were mostly created by individuals who were not musicologists, and their productions were not meant to be definitive documents of the instruments, musical genres and dance steps they encountered in Brazil. Yet they did not belong to the same class as the people they depicted, and did not participate in the performances they represented. The documents were produced mostly by foreigners, non-musicians, scholars hired to document the new country as well as independent observers. Despite distinct backgrounds and coming from different parts of the world, these people can be seen as mediators of the musical knowledge of a Brazilian past. Their pictures of the everyday life of the country, provide information on the types of instruments used in various settings and on the sociality and sociability of music-making in Brazil. One can glimpse who played, what was played, who sang, and who danced, whilst also gaining information about the contexts in which musical events took place. In effect, they provide a 'window' into the music-making processes, encompassing the ways in which music mediated gender, race and class relations in nineteenth century Rio.

In the next section I review some core literature about the representational technologies in the history of (ethno)musicology. Following, I explain my choice for the term technology to refer to my research about the *viola* in Rio. Further, I give some examples of how the *viola* was represented in visual technologies of musical knowledge in nineteenth century Rio.

2. Musical technologies in the history of (ethno)musicology

Technological devices such as the cylinder phonograph, gramophone, cassette, digital recorders, and now computers, have played a crucial role in the development of the discipline of ethnomusicology. Sound recording devices were used to create musical artefacts that added to musical scholarship new perspectives and new possibilities of analysis and interpretation never possible before their invention (Sachs and Kunst, 1965). Despite their contribution to ethnomusicological scholarship, those technologies have not replaced what one might call "early" recording techniques or technologies of recording, inscribing, representing, and transmitting music and musical knowledge.

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These early modes of representation or representational technologies of music, such as musical notation, tablature, lithographies, drawings, paintings, printing and writing, are historically important for musical studies and still play a crucial role in music research despite their incapacity to record musical sounds. Assuming that the sound of music is only one of the many aspects of music and does not, alone, constitute music itself (Seeger, 1992), I argue that "silent" modes of representation or silent technologies of musical knowledge, in a manner similar to yet distinctly different from electronic technologies of sound and image recording, mediate, inscribe and represent music and musical knowledge. Silent technologies of musical knowledge do this in a particular way that requires an interpretive approach, one that contemplates their material enablement and constraints as they represent musical practice. Not neglecting the social and cultural mediation of human agents in the meaning-making process of inscribing and interpreting musical knowledge, my proposal to focus on their "material interface", is a choice to reflect on the representational properties of those musical artefacts so that they might better be used in historical (ethno)musicology research.

Multiple narratives or perspectives on the history of ethnomusicology suggest various ways of viewing its historical trajectory. Bruno Nettl (2010) draws attention to some of these various possibilities; most of them, including his own narrative, accept technologies as important elements in the history of the discipline. In his comprehensive study, he suggests ethnomusicology could be seen to have had a common European origin in the nineteenth century with a consequent dissemination throughout many countries or, alternatively, a parallel development in many countries with a further joining to an American and European mainstream. Some narratives place the history of ethnomusicology in the context of a history of fieldwork, which necessitated changes in methodological and theoretical approaches. Other ways of viewing ethnomusicology's history focus on the influence of changing identities of the investigator, for instance, by the increasing number of female researchers after the 1960s. Other versions, according to Nettl, result from the varied interests and/or the backgrounds of scholars. In conclusion, Nettl suggests that there are as many narratives of the history of ethnomusicology as there are possible definitions of it.

However, it seems to him that the dominant narratives found in the history of the discipline, embrace two dichotomies. On one hand there is a recognition of two main periods: "comparative musicology" with its origins in Europe, facilitated by new recording technologies, with a strong influence in Germany from the late nineteenth century; and a period around 1950

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when the word "ethnomusicology" was adopted by American scholars willing to study non-Western music from various points of view. On the other hand, the second period, that is, after 1950, ethnomusicology could be divided into two branches, an "anthropological", led by Alan Merriam (1923-1980) with his definition of ethnomusicology as "the study of music in culture" (1960) modified by "the study of music as culture" (1973) and a "musicological" branch led by Mantle Hood and the idea of bi-musicality (1960) (Myers, 1992, pp. 8-9). Not overestimating the different versions of ethnomusicology's history, Nettl identifies the 1880s in central Europe as the place and time in which historical context and the leadership of important pioneers launched almost simultaneously the paradigm of what became ethnomusicology today. He divides it into three events. First was the publication of Carl Stumpf's article about the Bela Coola Indians in 1886. Second was the field recording of the American Indians from Arizona by Walter Fewkes in 1890. The third was constituted by two events. One, representing an intellectual advance, was the famous article by Guido Adler in 1885 defining the general lines of musicology; the other was a technological innovation of the cent system by Alexander Ellis[11] in the same year. Nettl finds in those three events and their associated publications what became central to the definition of ethnomusicology: "the study of interrelationships of musical culture through intensive field study, technology, and comparative research" (Nettl, 2010, p. 21).

I draw attention here to the reference to technology as one of the driving forces in the history of ethnomusicology. In this regard, Nettl was referring to the invention of the phonograph[12] and further developments such as the cent system.[13] However, in another extract of his argument (2010, p. xviii), Nettl points out that before the invention of the phonograph and its various versions, other technologies, such as musical notation and music printing, had a major influence both on music-making and in assisting ethnomusicological research. The fact that they are not always acknowledged as technologies is most probably due to the fact that they have been around for so long that their existence is taken for granted.

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[11] The cent system was developed in 1885 by the British phonetician and mathematician Alexander John Ellis (1814-1890). It consists in a mechanical solution to subdivide a European semitone in one hundred intervals to allow a practical and accurate representation of pitch used in diverse cultures.

[12] The phonograph was invented in 1977 by the American scientist Thomas Edison (1847-1931).

[13] The invention of electronic recording devices is frequently included in many narratives on the history of ethnomusicology as one of the hallmarks of the discipline, for example in the works of Sachs and Kunst (1965); Kunst (1969); Nettl (1964, 2005, 2010); Shelemay (1990); Myers (1992); McLean (2006) among others. The Dutch scholar Jaap Kunst (1891-1960) who is credited with being the first academic to use the world ethnomusicology to define the field, for instance, stated that "Ethnomusicology could never have grown into an independent science if the gramophone had not been invented" (1969, p. 12).

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Musical technologies, in the examples above, had the ability to allow recording, archiving, and playing-back of the sound of music for further transcription and analysis. This does not mean that the so-called pioneers of ethnomusicology, in the eighteenth century, and their successors were only interested in the sounds of music as opposed to a broader explanation of the musical phenomenon. Rather, by expanding our concepts concerning modes of musical representation and the representational technologies that support them, I believe that what has been identified as ethnomusicological thought can be traced back in a longer historical trajectory of the discipline. This trajectory might, instead, be seen as beginning at least from the age of the so-called "discoveries" of the rest of the world by European empires and explorers in the sixteenth century.

Challenging models that propose a series of paradigm shifts in the history of ethnomusicology, Anthony Seeger (1991, 1992) argues that it is possible to trace a history of the discipline by a set of questions[14] that have been asked since the publication of Rousseau's *Dictionnaire de musique* in 1779.[15] Those questions, according to him, assume different forms in different styles of musical ethnography, but encompass the idea that music is more than the sounds that represent it. He exemplifies some of these early ethnomusicological thoughts by analysing Rousseau's writing about the Swiss Air Ranz des Vaches. Rousseau states that this song was forbidden to be played for the Swiss troops due to the strong emotional impact it had in the soldiers: "it made them burst in tears, desert, or die, whoever heard it". Trying to understand the reasons for these emotional effects, he contends: "We shall seek in vain to find in this air any energetic accent capable of producing such astonishing effects. These effects, which are void in regard to strangers, come alone with custom, reflection, and a thousand of circumstances..." He continues, "The music does not in this case act precisely as music, but as a memorative sign..." (Rousseau and Waring, 1975, p. 267 in Seeger, 1991, p. 348).

Seeger observes that Rousseau recognised music as being connected with custom, reflection, and a thousand circumstances that are not explained by the sound of music itself or the musical transcription. Music in this case worked as a sign. From Seeger's perspective, it is precisely the incapacity of the musical sound or the musical notation to explain or to represent the

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[14] "The questions include (1) What are the principle that organize the combinations of sounds and their arrangement in time when people make music? (2) How are these sounds similar to or different from other musical traditions? (3) Why does a particular individual or social group perform or listen to the sounds he/she/it does in any given context?" (Seeger, 1991, p 347).

[15] English edition: *A Complete Dictionary of Music* (1975 [1779]).

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complexities of the musical phenomena that to write about music or, the practice of musical ethnography, has been required throughout history. It is important to note, however, that whether the sound of music or the musical notation are limited to represent music, this is valid for musical ethnography as well. As a literary genre (Seeger, 1991), musical ethnography can assume various forms of narratives conveying many possible meanings, but its various conceivable styles will always be constrained by the verbal language employed to explain music.

Bohlman (1991) contends that an expanded history of ethnomusicology might be outlined by a series of cultural critiques which he suggests are embedded in various modes of representation or techniques used to represent musical cultures, and can be found in publications as early as the sixteenth century. He understands the history of musical ethnography as a continuum of representational practices that, in order to interpret the polysemous character of music, have incorporated alternative forms of representation, including the visual, the verbal, and the sonorous. "Transcription and meticulous field notes, melograph studies and tune-family charts, all share in this polysemy, all tell us about music while simultaneously revealing what we still do not know" (Bohlman, 1991, p. 139). Moreover, he contends that this representational continuum can be integrated in a history of ethnomusicology as a more general series of practices, such as: "scientific observation", "experimentation", "fieldwork", and "seeing ourselves in the other and the other in ourselves".

Those practices in the history of ethnomusicology have produced what Bohlman (2005) calls meta-musical-languages. For him, what encourage ethnomusicologists to develop or employ alternative modes of musical representation is rooted in the idea that music is a multidimensional phenomena, and it is trying to represent the otherness of music that techniques and technologies have been crucial to the creation of meta-musical-languages. Transcription, prose and film, for instance, are some of the meta-musical-languages used by ethnomusicologists to account for music. However, he contends, ethnomusicologists do not trust any single representation to be sufficient; therefore they generate as many meta-musical-languages as possible. "Each representational metalanguage has the potential to capture several specific traits of music particularly well, but the truly complex representational nature of music ultimately demands techniques and technologies that make it possible for performers and scholars alike to represent as many aspects of music's selfness and otherness as possible" (Bohlman, 2005, p. 208).

The ongoing attempt to find a means for a better musical representation, such as the many possible styles of musical ethnography; many techniques and technological systems; or even the creation of meta-musical-languages is, to a great extent, one of the hallmarks of the history of ethnomusicology. However, the development of technologies to apprehend, explain, and represent musical cultures, does not ensure the transmission and perception of the musical knowledge they hold. Rather, as soon as musical representations turn into artefacts their meanings depend on how the data is retrieved, analysed, and interpreted. Whether one should look at the mediator and the socio-political contexts in which representations were made, musical artefacts can only be created by the interaction of mediators with the "materiality" of objects that concomitantly allow and restrict particular modes of representation in music. In other words, I argue that the intentions, skills, or biases of agents in inscribing musical knowledge must in some point meet the enablement and constraints of the matter or technologies available at a historical moment.

3. Technologies of musical knowledge in Rio

The study of a musical culture of the past through historical traces should look at all sorts of musical artefacts available for inspection: sound recordings, musical instruments, scores, iconographies, and written documents in a variety of forms, such as: travelogues, fictional literature, memoirs, chronicles, dictionaries, and many others. However, just collecting the documents does not give instant access to the knowledge they embody. An extensive amount of data per se does not provide a better or a more trustworthy account of a culture. Rather, the ethnographic account relies on the interpretation of the data gathered, and will depend on the ethnographer's ability to produce a "better account from a worse one" (Geertz, 2000, p. 16). Regarding the *viola* in Rio, I contend that the interpretation of the social and musical discourses will require some degree of organological knowledge about the Brazilian and Portuguese chordophones.

Even though organology is a broad field dealing with the study of musical instruments as a cultural phenomenon, the type of organological knowledge I focus on here relates to the terminology used to discuss chordophones according to their physical characteristics. Language is especially important in the textual representation of chordophones in Rio which were originally written about in French, English, German, Portuguese, and Brazilian Portuguese. In different national regions, the same chordophone could have a distinctive label, whilst in other cases; different instruments could be given the same name.

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Although all available evidence of the past should be utilised, I argue that the historical (ethno)musicologist, in addition to having some degree of organological knowledge, should be conscious of the representational properties of the medium through which musical knowledge is inscribed, as different modes of representation demand specific ways of inscribing and interpreting them. When interpreting musical knowledge found in iconographies or in written literature, scholars sometimes assert that a visual musical scene or literary episode is a literal representation of a musical tradition. Instead, I suggest that they should recognise the cultural and social contexts of production and consumption, and take into account how different modes of representation are conditioned by material constraints and potentials.

In relation to the *viola* in Rio, I refer to modes of representation, or –technologies of musical knowledge, and subdivide them into three categories: written technology of musical knowledge; visual technology of musical knowledge; and sound technology of musical knowledge. The distinction I have made in these categories, (written, visual and sound), does not mean that each mode can only convey information from within its sensory modality. Rather, as I will show; it is naive to believe in the pure or "discrete" visual, acoustic, or intellectual perception of a musical phenomenon. The division by the specific "materiality" or quality of the archival example, helps a closer examination of how each mode inscribes musical knowledge while revealing the knowledge about the *viola*.

Another important term that has to be explained is "technology". In a social study of technologies, Bijker, Huges, and Pinch (1987, p. 3) deem the term technology to be a "slippery" one, the same happening with the expressions "technological change" and "technological development," that for them "often carry a heavy interpretative load." Despite the inconsistency of the term, they point out that concepts of technology should avoid ideas such as the individual genius inventor, technological determinism, and perceptions that disconnect technical, social, economic, and political aspects of technology. Nonetheless, they identify at least three acceptable meanings for the term technology. Technology as referring to "physical objects or artifacts", technology as "activities or processes, such as still making or molding" and technology as something that people "do" or "know", such as the knowhow of crafting an object or operating a machine (1987, p. 4). Drawing on the broad concepts of technology mentioned above, but emphasising the impact of technologies in the study of musical cultures, Lysloff and Gay (2003) defend an ethnomusicology of technoculture in which technologies are not neutral systems or deterministic forces in society. Rather, their meanings are socially and culturally constructed.

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My choice of the word technology bears some of the meanings suggested by the authors mentioned above. In relation to Bijker, Hughes, and Pinch's (1987) concepts, it compares with their definition of technology as artefacts or objects, activities or processes, and knowhow. Taken together, those categories are in fact implicit in my use of the term technology for written, visual and sound technologies of musical knowledge, for my archival data comprises technological musical artefacts that convey meanings inscribed by artists, writers and craftsmen based on technological skills and knowhow about how to create or manipulate objects and technologies of representation. Despite emphasising technologies as systems of representation of musical knowledge, I do not exclude other meanings of the word technology that are in one way or another, intrinsically related to the representative qualities of technologies.

Another justification for the word technology in this text points toward the concept of technoculture as an ethnographic study of musical cultures in relation to technological impacts and change (c.f. Lysloff and Gay, 2003). Technological "advances" in Rio; such as the implementation of the print media in the city and the creation of the lithograph in France, allowed new forms of representation and an unprecedented circulation of texts and images that influenced how society was pictured and how people could see themselves. Although I am not defending a deterministic influence for those technologies, their introduction in Rio in the first half of the nineteenth century, has to be deemed as an important factor in understanding the potentialities of technologies in representing music and society. Thus, the term technology[16] references the connection between readily identifiable recording devices, such as the phonograph and the computer and other modes of representation that, in spite of not being electronic systems, are nevertheless, representational technologies that variously enable and limit the interpretation of musical activities. Nettl (2010) and Bohlman (2005) also use the term technology to refer to musical notation, music printing, and musical representation in general; while Ong (1982) refers to writing as a technology in his studies about orality and literacy.

I aim to draw attention to how musical technologies produce certain kinds of representations that are not simply to be read as literal facts. In other words, the development of technical devices or new technological systems

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[16] The word technology has been employed with different meanings in different contexts throughout history. Foucault (1988) uses the term technology in his archaeology of human knowledge to refer to the various techniques that humans have developed to understand themselves. He refers to technologies of production, technologies of sign systems, technologies of power, and technologies of the self.

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of representation does not solve the problems of interpretation, nor do they exclude interpretation. Rather they demand a critical comprehension of the medium of sound production *and* its representation. In the next section I show examples of how I have been dealing with nineteenth century visual representations of chordophones in Rio de Janeiro.

4. Visual technologies of musical knowledge in Rio

4.1 Debret and the *Picturesque and Historical Voyage to Brazil*

Jean-Baptist Debret (1768-1848) started his art studies by attending the *atelier* of his famous cousin, the great painter Jacques-Louis David (1748-1825). David was a French Revolutionary supporter and an "icon" of Neoclassical painting. His political and aesthetic ideas influenced a whole generation of young artists in France and had a deep impact upon Debret's work. Aged seventeen years old, Debret became a member of the French Royal Academy of Painting and Sculpture. Whilst living in France, he was an active artist, taking part in exhibitions and winning prizes for his historical paintings during the Napoleonic Empire (1804-1814/15) (Lima, 2007).

Leaving Europe for economic and political reasons, Debret went to Brazil with a group of French artists in 1816. Arriving in the country he was hired as an official painter and set designer for the monarchy, starting his activities in Rio de Janeiro creating scenarios for the public ceremonies of the Portuguese royal family. He also worked actively for the creation of an academy of arts in Brazil and became a teacher of historical painting when the Brazilian Imperial Academy of Fine Arts was inaugurated in 1826 (Schwarcz, 2008). Alongside his regular duties, Debret painted and collected hundreds of aquarelles about the country; once back in Europe, he intended to produce a work about Brazilian civilization. Upon returning to France in 1831, Debret published his *Picturesque and Historical Voyage to Brazil.*

The book intended to show "the progressive march of civilization in Brazil" (Debret, 1980, p. 9), and documented aspects of nature, men and society in the nineteenth century. The work was issued between 1834 and 1839 in French and German and was composed of 153 plates and texts divided into three tomes. I will be working with two versions of the book, the first French edition *Voyage Pittoresque et Historique au Brésil* (1834-1839) and a Brazilian edition, *Viagem Histórica e Pitoresca ao Brasil* (1980). What seems to be just another travel book of the time, *the Picturesque and Historical Voyage to Brazil* has some unique features that deserve to

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be mentioned. The length of Debret's stay in Brazil, where he lived for 16 years, was extensive compared to other travellers. This fact alone affords his descriptions considerable credibility as compared with other writers. Having more time he was able to witness various political and historical moments and become acquainted with the everyday life of the country. The fact that Debret called his book "picturesque and historical voyage" is significant. When he used the term "historical", he clearly wanted his book to stand out from those of other travellers' who showed only the picturesque: The term "historical" emphasizes the importance of the content adding credibility and prestige to his descriptions.

However, 180 years after the first edition of the *Picturesque and Historical Voyage to Brazil*, there has been much discussion regarding Debret's publication. His work has been scrutinized by scholars of various academic fields inspiring many publications in Brazil and France that have generated controversies. Though Debret could argue that he lived in Rio de Janeiro for many years and as a historical painter was a good observer, he could not avoid the difficulty of picturing landscapes, customs, objects, and peoples he had never seen before. Moreover, he could not escape the European interest in the exotic, the influence and competition from other travellers and the commercial interests in that type of literature (Lima, 2007).

The first critique of his work came from the Brazilian Institute of History and Geography (IHGB) in 1841. Bento da Silva Lisboa and J. D. de Attaide Moncorvo, who signed an article of 31 October 1840, praised the first tome concerning the origins of the country. The second tome, however, concerning life and customs in the country –was poorly rated. The reviewers criticized inaccuracies regarding dates of historical events, but the centre of their critique focused on a claimed rapid shift in the customs of Brazilians regarding the treatment of Africans slaves. They wrote: "It is a judgment that this second volume has little importance to Brazil: since it started in 1816 and finished in 1831 when the author went back to France, it could not cope with the changes that have happened in Brazil in customs, arts and sciences..." (Lisboa and Moncorvo, 1841, p. 99).

The IHGB reviewers objected to Debret's representation of the slaves, asserting that the scenes exaggerated the violence with which the slaves were treated. According to Julio Bandeira (2006), when Debret exposed the situation of the slaves, showing "the violence and the craziness of the reality" (Bandeira, 2006, p. 12), the Brazilian elites (including land owners, merchants and political authorities) were affected by his representations.

Although the Brazilian institute had disapproved part of the publication, the equivalent institution in France, the *Institut de France*, had endorsed it in 1839. The conflicting views of the institutions were not due to a bias stemming from the nationality or social class of the analysts, as their concerns were shared among scholars in Brazil.

Thekla Hartmann (1975) criticizes Debret's pictures of the natives, arguing that the artist did not have much contact with Indians, reproducing images from other artist's books. She argues that "the Indians heads are always on European bodies" and that other misrepresentations contribute to distorted ideas about Indians at this time (Hartmann, 1975, p. 70). Analysing his work aesthetically, Rodrigo Naves (1996) argues that "Jean Baptiste Debret was not a good artist, not here [Brazil], nor in France". Nevertheless, Naves asserts that "[t]he search for a form that incorporated something of the sociability of Rio de Janeiro marks [Debret's] Brazilian trajectory. One should not deny the documentary worth that goes beyond a simple fidelity to the objects and the peoples represented" (1996, p. 46).

Criticizing Naves' perspective, Alfredo Grieco (2000) contends that the revelation of the "real" Debret and the meaning of his work can only emerge once one stops contemplating only the pictorial qualities of the images and starts seeing the artist as more than just a painter (p. 77). In the same vein, Valéria Lima (2007) tries to reposition Debret and his work arguing that the artist was a national thinker and his *Picturesque and Historical Voyage to Brazil* was more than a typical travel account, it was a pictorial, historical and philosophical interpretation of the country.

Much criticism directed towards Debret could be seen as a general evaluation regarding travel artists in the nineteenth century. Criticisms include imprecision in descriptions, the invention of scenes, copying from other travel artists, lack of technical skills, lack of knowledge, difficulties in adapting to new scenarios and subjects, exploitation of the exotic for commercial reasons, conflicts between written and pictorial descriptions and so forth. As I will show in more detail below, all these issues can contribute to a relativization of the images, but they do not invalidate them as historical documents. Debret probably composed scenes of life in Brazil that he did not actually witness. If the "content" in some cases can be questionable, his descriptions are in accordance with many other travellers seeking the picturesque. The use of the images as historical reference, though, depends on the mode and framework of interpretation as with any historical document.

4.2 Rugendas and the *Picturesque Voyage to Brazil*

The German painter, Johann Moritz Rugendas (1802-1858), belonged to the seventh generation of a family of painters, most of who were war painters, but he broke with the family tradition, choosing a different way of employing his skills. At the age of nineteen, after graduating from the Munich school of arts as a drawer, Rugendas had the opportunity to take part in the comprehensive scientific expedition of Baron Georg Heinrich von Langsdorff (1774-1852) to Brazil. The expedition, sponsored by the Russian Empire, aimed to acquire knowledge about Brazilians and the natural world by classifying and exploring new territories. From 1822 to 1824 Rugendas worked for Langsdorff as an artist in the service of science, recording images to be published in botanical, zoological, geographical and ethnological books. Though he stayed with the group for three years he left the expedition in November of 1824 returning to Europe in May 1825. Once back in Europe, Rugendas published his *Picturesque Voyage to Brazil* in installments by Engelmann & Co editors, from 1827 to 1835 (Rugendas, 1827; 1835).

The book was composed of one hundred black and white lithographs and texts that show a rich picture of the country encompassing its history, geography, culture and society. The publication is impressive for the range of subjects displayed in a substantial number of images and texts. However, the texts were not written by Rugendas himself, in fact, the French edition explains that the text was written by his friend Victor Aimé Huber, based on the notes Rugendas took in the field. One could believe, though, that the images found in the book were made by the artist. A comparison between the original drawings made in the field and the final lithographies edited in France, however, show that there are considerable discrepancies separating those two representations. Thus, it is necessary to ask to what extent the book can be used as historical evidence, or attributed to Rugendas.

In this regard, one of Rugendas' main expert, Pablo Diener (1997), argues that only some images which had not been "manipulated" afterwards, that were made "objectively", under the supervision of naturalists should be deemed historical documents, such as "the illustrations of plants, animals, as well as the series of portraits of the diversity of the black slaves and indigenous people". Whilst the everyday life representations were considerably modified "to follow the trends of the time". (Diener, 1997, pp. 79-81). In other words, Diener denounced the emphasis given to the picturesque and the exotic in some representations regarding them as imaginative creations rather than as accurate replications of what had been seen by the artist. In the same vein, but focusing on Indian iconographical

representations, Thekla Hartmann (1975) contended that, while in the field, Rugendas represented correctly the diversity of the natives and their specific ethnic groups. However, she condemned the arrangements made by the author afterwards.

4.3 The new medium of lithography

Moving to technical issues related to the production of the book, a comparison between many lithographs within Rugendas' *Picturesque voyage to Brazil* and the first drawings shows that the process of editing significantly interfered with the final version. This is not surprising, as the new lithographic technology required collective participation in the production that was shared amongst various professionals including: "the drawer, the stamper, the colorist, the editor and the printing house" (Zenha, 2002, p. 135). For the editing process of the *Picturesque Voyage to Brazil (Voyage pittoresque dans le Brésil* in the original title in French), Rugendas (1827) had the help of 21 lithographers, as Celeste Zenha (2002) notes:

Adam, specializing in figures, took part in the elaboration of 31 of the 100 plates; Deroi, of 18; Villeneuve, of 11; Maurin, of 9; Sabatier, of 8; Bichebois, of 6; Joly e Wathier, of 5; Jules David, of 4; Rugendas, Vigneron e Zwinger, of 4; the famous Bonnington, Lecamus e Viard, of 3; Montheier, Tirpene, Arnoul, Bayo e Jacottet, of 2; Dupressoir and Leborne of only one image (p. 138).

Each one of those artists, including Rugendas himself, added, edited, changed or suppressed to some degree the details of the original drawings provided for the facsimiles. That is one of the reasons the editor demanded Rugendas's collaboration in every aspect of the plates' production. Although Rugendas had agreed to supervise the production process; he managed to oversee just twelve plates. Before the end of the publication he had returned to the Americas for the second time. As Zenha (2002) points out, if eventually the travellers were considered to be the authors of those types of publication, it was less as a result of their participation in the making of the final product, than because the readers believed that the artists actually witnessed the scenes.

However, the images could sometimes be taken on a different path in the process of editing. After publication, editors could sell them for other purposes. The images could be copied, adapted and reutilized for other publications. In each case, authorship was rarely accredited to the travel artist. The re-appropriation of images appeared in different visual media: periodicals, wall papers (panoramas), albums of pictures and souvenirs. In 1833

in France, for instance, the Swiss lithographer Johann Jacob Steinmann selected thirteen views of Rio de Janeiro to issue a book called *Souvenir de Rio de Janeiro*. In this book he decorated each image with illustrated frames based on the pictures made by Debret and Rugendas in their respective voyages. This type of illustrated album was frequently sold in Brazil as well. They helped to create an image of the country and the city that served not just to satisfy the curiosity of European public, but slowly influenced a national imagery that Brazilians came to accept as normal. The lithographic technique, along with an increasing rate of communication associated with commercial interests, generated an unprecedented circulation of images and ideas that influenced the imaginary of Europeans and Brazilians alike.

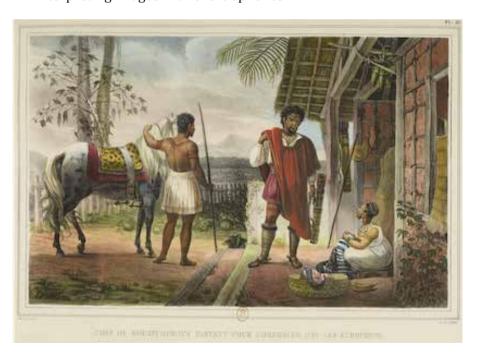4.4 Interpreting images with chordophones

Figure 1. Guaiacuru Chief-Jean Baptiste Debret (1834) lithography, Guaiacuru Chief-Tome I, plate 16.

From 153 plates in his *Historical and Picturesque Voyage to Brazil*, Debret painted 11 plates showing musical instruments. From these 11, only 3 showed plucked chordophones, Plate 16, Tome I; Plate 8, Tome II; and Plate 29, Tome III. In the first tome, despite being accused of not having had much contact with the natives, Debret depicted the life of various tribes, including the Couaycourous (Guaiacurus) in Plates 16, 17 and 18. Plate 16, Chefe Guaiacuru (Portuguese edition) or Guaiacuru Chief. The plate shows two Indian males before going to do business with Europeans, and

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a female Guaiacuru sitting on a bench doing some manual work. Though they are placed outdoors, the house is surrounded by a fence that separates them from the wilderness. The man in the foreground is the leader and the owner of the house. He is observing his wife who looks back to him passively –with a suggestion of submissiveness. The other man is not facing the viewer, he is touching the horse with one hand and holding a lance with other, his main function in the scene is to show that the Guaiacuru group is hierarchised and he is a soldier. It is important to note that in the middle of the picture there are two steps that reinforce the different social level between the characters, but, more than that, they keep apart two opposing elements that Debret wanted to emphasise. On the left hand side, the natural world is represented by a horse, a tree, and an Indian, all three placed on a lower level, whilst on the right hand side there is a couple and two musical instruments placed under the roof representing civilisation.

Another important aspect of the scene is the way Debret dressed his characters. The Indians were painted wearing similar clothes to the characters that Debret's tutor Jacques-Louis David painted in his famous picture *The Oath of the Oratti* in 1784 (fig.2). The reference to the renowned Neo-classical painting was a deliberate choice made by Debret, to dignify the indigenous subjects through clothing.

Figure 2. The Oath of the Horatti - Jacques-Louis David (1784), Oil. Source, Louvre Museum.
Retrieved from http://www.louvre.fr/en/oeuvre-notices/oath-horatii.

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The musical instruments hanging on the wall, a plucked chordophone (three-course double strings with a round sound box) and a bowed chordophone were not used to play indigenous music, rather as European-like instruments they were important elements in the scene to reinforce the idea of cultural assimilation by the natives. The idea behind the painting, though, was to show how the native population was evolving in the country and how Brazilian civilisation was being imagined. The Guaiacurus are not shown as the stereotype of the "primitive", as peoples living in the woods, hunting, or participating in rituals; rather, they are displayed as having incorporated civilised manners. As mentioned above, Debret did not have much contact with Indians, himself. Instead, he based most of his descriptions of this theme on other travellers' books and through the research he did in the Imperial Museum of Natural History in Rio de Janeiro. Debret was correct in referring to the Guaiacurus as people from the provinces of Goiás and Mato Grosso. Analysing Debret's original aquarelle, however, Hartmann found that the Guaiacurus were painted on a landscape in Rio de Janeiro, implying that this was the place where Debret actually painted the picture (Hartmann 1975). Taking a close look at the plucked chordophone hanging on the wall of the Guaiacurus' house, one sees an instrument with six single strings, identifiable by the tuning peg with six holes and the six single strings over the soundboard. The fretboard contains twelve frets and the round soundboard looks like the half of a gourd, in spite of the back of it being invisible in the picture. Apart from its presence amongst the Indians, every aspect of this instrument is intriguing: the shape, the number of strings and the size, for there is no parallel to it in Brazilian organology of chordophones and it is impossible to make a direct association with any other instrument in Brazil nowadays or in the past. Nonetheless, similar chordophones were pictured by Debret and Rugendas in Brazil.

Figure 3. Customs of Rio de Janeiro-Johan Moritz Rugendas (1835) lithography, Customs of Rio do Janeiro-Part II, Plate 16.

Tropical vegetation is always present in Rugendas' lithographs, includ-ing this scene in which the author pictured the customs of Rio de Janei-ro. The mountains, the rich and dense vegetation in which the house is placed, form an authentic landscape in Rio. However, it becomes clear that Rugendas did not want to show the social reality of the great majority of the population, rather, the Rio de Janeiro he depicted was the one pertaining to the well-to-do of the city. The outfits of the young couple, their confident posture and even the sunlight on their faces and bodies emphasize their social class and position of racial privilege in society. Another notable element is the chordophone leaning on a

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cushion on the right hand side at the bottom. Since Rugendas wanted to show modernized, civilized, and Europeanized Cariocas, he painted a luxury chordophone. The craftsmanship of the instrument and the musical scores underneath it highlight that the couple belongs to a well-educated and wealthy minority within Brazilian society. The chordophone is a convenient component for the scene for it encapsulates the message intended by the artist to represent youth, romance, elegance, and sensuality. However, it is not clear what chordophone is represented.

Along with the *guitarres* or *gitarres* pictured by Debret in other examples, this chordophone is not a figure-eight-shaped *viola* or *violão* as one might expect to find in Brazil at that time. Yet, neither does it reflect Debret's *guitarres,* being very well built and considerably longer. Nevertheless, in the written part of his German edition (1835, part III: 34,38; part IV: 26), Rugendas writes in three different passages that Brazilians mostly played the *mandolino.* He explains that the *mandolino* was played to accompany songs in Rio de Janeiro, in rural areas of the country, and for *lundu* dances. The French edition of the book (1853, pp. 26, 31, 36) includes the term *mandoline* (mandolin in French or in German) to refer to the instrument. The Brazilian publications of the book failed to translate the term *mandolino* properly instead it was erroneously rendered as *violão*, a different category of chordophone.

Once more it is difficult for the iconographer to be certain about the instrument, for the chordophone he pictured looks like a mandolin, at least its soundboard has some similarity to that instrument. However this chordophone and the others pictured by Rugendas have a much larger soundboard and a significantly longer neck. The illustrated instrument seems to be of a medium-bass tonal range, whilst the mandolin is a treble chordophone.

In the *Museu da Música* (Music Museum) in Lisbon, one can find a *cítara* (cittern) that has a similar pear-round-shape, and it contrasts with Rugendas chordophones in that the body has a flat back. Yet, the MIMO[17] website's entry *mandolino* (the name of the most popular chordophone in Brazil, according to Rugendas)*,* depicts a "mandolin-banjo" displaying the same general features as the one pictured by Rugendas. The entry *cittern* on the same website retrieves many similarly shaped

[17] The Musical Instrument Museums Online is the more comprehensive database for music instrument research in Europe (Retrieved from http://www.mimo-international.com/MIMO/).

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chordophones, but all with a flat back soundboard. The only exception found was a chordophone called *Lutgitarr* (lute-guitar) in the Musik & Teatermuseet in Stockholm that has a convex soundboard but a considerably shorter neck.

Despite the fact that Rugendas regarded the *mandolino* as the most played chordophone in Brazil and recorded instruments that were not easily recognizable, another contradictory account of music and chordophones in Brazil was provided by other two German explorers, Spix and Martius (1824), who travelled across the country from 1817 to 1820. As they had musical knowledge, and have even registered a *lundu* in musical scores in the country, their accounts are believed to be closer to the reality than most travellers' reports in this regard. They affirm:

> Music [...] is cultivated with more partiality by the Brazilians, and particularly in Rio de Janeiro; and in this art they may perhaps the soonest attain a certain degree of perfection. The Brazilian, like the Portuguese, has a refined ear for agreeable modulation and regular melody, and is confirmed in it by the simple accompaniment of the voice with the guitar. The guitar (viola), here, as in the south of Europe, is the favourite instrument [...] The national songs, which are sung with the accompaniment of the guitar, are partly of Portuguese origin, and partly written in the country. By singing, and the sound of the instrument, the Brazilian is easily excited to dancing, and expresses his cheerfulness in polished society... (Spix and Martius, 1824, p. 16).

Spix and Martius (1824) were very specific in emphasizing that the *viola* was the instrument Brazilians liked most. So much so, that in all editions of their work either in German (1831), English, or Portuguese (1981), the instrument is called *viola*. Even though the term *viola* could designate a myriad of chordophones, doubts about what kind of *viola* it was could only be solved by visual representations of a particular chordophone they had witnessed during their travels in the country. They recorded the instrument in a "Feast of the African Queen", during their stay in the province of Minas Gerais (fig.4). That instrument has the advantage of being very well delineated and it is clearly an eight-shaped, six-course, single strings guitar, called *violão,* or French *viola* (*viola francesa*), as it was commonly known in Brazil at the beginning of the nineteenth century. Their picture can be considered the oldest visual representation of the *violão* found in the country.
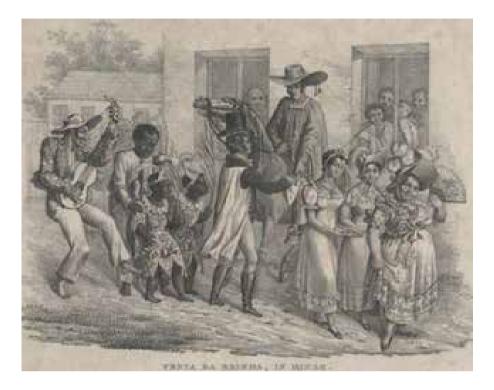
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Figure 4. Feast of the African Queen. Spix and Martius (18??, p. 34), Lithography.

5. Conclusion

In this paper I have defended the importance of taking into account the materiality of the medium in which historical sources inscribe musical knowledge in (ethno)musicology research. I called it "technologies of musical knowledge" and subdivided them into three categories in my research about the *violas* in nineteenth century Rio de Janeiro: written technology of musical knowledge, visual technology of musical knowledge, and sound technology of musical knowledge. The designation technology has been justified, among others things, by the importance of technologies in the history of (ethno)musicology (Nettl, 2010) and by the conceptualisation of the term as described by Bijker, Hughes, and Pinch's (1987) which encompass: objects and artefacts, their processes of creation and manipulation. This technological perspective encloses various meanings that better define my methodological approach in historical (ethno)musicology. I have shown how the iconographical representations of the Brazilian past could had been affected by the very new medium of lithography, which demands a technological process in which various agents influence on the outcome of the final product. Yet I analysed and interpreted the visual technology o musical knowledge about the *viola* in nineteenth century on the works of the Frenchman Jean Baptist Debret and the German Johan Moritz Rugendas.

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Biografía / Biografia / Biography

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