"India, Japan, Mexico and Brazil have filled this Museum with their intriguing gifts..." Brazilian objects in the collection of Athanasius Kircher (1602 - 1680)

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Cover page

Title: quote from the 1678 catalogue of Kircher's museum (De Sepi 1678, translation Davidson 2015, 145).

Image: Figure 1.1. Detail of Brasil on copperplate world map from Kircher's *Mundus Subterraneus* (1682. Amsterdam: Jansson and Weyerstraten).
Downloaded from https://lib-dbserver.princeton.edu/visual_materials/maps/websites/thematic-maps/quantitative/hydrography/kircher-map.jpg

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Brazilian objects in the collection of Athanasius Kircher (1602 - 1680)

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Chapter 1. Introduction

1.1. Research question

One of the key elements of a museum is the exhibition of objects, and with it, the exhibition of the collector's knowledge about these objects. The study of a collection and its presentation can yield much perspective on the worldview of its owner. This thesis will explore the position of the Brazilian objects in the museum of Athanasius Kircher (1602-1680), "the last man who knew everything",[1] which was (according to Kircher, at least) one of the greatest places of the production of knowledge in the early modern period. The museum was housed in the Jesuit Roman College in Rome, the so-called cultural center of the Western European world at the time. Kircher positioned the museum, in its turn, as the center of the city: in a letter from 1671, he proudly pronounced that "no foreign visitor who has not seen the Roman College Museum can claim that he has truly been in Rome!" (Kircher in Rivosecchi 1982, 141). In this museum, all conceivable knowledge within the known world came together and, from here, was spread again. Kircher was a Jesuit priest and an important scholar, both theoretical and experimental, who published 44 impressive books and brought together a remarkable collection. His philosophy was shaped by his education and connections within the Jesuit church, and in some ways, also by the developing scientific culture currently seen as the foundation for our current scientific paradigma.[2] This makes him a key figure in the history of perspectives on knowledge: Paula Findlen calls him "a barometer of virtually every intellectual transformation of the seventeenth century" (Findlen 2004b, 41). This key position, the wide range of subjects he was interested in, and his remarkable collection have led to a large (and still increasing) amount of modern studies about him and his approach to knowledge. The research subject of Kircher is too large to comprehend in its entirety: in the epilogue to Findlen's volume, Antonella Romano notes how his life and his oeuvre have "become the subject of a series of partial interrogations whose overlapping in the context of a collective effort such as this eventually might be able to shed some light on this strange and singular complexity"(Romano 2004, 405-406).

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[1] Subtitle of the volume on Kircher edited by Paula Findlen (2004a), who has been researching Kircher since the late 1960's.
[2] See Leezenberg and De Vries 2001, chapter 2, on scientific development in the seventeenth and eighteenth century.

The focus of this thesis will be the Brazilian objects in Kircher's collection. Although much has been published on Kircher, the objects themselves are often mainly included as illustration or support of a larger narrative. There are few works focusing on the objects themselves, and none on the Brazilian objects in particular. The aim of this thesis is to trace which Brazilian objects Kircher owned, what is known about their history and their provenance, and to use the remaining source material to reconstruct, as much as possible, his approach to these representatives of non-European culture within his museum: why did he include them in his collection and how were they used in the production of knowledge within this museum? This research question fits into the framework of the ERC funded project *Indigenous Knowledge in the Making of Science: Historia Naturalis Brasiliae (1648)*, directed by dr. M. Françozo at Leiden University. The *Historia Naturalis Brasiliae* (HNB), published in 1648 by Willem Piso and Georg Marcgraf, is an encyclopedia of indigenous Brazil and thus an illustrative case study of the ways in which indigenous knowledge was appropriated and transformed into European science. The project traces the function of objects in this transmission and transformation of knowledge. Knowledge was not only disseminated through published books, but also by the many indigenous objects transported from Brazil to Europe. Some of these ended up in collections like Kircher's, which makes these museums an essential part of the history of transmission of indigenous Brazilian knowledge to the European culture at the time.

1.2. Sources, method, and limitations

The biggest hurdle in research of indigenous objects in Renaissance and Baroque collections is the lack of source material. Far too little information is available on the precise way in which objects and knowledge were transferred from indigenous environs to European collections like Kircher's. Studying the collections themselves is complicated by the fact that most of them have since been dispersed, as also happened to the Roman College museum. While some parts of it can still be traced to modern museums, most of Kircher's objects have disappeared from the academic and museological horizon into private collections or even the trash heap. Consequently, the journey of indigenous objects and their position within these collections must be studied predominantly from the only source material left: their catalogues (see Yaya 2008, 173). This has several downsides. First, the catalogue does not necessarily reflect the order in which the collection was displayed and

experienced. Second, we must rely on the point of view of the catalogue author, which limits us to the information they chose to include. The upside is that the catalogue is a very conscious representation of the ideal state and order of the collection. An analysis of the catalogue therefore says a lot about the underlying philosophies of the collector or author. Adalgisa Lugli uses them as primary source to discuss the connection between encyclopaedic collections and the development of research methods and emphasises: "the catalogue […] is the golden hour of the collection, in which the collector […] compile[s] a kind of ideal depiction of the collection, […] almost always [at the moment when] they feel that the work is complete or almost complete" (Lugli 1986, 270, my translation). Usually, the author includes an introduction, in which they often reflect explicitly on the contents, order, and meaning of the collection. Thus, although the catalogue limits our perspective in some ways, it is an excellent medium to study a collector's approach to their museum.

There are two catalogues of the early Kircherian museum, both published by authors who had known Kircher himself and were intimately occupied with the daily business of the museum. The first catalogue was published in 1678 by Giorgio de Sepi, described by Kircher as "custodian of the museum and my assistant in the construction of mechanical devices", and has been translated to English in a beautiful facsimile (Davidson 2015). I have made thankful use of the translation, but also consulted the original Latin text where necessary: the translation is sometimes ambiguous and contains several errors. Using this catalogue as source material will get us closest to Kircher's own approach to his collection. He worked together closely with De Sepi and it is certain that he drafted parts of the text himself. For this reason, I will treat De Sepi's treatment of the collection as interchangeable with Kircher's. The second catalogue was published in 1709 by Filippo Buonanni,[3] once Kircher's pupil, after his death his successor as curator of the museum. I have included this catalogue in my research for two reasons: first, because it is a crucial part of tracing the history of the objects themselves, and second, because several aspects of De Sepi's approach to the collection come into view much more clearly when compared to Buonanni's approach. This catalogue has not been translated yet, so I read it in the original Latin. Because of its length, I have only read the introduction, the chapter on foreign objects, and the entries on Brazilian animals.

[3] Or Bonanni, the Latinised version of his name.

Translating and publishing all texts I used would be too large a task to include in this thesis, but translation of relevant passages is included in Appendix I. In addition to these catalogues, several inventories of the museum exist. Their object descriptions are included in Appendix I, but I will not discuss them extensively in the text, since they do not contain any information apart from short object titles. The same goes for the object descriptions kindly provided by the Luigi Pigorini National Museum of Prehistory and Ethnography in Rome, where several of the Brazilian objects from Kircher's collection now reside.

The method I have used in analysing the two catalogues is a close reading of the texts, as common in the field of classical studies. This way of reading does not only consider the information provided in the text, but also looks closely at exact word use. This is not useful for all of the objects that De Sepi and Buonanni discuss, but especially in the last part of chapter four, it will become clear that this turns out to be a productive method of catalogue analysis. Word use can reveal much about the author's approach to the collection and the obvious intertextuality with other works or catalogues could make it possible to trace the path that Brazilian knowledge followed through Europe. At the same time, however, close reading of the catalogues on their own does not provide the complete picture. Museology, after all, is as much the study of objects themselves as it is the study of their history and reception, and studying the transmission of knowledge benefits from including the origin and accuracy of that knowledge. In this specific case, critical analysis of the catalogues would be much improved by the possibility to judge the truth of the claims De Sepi and Buonanni make. I have included some remarks on the verity of a claim, especially for animal remains, where verification is easy if the species still exists today, but neither the time available for this thesis nor my knowledge of indigenous Brazilian cultures was sufficient to do so for all objects discussed.

1.3. Structure of the thesis

Although the subject Kircher is too large to encompass in a single work, we cannot appreciate the significance of small parts without at least considering the whole. Therefore, chapter two will begin by sketching an image of Kircher as a person, his background and philosophy and his network. This information is necessary to understand the way he approached the non-European objects in his museum. The chapter will be divided into three themes: the Jesuit church and the museum, the museum as an extension of sixteenth and seventeenth century collecting culture, and

the museum as a site of seventeenth century scientific practice. This division is largely arbitrary and based on modern delineation of these areas: to Kircher's mind, they would overlap, and many of the elements mentioned could easily fit under any or all of those headings. However, this division is a productive tool to separate different influences from each other and illuminate exactly why Kircher was unique in all these areas. After this historical background, chapter three will move towards a more museological point of view. I will discuss what knowledge of Brazil was available to a seventeenth century European (and specifically to Kircher) and how the category of *exotica* fit into seventeenth century collections in general, to provide a background from which to understand Kirchers Brazilian objects. After these two chapters containing the necessary context, chapter four will begin with a short history of the Kircherian museum itself and continue to discuss objects in the collection which are explicitly said to be from Brazil in one of the two preserved catalogues. At the end of this chapter, I will discuss some aspects of both authors' approach to the objects within the texts, focusing on their categorisation of the objects, the sources both authors use, and the inclusion (or exclusion) of information on provenience and provenance. Chapter five will contain a short description of the history of the Kircherian collection after Buonanni. Chapter six, the conclusion, will reflect on the research method, present the conclusions, and list several possible avenues of further research.

Chapter 2. Kircher: background and museum

2.1. Kircher and the Jesuit church

Athanasius Kircher was born in Germany in 1602. After a career as professor of mathematics and (oriental) languages at different Jesuit colleges in war-torn Germany and France, he was moved to be professor of mathematics at the Collegio Romano in 1633 (Findlen 2004b, 1-19; for a detailed biography of Kircher, see Godwin 2009, ch. 1). He arrived in a city that, though still artistically and intellectually dominant in Europe, was increasingly feeling the impact of political and religious[4] threats from different directions.

For the Italian peninsula, with its many different duchies, kingdoms, and city-states, the sixteenth century had been a period of relative political stability. Towards the end of the century, the balance of power began to shift again. Spain exercised its imperial ambitions in Italy, both to the south and to the north of the Papal State.[5] The northern city-states cushioning the Papal State from the Protestant dangers were often at odds with each other and had lost most of the political influence they had enjoyed during the peak years of the Renaissance, while their export of manufactured goods and the accompanying wealth declined sharply from 1619 onwards. The plague and bad harvests caused high mortality on most of the peninsula (Mallett 1997, 83-85; Woolf 1997, 113-118). In the Holy Roman Empire, the Thirty Years' War had been raging for fifteen years, a culmination of the tensions between Protestant and Catholic states. To the South, the Ottoman Empire and Orthodox Christians were menaces to the Holy See. Italy's many port cities admitted not only foreigners, carrying with them foreign thoughts and banned books, but also plundering pirates (Lo Sardo 2004).

In the meantime, the Counter-Reformation was taking place. In the last decades of the sixteenth century and the first of the seventeenth, the strict application of the decrees of the Council of Trent changed the Church into "the Church militant,

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[4] Note that 'political' and 'religious' should not be understood as the antithesis the modern definition of these terms would imply they are. The Papal State was what we would currently call a political entity, with the Pope as its sovereign. It is difficult to understate the extent to which the spheres that we would at present differentiate as religious, civil, and political, were one and the same for contemporary Italians.

[5] The land under the rule of the Pope, originally emerged in the second half of the thirteenth century "as a series of negotiations, grants of privilege, and applications of papal pressure in an area of tense rivalries and confused political authority"(Mallett 1997, 59), but now functioning as a political entity like other Italian city-states.

exclusive repository of doctrinal truth" (Woolf 1997, 123). The Church and the lay society remained closely connected, but the Church was always the dominant party. This dominance manifested itself in different ways, from the suppression of thought not supported by the Church (the most famous example being Galileo Galilei) to the deliberate visibility of lavishly decorated Catholic buildings in the cities (Woolf 1997, 123-124). Catholic reform spread through Italy and the state of the faith in the rest of the world was carefully monitored, which led to a lot of effort put into the mission.[6]

Outside of Italy, the colonial expansion of many European states had begun, bringing with it many opportunities for Catholic missionaries (Godwin 2009, 12). The Jesuits were the missionary organisation with the most extensive reach. Their important role in the colonisation by the Portuguese empire gave them access to the considerable range of Portuguese colonies, which stretched from the Americas in the West to Asia in the East. Science, especially Jesuit science, was a crucial element in the colonisation strategy of the Portuguese. Accurate navigation at sea had been important for the discovery of new land, but became even more so when the Portuguese empire began to consolidate as an empire based on seafaring. Early modern Portuguese science focused mainly on navigation and charting, for which a solid foundation in mathematics was necessary. In the sixteenth century, the Society of Jesus created a network of Jesuit schools, which could supply this with a (loosely) standardised curriculum. Their role in the expansion of the Portuguese empire was formalised by the royal request in 1574 that they dedicate a course to the training of maritime personnel. With their international network, they structured the practice of science within the Portuguese empire and, in turn, were able to practice science on a much bigger scale because they profited from the Portuguese expansion (Leitão and Fontes Da Costa 2009).[7] The epicentre of this world-wide communication network was Rome. Since the end of the sixteenth century, Jesuits were educated at the Roman College as preparation for their assignment as missionaries. In the beginning,

[6] See Woolf 1997 and Oresko 1997 for a short but thorough overview of Italian history and culture in this period; see Lo Sardo 2004 for emphasis on the aspects relating to Kircher

[7] For a more general overview of the history of Iberian science, see Bleichmar et al. (2009). Most of the essays in this book focus on the practice of science and collecting under the Spanish and Portuguese crown. The political and social context of collecting objects from the Indies in that area differ a lot from those in Italy and Rome, since Italy was not a colonising monarchy. For this reason - and because much of the content deals with the eighteenth century - the book is not directly relevant for a study of Kircher. Still, it does sketch a valuable backdrop of practices of collecting for other reasons in other parts of Europe and sheds light on the channels through which information and objects reached the Western world.

the emphasis lay on mathematical education (remember that Kircher's original appointment was professor of mathematics), but this was expanded over the course of the seventeenth century, when education on other developments of Western science became important as well. The Jesuit mission was said to be one of science as much as it was of faith: it was customary for the missionaries to start with impressing foreign leaders with Western knowledge and technologies before following with the Christian faith (see Hsia 2004, 395-297, for how this played out in China; she uses the term "scholarly apostolate").[8] Beyond the instruction in these skills, the information available in the museum (in the form of books and objects) served as an introduction to the culture of the faraway lands the missionaries were destined to go (Gorman 2004, 240) and to prepare them for their encounter with the unknown (Findlen 2002, 269). Findlen (2002, 249-251) also draws a parallel between the missionaries observing Kircher's experiments and the indigenous people getting to see Western techniques, such as printed books, for the first time: the missionaries felt a comparable sense of wonder at something they did not understand, and realised the powerful influence that this could have on people.

Thus, much of the progress of the Jesuit mission was thanks to the museum, and vice versa, the museum could only exist in this form because of the mission. Part of the success of the Jesuit missionaries can be attributed to their policy of what is currently called 'inculturation', first practiced by Saint Francis Xavier, a co-founder of the Jesuit order. Inculturation, formalised as a strategy during the Counter-Reformation, means "that the gospel needs to be presented to any given culture in terms intelligible to that culture and allowed to grow up in the 'soil' of that culture" (Hellebusch, n.d.). The authorities in Rome needed to be familiar with a culture to decide on the way the faith could be adapted to their customs. For this reason, the missionaries were expected to study the languages, customs, geography and nature of the regions they were stationed. These reports, in the form of letters, dictionaries, maps, and objects, often ended up in Kircher's museum (Lo Sardo 2004, 60). Because many of the departing missionaries studied with Kircher, he had the

[8] Although the idea of a 'scientific mission' has since been criticised as being an Eurocentric, idealised notion (see Haddad 2018, 224ff.), it is still true that the missionaries were well-educated, took their knowledge of the European world with them and shared it.

opportunity to instruct them on the proper way to observe and communicate information. He built strong relationships with many of his fellows, often writing them letters of instruction to carry with them on their journey (Findlen 2002, 269).[9]

Kircher's personal involvement with the mission was strong. Part of this was his intrinsic interest in travel and foreign countries. In his younger years, he had dreamed of becoming a missionary. He applied multiple times for missions in the East, but was denied every time, perhaps because the Church considered a man of his talents to be of greater value in Rome. Collecting was a way to satisfy this curiosity. Though he did not leave Rome for most of his life, he was just as involved with the mission as his colleagues who lived and preached in the New World, and considered his work to be serving this goal. His research areas and his works reflect this as well: while the Americas are almost absent in all of his works, China (and, by extension, India) played a prominent role, with much attention for the history of early Christianity in China.[10] This can be linked to the fact that the interest of the Jesuit order went out to Japan and China more than to the Americas, because the educated, reasonable Chinese were seen as more likely to be converted to Christianity (Molina 2004, 370). A clear illustration of the importance of the mission for Kircher's studies of other cultures is pointed out by Joscelyn Godwin: the frontispiece of his *China Illustrata* (1667), depicted in figure 2.1. The book contains a compilation of all of Kircher's knowledge about the Chinese world, but the frontispiece does not depict any Chinese objects or images of China itself; instead, it shows two missionaries holding up a map of China below the founders of the Jesuit order (Godwin 2009, 237).

Beyond being a useful resource for the mission, the museum was a valuable asset for the positioning of the Jesuit order within Rome. In 1622, the Church founded the *Sacra Congregatio de Propaganda Fide* (Sacred Congregation for the Propagation of the Faith) to coordinate the mission in all parts of the world. This diminished the benefits the Jesuits gained from their position as the dominant missionary organisation, which led to a significant decrease in their social and political influence. Competition between the different missionary orders developed. To combat this, the

[9] Of course, Kircher's Jesuit network did not include only the missionary locations; his fellows in European courts and at other Jesuit colleges would also visit the Roman College (Fletcher 1988, 142).
[10] See Godwin 2009 for an overview of non-European cultures in Kircher's work.

Figure 2.1 Frontispiece of the China Illustrata. Image: Kircher 1667, frontispiece.

Jesuits conducted a policy of "spectacular visibility" (Romano 2004, 413) within Rome to profile themselves in contrast to the other religious orders. In a city where the tactic of representing oneself and exhibiting status through the formation of a collection was already commonly used by many members of the Church and aristocracy, the opening of a Jesuit museum in a central location was a key part of this policy.[11] The central position of Kircher's museum within the Jesuit church led to Kircher soon developing to be "one of the most prestigious Jesuit intellectuals for over forty years [and] a point of reference for generations of these missionaries" (Lo Sardo 2004, 51-60, quote p. 57).

2.2. Kircher and seventeenth century science

Kircher's collection and intellectual prowess were widely recognised beyond the Jesuit church. He kept in close contact with many European natural philosophers and functioned as a broker between them, the European elite, and the Jesuit missionary network, to their mutual benefit. In fact, he had been able to start his career in Rome only thanks to the French natural philosopher and collector Nicolas-Claude Fabri de Peiresc, who recommended him for the position of mathematical professor at the Roman College (Bleichmar et al. 2009, 15-18). An example of the reach of Kircher's network is his fifth book, *Magnes sive de arte magnetica* (1641), for which he received contributions not only from Marin Mersenne, but also from "[Pierre] Gassendi, Jesuit mathematicians and natural philosophers such as Christoph Scheiner and Niccolò Cabeo, and Jesuit missionaries in Goa, Macao, Canton, and the West Indies" (Findlen 2004b, 21). An analysis of Kircher's letters shows the same: while almost one third of his received letters were from fellow Jesuits, an impressive 17 percent was from European nobility, and many others from the non-Jesuit European scientists who were part of the correspondence network known as the Republic of Letters. If anyone needed information on anything, Kircher was the man to ask: John Fletcher, in his study of Kircher's received letters, describes him as an "accessible enquiry office"(Fletcher 1988, 139). Kircher was very conscious of this position and took pride in it. De Sepi's catalogue of his collection noted that his museum contained "12 Folio Volumes of Letters written to him over a period of 40

[11] See Findlen 2004b, 29-31; Romano 2004, 411-415, where a map of the Jesuit buildings in Rome is included to emphasise this desire for visibility; see also Lo Sardo 2004, 60, where the museum is described as "an effective tool to maintain [the position of the Jesuit order] in the competition with other religious orders and with the Propaganda Fide", where "the Jesuits emerged as tireless and attentive travelers and observers."; see Hsia 2004, 388 for an example of this competition.

years, collated in annuals; these have been written and sent to him, not only by Popes, Emperors, Cardinals and Imperial Princes, but also by men of Letters, Philosophers, Mathematicians, Physiologists, from all corners of the world, in many languages, both to honour him, and also as if to an Oracle, to find the solution to the most difficult problems posed by every branch of knowledge." De Sepi reports that many people had urged Kircher to publish these letters, but that he refused, because he was too modest (De Sepi 1678, 164).

However, in a closer study of Kircher's relationship with other European natural philosophers, a seeming paradox stands out. Despite his many accomplishments, Kircher and his way of practicing science were criticised and even ridiculed by many of his contemporaries. As a Jesuit, his 'science' was already suspiciously tinged with religious influences (Ziller Camenietski 2004, 326; see Malcolm 2004, 298-299 for the general opinion on Jesuit scientists), but there is also much criticism on the quality of his work itself. One member of Royal Society was disappointed in Kircher's *Mundus Subterraneus*, since he had only collected existing knowledge instead of making new discoveries (Hsia 2004, 383). Carlos Ziller Camenietzki quotes a letter from a Florentine scientist, written in 1642, which describes how "Signor Nardi, Signor Maggiotti, and I laughed for quite a long time" upon reading Kircher's *Magnes* because of the absurdity of all the things he mentioned (Ziller Camenietski 2004, 323). Towards the end of the seventeenth century, the view started to prevail that Kircher's works were worthless because of their many errors. It remained even until the end of the twentieth century, when Kircher was regularly discounted as 'not a proper scientist' (Ziller Camenietski 2004, 311). This ridicule stems from a fundamental philosophical difference between Kircher's worldview and that of the 'new' scientific paradigm, which we still adhere to nowadays. It is worthwhile to explore this a little further, since this lies at the base of the way Kircher interpreted the objects in his museum.

The first person to move the focus from the contents of Kircher's work to his scientific method was William Ashworth in 1986. A third of his chapter on the interaction between Catholicism and early modern science is dedicated to the Jesuits. He emphasises the enormous Jesuit contribution to science in the seventeenth century because of the great number of Jesuit scientists and their publications, their

precision in carrying out experimental science, and their extensive network. However, he states, if one actually *reads* a Jesuit scientific treatise, "there still remains the unavoidable feeling that Jesuit science was somehow seriously deficient" (Ashworth Jr. 1986, 155). When Ashworth tries to pinpoint what this feeling is based on, he concludes that the Jesuit faith fundamentally influenced Jesuit science in several aspects. In the emblematic worldview (seeing nature as a collection of signs all carrying a hidden meaning), which was deeply embedded in the Jesuit faith and their missionary work, it is not important to discriminate between true and untrue facts - only the meaning of the sign is relevant. Any sign could be accepted as true, provided it was observed by a reasonable observer. Ashworth draws a parallel with the Jesuit probabilist stance, which states that "an action could be deemed moral if at least one respectable authority had judged it so, even if his opinion was less probable than that of authorities who denied its morality" (Ashworth Jr. 1986, 157). This combination makes it both difficult and unnecessary to draw larger conclusions about the world and causes eclecticism and a "lack of any philosophical superstructure" (Ashworth Jr. 1986, 156), while this kind of superstructure is exactly what modern science sees as scientific progress (for example the developing recognition of the universal validity of the laws of nature in this period) (Ashworth Jr. 1986, 154-157).

It is interesting to see the development of modern authors' judgment of Kircher. Ashworth, in his analysis, states that the Jesuits were 'handicapped' by their emblematic worldview, a term which has negative connotations. In a more recent collection of essays on Kircher published in 2004 (Findlen 2004a), the theme of his scientific value is again explored. Paula Findlen, in her introduction, recognises exactly this divergence in Kircher's studies as his greatest talent. According to her, it was *because* of the broad extent of his knowledge and his unique talent to see connections between different fields of research that he inspired others to respond to his work (Findlen 2004b, 1-10). In this way, he was essential to the furthering of scientific knowledge. She attributes the many factually incorrect passages in Kircher's work to his focus on the intersection of different fields instead of "treating each as a specific field of knowledge whose skills demanded the patience and depth of expertise that he was unwilling to acquire" (Findlen 2004b, 9). She holds up Kircher as someone who "provides us with a fundamental perspective on what knowledge was in his time, how it could be known, and how it should be communicated"

(Findlen 2004b, 41). However, she does not explore what this 'fundamental perspective' entails.[12]

In the same book, Carlos Ziller Camenietzki dives deeper into this. His essay picks up on the same 'deficiencies' in Kircher's worldview that Ashworth attempted to list and that Findlen saw as Kircher's weakness, but he is the first to pose that Kircher's perceived inaccuracies were a fundamental result of his different worldview instead of judging him anachronistically from the nowadays still prevalent paradigm of modern, empirical science (which just started to emerge in Kircher's time). In the seventeenth century, 'science' was "closer to a heterogeneous assemblage of research programs and methodological procedures than a coherent and unified march toward knowledge of the world" (Ziller Camenietski 2004, 311). According to Ziller Camenietzki, this 'heterogeneous assemblage' of science at the time is uniquely embodied in the encyclopaedic nature of Kircher's work. Furthermore, he explores Kircher's science through his relationship with Valentin Stansel, a Czech Jesuit missionary sent to Brazil. Like Kircher, Stansel wrote a book containing a discussion on the order of the universe through the seventeenth century literary trope of ecstatic journeys. Both of these books exhibit the 'lack of any philosophical superstructure' Ashworth names, but according to Ziller Camenietzki, this emblematic worldview *is* in fact the conceptual coherence. For Kircher and Stansel, since everything has been created by God himself, everything must be studied as part of the totality of the world. Therefore, all appearances of things are signs pointing at the Creation. This is why all observed things deserve to be studied, why experimental demonstrations ('sympathies') work, and why new theories are often incorporated alongside older theories or explanations without choosing one over the other - and this also explains the lack of philosophical superstructure. Jesuit scientists knew and incorporated the empirical studies that the 'new' scientists carried out, but could only use them for local or utilitarian purposes. Drawing larger conclusions about the world or defining the 'laws of nature', for Jesuit scientists, would be to impose laws on nature. Nature, however, is one with God, who cannot be limited in any way (Ziller Camenietski 2004).

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[12] She does elaborate on Kircher's (and the Jesuits') perspective on knowledge in Findlen 2002, 239-259, where she does recognise the same discrepancies between Jesuit and non-Jesuit science that are mentioned below. However, her view on the essence of the Republic of Letters seems to differ: she describes Kirchers correspondence with missionaries as "a global model for the republic of letters formed in Europe"(Findlen 2002, 266).

It is important to note that this worldview of Kircher's was not unique, nor can it be attributed to his being a Jesuit. It would go too far here to write an analysis of all the ways in which Kircher and his philosophies were a continuation of structures of knowledge in the preceding centuries. The emblematic worldview; viewing Nature as a text and reading its Book through deciphering the signs in which God wrote it; the search for a universal language; the confrontation of classical Aristotelianism with the introduction of new knowledge; encyclopedism and writing a universal history; all are typical for the late renaissance or baroque, and many of Kircher's correspondents worked on the same problems he did.[13] Nor was it unusual that Kircher worked and thought within a Christian framework: this was common for sixteenth and seventeenth century collectors, even those who did not hold a position within the Church (Findlen 1994, 55).[14] The fundamental difference was that Kircher's view on science and the nature of knowledge was based on the institution within which he functioned, the Jesuit order. Like the rest of the Catholic church, the Jesuit Church kept to Aristotelianism and had become even more hierarchical in the Counter-Reformation. The amount up to which Jesuits could and should engage with the 'new science' was a subject of vigorous debate within the seventeenth century Church. The fundamental tenets of the Jesuit faith are the Spiritual Exercises of Ignatius of Loyola, their founder, which state that the Church must always be obeyed: "to be right in everything, we ought always to hold that the white which I see, is black, if the Hierarchical Church so decides it." (St. Ignatius de Loyola, n.d., no. 365). While the Church did not approve of the 'new science', the individuals within it could not dissent openly. See, for example, Mordecai Feingold's description of this period: "The administrators began to generate official prohibitions against certain areas of investigation, while the Jesuit savants became more ingenious in their ability to circumvent, straddle, and equivocate, according to temperament and local conditions, but Administrators prohibited the areas of research that they did not

[13] For a relatively recent general overview of the Scientific Revolution, see Hellyer 2003. One of the main points in the editor's introduction is that, while things certainly changed over the course of the sixteenth and seventeenth centuries, it was not a radical break as the term 'revolution' implies. Especially interesting for a study of Kircher is chapter 5, in which William B. Ashworth, Jr. explores the shift from the Renaissance emblematic worldview to its rejection in the early seventeenth century through natural historians. For a better understanding of the interaction between science and religion in this period, also outside of the Jesuit Church, Bono 1999 is worth reading. He investigates the world view of Isaac Newton, taking Ashworths ideas on the emblematic world view and its demise as a starting point.

[14] This is also true for many protestant North-European collectors. For a discussion of the relation between belief and natural science and the concept of reading nature as a book written by God in the Netherlands in the seventeenth century, see Jorink 2010.

approve, and while individual Jesuits attempted to circumvent these, the possibilities to do so freely were very limited, not in the least because of the power of the Censors who had to approve every manuscript before it was published.[15]
In addition to this worldview that could not allow for the developing knowledge of natural laws, Kircher's background was not one that supported the upcoming concept of what we would now call 'peer reviewed' knowledge. His understanding of the nature of knowledge is nicely illustrated by the story of his *Consilium Geographicum* (Geographical Plan), of which he conceived shortly after his arrival in Rome. The goal of the plan was solving the (until then unresolved) problem of accurately determining longitude, especially at sea. To reach that goal, Kircher needed a great amount of observations from different geographical locations. First, he tried to request these from European mathematicians, who did not respond. It turned out to be much more effective to request that the Jesuit Procurators pass the request down to their subordinates, which Kircher did in 1639. Due to the structure of the Jesuit command system and their emphasis on obedience, this resulted in mathematical observations ranging from all over the world, the format and exact execution of which could be coordinated by Kircher.[16] The ideal knowledge, for Kircher, was synchronised, uniform, and came from all corners of the world to be accumulated and published in a central place (Gorman 2004, 240-253).

It is within this context that Kircher's 'non-scientific' approach to science should be understood, and so it is nowadays: the shifting views on his value as a scientist in the past few decades are mirrored by a greater recognition of the general Jesuit contribution to science. Still, this was what set Kircher apart from the 'new science' in the seventeenth century, which through communication formalised by the foundation of formal academies, created a culture of collaborative research and peer review as a means to further knowledge (Godwin 2009, 11). This was the fundamental difference that led to the uneasy relationship between Kircher and the rest of the Republic of Letters, of which the ridicule mentioned earlier was one of the results. He does represent himself as a member of this Republic in the prefaces to his work, but this might very well have been a tactic to mitigate the criticism. Florence Hsia (2004)

[15] Feingold 2003, viii; see that entire work for studies about the relationship between Jesuit science, the Church, and the 'new science'.
[16] Although Kircher eventually did have enough observations at his disposal, he never published a solution to the problem. The official reason for this was that the only copy of his draft was maliciously stolen from his office.

explores the way in which Kircher defended himself against the accusations of gullibility after his publication of the *China Illustrata*. She explains how Kircher proves the plausibility of the wonderful tales about the East by constructing a comparative framework, legitimising them through mutual confirmation and emphasising the "scholarly conviviality" with fellow Jesuits. Kircher also states in the preface that he publishes the information he received from the Chinese missionaries for the public good, "thus casting himself and his fellow Jesuits in thoroughly conventional roles as hardworking Republicans of Letters" (Hsia 2004, 392). Hsia does not look critically at this self-representation of Kircher, which another chapter in the same volume does. The first part of Noel Malcolms chapter is aptly summarised in his statement that "Kircher was (…) not a fully integrated member of the European Republic of Letters: he was regarded by many as a somewhat dubious or marginal figure, and his own activities as a correspondent, though tireless and wide-ranging, did not really exemplify that complex circulation of knowledge that was the Republic's way of life" (Malcolm 2004, 300). The Republic of Letters was a loose, interconfessional network, in which the flow of information was multi-directional, as opposed to Kircher's centralised way of information-gathering (Malcolm 2004; remember John Fletchers' description of Kircher as an "enquiry office", the *Consilium Geographicum*, or cf. Joscelyn Godwin (2009, 11): "While the motor of the new science was conversation, Kircher's was a monologue.") Kircher's references to publishing for the benefit of the Republic of Letters should be interpreted more as a general gesture of goodwill to his readers than as genuine participation in this proces of mutual searching for knowledge (Malcolm 2004, 299).

2.3. Kircher and the Italian museological tradition

Collections were not a new concept in Rome. The treasuries of churches and royal houses had been filled with precious and rare objects for centuries. Roughly around the beginning of the fifteenth century, the Renaissance princes developed a tradition of collecting *naturalia* and *artificialia* in their *studioli* or cabinets of curiosities. These collections reflected the status and interests of their possessors and symbolised the prince's dominion over the world by representing the entire world in the prince's private chambers, with man (and specifically the prince) as the central point of the collection (Olm 1985, 5). Humanists, often with the patronage of one of the royal courts (or, in many cases, members of the court itself, such as Lorenzo de' Medici),

collected antiquities in an attempt to study the past beyond the texts they had at their disposal. These collections developed and became a defining feature of patrician identity in all Italian cities. "[N]aturalists and collectors shared a common framework of reference: they were largely patrician men who inhabited the cities and celebrated the virtues of scholarship as a necessary part of civil life" (Findlen 1994, 98). The universities, academies, pharmacies, and Jesuit colleges all shared the cultural practices of collecting, and young patricians educated here created their own collections in imitation. A collection was a tool which could increase status and political influence. Of course, within this shared cultural framework, different types of collections existed parallel to each other. An example of another type are the utilitarian collections of physicians and pharmacists, the people who worked with plants. Their focus lay on the order within the natural world itself, of which the collection was to be an encyclopaedic representation: they were "conceived of not as a symbolic place where all reality is reconstituted, but rather as an instrument for the comprehension and exploration of the natural world" (Olm 1985, 6-7, quote p. 7). All these collections had different underlying motivations, but also a lot of overlap in the way they functioned.[17]

In the late sixteenth century, the goal of many scholarly collections shifted towards the representation of all of nature in one room in an attempt to write a universal history. For Kircher, this was related to his emblematic worldview mentioned above: the entire world could be represented by a single object, so collecting these objects would create insight into the workings of the world. For others, it was a reflection of the changing view of the position of Man relative to God and nature, which of course correlated with the Reformation and the development of the 'new science'. Paula Findlen, in the introduction to her extensive work on sixteenth and seventeenth century museums, names three concepts which together defined the museum in this period: *civility* defined who did or did not belong to the community mentioned above, and with the combination of *memory* and *curiosity* collectors and aristocrats alike constructed their identity against the past and desired to expand their

[17] See Yaya (2008, 177), citing Pomian (2004, 18-19): "Pomian's studies reveal the difficulty of categorizing European collections according to their functions, of distinguishing between the didactic role of cabinets of natural history assembled by physicians and botanists and the entertaining role of the cabinet of marvels."

knowledge and reinvent themselves through new information.[18] The practice of collecting, which came to be more and more connected to the practicing of science, was analogous to the ordering of knowledge, a way to aunderstand both the divine and the terrestrial universe.[19] The cabinets and museums became a laboratory in which objects provoked curiosity and curiosity led to experiments producing new knowledge (Yaya 2008, 176-177).

During the seventeenth century, this focus on the marvellous became stronger. Specimens from the New World did not invoke the curiosity they once had, because they had been part of these collections for more than a hundred years and were becoming more common. Collectors whose goal was to ensure social standing needed to keep increasing the rarity of their collection. One of the ways to do this (and in Rome, perhaps the easiest) was to turn towards exceptional art and antiquities (Olm 1985, 11); another way was to acquire ever more marvellous or bizarre objects. Curiosity was no longer the means through which new discoveries were made, but the goal itself. An illustrative example is that of the Bolognese collections of Ulisse Aldrovandi and of Ferdinando Cospi. The sixteenth-century museum collected by Aldrovandi, director of the botanical garden, contained an encyclopaedic overview of nature. The museum curator and guide had to be a natural philosopher. Cospi's seventeenth-century collection (which was later added to the Aldrovandi museum) contained only a few common plants: its main focus were the many objects aimed at evoking a sense of astonishment. As guide, Cospi chose a dwarf. This interest in marvel, whether it took the form of the most rare exotic objects or intricate scientific instruments, was characteristic for Baroque private collectors, often following the lead of their powerful patrons (Findlen 1994, 26-27).

Kircher was an active member of this culture of collecting. He knew (or at least knew of) many of the other collectors of his time, read their catalogues and let them inspire him in regards to the organisation and new acquisitions for his own museum (Bedini 1986, 259). These social processes also took place in Kircher's museum. In De Sepi's 1678 catalogue, we read the description of a scene where 'several doctors', including

[18] Findlen 1994, 15-16. For an extensive discussion of all themes in this chapter, see that entire work.
[19] Yaya 2008, 174. Yaya notes the use of the term 'Noah's Ark' by John Tradescant (for his cabinet) and by Georg Horn and Kircher (as title for publications): "Through this biblical metaphor, the collection appears both as a repository of God's creation and a way to address the issue of the origin and history of the world's species."

Kircher, gather in the garden of the botanist Francisco Corvino 'for the sake of exploring the properties of different plants'. After a discussion on Aristotles statement that amber attracts everything in the world except basil, Kircher proposes to test the theory by experiment and the philosophers prove Aristotle wrong. Then we cut towards a second scene:

> "Something similar happened also in *Kircher's Museum*. A Prince of exalted name and universally known, from the family of Guise,[20] while conducting unrelated experiments, had noticed that electrum possessed the power to draw everything to itself, and in jest said to *Kircher*: 'if amber attracts all things, so it should also attract heavier objects, such as even these gloves of mine, threaded with gold as they are': and that, if the desired result could be achieved, he would leave these same gloves to him as a gift, to commemorate this achievement in perpetuity. *Kircher* replied that he would easily prove that this could be done by means of this very operation. [Kircher proves that amber attracts the gloves and the prince gives them to him as promised.] But [Kircher], as he was prohibited from possessing these as his own property, as though a more precious thing than the laws of his order, restored them, after he received his thanks; it was enough for him (he said), to have demonstrated the truth of the promised experiment to his Highness." (De Sepi 1678, 154)

These two scenes present Kircher's museum as a stereotypical example of the seventeenth century culture of science and collecting. Natural philosophers (note that both Jesuits and non-Jesuits are present) meet in a botanical garden or a museum to reflect upon nature with a classical author as their source of knowledge and inspiration. They attempt to prove or disprove theories through the conduction of experiments facilitated by the collection.[21] A member of the elite shows interest in the museum, requesting that the collector performs experiments for him and rewarding him for it. Kircher was very conscious of his position among other European scholars and his dependency upon the favour of royalty. He represented his museum as "a political theatre that linked the wisdom of the hieroglyphs with the learning of Europe's leading natural philosophers and the power of its most successful princes. Rome, as Kircher constantly suggested, was the one setting in which all of these different activities came together. And his museum was the site of

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[20] Presumably Henri II de Lorraine, Duc de Guise.

[21] See also Bartola 2004, 303, who states that these machines symbolise the universe, but also already contain an element of the museum as laboratory. For some, this movement towards the validity of experimental knowledge kicked off the development towards the empirical 'new science'. For the traditional naturalists, such as Kircher, the knowledge gained would be interpreted within their neoplatonic framework, even if it contradicted Aristotle - for a Jesuit, this was not necessarily problematic, see above.

this sublime synthesis" (Findlen 2002, 239). The typically seventeenth-century search for the marvellous was also reflected in Kircher's museum, in his machines and the other devices that he used to dazzle visitors (cf. Findlen 1994, 33).

2.4. The role of the museum in Kircher's research

For all of the reasons listed above, Kircher's museum was a central element of his philosophy and his life's work. It was the tangible foundation for his scientific publications; the exhibited objects donated by missionaries passing through were physical proof of the wondrous world he promised; the museum was the source of his all-encompassing knowledge. Paula Findlen compares Kircher's self-representation in his book catalogue of 1646 and the revised edition in 1665. She concludes that in 1646, he based his authority on his language skills and his "access to rare and important manuscripts." In 1665, however, "[t]he sources of his authority had not exactly changed, since he continued to be a man in possession of many secrets. But the location of this kind of knowledge no longer lay in arcane manuscripts alone. Rather it was increasingly found in the storehouse of knowledge - artifacts and inventions as well as books and manuscripts - that he displayed in the museum of the Roman College." (Findlen 2004b, 25-26, quote p. 26). This is also what set his collection apart from other Jesuit collections of the period: while the supranationality of the collection was not unique (as the Jesuits themselves were an intrinsically supranational community), Kircher's collection was exceptional in the way it was based on and supportive of his personality and his further work (Davidson 2015, 170).

In addition to the functions it had for Kircher himself, the museum was central to the prominent position of the Jesuit church in Rome. Among other strategies of collecting knowledge, Kircher's missionary ties allowed him to tap into a network which yielded the most extensive knowledge of the world anyone could have access to in this period and he used this to produce an unrivalled amount of scientific work. While he, like so many other collectors, was heavily dependent on the patronage of the elite and the interest of other scholars, and constructed his museum to contain intricate and marvellous displays anyone appreciated, this search for marvel was not the ultimate goal of his museum (see Findlen 1994, 48-50, for the way Italian natural philosophers designated their collections and a further analysis of the word *musaeum*). Kircher's museum, in essence, was a source for and a reflection of his studies: a

means to universal knowledge, to try and unravel the symbols that could be found all over the world, deciphering the secret sacred spirit which united everything (cf. Feingold 2002, xi), all in service of the Jesuit mission with the goal to spread the Christian faith.

Chapter 3. Non-European objects in seventeenth century Rome

Of the many collections in seventeenth century Italy, Kircher's was not the only one to include objects from other, faraway countries. The Americas were not as new as they had been a century back. Information and objects had been flowing towards Europe for some time now, and the New World had become anchored in the mental world map of Baroque scientists and collectors. This chapter will consider the context of the Brazilian objects within seventeenth century society from two angles: which knowledge was available about Brazil and how was it represented in the collections? I will start with a short discussion of available books on the Americas, which circulated widely in Europe from the end of the sixteenth century, to sketch an image of the kind of knowledge about Brazil that would have been available to collectors like Kircher. Then we will look more closely at some collections that included objects from the New World.

3.1. Books on the Americas

What knowledge on Brazil was generally available in seventeenth century Europe and, more specifically, to what part of that knowledge did Kircher have access? De Sepi's catalogue of Kircher's museum includes a short chapter on books, but he only lists the books that are part of the museum collection for their own rarity, and not the library Kircher must have possessed as well. Most of the eight titles he mentions are manuscripts written by missionaries and entrusted to Kircher to store and eventually publish. Three of them about China, two about the Mughal Empire, one about Chile, and two about Brazil. These two were written by Jesuit Valentin Stansel, who has already been mentioned as a close acquaintance of Kircher and missionary in Brazil. One of the books is his *Legatus uranicus* (published 1683), "a little work on solar phenomena, and stars unknown to us, which are visible around the Southern Sky" (De Sepi 1678, 165); the other is titled *Brazilian Mercury, or on the arrangement of the brazilian Heaven and sun*[22] and is described by De Sepi as:

> "… about the wonders of *Brazil*; described therein are, firstly, the customs and natural characteristics of the Region; secondly, traditional way of life of the people; thirdly, the animals, four-footed, flying, and swimming, and the insects, to which he appends the vegetation, trees, grasses, flowers, and fruits; and lastly,

[22] *Mercurius Brasilicus, sive de Coeli et soli brasiliensis oeconomia.*

> the minerals, and a full list of their virtues and properties are dealt with in an elegant and erudite style. It is truly a work of great interest and worthy of perusal, especially since the author himself examined and observed all its contents." (De Sepi 1678, 165).

This is a great example of the kind of information on indigenous cultures that the Jesuit policy of inculturation could yield. Unfortunately, the manuscript has been lost. Stansel sent it to Kircher in 1664, asking for his help to publish it (Stansel 1664, 171r),[23] but this never happened. If the book was indeed as thorough as De Sepi describes it, it must have been valuable context for the Brazilian objects within the museum for those who wished for more in-depth knowledge.

What else could Kircher have known about Brazil? The work commonly considered the first comprehensive scientific work on Brazilian natural history is the *Historia Naturalis Brasiliae* (HNB), published by Willem Piso and Georg Marcgrave in 1648. They were naturalists in the entourage of Johan Maurits van Nassau-Siegen (governor of Dutch Brazil from 1637 to 1644), who commissioned the work. Despite its title, it was intended to treat more than plants and animals: the full title is *A Natural History of Brazil, in which not only Plants and Animals, but also diseases, natures and customs of the Natives are described and illustrated by more than five hundred Images.*[24] It was printed in large quantities, was dispersed relatively quickly through Europe and the rest of the world, and influenced many later scholars (see Safier 2014 for an overview of the history of the work). We cannot be certain that Kircher knew it, though we can reasonably assume he did because of its popularity. De Sepi does not cite it; Buonanni does so multiple times in his 1709 catalogue. However, we cannot infer from this that De Sepi did not have the work at his disposal. It is more probable that this reflects the difference between both catalogues' approaches to their source material (as discussed in paragraph 4.2.3).
Before the HNB, many earlier books treating at least the plants and animals of Brazil had been published by Jesuits and non-Jesuits alike.[25] It is difficult, if not impossible,

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[23] Between 1664 and 1674, Stansel sent several letters on his life in Brazil to Kircher. They are preserved in the Archives of the Pontifical Gregorian University, but have not been translated yet. There are two letters from Lisbon (APUG 567 66r-68v, dated 26-3-1659; APUG 559 122r-123v, 25-6-1660) and 7 from Brazil (APUG 562 171r-172v, 21-6-1664; APUG 563 13r-v, 4-8-1664; APUG 564 133r-v, 10-8-1666; APUG 559 89r-92v, ?-6-1669; APUG 560 93r-94v, 9-6-1670; APUG 566 183r-v, 20-4-1674; and APUG 558 100r-101v, undated).
[24] *Historia Naturalis Brasiliae, in qua Non tantum Plantae et Animalia, sed et Indigenarum morbi, ingenia et mores describuntur et Iconibus supra quingentas illustrantur;* my translation.
[25] Although these were not distributed and read equally throughout Europe - see Neil Safier's remarks

to determine which of these works Kircher had access to. We can expect with relative certainty that he knew many of them or at least knew *of* many of the less voluminous works. An example would be the *Historia naturae, maxime peregrinae* (History of Nature, the Greatest Pilgrim), which his fellow Jesuit Juan Eusebio Nieremberg published in 1635 and of which almost half was dedicated to the Americas. In 1654 Albertus Bartholomeus, an acquaintance of Kircher, asks Kircher's opinion about Nierembergs most recent work in a letter (Fletcher and Trompf 2011, 237-238). Although he could not have meant the *Historia naturae*, which was published much earlier in 1635 - perhaps it was the *Curiosa y oculta filosofía* published in 1649?[26] - it is obvious that Bartholomaeus expects Kircher to be familiar with Nierembergs work in general. If we assume that Kircher knew Nieremberg and had read his *Historia naturae*, he would also have been aware of the authors that Nieremberg draws his information from, some of which were already publishing at the beginning of the seventeenth century: Francisco Hernández, Peter Martyr, Fernández de Oviedo, Cieza de León, and others.[27] Another work that Kircher would probably have known is the *Natural and Moral History of the Indies* by José de Acosta, a Jesuit in Peru, published in 1590. This was a complete study of the Americas, in which De Acosta reports on the natural circumstances there and places the indigenous peoples of the Americas within a hierarchy of social development, as compared to other peoples of the world. It a was very popular book. Because of the effective channels of communication within the Jesuit order, we can assume it had also reached Kircher (Yaya 2008, 185). Another very important early work on the Americas, with which Kircher was almost certainly familiar because of its popularity, was the incredibly extensive and well-illustrated collection of travel accounts by the Dutch publishing family De Bry, published in Frankfurt between 1590 and 1634. Half of the collection was dedicated to *India Occidentalis* (the Americas); the other half to *India Orientalis*. It was "one of the most monumental geographical publications of the early modern period", of which the maps were so accurate they were still used a

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on how many authors "held an ideological bias against the naturalist authors of Catholic Spain" and therefore greatly preferred the HNB above earlier sources (Safier 2014, 169).

[26] Fletcher does not name the work and I was not able to access the church archives in Geisa where the original letter is preserved.

[27] See Pimentel 2009 for background on Nieremberg and a discussion of how he gives the Americas meaning by placing them within the biblical tradition. Although Nieremberg did not collect, his background is quite similar to Kircher's.

century later (Van Groesen 2007, 2).[28] For a collector with Kircher's network, these books should only have been a few of the many publications accessible to him. In summary, Kircher was probably up to date in regards to the available knowledge about Brazil in Europe at the time - or at least, he could have been, since we cannot determine if he did, in fact, read these books.

3.2. American objects in museums

As knowledge about the Americas began to be disseminated within Europe in the sixteenth century, so did objects. Since the 1980s, several articles discussing the arrival and reception of exotic objects in the European collections have appeared. Many of these articles lean on the extensive work of Christian Feest, who laid the groundworks for further research by cataloguing American objects in European collections (Feest 1985). An important overview of the subject is written by Isabel Yaya (2008), who positions objects from the Americas within the larger cultural context of the sixteenth and seventeenth century. She emphasises that it is difficult to describe the arrival of American objects in Europe in general, since there were big differences between the countries. Reasons for this are the differences in economic position and the difference of access to travellers' tales (Yaya 2008, 173). The areas in which demand for exotic objects climbed fastest were the Habsburg Empire, with its rich royalty and numerable printing presses publishing early works on America, and the Italian peninsula, partly because of the ties between the papacy and the Habsburgs (Yaya 2008, 178), but also because of the missionary organisations bringing back objects from the countries where they were stationed (Italian collections in the seventeenth century contained more foreign objects than collections in other European countries (Bedini 1986, 258)).[29]

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[28] See Van Groesen 2007, 19ff, for a general overview of the genre of cosmography and travel accounts from the first encounters with the New Worlds and an extensive discussion of the De Bry works.

[29] Of course, exotic objects did not just reach the Italian peninsula in a *greater amount*, but also *earlier* than they did other countries. See for an example of these early arrivals Domenici and Laurencich Minelli 2014, which traces the history (using literary sources) of two groups of Mexican objects offered to the Pope in 1533 by a Dominican missionary named Domingo, who had just returned from the New World. Their translation of an account of this transfer illustrates how these objects were perceived in this religious context: "Among them there were two coverlets made and weaved out of blue, green, black, yellow parrot-feathers, which looked like velvet. Hence it seems to recognize what is said in the Scriptures about the God's shrine which is recommended to be embellished with feather materials. (…) Then some stone knives that cut like razors, which they used for shaving. By these knives we knew the kind of those knives of which the Bible speaks when the Lord says: "Make me the stone knives to circumcise." (Alberti, L., Historie di Bologna (1548), translation by Domenici and Laurencich Minelli 2014, 171).

In the sixteenth century, most of the objects imported from the New World were skillfully hand-crafted objects made from material unusual for Europeans at the time, such as featherwork or mosaic masks. A great example of this kind of object are the two featherwork banners in the collection of the Luigi Pigorini Museum (ref.no. 16),[30] although they did not enter the Kircherian museum until after 1709. In addition to these rarities, American objects commonly found in sixteenth century European collections were weapons, carved stone figures, and everyday objects (Yaya 2008, 177). Most rich collectors did not travel to the New World themselves, but instead sent envoys or acquired objects through their networks of other collectors and traders - or, if they had a position in the Church or contacts within missionary organisations, they could receive objects through that route. Exotic objects were on sale in specialised shops all through Europe. Rulers and others high up in the power structures of the colonising nations acquired objects through exchange with indigenous peoples and continued to trade these amongst themselves.[31] Curiosities could be used to gain favour at court, where they were placed in the royal cabinet or used in court festivities. 'Tableaux vivants' of American scenes were especially popular in French and Germanic courts (Yaya 2008, 197).

From the middle of the sixteenth century onwards, the medicinal profession began to include Brazilian flora and fauna as well. Upon arrival in the Americas, the Portuguese medics quickly realised that their knowledge of treatments was not applicable to tropical diseases and that the local peoples harboured an enormous amount of knowledge of the medicinal plants of the areas. These 'new' plants were included in European collections and described and published in several works, such as the collection of medicinal plants and animals by apothecary Ferrante Imperato and his son in Naples, who published the first museum catalogue in 1599 (Bedini 1986, 251-252). The missionary organisations, in the course of their practice of inculturation, also collected a significant amount of information on these indigenous healing methods and used the advantage of their extensive network to export these to the European religious pharmacies in Europe, which led to an effective monopoly with which many missionary organisations could fund their mission (Walker 2009).

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[30] The number following 'ref.no.' refers to the numbers I have assigned to all objects in Appendix I.

[31] See for example Françozo 2014, 107-115 for the way Johan Maurits of Nassau-Siegen acquired his collection of Brazilian objects in Brazil in the middle of the seventeenth century: "a powerful example of how the circuits of colonial politics, commerce, gift-giving, and collecting were deeply intertwined" (Françozo 2014, 114-115). It is interesting that he was also given several rarities by Father Manuel Fernandes, Provincial of the Jesuits in Brazil (Françozo 2014, 108).

Through these different paths, over the course of the the sixteenth and seventeenth centuries, more and more collections came to contain objects from the Americas. Some were very similar to Kircher's collection, for example the collection of Ludovico Settala in Milan. He had begun collecting in the late sixteenth century, originally in the areas of the fine arts, numismatics, medicinal plants, and of course the accompanying library. After his death, his son Manfredo Settala (1600-1680), canon of San Nazaro in Brolo, expanded his collection with a focus on science, especially optical experiments and machines. He also collected natural history objects and ethnographical materials from all over the world. Just like Kircher's museum, it was a customary visit for foreigners touring Italy. Kircher and the younger Settala had met in Rome in 1655 and corresponded occasionally (Bedini 1986, 253-254). Settala saw his collection as "a supremely witty text. Every object was replete with hidden meanings, designed more to surprise than to inform" (Findlen 1994, 34).
Another collector of whom we know that he was in contact with Kircher is Cardinal Flavio Chigi (1631-1693). In an attempt to reduce the inheritance he would leave (he was childless and did not like his eldest cousin), Chigi collected as much as possible: mostly art, but also objects from other popular disciplines such as zoology, botany, mineralogy, scientific instruments, and wonders of nature (though without categorising his collection as many others of his time did). He was fascinated by the cultures of other civilisations and thus collected foreign objects of daily living. Chigi's archives contain a letter from Kircher, sent in 1666, on a shipment of objects from New Spain that Kircher had negotiated on behalf of Chigi. Bedini (1986, 254-257) describes its contents: Alessandro Faviano (according to Kircher "a staunch Catholic and informed in the sciences") was stationed in Los Angeles and had spent two years collecting American curiosities (both natural and artificial) from many areas in New Spain for Chigi. The letter informed Chigi that the collection was not ready for shipping yet, but that Faviano was forwarding some items in advance.
An important collection in Bologna was the Aldrovandi/Cospi collection, which has already been mentioned before. Ulisse Aldrovandi had put together a collection with the goal of publishing an encyclopedia of the natural sciences. Therefore, his collection contained specimens from all different disciplines: mineralogy, ethnography, zoology, botany, and a complementary library. After his death in 1605, he bequeathed his collection to the Senate of Bologna. Ferdinando Cospi, senator of Bologna from 1650 onwards, had acquired a collection of ethnographical material

and related art, which he added to the Aldrovandi collection. The complete collection was published in 1665 (Bedini 1986, 252).
These are only three of the innumerable collections on the Italian peninsula containing American objects. There were the collections of Francesco Calzolari and Lodovico Moscardo (natural history and archaeology, American Indian artefacts, stuffed animals and classical antiquities, Verona, published in 1656 (Bedini 1986, 252)), Michele Mercati (geological specimens, Vatican, published posthumously in 1719), and in Rome (among others) the collections of Cardinal Francesco Barberini, Cavaliere Francesco Gualdo da Rimini, and Virgilio Spada (Bedini 1986, 254-257). This list shows that American objects had already become a standard element of Italian museums and collections in the seventeenth century.

Why did these collectors collect exotic objects and how did this type of objects fit into their collection as a whole? This is a question that Isabel Yaya considers in the second part of her article on Americana in Europe. In Late Renaissance cabinets, these objects were included in the category of *artificialia*: objects which heightened the sense of rarity of a collection, valued because of their high aesthetic quality and because of the exquisite skill of the crafter in manipulating natural materials, "which, through the exuberance of their forms, revealed man's skill to master and perfect the natural elements, demonstrating in this way the superiority of man over his environment" (Yaya 2008, 175). These sixteenth century cabinets functioned as a representation (microcosm) of the world. Many of them (such as Aldrovandi's, who explains this in his catalogue) were ordered from least to most perfect, according to the order of God's universe. New information was "integrat[ed] within known cultural and geographical templates" (Yaya 2008, 183). For a modern reader, it is curious that sixteenth- and seventeenth century collectors do not seem to be much concerned with the exact origin of these new objects. When they are mentioned in a catalogue, they often are named 'objects of savages' without any further detail (Yaya 2008, 173). Even if the provenience of an object is given (which is not common), it is often said to be 'from the Indies', meaning either Asia or the Americas; if it is defined more precisely, it is often incorrect. According to Peter Mason (1994, 11), this was a "striking disparity" with the geographical knowledge of the time: as mentioned above, plenty of information on the Americas was available in Western Europe at the time. The absence of accurate provenience is quite an obstacle in

current research on these collections (since many of them have since been dispersed since and the catalogues are the only available primary source material), but is significant information for the way in which these objects were understood by their collectors. Both Yaya and Mason emphasise how these objects represented a general European vision of exoticism (Mason 1994, 11) rather than the specific culture that they came from. This 'exoticisation' expanded further: later on, the term 'Indian' could even be used to describe objects from any non-European origin (Yaya 2008, 173-177).[32] In the first half of the seventeenth century, they "gradually came to form the focus of comparative intellectual curiosity" (Yaya 2008, 185): comparative studies of cultures appeared and the separate category of *exotica* came to exist, apart from the *artificialia* and *naturalia*. Mexican, Chinese, Japanese, and Egyptian gods were relevant comparative material for studies of the Graeco-Roman or Christian religion. These 'barbaric' societies were categorised from least to most civilised, just like the curiosity cabinets were ordered according to God's hierarchy.

[32] cf. Mason (1994, 11-12), where he describes how Brazil, and especially images of the Tupinambá people, came to be representative of the entirety of the Americas in the European mind of the sixteenth and early seventeenth century (William Sturtevant's 'Tupinambization'). A short history of the use of the term 'Indian' and its connotations can be found in Keating and Markey 2011.

Chapter 4. Brazilian objects in Kircher's museum

4.1. The museum and the two catalogues

As many seventeenth century scholars, Kircher owned a collection even before the formal foundation of the Roman College museum. Alberto Bartola, in his account of the foundation of the museum based on (mainly) primary source material, includes a passage from the diary of John Evelyn, who describes how Kircher

> "with Dutch patience shew'd us his perpetual motions, Catoptrics, Magnetical experiments, Modells, and a thousand other crotchets & devices"

during Evelyns visit to the Roman College in 1644 (Bartola 2004, 301-302). The eventual foundation of the museum did not happen on Kircher's initiative, but was instigated by Alfonso Donnino's bequest of his collection of art and antiquities to the Roman College, both to preserve the collection and to ensure Donnino's burial in the new church of Saint Ignatius. Although this was a collection of a completely different type than Kircher already owned, he gladly merged it with his own. From this moment onwards, the museum gained renown. Earlier, most literary sources on the collection are letters or travelogues, but starting in the 1650's, the museum began to appear in travel guides as well (such as Bellori's *Nota delli Musei* in 1664). A comparison between Evelyns description from 1644 (above) to Bellori's in 1664 makes it obvious how the collection had developed in those twenty years:

> "[the] Museum rich in every type of curiosities, magnetic, mathematic, mechanic, and natural, which form a Theatre of art, & nature, to which is added the Gallery of Alfonso Donnini, Secretary of the Roman People, with paintings and antiquities…" (Bellori 1664 in Bartola 2004, my translation)[33]

The emphasis of the descriptions from this period usually is on the magnetic, mechanical and mathematical objects and Kircher's experiments (Bartola 2004, 305-310), and on the way in which the collection is a representation of the entire world.

Unfortunately, there is no complete inventory of the collection in the seventeenth century. The best source on the collection under Kircher's curatorship is the 1678

[33] "Evvi il P.A. Chircherio famoso soggetto per tant'opere sue date in luce, col suo Museo ricco di ogni sorte di curiosità magnetiche, mathematiche, mechaniche, e naturali formando un Teatro dell'arte, & della natura, al quale si è aggiunta la Galeria de Alfonso Donnini Segretario del Popolo Romano con pitture, ed antichità…" For more on the development of the museum, see Bartola 2004 for an excellent review of the early history, including a remarkable collection of primary sources.

catalogue composed by Giorgio De Sepi, custodian of the museum and Kircher's assistant. Although De Sepi is the official author, Kircher's voice shines through: some parts of the draft have survived that were written by Kircher himself. Besides, we can assume that De Sepi (as Kircher's assistant) was often present while Kircher gave other visitors a tour and may also have played the tour guide for less important visitors, following Kircher's example (Davidson 2015, 170). In his introduction to the work, De Sepi informs us about his two reasons for publishing the catalogue. He tells us how Kircher saw how other collections in Rome were sold by their heirs after the death of the founder and was concerned about the future of his collection:

> "And lest the same happen to our Founder & lest what he had collected with so much eagerness and labour for the glory of the Divine Name and the benefit of the republic of letters, suddenly, together with his death, should perish because of the uncertainty of the times, (…) everything which had ever been exhibited in the said *Museum*, either things worthy of note collected in the course of 40 years, or the secrets of natural things, or learned accomplishments of the Ancients, or the devices of artifice in mechanics - all of this should be committed to print, described in order, so that from this present catalogue, a knowledge of the contents of the Museum might be preserved for later posterity." (De Sepi 1678, 117)

By now, Kircher was ageing and retreating from public life, perhaps even suffering from dementia: the amount of correspondence with him declined considerably in these years and he was said to be ill. He was no longer able to guide visitors around as he used to do and would die two years later. This must have been a compelling reason for composing the catalogue at this moment: the window in which his knowledge could still be preserved was swiftly closing. De Sepi's second reason for publishing the catalogue are the many requests for an overview of the collection by foreigners unable to visit the museum themselves.

After Kircher's death, his fears regarding the future of the collection threatened to come true. Its upkeep was taken over by a custodian who,

> "occupied with other affairs, and not capable enough of such a position, could not take the care of it that it required, so that the work up until that moment would not be lost. Then, when he had departed from Rome, the key of the gate passed quickly through the hands of many; and lay people and people of every sort were admitted at every slight instance by various non-experts, so that in a short time the hydraulic and magnetic machines built by Father Kircher remained broken and damaged, likewise many objects were stolen (…) It was reduced to a state which resembled a cadaver of the until then celebrated Gallery, and the only thing it retained was the name, because of which the

> foreigners, attracted by its fame, thought they were mocked when they were admitted, and I have heard from many distinguished people that showing it was not fitting for the Society [of Jesus] and for the Roman College, and many (…) disapproved of the neglect and the thanklessness that was shown to the deceased benefactors." (Buonanni 1716 in Bartola 2004, 333, my translation).

This is an extract from the *Notizie circa la Galleria del Collegio Romano,* written by Filippo Buonanni, who assumed responsibility for the museum in 1698. According to the preface of his later catalogue, the reason he was appointed was that the neglect of the museum violated the conditions of the testament of Donnino, which stated that his entire collection was to be exhibited "to the benefit of the public and the delight of the learned" (Buonanni 1709, 1). A record exists of the objects that survived from the Kircherian period: when the Society needed one of the museum's rooms for other uses, Buonanni transported the remaining objects to another corridor and recorded which objects he moved. This list, the first source on the museum's inventory since 1678, sketches a vivid image of the state in which it was: in addition to some classical objects from Donnino's bequest, several portraits, and a stuffed crocodile, it contains 'a barrel organ with a soaked wooden register' and 'a completely broken catoptric machine' (Buonanni 1716 in Bartola 2004, 335-337). After the move, Buonanni petitioned the Pope for legal protection of the museum, which was granted, including the threat of excommunication for those who would remove any item from the collection. Buonanni expanded the collection greatly, ordered it systematically, added cabinets and chests to improve its exhibition, and got support from those higher in the Order to enclose the adjacent open loggia and add it to the museum in 1709. The museum regained a lot of its former status and remained important for the Society, as illustrated by the discussion on visitor access in 1716: although the presence of external visitors in the College was problematic for the Society, Buonanni's defense of the museum led to the decision to keep it open (see Bartola 2004, 314-319, for an extensive description of the history of the museum under Buonanni). In 1709, he published the second catalogue of the collection. Like De Sepi, he was conscious of the risk that the collection would be dispersed: in his introduction, he names several other Roman collections which had suffered that fate and describes how the same almost happened to the Kircherian collection. Since he had been Kircher's pupil, he considered himself the only person who could preserve the museum in its current state, as he was the only one with knowledge on both the objects in the original Kircherian collection and those he had added himself, and he

did not want "the task [to be] abandoned as impossible later, after my death or when I am occupied by many other things" (Buonanni 1709, 2). His catalogue is much longer than De Sepi's, which counts 66 pages; Buonanni's has 522, fits much more text upon each page, and has many unnumbered pages with depictions of shells at the end. This sizeable difference in page number should not be attributed to a presumed difference in object count. It is probably true that the museum contained more objects in Buonanni's time, but another explanation is their different approach to writing the catalogue. De Sepi's version is not a complete record of the museum inventory. He calls it "a kind of summary catalogue" of the museum as it stood, in which he briefly presents the order of the objects which are "disposed here and there in a tasteful miscellany": we would perhaps call it a highlights tour. It is written as if De Sepi is the guide showing the reader around the museum, as he often did. Buonanni's, however, represents a different type of catalogue. His introduction tells us a lot on how he sees the museum. In his recounting of his beginning as curator, he describes how he chose a suitable space and added museum furniture to it, so it could become "the workshop (*Ergasterium*) of art and nature, the treasury (*Gazophilacium*) of the mathematical disciplines, and the epitome (*Epitomen*) of practical philosophy." (Buonanni 1709, 1). Because the library and the museum are located next to each other, this is a place in which "the minds of the learned are invigorated, and they can examine with their eyes what the writers say on the pages.." The museum contributes to the 'speculative disciplines' by providing the opportunity to study nature, be inspired by art, and carry out experiments. Buonanni emphasises how the museum has been furnished to facilitate this kind of studies: "the classes of all things are sequentially ordered." This is also the way in which he approaches the catalogue. After a short description of the museum's rooms ("as you would see them if you looked at them"), the introduction to the catalogue finishes with the statement that Buonanni will now treat the objects in sequence, divided into their proper classes (Buonanni 1709, 3). Kircher's catalogue reflects his approach to the museum through his character as 'the last true Renaissance man'; Buonanni's is much more a part of early modern science.

The catalogues are useful tools to understand how the Brazilian objects in the Kircherian museum were only a tiny part of a much, much larger whole. De Sepi's

catalogue is divided in three parts, all together containing 23 chapters.[34] Except for the first two chapters of the first part, every chapter has a specific theme (as the objects in the museum were set up). The first chapter is titled 'Compendium by which the description of the *Roman Museum* and a series of particular objects is set forth'. This chapter provides a general overview of the museum and evokes the experience of an actual visit to the museum: the first part describes the entrance of the museum and the objects one sees upon entering. The reader is directly addressed as "Visitor." The impression conveyed is that of a space overflowing with objects by the use of phrases such as "three hundred and seventy antique masks", "an abundance of shells and earthenware vases", "a cabinet crammed with exotic items" and "many mechanical clocks." De Sepi briefly mentions the ceiling frescos, of which the "mystical significance" gets its own explanation in chapter 2. Chapters 3 to 7 all center around human-made cultural objects: vases, pictures, bronze and stone statues, "monuments of foreign languages and kingdoms", and a final chapter on the Egyptian obelisks in the museum. The second part of the catalogue/tour starts in the glassware gallery. Walking through "the workshop of Ancient and Modern Lights or Lamps", mathematical instruments, magnetic devices, and weights and measures, we arrive at the chapter "Exhibition of Exotic Objects collected from all regions of the World", which is divided in three sections: sea animals, land animals, and "foreign birds, and rare fruits from various Regions, and some rare prodigies of Nature." The three final chapters of the second part treat optical, catoptrical and dioptrical experiments, stones and minerals, and hermetic experiments. The third part starts with a chapter on numismatics. The rest of it is devoted to the instruments Kircher possessed: musical instruments, thermoscopes, clocks, perpetual motion experiments, "the Play of little Metal Spheres" (marbles moving through installations), and finally the Delphic Oracle, a statue which appeared to speak by means of an ingenious system of acoustical tubes.

Buonanni's catalogue is divided into four parts. The first part has twelve chapters,[35] of which the first five are mainly devoted to the Roman objects in the museum: depictions of gods, sacrificial instruments, tombstones, thirty pages on oil lamps and a general chapter on 'Remnants of Learned Antiquity' such as clasps, weights or

[34] For an overview of chapter titles, see Appendix II.
[35] For an overview of chapter titles, see Appendix III.

coins. After the sixth chapter (stones and fossils), chapter seven is the chapter on the "collection of Foreign Objects, collected from various Regions of the World." It has thirty-nine pages and contains both ethnographic objects (clothes, weapons, maps) and natural objects (bird skins, bird nests and exotic fruits). The next chapter ("Marine Plants, trees, & Animals, both Marine and Terrestrial") contains several animals from the Americas. The last four chapters are on mathematical instruments; paintings, banners and coins; microscopical objects; and finally, a very long chapter on shellfish. The three following parts (almost one fifth of the entire catalogue) are dedicated to shellfish, containing descriptions of shellfish; different problems that come to mind in observing shellfish; and finally, depictions of the shellfish.

4.2. American objects in Kirchers work

Although there is little explicit reflection in the catalogue on the way the collection and its parts functioned, it is possible to say something about the place objects from faraway countries occupied in Kircher's studies in general. In her study of the content of his books, Joscelyn Godwin gives three reasons for Kircher's interest in the world beyond Europe (Godwin 2009, 327). With the first one, Kircher fits into the already discussed characteristic of late Renaissance or early Baroque collectors: his desire for writing a universal history of the world. He was one of the traditional Aristotelian naturalists. For him, all the world was one, and if the Book of Nature was read correctly, the original knowledge of the ancients could be rediscovered and traced back to the (Christian) origin of man. Foreign languages - especially Egyptian hieroglyphs, which Kircher considered a close remnant of the Adamic language, but also the American spoken languages - should be studied for their corresponding characteristics and traced back to the original, universal tongue; objects from foreign countries could be used as proof for supplementing the history of man narrated in the Bible (Findlen 2002, 236; Godwin 2009, 10). See, for example, his *Oedipus Aegyptiacus*, which includes information on Aztec religion and writing as it related to Egyptian hieroglyphs: "In order to support his hypothesis on the common origin of pagan nations, Kircher used the exotic material at his disposal in the *museum* of the Collegio Romano, ordering and comparing in his work what he believed was the esoteric knowlege of ancient and Oriental societies" (Yaya 2008, 185). Confirming the biblical chronology was also an important concern in this period, for Kircher and others, and the universal, almost timeless city of Rome was the best place to study

this. To reach this goal and write the universal history of the world, objects from all corners of the world were needed, which could all be traced back to the same origin: "Kircher studied both fossils and obelisks not because his interests were varied, but because he wished to plot an intellectual course between the two, one that would end by attributing the same meaning to the mark of time embedded in stone that fashioned both of them" (Findlen 2004b, 415-417).

The second reason Godwin gives is his personal interest, also discussed in chapter 2.1. Kircher had dreamed of becoming a missionary, which implies interest in other countries and cultures. Since the Church considered him of more use in Rome, curiosities from those regions (in the form of both objects and stories) fulfilled that desire in lieu of traveling. Godwin's third reason is his "missionary zeal." Kirchers museum was a collection in service of the Church and an intrinsic part of the Jesuit faith is the conversion of non-believers, of which there were plenty in the regions that could be studied in the museum. Chapter 2.1 already discussed the frontispiece of the *China Illustrata*, but reading Kirchers works, it becomes even more clear that he used his collection and knowledge of indigenous cultures to spread the Christian message. An example of this is the brief appearance of the Americas in the final chapter of the *Oedipus Aegyptiacus*, which is titled 'Egyptian likenesses'. According to Kircher's summary, it "treats idolatry of the Indies, Chinese, Japanese, Tartans, Mogors, and the New World, and their connection with Egyptian idolatry, where the traces of Egyptian superstition will be evidently proven to the Reader"[36] (Kircher 1654, 'Synopsis of the first volume', my translation). The preface to this chapter immediately makes clear in which light Kircher wishes to present these foreign gods:

> "The sole goal of this chapter is to show that this most pernicious enemy of humankind, the Devil, who, with the tricks and shrewd inventions that once filled the unenlightened hearts of the ancient Egyptians, precipitated every filth and disgrace of idolatry, both in earlier times used to ensnare the souls of other people with these very same skills, the same superstitions and tricks, and still to this day does so in regions and kingdoms to us unknown and devoid of the light of the Gospel." (Kircher 1654, 396, my translation)[37]

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[36] "Simia Ægyptiaca. *Agitur de Indorum, Sinensium, Iaponum, Tartarorum, Mogorum, & Noui Orbis idololatria, eiusque ad Ægyptiacam affinitate, vbi Lectori manifesta Ægyptiacæ superstitionis vestigia patebunt.*"

[37] "*Scopus itaque (...) huius Syntagmatis vnicus est, ostendere perniciosissimum humani generis hostem Diabolum, ijs machinamentis ac callidis inventionibus, quibus cæca veterum Ægyptiorum pectora olim imbuta, in omnem idololatriæ spurcitiem turpitudinemque præcipitauit, ijsdem omninò artibus, ijsdem superstitionibus ac macinamentis, ac cæterarum gentium illaqueandas animas, & vsum esse præteritis temporibus, & in hunc diem in ignotis nobis, ac Evangelij luce destitutis regionibus, Regnisque vti.*"

In addition to these three personal reasons, the presence of these objects should also be linked to the general culture of collecting at the time as discussed in chapter 2.3, in particular the search for marvel. Although in contemporary references to the museum, the concept of marvel is more often linked to the experiments and mechanical devices (for example the Delphic oracle), these extraordinary non-European objects did amaze visitors by their exoticism or by their unfamiliar but impressive manufacturing. This effect was probably even stronger because of the firsthand reports by missionaries Kircher had access to.

In conclusion, the Americana in Kirchers collection partly functioned the same way they did in contemporary collections, as part of the collection being the complete representation of the world. They supported Kirchers research into the universal history and the original knowledge of man. They were tools within the search for marvel of the time. On a general level, in contents and in manner of acquisition, Kircher's collection did not diverge from what was normal in this period regarding the Americana it contained. Where it excelled in particular was the total amount of collected objects, combined with his access to experienced Jesuit missionaries, which lent extra flair and authority to the collection. In addition to this, the collection functioned within the Jesuit church, propagating the image of Jesuits as missionaries in Rome and supporting the mission by preparing missionaries. Although Kircher most likely had a personal interest in information about other cultures, his objects were not studied for their own sake; rather, they were valued for the way they fit into larger narratives. This is further illustrated by a simple look at the rate in which they (or information about them) appear in his books. Most of his works have natural philosophy and (ecclesiastical) history as their subject, only a few are explicitly dedicated to a culture and/or language. Of these, all focus on ancient Egypt, except for the famous *China Illustrata*. Information on other cultures is only rarely included in his works, especially the Americas. Where they do appear, they serve only to contrast more civilised cultures: see, for example, the citation from the *Oedipus Aegyptiacus* above on the way Kircher presents the gods from the New World. Elsewhere in this work, he includes two pages from a Mexican codex (describing Mexican writing as a "crude exhibition of deeds through their own images, containing no mystery, subtlety of mind or erudition" (Kircher, A., 1654. *Oedipus Aegyptiacus III*, 33, cited in Godwin 2009, 255) and a picture of a Mesoamerican

temple (finishing his description of American religion with "Thus their temples are not much different from those of the Egyptians, in which in place of the Gods every variety of monster was to be seen. From this chapter it is obvious who was the inventor of such a monstrous religion, namely the Devil, father of monsters" (Kircher, A., 1652. *Oedipus Aegyptiacus I*, 422, cited in Godwin 2009).

To be able to trace the perception of the Brazilian objects within the collection, it would be interesting to say something about Buonanni's perception of Brazilian objects or American cultures in general. Unfortunately, we do not know to what extent he was personally interested in this type of objects: much less is known about him than about Kircher. He is mostly known for his extensive work on shells, which is commonly seen as having laid the foundation for the discipline of conchology, even though his approach was too Aristotelian for other scientists at the time (Enenkel and Smith 2007, 194). His other publications do not show any particular interest in South America: his only work on non-European objects concerns the lacquer of Chinese objects.

4.3. Brazilian objects in the catalogues

It is impossible to create a complete and correct list of all Brazilian objects in the Kircherian collection, or even to trace their history from their arrival in the museum. Neither catalogue from the early period provides a complete overview of the collection and many objects have since disappeared, some already at the end of the seventeenth century (see the remark by Giovanni Battarra on page 64 of this thesis). Nor can we be sure which of the objects that are listed, are from Brazil: provenience is not always mentioned. When it is, it is often provided loosely, for example as as 'from the Indies' or animals living in 'the Americas'. In cases like this, we cannot include the animal in the category of objects which are certainly Brazilian, even though it may typically live in Brazil. An example of this is the listed armadillo (ref.no. 36), which is said by Buonanni to be "frequent in the Mexican and Brazilian Empire", but not provenienced as from Brazil. In my overview, I will list only the objects which are explicitly said to be Brazilian by De Sepi and/or Buonanni, to prevent inaccuracies.

Although De Sepi introduces his section on objects from non-European countries with the sentence "*India, Japan, Mexico and Brazil* have filled this *Museum* with their intriguing gifts", his catalogue contains only twenty-one objects which are Brazilian

according to their description. Buonanni lists many more, but the exact number cannot be determined: there are about thirty entries on Brazilian objects, but those contain, for example, 'a handful of arrows', 'some bird skins', and 'Brazilian chestnuts of different kinds'. Some of these objects are also mentioned by De Sepi. Absence of an object from De Sepi's catalogue does not necessarily mean that it was acquired after Kircher's death: we know that De Sepi only lists the highlights and Buonanni's catalogue is more extensive, though in some cases we can speculate that the object is of such rarity (like the feather parasol, ref.no. 5) that De Sepi would have included them, had they been in his possession. In the following paragraphs, I will list the Brazilian objects which appear in the catalogues, starting with the ethnographic objects and continuing with animals and other categories. For an overview of all objects mentioned and their descriptions in the De Sepi catalogue from 1678, the Buonanni catalogue from 1709, the list of objects transferred to the Museo Luigi Pigorini in 1876, and the current catalogue of the Museo Luigi Pigorini, see appendix I. The numbers of the entries in the original catalogue and their page numbers can also be found in appendix I. For the complete table of contents of both catalogues, see appendix II.

Only one ethnographic object is mentioned by both De Sepi and Buonanni: a Brazilian loin cloth decorated with human teeth (ref.no. 1). It is also mentioned in the 1876 document about the transfer of some objects to the Museo Luigi Pigorini, where it is still present today. The girdle consists of a strip of fabric of about 53 by 16 centimetre, woven in zigzag pattern of black and white with white fringes and a slightly longer piece of rope, presumably for fastening it, on both ends. From this strip hang 81 cotton threads of about 30 centimetre long (some are shorter); small pierced black seeds are strung upon them along their whole length. 65 of the threads have human teeth attached to their end. Unfortunately, neither De Sepi nor Buonanni gives a provenience for the objects other than 'the barbarians or cannibals of Brazil'. In the 1980s re-examination of the collection, it was classified as a Kiriri object from North-East Brazil, though this assessment is not certain because of a complete lack of comparable material from the Kiriri indigenous group.[38] It is possible that multiple examples or fragments of examples of these were present in

[38] For information about the indigenous objects, I have made thankful use of the expertise of Mariana Françozo, Leandro Matthews Gascon and Felipe Vander Velden, and Donatella Saviola, former curator of the American ethnographical collections at the Museum Luigi Pigorini.

the museum: both De Sepi and Buonanni only mention one, but in the 1876 inventory, two other loincloths are listed.

Figure 4.4.1: Loin cloth (ref.no. 1), photo Felipe Vander Velden.

By their placement, both De Sepi and Buonanni mark the object as worthy of special attention: it is the final foreign object that De Sepi treats and Buonanni puts it at the beginning of his chapter. Both of them use classical sources as a reference point for their discussion of the loin cloth (which is unique for De Sepi: except for the chapters on classics, this is the only spot in his catalogue where he references classical history), but the manner in which they do so is markedly different. De Sepi introduces the object as a *torques sive cinctura* ('torque or girdle'). The name 'torque' might seem strange, but De Sepi explains that it is based on the barbarians' practice of skinning their enemies, *extorquere* in Latin. The enemies' teeth are then hung from a loin cloth (such as this one) or from a necklace. This is the point of comparison with an episode from Roman history which would be well known to most of his readers: Titus Manlius taking the torque from the Gaul he killed in 361 BC during his service in the Roman army, which earned him the cognomen *Torquatus.*[39] The Brazilian barbarians, De Sepi says, should be called *Torquati* as well, only they take

[39] Most famously related by Livius (AUC 7.9.8 - 7.10.14), but also by other authors; see Müller, 2006. Of course, the word *torques* in the Classical period referred to the twisting (*torquere*) of metal to create the twisted Gallic torques.

their enemies' skin instead of their jewelry. Although the comparison is based on the similarities between Manlius and the barbarians - both taking something from their enemies in defence of their people - it also serves to alienate the object. De Sepi emphasises that this torque is assuredly *unlike* the familiar golden Gallic torque, nor is it like decorated necklaces: it is something completely foreign. He concludes with a description how the barbarians "vaunt the crimes of their barbarity" by wearing the girdle, because the number of teeth hanging from it "signifies the number of people they have devoured, as the sign of a superior mind." Without continuing the comparison explicitly, we are still supposed to keep Manlius in mind here: he also wore a torque around his neck, but earned praise from his fellow soldiers and commander for the honourable deed in which he gained it (as opposed to the horrible deeds of the 'barbarians').

Buonanni's treatment of the girdle reflects the way in which museum catalogues moved towards a more ordered approach at the end of the seventeenth and the beginning of the eighteenth century. He does not repeat the historical comparison, but dives deeper into De Sepi's statement that the girdle shows how many people the wearer has eaten, attempting to determine its veracity. He rejects the statement on the basis that it is impossible for one man to have eaten as many people as there are teeth on this girdle, but does accept the fact that people were eaten as true, citing as evidence different authors on the practice of anthropophagy in different areas of the world. We learn that "some Indians", after sacrificing their parents, "consider it a most pious thing to feast on the internal organs of those who were murdered" (citing Gerard of Wales), that after the children of the Massagetae have killed their parents, "the siblings and friends feast on a table furnished with their flesh, because this manner of death is considered the most fortunate with them" (Herodotus) and that the Issedones kill and eat their old because they consider it "better and holier to be honourably eaten by men, than to be disgracefully torn into pieces by dogs, or to be disgustingly consumed by worms" (Apollodorus).[40] Buonanni juxtaposes this proof that anthropophagy can be a pious activity with De Sepi's interpretation of barbarism, concluding that this girdle is "either an indication of inhuman piety, or a monument of most savage men."

[40] The reference to Herodotus is to the first book of the *Historiae*: "Though they set no certain term to life, yet when a man is very old all his kin meet together and kill him, with beasts of the flock besides, then boil the flesh and feast on it. This is held to be the happiest death; when a man dies of a sickness they do not eat him, but bury him in the earth, and lament that he would not live to be killed"(Hdt. *Hist.* 1.216). Unfortunately I was not able to trace the other two references.

The next Brazilian object in De Sepi is "a piece of Bread from *Brazil*, as well as grain from which the bread is made, rendered from the roots of the otherwise poisonous *Iucca* plant into food safe to eat, and bread, which they call *Mandioc*" (ref.no 32). The translators remark that this would be bread made from cassava flour, which indeed was (and still is) called *yuca* in (Latin American) Spanish and *mandioca* in Brazilian Portuguese. They also remark that "the raw root contains cyanide, and has to be carefully prepared": De Sepi's assertion that the plant is poisonous, but the Brazilians know how to eat it, is thus correct. The flour is also mentioned by Buonanni in his chapter on exotic fruits as "the flour, which the Brazilians call Mandioca from the root of the fruit which is called Mandyba". He then cites Willem Piso's (1648) description of the plant and adds information on how the bread is prepared.

De Sepi lists "vases fashioned out of American Gourds, sent to the Author from there as a gift" (ref.no. 23). Although he does not give any provenience, these could be the same as the gourds under Buonanni's 'Exotic Fruits', on which he says: "Peruvian and Brazilian balsams are stored in these, by which they retain a delicate and quickly evaporating odour. From these, the Brazilian Barbarians make this kind of flasks, drinking cups and vases." Later on, also under 'Exotic Fruits', Buonanni lists vases "made elegantly with a lathe from different foreign woods", one of which is from Brazil (ref.no. 30).

The second Brazilian object in Bonanni's catalogue is a necklace made from cotton cords twisted and knotted together, from which hang 35 white rectangular pendants made from shell (ref.no. 4). The MLP's records describe it as a bracelet with pieces of bone, presumably because of its relatively short length. However, 'necklace' is probably the correct classification: the Latin word Buonanni uses, *monilis*, very clearly denotes something worn around the neck, and similar objects are still worn as necklaces by indigenous peoples. In closer study of the object, it was determined that the pendants are probably made of shell instead of bone, which corresponds to the description in the 1876 transfer letter. The necklace is not listed in De Sepi's catalogue. It cannot be dated more accurately than as having arrived in Italy before 1709 - as mentioned before, lack of inclusion in De Sepi does not mean that an object was not present in the collection at the time. Buonanni does not supply a date of acquisition, but he does attribute the object to the indigenous people named

Kiriri.[41] In his first sentence, Buonanni explains the reason why this piece in particular is precious: "the workmanship surpasses the material, because although they lack the proper instruments, they put it together with persistent labour." It is indeed clear from looking at the pendants that have been made with much patience and skill. All pieces are circa two centimetres long and a few millimetres wide, with a thickness of about half a centimetre at the pierced end decreasing to about two millimetres at the other hand, and they have been carefully polished. Buonanni describes their production process with quite some detail: the Kiriri take animal bones or shells, cut them into shape with a knife, polish them, and string them on a cotton cord. Girls wear these necklaces during their weddings, together with a type of bracelet called *bebà*, which is cut from a shell in one piece, put on in youth and never taken off, so they become impossible to remove when the girl is grown. Buonanni reports of their value that they are the main part of the dowry and that "they usually exchange it for a horse, which in that region is worth four scudi." It remains unclear whether the collection included one of these bracelets.

Figure 4.4.2: Shell necklace (ref.no. 4), photo Felipe Vander Velden.

Buonanni then continues with two examples of Brazilian featherwork. The first is a parasol from ostrich feathers (ref.no. 5), which (as Buonanni explains) can be opened and closed like a European umbrella: "the feathers are joined together in the Parasol so skilfully that they meet on the crown and are fastened together in such a way, that, when a wooden wedge is moved on the axle, they can easily spread out in a circle and form a Parasol, like the fabric ones which Europeans turn towards the beams of the sun to keep them away." He then quotes Pliny's *Naturalis historia* for information on the ostrich and its habits, adding the fact that they live in Brazil: where Pliny says "the ostrich of Africa or Ethiopia", Buonanni quotes "animals of this kind are also in

[41] At least as an implied attribution: the necklace is "from the Brazilian Empire, which the barbarians commonly called *Kiriri* inhabit."

Africa, & Aethiopia, & in great Brasil."[42] The second featherwork object is a fan made of red feathers (ref.no. 7) from a bird which is called *guaraf* in Brazil. This is the scarlet ibis (*eudocimus ruber*), presently still called *guará* in Portuguese. About this bird, "marvellous things" (*prodigiosa*) are said, namely that she changes colour while growing up. Buonanni lists two contradictory accounts on this: "trustworthy men who have lived many years in the Brazilian Empire" (presumably missionaries) have reported that she is born with ash-coloured feathers, then turns black like ravens, and after that scarlet, while only her beak remains black; Marcgraf, however, wrote that she hatches black, then turns to ash, then white and then finally scarlet, the scarlet colour intensifying with age. Marcgrafs account is the correct one (Moolchan 2011, 3), but despite this inaccuracy, we need not doubt the truth of the rest of the reports by the "trustworthy men": that the Brazilians make crowns, garments and blankets from these feathers "with marvellous skill" and then sell them in small lots for a high price. Unfortunately, neither the parasol nor the fan are still present in the museum.

The next ethnographic Brazilian object mentioned by Buonanni is a cap, or in Latin a *biretum* (ref.no. 13). It is not under a separate heading, but included as comparison for a woven tapestry from Mozambique: "a cap, woven in Brazil from white palm leaves, shows a similar texture." This means that there were at least two different Brazilian head-coverings in the museum: later on, he lists another *biretum*, a black one (ref.no. 15), "which Father Franciscus Maria Bonuccius of our Society took with him from Brazil while he was a Missionary in that Empire."[43] According to Buonanni, this type of cap is worn by priests, and almost similar to caps which are worn in Portugal.

Buonanni lists is a bag with a wide opening, tapering towards a small point (ref.no. 14), woven in Brazil in the same way as a net, but very tightly. Buonanni says that the Brazilians call it *Aiò* and that "the women wear it on their back to carry heavy loads, such as wood, fruits, sugars, and similar things." The MLP, in its catalogue description, identifies this bag with the yellowish sack with red stripes still in their

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[42] Buonanni, like Pliny, uses the word *struthiocamelus,* but probably refers to the bird we now know as *rhea americana*: it has similar characteristics to the ostrich (*struthio camelus),* is native to South America, and has only been recognised as a separate genus in the second half of the eighteenth century.
[43] I have not been able to find any reference to a Jesuit by this name in the appropriate period. Interestingly enough, an *Antonio* Maria Bonucci was a Jesuit missionary in Brazil from 1681 to 1703, most of those years in Bahia. He also studied at the Roman College during the final decade of Kircher's life (Pignatelli 1971), so would certainly have been familiar with Kircher and the museum. Perhaps the cap was sent back by him and his name was misrecorded or misremembered.

collection, but according to Buonanni, the sack is smaller ("almost four palms," about 30 centimetre, while the bag in the museum is circa 50 centimetre) and he does not mention any stripes.

Figure 4.4.3: the sack (ref.no. 14), photo Felipe Vander Velden.

Buonanni has a separate heading for 'Various arms of the barbarians'. The phrasings in this chapter often mirror the chapter on Brazilian arms in the HNB (Piso and Marcgraf 1648, 278), adding or removing clauses or information according to the relevance to objects in his collection. The information and the wording is so similar that we can suspect Buonanni had a reference copy within reach. The first Brazilian weapons in the catalogue are two clubs, both six palms long (circa 45 cm), wider on one of the ends 'like oars' (ref.no. 18). Buonanni tells us they are made of black wood, called *Japema*, and used by the peoples of Brazil called *Tapuye*. Sometimes they are decorated by binding a small bundle of feathers on the end: an ornament called *(I)atirabebe*. A few entries later, we find some arrows produced in the Brazilian Empire by 'barbarians called *Tapuia'*. Buonanni then describes how they use them ('throwing without a bow, by laying them on a wooden object, hollowed-out like a pipe, cut through the middle along its length'). This description of the atlatl is word-for-word the same as the description of this spear-thrower in the HNB.[44]

[44] See Prins 2010 for more background on the use of the atlatl in seventeenth century Brazil. The

The next entry is on "arrows, or rather javelins" of the "Barbarians who inhibit the mountains, in the common language called *Kiriri*." This entry includes a description of what type of javelins and bows the Kiriri use, their names, what they are made of, and their uses (battle, hunting, and fishing). It is interesting that Buonanni does not state that these javelins and bows are included in the museum's collection, as he does in other entries. We may assume that they were, since three Kiriri javelins and four wooden bows appear on De Ruggiero's 1876 list of objects and are still present in the MLP today. Although much of the information in this entry leans heavily on the HNB (which Buonanni indeed cites as a source), the name 'Kiriri' does not appear anywhere in the HNB and must have come from another source.

Figure 4.4. Two wooden clubs (ref.no. 18), photo Felipe Vander Velden.

Finally, there are two clubs from very hard and heavy wood, "which the American barbarians use" (Buonanni 1709, 236, nr. 10). However, we cannot be sure that these are from Brazil: the previous weapon Buonanni calls 'American' (same page, nr. 8) is North American according to De Sepi.

In addition to the ethnographic objects listed above, the museum contained many objects belonging to the natural world, among which Brazilian animals and fruits. De Sepi lists them in his general chapter on foreign objects, of which the first part is dedicated to animals. The first Brazilian object is the beak of a "Brazilian Woodpecker" (*Pica Brasiliae*, ref.no. 12). There is a short discussion of the appropriate name for the bird (some call it *Ramphastus,* others *Abbas superbus*, others the *Rhinoceros* bird) and the beak itself is described. It is now "yellowish", but De Sepi is unsure whether that is its natural colour or if it has yellowed with age. According to "the Reverend Fathers, who habitually travel back and forth between India and the City", it is an antidote against poison and considered incredibly valuable among the "Rulers of the *Indies*", who use it as diplomatic gifts between them. De Sepi supports this statement through a comparison with European birds, since it is

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passage from the HNB is quoted on page 5 of that article.

common knowledge that their beaks and bones also possess healing properties. Buonanni's entry on this beak is very telling for his use of De Sepi as a source. The only explicit reference to the earlier catalogue is that "Kircher called it *Pica Brasiliana* in the Museum p. 32", but Buonanni then proceeds to copy the beak's description almost literally from De Sepi's text, only leaving out the remark about the colour. The uses of the beak are summarised to "If the reporters who have come from India to the City must be believed about this [bird], it is outstanding in its power as an antidote against all kinds of poison, and very valuable, for which reason these beaks are esteemed the most by the Indians." Buonanni then adds: "The one that is in the Museum was a gift from the Most Illustrious Bishop Leone Strozzi, a Man with erudition of all kinds, and famous for his noble humanity." Little is known about the interests of Leone Strozzi, (1638 - 1703, studied in Florence; bishop of Pistoia and Prato from 1690, well-acquainted with Cosimo III de'Medici, archbishop of Florence from 1700),[45] but as member of the Florentine elite, he was undoubtedly at home in the Italian culture of collecting and part of the same network the Kircherian museum belonged to.

The next entry on Brazilian animals in De Sepi is "*Brazil* has sent here seventeen skins of different birds" (ref.no. 9). The translators of the catalogue recognise the first one, which is described as having feathers "lit up by such a glitter of red, that we cannot find a colour of the same vividness", as possibly a scarlet ibis (Davidson 2015, 144). The other sixteen are different birds:

> "… although there has been no consideration up to now of any potency to be attached to their name or nature, nevertheless, because of the glorious variety of their luminous colours, they appear fascinating and bewitching to all Visitors, and are seen to have been endowed by nature with an [un]usual[46] form and a complex spectrum of colours."

All of these birds "were sent from *Brazil* to the *Author*." "[A]mong the other birds" one other Brazilian bird is found, "which the Brazilians call a *quaracies*" (ref.no. 10). Based on the description, this could be an *Aphelocoma unicolor*, a dark blue Mexican jay (Davidson 2015, 145). Buonanni mentions similar bird skins in passing without giving a precise number: "some foreign bird skins from Brazil, very bright with a

[45] See Rosati 1766, 209-213, for a short biography.
[46] Davidson 2015 translate this word as "usual." This is a translation error: the Latin word is *insolita*.

variety of colours" (ref.no. 9). One of these is "a Bird, which they call *Tuccano",* deeply black and shining with a golden gleam (ref.no. 11). Its beak is black, "of the colour that buffalo horns show when they are smoothed." This is not enough information to identify the precise kind of toucan, but several black-billed toucans do indeed live in Brazil. Buonanni also lists a small Brazilian bird, which Brazilians call *Guainumbi* or *Guainambi*: a kind of hummingbird (ref.no. 8).

Buonanni's catalogue contains many more natural objects from Brazil than De Sepi's. He lists nuts, berries, fruits, beans, gums, and animals (ref.nos. 23, 25, 26, 27, 28, 29, 31, 33). Most of the plants only merit a quick mention, but description of the animals is more extensive, sometimes with citations of multiple authors or eyewitness reports on the animal. The first Brazilian animal is the skin of the enormous "Indian snake" (ref.no. 34), hanging from the ceiling next to the stuffed crocodile. Before its description or the review of quotations from other authors, Buonanni introduces it with a shocking story:

> "Inhabitants hunt it in the Marshes of Brazil to eat, as the Italians do with eels. It equals a length of twelve palms, but a Missionary from our Society in Brazil has reported one case of a Snake of this kind extending to forty palms, which constricted a calf in its coils and devoured it gradually by sucking, like some Snakes gulp down toads."

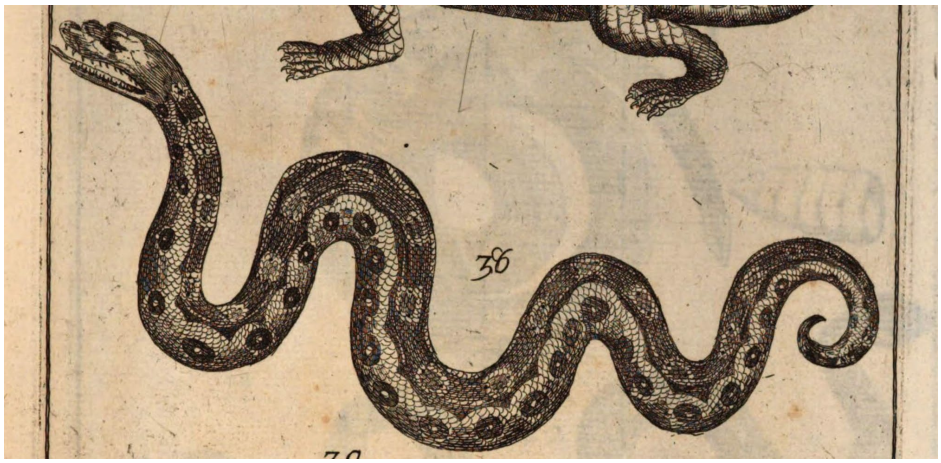

Figure 4.3: Indian snake (ref.no. 34; image Buonanni 1709, 292).

After the snake follow the "Greater Brazilian lizard" (ref.no. 35) Bonnani "has received from the Brazilian Empire, which is called *Lagarto* by the inhabitants", called 'Tailwhip' by many because of its hunting tactics and tastes like tortoise if consumed. The final Brazilian animal is the tail of the *vipera brasiliae caudisona*, the Brazilian rattlesnake (ref.no. 37), of which Buonanni lists the name it is called by Jonston and

the HNB (*Boiginica*), in Brazilian (*Boiquira*), Portuguese (*Cascavela* or *Tangador*), and Mexican (*Teutlaco caubqui*, that is *Mistress of Snakes*). He then finishes the entry with an extensive description of anatomical studies of snakes.

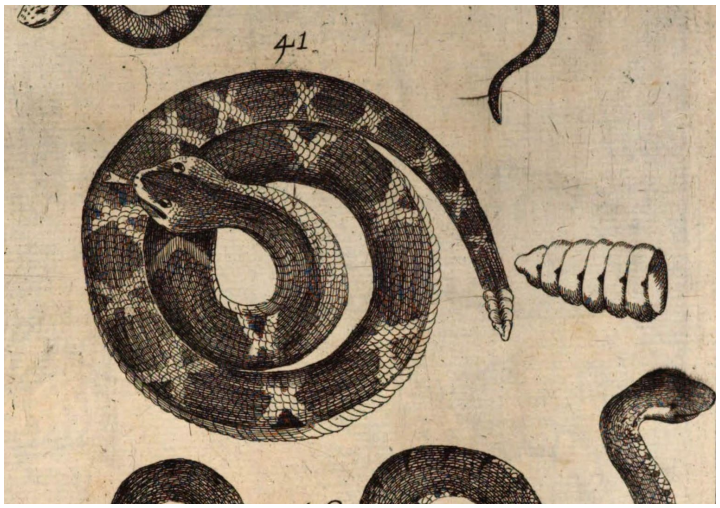

Figure 4.5: Brazilian rattlesnake and the tip of its tail (ref.no. 37; image Buonanni 1709, 286).

4.4. Discussion of several aspects of the catalogues

4.2.1 Categorisation

The first thing to consider to be able to say something about De Sepi's and Buonanni's approach to the American objects is the way they both categorise objects from other countries. Neither author uses an object's country of origin as a criterium for categorisation. Objects from Brazil, Mexico, China, India, Japan, and other areas are listed next to each other in no particular order: De Sepi remarks that he will "will survey [them] unselectively, as my pen runs across the page" (De Sepi 1678, 137). In De Sepi's catalogue, most non-European objects appear in his sixth chapter (*Apparatus rerum peregrinarum ex omnibus orbis pelagis collectus,* translated as "Exotic objects collected from all regions of the World"). According to De Sepi's introduction, it is divided in three categories: "the spawn of the monster-bearing sea", "the offspring of the wondrous animals of Mother Earth", and "the rare fruits of the exotic species of birds, and of many different Regions, and certain remarkable prodigies of Nature" (De Sepi 1678, 137). The Brazilian birds are indeed listed under the foreign birds. However, De Sepi is not entirely clear in his categorisation of his third category. It begins with "miscarriages of Nature, or transformations" (De Sepi 1678, 145), under which several objects from foreign countries belong, such as a cup from 'Nephritic wood' which turns liquids blue, porcelain vases in the shape of

Chinese idols, and the vases fashioned out of American gourds (ref.no. 24). Then, De Sepi seems to introduce a subcategory with the remark that "*India, Japan, Mexico and Brazil* have filled this *Museum* with their intriguing gifts" and then lists several weapons, a Chinese headdress, sandals, and chopsticks, the Brazilian bread and flour (ref.no. 32), Chinese scales, ink, and knives, and the Brazilian loin cloth (ref.no. 1). The chapter concludes with the promised 'prodigies of Nature' in the form of a bladder stone and a bezoar from the stomach of a goat. Other objects from the same cultures appearing in this one are included in other chapters: information on Confucius and Japanese deities is listed in part 1, chapter 5; and 'Old images of Heroic Idols of bronze and cut in stone and marble' and 'writings, tablets, prints an drawings from the Chinese and other unknown nations' get their own chapter (De Sepi 1678, 123-124ff.). De Sepi does not mention any reason for this distinction, but looking at the types of objects in his *Apparatus rerum peregrinarum* and those listed under other chapters, it is conspicuous that the objects which could be seen as 'civilised' (objects related to philosophy, religion or writing) are listed somewhere else, and the 'non-civilised' objects in this separate chapter. In this way, this chapter could be read as corresponding to the general exoticisation common in the seventeenth century, an interpretation which would be reinforced, for example, by the wording of description of Chinese knives and razors ("of shapes different from our own" (De Sepi 1678, 146) and the comparison of the Brazilian loin-cloth to the torque of Manlius. Very interesting in this context is the decision of the catalogue's translators to render the title of this chapter (*Apparatus Rerum Peregrinarum ex omnibus orbis pelagis collectus*), as 'Exhibition of Exotic Objects collected from all regions of the World', while they translate the title of chapter 6 in part 1, *Varia peregrinarum linguarum, ac Regnorum Monumenta (*containing "writings, tablets, prints and drawings from the Chinese and other unknown nations") as 'Divers [sic] Monuments of Foreign Languages and Kingdoms' (De Sepi 1678, 124). Conscious or not, the difference in word choice here implies that they agree with this assessment of De Sepi's distinction between these categories.

Also contributing to the impression of exoticisation in this chapter is the way in which De Sepi describes the Japanese katana and the club from North America. These are, according to him, "not so much (…) an object of curiosity as one of veneration", because they "opened the doors of Heaven for several fathers." Their exhibition here and their importance is more because of their connection with the

mission than because of their origin or use: "guests are wont to contemplate it with some veneration, spiritual comfort, and a feeling of tenderness" (De Sepi 1678, 146). The exoticisation of the violent 'barbarians' here does not only juxtapose the 'barbarians' and Western culture, as also happened in other contexts in this period, but also emphasises the heroism of the (civilised) Jesuit missionaries and the importance of their task. That said, the question remains to which extent this was a conscious choice for Kircher or De Sepi. We should not forget Kircher's other reasons for collecting these types of objects, among which his personal interest in other cultures. The description of some objects does strike as what we would call 'ethnographic': curiosities which show how those foreign people lead their lives. Very relatable for the modern reader is the slight amazement with which he describes the "Chinese spoons, sticks with which the Chinese somehow manipulate food into their mouth" (De Sepi 1678, 146). And part of the reason to set apart the religious and literary objects from the others may also have been that these objects were more familiar or more valuable to him as a source for his studies, considering that archaeology as a discipline hadn't even entered its infancy then.

Buonanni's categorisation of the non-European objects is different from De Sepi's. As mentioned above, his goal was to create a museum and a catalogue 'neatly divided in successive classes'. Almost all man-made objects from the Americas and the East are listed in chapter 7, *Apparatus Rerum Peregrinarum, ex variis Orbis Plagis collectus* ('Collection of Foreign Objects, collected from various Regions of the World'). Note that Buonanni, like De Sepi, uses the word *peregrinus* in the title (not *exoticus*), but replaces De Sepi's 'from all regions of the world' with 'from various regions of the world'. This implies that he does not see the museum as an all-encompassing centre of knowledge in the way Kircher and De Sepi did. Within the chapter, there are a few subcategories, in which similar objects are usually listed near each other, but not always. The first part of the chapter contains all man-made objects, and (for an unexplained reason, but directly following the description of the feather parasol and feather fan) birds and bird nests. After these follow 'Various Arms of the Barbarians', which, as discussed above, is in large part borrowed from the HNB, 'Exotic Fruits from Various Regions of the Indies', 'Gums or foreign oily juices', and finally, 'Mummies'. Non-European sea-animals, land-animals, stones and minerals are listed in their respective chapters. Non-European objects listed in other chapters are

religious statuettes from the Americas (chapter 1, 'Idols, & Instruments concerning Sacrifices of the Heathens') and Chinese silk shoes for bound feet (chapter 5, 'Remnants of Learned Antiquity, subheading 'Shoes'). Like De Sepi, he emphasises the weapons with which missionaries have been killed, calling them 'most valued' and 'venerable', but he does not add the phrase that guests treat them with tenderness. This difference in categorisation, combined with his more extensive treatment of the objects and use of sources, means that his catalogue does not leave the same impression of exoticisation of the non-European (and 'non-civilised') objects and cultures.

4.2.2 Provenience and provenance

As mentioned above, it is rare for De Sepi to mention from which region an animal came or where they live; even the ethnographic objects do not always merit mention of their origin. Nor does he often add anything about the way an object entered the museum. This means that it will probably never be possible to reconstruct provenience for any specific object: there are several possible channels through which Kircher (and later Buonanni) could have acquired them. We can assume that he traded in the same way contemporary collectors did, through personal connections with traders: take, for example the shipment that Kircher negotiated for Cardinal Chigi, mentioned on page 32 of this thesis. This leads us to expect that he arranged similar shipments for himself. Other objects would have been donated to the museum by wealthy patrons or gifted by (or bought from) fellow scientists from Kircher's network. A great advantage that Kircher had over secular collectors (and other religious orders) was his access to the global Jesuit network and the expectation that missionaries collected and distributed not only knowledge, but also objects to Europe. See for example the article by Carolina Valenzuela (2018) for a case study on bezoar stones: because of the belief that they had healing properties, these stones were considered interesting to study and lucrative to sell on the European market in the seventeenth century. Valenzuela describes how Jesuits published information on bezoars and how thousands of them were "sold and distributed among friends and benefactors" by Jesuits, which "indicates that Jesuits were active agents of object circulation, strengthening the global network inside the Society" (Valenzuela 2018, 104-105). Kircher would definitely have been one of the Church authorities who received one of the bezoars and likewise other objects. He also regularly received objects sent by fellow Jesuits who had studied at the Roman College (Bedini 1986,

259). Many objects from the colonies were considered precious and transported carefully: in the catalogue for a 2001 exhibition in Rome, where 300 objects from Kirchers collection were displayed, Alessandra Antinori remarks on the exceptional state of conservation of many objects from foreign countries, emphasising how they must have been treated and packaged carefully to ensure their survival of the long journey to Rome in the seventeenth century (Antinori 2001, 80).

Both De Sepi and Buonanni probably knew more about the provenance of objects than the limited information they included in the catalogue.[47] De Sepi had been working alongside Kircher for years, and, as custodian of the museum, was presumably closely involved with any expansion of the collection. The same goes for Buonanni, who had worked in the Kircherian museum during Kircher's life and acquired many objects for the museum during his own curatorship. In both catalogues, a provenience more detailed than "from Brazil" is included so few times for the Brazilian objects that it feels like a deliberate choice when they do add it to an object description. Although a complete quantitative analysis is outside the scope of this thesis, the catalogues leave the general impression that the provenance of an object is most often mentioned in two cases: first, when an object was donated by a person of considerable importance; second, when it was directly imported from the country of origin, often by a missionary. An example of the first in De Sepi is one of the two museum's crocodiles, which was "the generous gift of the most Serene Prince *John Frederick*, duke of *Braunschweig-Lüneburg*, sent to *Athanasius Kircher* in *Venice*" (De Sepi 1678, 138), and in Buonanni (who, in general, seems to name benefactors more often and more conspicuously than De Sepi does, including their full title and function) the beak of the Brazilian woodpecker (ref.no. 12), "a gift from the Most Illustrious Bishop Leone Strozzi, a Man with erudition of all kinds, and famous for his noble humanity." Examples of a direct transport by missionaries are the seventeen bird skins (ref.no. 9), which "were sent from *Brazil* to the *Author*" and the "vases fashioned out of *American Gourds*" (ref.no. 24), which were "sent to the *Author* from there as a gift." In Buonanni, there is the black cap (ref.no. 15) "which Father Franciscus Maria Bonuccius of our Society took with him from Brazil while

[47] Cf. Keating and Markey 2011, 288-292, a case study of the description of Mexican masks from the collection of Cosimo de' Medici, which concludes that, although the origin of these masks is only described in inventories as 'from India / the Indies / in the Indian style', it may have been known that they were from Mexico.

he was a Missionary in that Empire" and the (possibly not Brazilian, but still worth mentioning here because of the context) small figurine of "a naked and hideous stone animal, of which the face seems similar to a human's, or rather to say an ape's" which was "brought [here] from the New American Empire by a missionary from our Society, to whom an idol-worshipping man gave it after he embraced the Christian faith, because he loathed the foolishness through which he had venerated the so hideous monster" (Buonanni 1709, 38). These statements are useful information on the provenience of the objects, but should be read with a critical eye. In the chapter on stones and minerals, De Sepi states that an inkstand made out of five different marbles was "sent to the Author from *Volterra* by that most illustrious Governor *Raphael Maffei*", even though Maffei (a Servite monk and antiquary) died in 1522, 80 years before Kircher's birth. The translators of the catalogue state that "[i]t may have been sent by Maffei, but if so, not to Kircher" (Davidson 2015, 152).

Based on the catalogue text only, a few possible reasons come to mind for including or excluding this kind of information. The most obvious reason for not including the object's area of origin is that it was unknown or De Sepi considered it unimportant. Especially for objects acquired through trading or buying, it may well have been the case that no detailed information on its origin was available. The way in which the object was added to the collection, however, must have been known in most of the cases. We do not know if donor or manner of acquisition was registered in the museum's records, but even if it was not, surely Kircher (and with him De Sepi) recalled his acquisition of many of the objects. Why, then, is it only mentioned in the catalogues so rarely? As discussed in the section on general collection history above, the nobility was very involved in the trading of objects at the time. Therefore, it would be logical that they are prevalent when provenance is mentioned, but this does not explain why others are not named. A probable conclusion is that only acquisition through someone important was considered significant enough to include in the catalogue. Famous names would showcase the museum's network to the readers and gain goodwill with these possible benefactors; having been carried to Europe by a missionary increased an object's exoticism and the impression of Jesuit influence in those areas. In this way, the catalogues emphasise the success of the Jesuit mission, the extent of Kircher's network, and the rarity of the objects, thereby increasing their perceived value and, especially important for Kircher, strengthening their validation

of his reputation as a scholar. Including the provenience of an object was not important for its own sake, but shows the power of the Society of Jesus and places the catalogue within the culture of collecting as a whole.

4.2.3 Sources

Unfortunately, it remains for the most part unclear from which sources De Sepi draws his information on the foreign objects. For several of them, he provides a lot of it: he gives the local names of animals, describes their habits in the wild, sketches their complete appearance while only fragments are visible in the museum (beaks, horns, skins, and in some cases skeletons), and lists many other facts that he or Kircher cannot have observed firsthand. Sometimes he mentions a source or an author, but he also refers to common knowledge ("many different testimonies and opinions of various Authors and serious men teach us…" (De Sepi 1678, 144)). Sometimes he relates knowledge which obviously has an indigenous provenance ("The *Bird of Paradise*, which they call *Manucodiata*…" (De Sepi 1678, 144)) but without naming any source: this information may as well have come from one of the books on Brazil that had been published by then. There are a few instances where he refers to locals or missionaries as sources ("if we can believe the Reverend Fathers, who habitually travel back and forth between *India* and the City…" (De Sepi 1678, 143), "the *Author* learnt [how coral grows] from Arabian divers of the Red Sea, who make their living trawling coral from the sea floor" (De Sepi 1678, 154)). However, this does not mean that he or Kircher had been in direct contact with the missionaries. He does not include how he gathered this information: there are no acknowledgements of using letters from missionaries as sources, and a few occurrences where the information is cited from a book. Take for example the following story about a Brazilian bird (ref.no. 10):

> "And such were the birds as described by Father *Joseph Anchieta,* Provincial of *Brazil* for the Society of Jesus, a Holy Man, while he was voyaging by sea, and the men could not bear the heat of the sun any longer; these birds came to make shade and accompanied the ship all the way to harbour, protecting it from the solar heat by covering it in shade. By reason of this miracle many of the Pagans were converted to the Christian Faith, as can be read in his *Life*, which has now been published."

This story is a good example of the way in which De Sepi uses other authors as a source. Instead of supporting his assertions about the object's appearance or

properties, it is more often the recounting of a marvellous tale[48] or the reciting of a poem (either classical or more recent) that can be related to the object, such as Martial on rhinoceroses in the amphitheatre or examples from Virgil about the behaviour of birds. In the same way that names of object donors are only included when they are important, the main function of naming sources of information is showcasing De Sepi's network and knowledge of ancient authors. The most conspicuous example is his entry on the (non-Brazilian) crocodile. The description of the two specimens in the museum and the crocodile's habits takes less than half a page, but De Sepi dedicates an entire page and a half to two miraculous events. One of these is drawn from the itinerary of a Jesuit, or perhaps from Kircher citing this story in his *China Illustrata.* A Portuguese sailor, standing on the bank of the Ganges, was threatened by a crocodile on his one side and a tiger on the other; when the tiger attacked, he leaned aside so the tiger jumped past him in the crocodile's maw and was killed. The other story was told to Kircher personally by the prince of Anhalt. A crocodile on Java ate a bride on the morning of her wedding day; when it was caught and cut open, her remains were found inside (De Sepi 1678, 138-139). Presumably, the importance that the catalogue attaches to these stories is similar to the way Kircher and De Sepi presented the physical collection to their contemporaries. In it, we recognise both the desire for the marvellous in the seventeenth century and the Jesuit worldview, in which conclusion could be drawn from the the incidental sign and it was not necessary (nor possible) to search for a universally applicable truth.

As mentioned earlier, Buonanni treats his objects and his sources in a very different way than De Sepi does. He does not only describe their appearance, but also enumerates alternative names, lists the areas where they are commonly found, and gives information about their uses or their habits in case of an animal, regularly citing full passages from several different authors and comparing them to one another - see his discussion of the loin cloth (page 44-46 of this thesis) and of the scarlet ibis (page 49) for two very brief examples. He quotes a large amount and a large variety of authors: classical writers (most often Pliny), but also newer and contemporary natural philosophers such as Ole Worm, Aloysius Marsilius, Justus Lipsius, (very often) the *Historia Naturalis Brasiliae*, and obviously also De Sepi's catalogue. Even when not

[48] Take, for example, the entry about the crocodile to see the importance that he attaches to this type of anecdote.

citing explicitly, it is obvious that much of his information is drawn from other comparable works. An example mentioned earlier is the description of Brazilian weapons, much of which is an (almost) literal citation of the HNB. Another case is his description of the two different types of cashew (ref.no. 28), here cited in Latin to make the similarity in wording more obvious:

> "Anacardium fructus est a Lusitanis dictum Faba Malaccana. Duplex est, alterum, quod in Regno Malabrico nascitur oblongiore, & porrecto collo; alterum, quod in Brasilia incurvo, & Cajous appellatur." [49]

Compare this to the entry on the cashew in the catalogue of Ole Worms museum (Worm 1655, 182):

> "Arabibus Baladar vel Balado, Lusitanis Faba Malaccana. Duûm est generum: unum quod in Malavar nascitur, oblongiore & porrecto collo, alterum quod in Brasiliâ, incurvo & Cajous appellatur."[50]

The rest of Buonanni's entry corresponds to the Wormian catalogue in a similar way. Although he does not cite Worm, we can be certain that he is the source of the information. Like De Sepi, Buonanni includes indigenous or local knowledge where relevant, though often without explicitly citing sources, so there is no way to know whether he had any connections to indigenous sources - although in some cases, the information seems to at least have come directly from Brazil, such as when he says that the Brazilian shell dowry bracelets are "usually exchanged for a horse, which in that region is worth four scudi" (ref.no. 4). He does this most frequently for natural objects, in some cases juxtaposing local knowledge with a more scientific explanation. On the swallow stones from Malta,[51] for example, he says: "The Maltese call them eyes of petrified serpents; there are who think that they are the opercula of small shellfish after the fashion of sea-snails; others [think that they are] fish-teeth" (Buonanni 1709, 209). He clearly considers his collection to be part of the larger network of collectors and collecting within Italy: he cites catalogues from other

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[49] "The fruit of the cashew is called Faba Malaccana by the Portuguese. There are two kinds: the first, which grows in the Malabarian Empire, has a square-ish and stretched neck; the other, [which grows] in Brazil, has a curved neck, and is called Cajous."

[50] "Baladar or Balado to the Arabians, Faba Malaccana to the Portuguese. There are two kinds: the first, which grows in Malabar, has a square-ish and stretched neck; the other, [which grows] in Brazil, has a curved neck, and is called Cajous." This entry, in its turn, can be traced back to the entry on the cashew in Caspar Bauhin's *Pinax theatri botanici* (1623), page 511: "Anacardium, Arabibus Balado, Lusitanis Faba Malaccana… Variat: nam quod in Malavar oblongiore porrecto collo est, eo quod in Sunda prodit."

[51] Stones extracted from the digestive system of a swallow.

museums (for example the collections of Cospi, Calzolari and Settala) or refers readers to objects in other collections. In the entry on the bezoar present in his collection, he remarks on the size to which these stones can grow and adds: "One [bezoar] can be seen in Rome in the Gazophylacium close to the Library of His Eminence Cardinal Francesco Barberini. The Grand Duke of Tuscany possesses another one, brought to him from the Brazilian Empire, weighing twelve pounds" (Buonanni 1709, 209). Another example of the difference between him and De Sepi is his treatment of the Brazilian girdle with human teeth (ref.no. 1, see page 44-46), where he falsifies De Sepi's statement that the number of teeth on the girdle indicate how many people the wearer has eaten through reasoning, and then compares several sources on antropophagy to draw conclusions on the character of this people. He does something similar for the second object, a Chinese girdle, and demonstrates again that he is quite concerned with what this type of object tells us about the barbarian customs. He notes in the first sentence of the description that this one is "not a sign of cruelty, but of doctrine" (because it was worn by a wise man), a comparison which emphasises once again the anthropophagy denoted by the first girdle (Buonanni 1709, 225). For the other ethnographic objects, Buonanni provides more information than De Sepi on their use in indigenous culture. Presumably, like for De Sepi, some of Buonanni's knowledge must have come from missionaries arriving back to Rome. But even the mention of missionaries as a source does not always mean it was first-hand information: it could also have been through printed works (see, for example, a reference on page 278: "To this account I add a report on the origin of the river Nile, printed in Italian in Florence in 1693, previously published in Portuguese by some Writer from our Society.").

This short exploration of sources used by De Sepi and Buonanni is, by itself, not enough to draw any conclusions about their network. However, it would be valuable to see how their use of sources on Brazil differs from their use of sources on other cultures, especially for De Sepi, in order to better answer the question how much of their knowledge could originate with missionaries (and thus, possibly indirectly, with the indigenous peoples of South America). This could be a useful part of a study of Kircher's missionary networks and the transmission of knowledge between the Americas and Rome.

Chapter 5. Kircher's collection after Buonanni

After Buonanni's death in 1725, Contuccio Contucci took responsibility for the collection. He focused mainly on the archeological part of the collection and probably neglected the others (Bedini 1986, 262). In the eighteenth century, several publications on the museum appeared, most of them highly specialised, for example on the museum's bronzes or inscriptions (Hein 1986): none of them mentions any ethnographic or South-American objects. Interest for the collection remained high during this period, but Buonanni's catalogue had become difficult to acquire. For these reasons, the printer Josephus Antonius Monaldinius took the initiative to publish part of the collection again (Battarra 1773, XXXI). The result of this was a catalogue edited by Giovanni Antonio Battarra, of which the first part was published in 1773 and the second in 1782: *A history of natural objects in the Kircherian museum, already published by Buonanni, but now ordered by a new method.*[52] It is a re-publishing of Buonanni's text, but with footnotes by Battarra including recent developments and references to other authors. Because of his focus on natural objects, Battarra re-orders Buonanni's categorisation. The first part of the catalogue is divided in five classes: first quadrupeds, second reptiles and insects, third fossils, and fourth fishes and other inhabitants of the sea. Although it was meant to be a work on natural history, in which Kircher's foreign collection did not belong, Battarra says that he could not leave those objects out, because "these also delight the eye and demand admiration" (Battarra 1773, 183). Unlike his first four classes, the title of the fifth class is directly taken from from Buonanni (*Collection of Foreign Objects, collected from various Regions of the World*). This chapter lists the objects Buonanni also had under that header, although Battarra changes the order. He notes that not all listed objects were still present in the museum: "[in the fifth class I will list] diverse weapons of the barbarians, which could be seen in this Museum (I say 'could be seen', since I understand that many, which were once preserved in the Kircherian Museum, have now been removed)" (Battarra 1773, XXXIII). The catalogue was received badly precisely because of the inclusion of objects which did not belong in a work on natural history (Hein 1986, 306).

[52] *Rerum naturalium historia existentium in museo Kircheriano edita iam a Buonannio nunc vero novo metodo distributa.*

In 1773, Pope Clement XIV officially decreed the suppression of the Society of Jesus, which had already begun during the decades before. The ownership of the Kircherian Museum passed to the Vatican State and several objects were transferred to the Vatican Museums. This led to neglect of the remaining collections once again. The museum was spared from damage during the French invasion of Rome at the end of the eighteenth century, but when Giuseppe Marchi took on the curatorship of the collection after the restoration of the Jesuit order in 1825, he found it damaged and in great disorder. The museum did not reopen to the public until 1864. In 1870, the building of the Roman College and the entire Kircherian collection were confiscated by the new Italian government (see Davis 1997 for the political developments leading to the unification of Italy and the formation of the new government). The collection was subsequently split up: part of it, mainly objects from the natural and physical collection (but also some ethnographic objects) remained in the College, but most objects were transferred to the new National Museum, Jesuit schools, the University of Rome, or elsewhere (Bedini 1986, 262). The remaining objects became property of the *liceo Visconti*, the school founded in the Roman College in 1871.

In 1875, Luigi Pigorini obtained government permission to found a prehistoric and ethnographic museum in a wing of the College, the museum that is now the MLP. The main focus of this collection would be the overview of prehistoric Italian cultures, but it would also include material from other prehistoric cultures as point of comparison. To fill the museum with its first collections, the general directorate of antiquities invited museums and excavation sites throughout Italy to contribute, and Luigi Pigorini and Ettore De Ruggiero picked 187 African and American objects from the Kircherian collection to transfer to the new museum (Mangani 2015, 29-32; see page 223-225 for the object list). 28 of them are listed as being from Brazil (see Appendix I for a list). Several of these objects can be identified as stemming from the Kircherian collection, a few even dating back to Kircher's own lifetime: on the list, we find the loincloth with human teeth (ref.no. 1; also two other loincloths), one palm thread cap (ref.no. 13 or 15), the wooden clubs (ref.no. 18) and arrows (ref.no. 19), the shell necklace (ref.no. 4), the javelins (ref.no. 20) and the wooden bows (ref.no. 21). In some cases, the indigenous group is listed with the object. Where it is, it corresponds to the people named by Buonanni, which means that the Buonanni catalogue (or Battarra's edition of it) was still an important source on the collection.

A few objects on this list do not appear in the early catalogues: these may have entered the museum anywhere between the seventeenth and nineteenth century. One other catalogue of the Kircherian museum exists. It was written by Ettore de Ruggiero in 1878 and only the first part is preserved, but it is not relevant for research on Kircher's Brazilian collection: by this time, the Brazilian objects had already been removed from the collection.

The first time Brazilian objects from Kircher's collection appear in a catalogue again is in 1983, when the MLP utilised their move from the former Roman College to its current location near other national museums to finally catalogue their Brazilian ethnographic collection, in collaboration with other Italian museums and Brazilian scientists. The goal of this collaboration was an exhibition on indigenous peoples to call renewed attention to the problems to which western interference with indigenous peoples had led (and were still leading). Thus the focus of the exhibition, titled *Indios del Brasile, culture che scompaiono* (Museo Luigi Pigorini, 1983) did not lay on Kircher, but rather on indigenous cultures and their history. Most of the objects in this exhibition came from another source than the Kircherian collection: the major part of the Brazilian indigenous collection of the MLP has been acquired in the nineteenth and early twentieth century. Only three of the objects in the exhibition catalogue can be traced back to Kircher's collection: a wooden bow with a cotton string (ref.no. 21), the loin cloth with human teeth (ref.no. 1), and the necklace with pieces of shell (ref.no. 4), although the catalogue lists it as a bracelet made of human teeth. According to the catalogue, all three objects are from the Kirirí people. For the bow and the necklace, this corresponds to the provenance given by De Sepi and Buonanni; it is unclear why the loin cloth, of which no origin is given in earlier catalogues or lists, is said to be Kirirí.

The remaining Kircherian Brazilian objects in the collection of the MLP are currently stored in the museum depots. Since they are made of natural materials, many of them are too vulnerable to be exhibited regularly. Interest into the Kircherian collection has increased in the last 20 years. In 2001, the 400th anniversary year of Kircher's birth, an exhibition about him was held in the Palazzo di Venezia in Rome. The accompanying catalogue, titled *Il museo del mondo* (Lo Sardo 2001), is an impressive and extensive work focusing completely on the collection itself and its history. It is

an unique and crucial contribution to research into the Kircherian collection: many studies on Kircher mainly focus on his literary works, and there have been more exhibitions of his publications, organised by libraries, than exhibitions on his collection.[53] *Il museo del mondo* contains a relatively long chapter on the non-European objects in the collection (Antinori 2001). It is a good starting point for further research, but does not go much further than summing up the North- and South-American, Canadian, and African objects: Antinori concludes that much research should still be done, especially regarding the Jesuit network in these areas (Antinori 2001, 81). The Jesuit archives could prove to be a rich source for this, both in tracing which missionaries served where and in reconstructing their activities, but are still largely unexplored in this context. At the same time, much could still be gained from research into the formation of the collections of the MLP, to which Mangani (2015) has contributed significantly with her work on the history of the MLP, including transcription of many important documents from the early years. The many changes in fortune that the museum has undergone and the lack of accurate record-keeping in the past centuries mean that it is not always possible to determine with certainty when an object entered the collection. As collaboration with indigenous peoples grows, new light is also shed on the information that is available in the first catalogues: the two clubs called Tapuya by Buonanni (ref.no. 18) are probably not from the Tapuya people.[54]

[53] Stolzenberg 2001; Brocchieri and Ponzi 2009; Rowland 2000.
[54] As noted verbally by Donatella Saviola, curator of the non-European ethnographical collection of the Museum Luigi Pigorini.

Chapter 6. Conclusion

The aim of this thesis was to trace the history of Kircher's Brazilian objects as far as possible, and to discuss their position within the Kircherian collection as a whole and Kircher's approach to them. The method used was a close reading of the relevant passages from two of the museum catalogues, the one published by Giorgio de Sepi in 1678 and the one by Filippo Buonanni from 1709. Within the limited scope of this research method, the close study of the catalogue texts has been able to provide productive answers to the research question. In interpreting the results, the reader should keep in mind that this analysis is strongly based on the text provided by the catalogues, and within those, only on the passages on Brazilian objects. A closer study of the objects themselves would be a worthwhile addition, to further our understanding of the accuracy of De Sepi's and Buonanni's statements, and perspectives may well shift if a study chooses to focus on the rest of both catalogues as well.

Since De Sepi's catalogue was written approximately during the museum's prime, on which many other sources are available, it is relatively easy to interpret it within its cultural context. In the seventeenth century, Kircher's museum functioned in several different contexts. In most of them, study and representation of other cultures was important for the museum. The display of non-European objects contributed strongly to the self-representation of the Jesuit church as the a missionary organisation with the furthest reach. The museum was a meeting point for missionaries and the location through which missionary knowledge was passed to prepare new missionaries for their task. Despite Kircher's differences with contemporary natural philosophers, the museum was still a linchpin within the overlapping networks of scientists and collectors as a physical site where knowledge was produced and from which it was spread again, partly because of Kircher's unique connections to locations outside Europe, which his non-European objects represented. These objects also supported his research and amazed the upper-class visitors looking for the new and the marvellous. Thus, the non-European objects were a small, but important part of the collection.

Singling out the treatment of Brazilian objects in De Sepi's catalogue has shown that the countries or cultures of Southern America, at least, were not studied for their own sake or even seen as a separate subject of study. De Sepi does not consider the

area of origin a criterium for his categorisation of objects; it is often not even important enough to merit a mention. Looking at the type of objects that are included in the chapter on foreign cultures versus the non-European objects included under different headings, the chapter in which most Brazilian objects appear can be read in the light of the exoticisation that was common in the seventeenth century. Considering the contexts in which the museum functioned, this is not surprising: except for the training of new missionaries, none of these necessitates specific (or even correct) information about Brazil: presenting these foreign objects as an 'exotic' collection in general works just as well. A short exploration of where and how provenience and provenance is included in De Sepi's catalogue shows that the origin and manner of acquisition of an object were considered important mainly when they contributed to the object's representative value: it is often only included when an object was donated by a prominent person or by a missionary or other direct contact in its country of origin. De Sepi's information on Brazilian objects is often brief, limited to a description of the object itself. Where he does include more, it is often a reference to a classical autor or a marvellous story, which fits into his worldview as a Jesuit scholar. More information (and specific information) on Brazil would be available to those visiting the museum in person, in the form of Valentin Stansel's two extensive works on Brazil in Kircher's library, which are not once explicitly cited as a source in De Sepi's catalogue. The question remains whether this generic treatment of American cultures is only a reflection of the approach De Sepi took while writing the catalogue or typical for Kircher's approach to his museum and collection in general.

To tease out the answer to this question, a comparison between De Sepi's treatment of Brazilian objects and his treatment of, for example, Chinese objects might yield interesting results. China is comparable to Brazil in that it was a culture contemporary to Kircher (unlike Ancient Egypt), with which he was in semi-direct contact through letters and missionaries. A difference is that Kircher was much more interested in Chinese culture, as is shown by his publication of an entire work on China. Analysing how De Sepi categorises Chinese objects in the catalogue, which information he includes (or excludes), and how he describes their history and acquisition, and comparing that to the treatment of Brazil in the catalogue, would throw more light on whether the processes through which Kircher acquired and transmitted knowledge on Brazilian cultures were specific to that culture or not.

Obvious extensions would be a comparison between the treatment of Chinese objects in the catalogue and discussion of the same objects and Chinese customs in Kircher's *China Illustrata* or a comparison between the treatment of Brazilian objects in De Sepi's catalogue and other catalogues in roughly the same period.
In Buonanni's time, especially in his early years as curator, the international significance of the museum had diminished quite a bit. His personal reputation and the Jesuit prestige depended less on the fame of the collection than in Kircher's time: it was no longer supposed to be a representation of the entire world in one location. The audience for his catalogue is different and the American objects play a different role in it. In some elements, such as the contexts in which he includes names of object donors, his catalogue functions the same as De Sepi's did. However, as we have seen, he categorises the objects differently than De Sepi does and uses sources in a very different way. His treatment of the objects towards the more scientific approach of the later museum catalogues. This catalogue is an important historical document to trace two things: first, the history of the Kircherian Brazilian objects, and second, the actual process of transmission of knowledge. At several points, I have remarked upon the similarities between Buonanni and other texts. A more extensive textual comparison with other works will, without doubt, create an image of a network of museum catalogues and other works, among which the HNB, through which knowledge of Brazil spread through Europe. A clearer picture of Buonanni's textual sources may also lead to an idea of which of his information is probably *not* drawn from other literary works, and thus may go back, directly or indirectly, to missionary or indigenous sources - a first example would be Buonanni's addition of the name of the Kiriri to the description of the atlatl drawn from the HNB. A project like this, however, requires a large corpus of digitised (and proofread) texts and a tool for their comparison, such as the Tesserae project in the field of classical literature.[55] However, Tesserae is an ambitious collaborative project, which leans on several extensive libraries of classical texts. With the current status of digitalisation of museum catalogues and other relevant texts from the sixteenth century onwards, a research project like this will not be feasible for quite some time. Even on their own, the texts still provide more than enough avenues for further research. One of them, of which I have only been able to propose a very short exploration, is the way in which De Sepi and Buonanni's catalogues position

[55] http://tesserae.caset.buffalo.edu/

themselves within the network of natural philosophers and members of the elite, through a qualitative and quantitative textual analysis of the provenience of the objects. How do the donors in each catalogue compare to one another? What percentage of the objects has a provenience and how does this differ for type of object or area of origin? Perhaps there would also be value in comparing the results from the text to Kircher's network, using the data and visualisation from the project 'Mapping the Republic of Letters' by Paula Findlen and colleagues.[56] This kind of research could also be done focusing on a specific area, like this thesis has done for the Brazilian objects, and supplemented with information from other sources: as mentioned, study of the objects themselves in collaboration with the indigenous peoples whose ancestors produced them has only begun relatively recently. The Jesuit archives are still a mostly untapped source of information about the missionaries stationed in Brazil, their contact with indigenous people and their trading activities. This thesis has shown that a focus on the Brazilian objects in Kirchers collection, although they were only a tiny subset of the much larger whole, even studied only from the limited literary perspective of the museum catalogues, can be a significant avenue to further understanding of Kirchers approach to American objects in general. A well-rounded picture of the entire story of these objects, studied from multiple angles and interpreted within the different contexts they passed through in their lives, could only expand this perspective further.

[56] http://republicofletters.stanford.edu/casestudies/kircher.html

Abstract

The museum of Athanasius Kircher, seventeenth century Jesuit and scholar at the Roman College, was both a central point in the communication networks of Jesuits and the emerging Republic of Letters and a physical location where several social contexts came together and were confronted with many different types of objects from all corners of the world. This thesis focuses on the Brazilian objects in his collection, studied from the perspective of close reading of two of the museum's catalogues (published by Giorgio de Sepi in 1678 and Filippo Buonanni in 1709) . The research goals are tracing their history between Kircher's time and today (also using the 1876 list of objects by Ettore de Ruggiero and the catalogue of the Luigi Pigorini National Museum of Prehistory and Ethnography) and reconstructing how they functioned within the seventeenth century museum.

The thesis lists and discusses all entries of Brazilian objects appearing in the two catalogues. Some of them, in particular the (possibly) Kiriri loin cloth decorated with human teeth (MLP inventory number 3167), are discussed more extensively. The close reading of the passages on Brazilian objects leads to a short exploration of three themes: the categorisation of the objects in the catalogues, the inclusion (or exclusion) of information about an object's provenience and provenance, and the sources used by the authors. In De Sepi's catalogue, the objects are categorised in a way that conforms to the general exoticisation of South American cultures in the seventeenth century. Information about an object's acquisition is not included, unless it was donated by an important person or a missionary. The source of information on objects or native cultures is often unclear in De Sepi's catalogue.

The conclusion of the research is that De Sepi (or Kircher) did not consider study of and transmission of knowledge on Brazilian culture *in particular* important, at least not insofar as it appears from the catalogues, although more detailed information was probably available to museum visitors looking for it. Representation of non-European objects *in general* was sufficient to emphasise the reach of the Jesuit Church as a missionary organisation and to support Kircher's authority as a scholar "who knew everything."

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Appendices

Appendix I. Objects

Listed below are all Brazilian objects discussed in the thesis. At the beginning of each heading, they are provided with a number for easy reference. Any mentions of 'ref. no.' in this thesis refer to the number assigned in this list.
The objects are listed roughly according to the order in which they appear in the Buonanni catalogue, since that is the work which contains most of them. Objects mentioned in other sources are inserted where appropriate. Note that some of the objects listed here are not included in the De Sepi or Buonanni catalogues, but only appear in the later museum inventories.

The descriptions from the catalogues are not always the complete catalogue entries, but contain the information necessary to identify the object and the text referred in the thesis. This list is intended as reference list for an overview of known Brazilian objects from the Kircherian collection and to facilitate easier reading of this thesis and comparison of object descriptions. For any further research, the original text should be consulted to understand the complete context.

All descriptions below originate from four sources, which are indicated with the following abbreviations:

- DS: De Sepi's 1678 catalogue. The number indicates the page number of the translation (Davidson 2015) on which the object is discussed.
- B: Buonanni 1709. The following abbreviation indicates the category under which Buonanni includes the object and the number he assigns it:
    - RP = *rerum peregrinarum*
    - AB = *arma barbarorum*
    - FE = *fructus exotica*
    - G = *gummata*
    - P&A = *plantae & animalia*

  The abbreviation is followed by the page number on which the object is discussed.
- DR: the 1876 list of objects removed from the Kircherian collection to the new Museo Luigi Pigorini, selected by Ettore de Ruggiero and Luigi Pigorini,

published in Mangani 2015, 223-225. It is followed by the number the object is assigned on the list.

- MLP: the description of the object provided in 2019 by the Museo Luigi Pigorini. It is followed by the inventory number of the objects. All objects for which this description is included, are currently still present in the MLP.

All passages from Davidson 2015 are citations from the translated work; the passages from Buonanni, the 1876 list, and the MLP description have been translated by me from Latin and Italian.

1. Loin cloth with human teeth

DS 146: *The final exhibit consists of Torques or belts*[58] *of the* Barbarians*, or* Cannibals of Brazil. *This is not like the Torque which* Manlius *at the* River Anio *wrenched from the* Gaul *whom he had killed when challenged to a duel, and hence received the cognomen of* Torquatus, *or those covered in golden sheepskin, or brilliant with precious gems; but the Torquati of* Brazil *should be given this name more accurately, as they 'extort' the very skin off their enemies, and for their spoils, the ivory of human teeth; from a neck-band, which is made into a kind of bandage from palm-cloth, or from a waist-band woven from hemp, they hang on ribbons of palm, like seeds of juniper, and it hangs conspicuous with human teeth. For, glorying in this multitude of teeth, they vaunt the crimes of their barbarity, for the number of teeth these girdles contain, signifies the number of people they have devoured, as the sign of a superior mind, and they wear these as a cover for their pubic area.*

B - RP 1, 225: *We place first what Kircher placed at the end of chapter 6 of his Museum, that is the loin cloth of the Barbarians of Brazil. This is a band, a palm wide, woven from some kind of thread, from which hang as many threads as possible, a palm and a half long, covered with small black balls resembling seeds of pepper, and every one of them bears human teeth. Kircher reports that they show deeds of savageness through their great number of teeth, saying that* the number of teeth these girdles contain, signifies the number of people they have devoured, as the sign of a superior mind, *and that they wear it as cover for their pubic area. If we consider it rationally, we may doubt whether Kircher's report is true: in fact it seems unbelievable that one man could devour as many men as teeth hang from that loin cloth; for the number exceeds sixty. But it should not be doubted that they were taken from the corpses of men who had died: for we know from*

[58] The plural form is a translation error: the Latin catalogue has the singular.

Giraldus' On diverse funeral rites[59] *that methods of burying are always different, and that the material of tombs is diverse and varied. Besides other habits, men themselves were tombs among these peoples, whose the custom was eating human flesh, whence for them the words Androphagi, & Anthropophagi. We read that there are some Indians, who put their parents to death as sacrifices to the Gods, before they become meagre and senile because of their years or some kind of illness, and they consider it a most pious thing to feast on the organs of those who were murdered. And when old age or illness advances, they go far away from the others, and await death in solitude, not anxious at all. From Alexander Sardus* On the Rites of People[60] *book 1 cap. 23* The Derbicans cut the throats of seventy-year-old men, and they eat them. They suffocate the women. The Padaei of India eat even the ill and the old ones ones, the men the men, the women the women. Those living near Pontus, the Scythes, likewise the Issidones, only saving the head, which they use as a cup, decorated with gold, & silver, and gems.[61] *In Herodotus, book 1, the well-born Messagerae kill their parents, and the siblings and friends feast on a table furnished with their flesh, because this way of death is considered the most fortunate by them. In Apollodorus, book 3. cap. 20, the Issidones, peoples of Asia, and the inhabitants of Scythia are said to observe the same custom. For they invite their neighbours to funereal banquets for those who have been killed, who have reached a very high age, considering it better and holier to be honorably eaten by men, than to be disgracefully torn into pieces by dogs, or to be disgustingly consumed by worms. But howsoever the exhibited loincloth has been embellished with human teeth, it is either an indication of inhuman piety, or a monument of most savage men.*

DR, 131: *Loincloth of white and black cords, with fringes with small black beads, a human tooth attached to each thread, from Brazil.*

MLP 3167: *loin cloth with vegetal fringe, seeds and human teeth - from Brasil.*

2. Loin cloth

DR, 127: *Loin cloth of palm thread with fringes formed from animal teeth, from Brazil.*

3. Black loin cloth

DR, 128: *Fragment of another loin cloth, from very thin black threads, from Brazil.*

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[59] Lilius Gregorius Giraldus, *De sepulchris et vario sepeliendi ritu (*Basel, 1539)
[60] Alexander Sardus Ferrariensis, *De moribus et ritibus gentium libri III (*Venice, 1557)
[61] Bonnani's citation of Alexander Sardus is missing several words and is therefore not completely grammatical.

4. Necklace with pieces of shell

B - RP 5, 225: *A necklace, brought from the Brazilian Empire, which the Barbarians (Kiriri in the language of the people), inhabit, of which the workmanship surpasses the material, because although they lack the proper instruments, they compose it with persistent labour from small pieces of bones of wild animals, or of sea-shells, which they remove with only a knife, and shape into equal little lines by scraping them. Thereafter they arrange them on a necklace, woven from cotton, pulled through a narrow opening. Girls go to their wedding decked out with these, nor do they lack bracelets fashioned skilfully from entire shells of oysters. These are whole rings, that, put upon the lower arms in a young age, are always worn during night and day, so that the young woman, once grown up, cannot take them off anymore by any method, being grown into the flesh.These are the main parts of a dowry which they offer to the groom, and they call such a necklace Bebà, and they usually exchange it for a horse, which in that Region is worth four scudi.*

DR, 144: *Necklace for women, made from pieces of shell, from the Kiriri Indians of Brazil.*

MLP, 3153: *bracelet of teeth from the Kiriri, 0,14 long. Kiriri - BRAZIL.*

5. Ostrich feather parasol and

6. Four ostrich eggs

B - RP 6, 226: *Similarly brought from Brazil is the Parasol. It is composed from feathers of the Ostrich with various colours, covered with skill. This bird is the biggest of all, if she should be called a bird, on which Pliny in the tenth book, first paragraph:* Animals of this kind are also in Africa, & Aethiopia, & in great Brasil, they exceed the height of the head sitting on a horse & with eagerness surpasses him running. In other respects they are not birds, nor do they raise themselves from the earth with their wings. They have cloven talons similar to stags, with which they fight, they also employ them in seizing stones for the purpose of throwing at those who pursue them. They have the marvellous property of being able to digest every substance without distinction, but their stupidity is no less remarkable; for although the rest of their body is so large, they imagine, when they have thrust their head and neck into a bush, that the whole of the body is concealed. Their eggs on account of their large size, are employed as vessels for certain purposes. *From these there are four in the Museum, a palm long. Three show a white color, the other seems covered over with a kind of flavedo. But the feathers are joined together in the*

Parasol so skilfully that they meet on the crown and are fastened together in such a way, that, when a wooden wedge is moved on the axle, they can easily spread out in a circle and form a Parasol, like the fabric ones which Europeans turn towards the beams of the sun to keep them away

7. Feather fan

B - RP 7, 226: *Besides the Parasol, composed from feathers, there is a fan from feathers rich with dark red colour. These are from a bird, famous in Brazil, which they call* Guaraf.[62] *About her are reported marvellous things, because after she is hatched from the egg, she is covered with feathers of ash-color; but after she grows up, the feathers turn black, until they are thoroughly black and appear not unlike ravens. Thereafter the black colour gradually disappears and they assume the red colour, only their beak remaining black, which extends not a little and has a hook for the hunt. From feathers of this kind, interwoven with marvellous skill, the Brazilians make ornaments, besides Garments, and bed-blankets, which they sell for a high price. All these things have been reported by Men very deserving of faith who have lived many years in the Brazilian Empire, but Marcgraf wrote the following on this bird, Natural history book 5 ch. 8* Once she is hatched, she is of a blackish colour. After this comes out an ash colour, following thereafter a white, but she begins to turn red gradually, and in the second year of life she is completely of the colour, that they call Columbin, and the more she ages, the more she acquires this most elegant scarlet colour.

8. Hummingbird

B - under RP 8 (Mexican birds), 226: *A small Brazilian bird, which they call* Guainumbi, *and* Guainambi. *The entire length of its body from the beginning of the beak to the end of the tail is equal to three fingers The colour of its feathers inclines towards blackness; the tail and wings are spotted with honey-colour. Its throat and breast, when exposed to light, gleam brilliantly with mixed green and fiery red; but the upper part of the head shines with purple-red.*

9. Bird skins

DS 145: *Brazil has sent here seventeen skins of different birds; one of these has the slenderest beak, almost half a hand long, and feet of the same length, and the plumpness of a young cockerel; its feathers, moreover, are lit up by such a glitter of red, that we cannot find a colour of the same vividness. The other sixteen, which are also extraordinary in form and colour, are a recent acquisition; and, although there has been no consideration up to now of any potency to be attached to*

[62] The scarlet ibis.

their name or nature, nevertheless, because of the glorious variety of their luminous colours, they appear fascinating and bewitching to all Visitors, and are seen to have been endowed by nature with an [un]usual[63] *form and a complex spectrum of colours; for some glow red as flame, others shine forth in blue, or gold; some are festooned in a lovely green, and several are artfully clothed by Nature in such an intermixture of divers [sic] colours, that even the cleverest eye will scarcely be able to differentiate them all; all were sent from* Brazil *to the* Author.

B - RP 10, 228: *We also have some skins of foreign birds from Brazil, very bright with a variety of colours, never seen in Italy.*

10. Purple bird

DS 145: *There is seen also among the other birds, one shining with the most intense purple, which the Brazilians call* a quaracies*: it is a type of crow, not black, but shining with purple colour over its entire body.*[64] *And such were the birds as described by Father* Joseph Anchieta*, Provincial of* Brazil *for the Society of Jesus, a Holy Man, while he was voyaging by sea, and the men could not bear the heat of the sun any longer; these birds came to make shade and accompanied the ship all the way to harbour, protecting it from the solar heat by covering it in shade. By reason of this miracle many of the Pagans were converted to the Christian Faith, as can be read in his* Life*, which has now been published.*

11. Toucan skin

B - RP 10, 228: *Between [the] other [birds] is a Bird, which they call* Tuccano*, deeply black, adorned with feathers shining with a golden gleam. It has a big beak, tinged with black colour, like smoothed buffalo horns show.*

12. Toucan beak

DS 143: *Among the variety of curiosities preserved here are some remains of exotic birds. First to meet the visitor is the* Woodpecker of Brazil,[65] *which some think is a* Ramphastus *from its size, but others, from the testimony of* Varian *(who writes that they are found in abundance in* Ethiopia*), an* Abbas Superbus*, and others say it is* a Rhinoceros Bird. *Whatever its name is, if the other limbs of its body corresponded to the beak, I think a bigger bird would scarcely be found among all flying things. For this beak exceeds two hands in length, and where it joins to the body or*

[63] Davidson 2015 translate this as "usual." This is a translation error: the Latin word is *insolita.*
[64] Translator note: "perhaps *Aphelocoma unicolor*, a Mexican jay which is dark, bright blue all over."
[65] The Latin word he uses is *Pica Brasiliae.*

head, it is over four inches thick, and seven inches wide; from this point this beak grows as with birds generally in a gentle curve towards a point, its many very razor-sharp little teeth like a saw, sticking out on all sides, making for a spectacular sight: also, its colour is now yellowish, though it has not been established whether it has been coloured in this way though [sic] *the passage of time, or naturally; if we can believe the Reverend Fathers, who habitually travel back and forth between* India *and the City, it is outstanding in its power as an antidote against all kinds of poison, and very valuable; it is granted only to* Indian *Monarchs and Princes, by whom it is given the protection appropriate to the greatest treasure-houses, and preserved, and stored among the largesse and gifts, with which the Rulers of the* Indians *are accustomed to conduct formal meetings and communications with each other (they hold this beak of the dead bird in especially high esteem). It is no surprise that this bird, so remarkable and adorned by nature with so precious an attribute, was given as a gift; for many different testimonies and opinions of various Authors and series men teach us that the beaks and divers* [sic] *bones of our European birds excel in their operation as healing agents, (…).*

B - RP 11, 226: *Another beak of a bird, which Kircher called the Pica brasiliana in the Museum pag. 32. others call it because of its size Ramphastus, others Abbas Superbus, others Rhinoceros. Whatever its name is, if the other limbs of its body corresponded to the beak, it would have to be called the biggest of the winged beings. For this beak exceeds two hands in length, and where it joins to the head, it is over four inches thick, and seven inches wide. It grows in a curve towards a point, its many very razor-sharp little teeth like a saw, sticking out on all sides, making for a spectacular sight, as can be seen under number 2 in the Table. If the reporters, who have come to the City from India, must be trusted, it is outstanding in its power as an antidote against all kinds of poison, because of which these beaks are most esteemed by the Indians. The one that is in the Museum was a gift from the Most Illustrious Bishop Leone Strozzi, a Man with erudition of all kinds, and famous for his noble humanity.*

13. White cap

B - under RP 27, 232: *A cap [birretum], which was woven in Brazil from white palm leaves, shows the same weaving technique [i.e. opus tesselatum].*

DR 129: *Beret from palm thread, from Brazil.*[66]

[66] This may also be ref.no. 15.

14. Sack

B - RP 36, 234: *A small bag with a wide opening, terminating in a sharp point, reaching almost four palms,* made like net-work[67] *from often with each other entangled cords, in Brazil, where the inhabitants call it* Aiò. *Women use this to carry weights on their back, such as gathered wood, fruits, sugars, and similar things.*

DR 130: *Sack for provisions, woven like a net, from Brazil.*

MLP 3151: *Sack for provisions, natural fiber threads, red stripes - Brazil.*[68]

15. Black cap

B - RP 40, 234: *Besides those reported under no. 26, another covering of the head is counted, which Father Franciscus Maria Bonuccius of our Society brought away from Brazil as a Missionary in that Empire. It is a Biretum, which Priests use. It is black and round, one palm high, almost similar to the one that is also used in Portugal.*

DR 129: *Beret from palm thread, from Brazil.*[69]

16. Reed banners, decorated with feathers

DR 132 and 133: *Two banners made of reed, covered with feathers in different colours, from Brazil.*

MLP 3177 and 3178: *Mats made from reed, thread and feathers - Brazil.*

17. Palm fabric

DR 135: *Fabric from palm, used by the women of the banks of the of the Vrazin of Brazil.*

18. Wooden clubs with feathers

B - AB 2, 236: *Two sticks or rather Clubs, six palms long, wider at one of the ends like oars. They are composed of some kind of black & heavy wood, which they call* Japema. *Some Peoples of Brazil called* Tapuye *use them, and sometimes they bind a small bundle of feathers to their end,*

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[67] opus reticulatum
[68] This identification is not completely certain: this sack is about 50 centimetres high, which is longer than the four palms Buonanni mentions.
[69] This may also be ref.no. 13.

which ornament they call Atirabebe & Iatirabebe.

DR 136 and 137: *Two clubs of wood from the indigenous Japuy from Brazil.*

MLP 3168 and 3169: *wooden clubs with flat heads, feathers of various colours - Tapuy, Brazil.*[70]

19. Wooden arrows

B - AB 5, 236: *Another handful of Arrows, of which the points are longer than a palm, they are not of iron, but of wood from black ebony. Barbarians called Tapuia have made them in the Brazilian Empire, and they use them throwing without a bow, by laying them on a wooden object, hollowed-out like a pipe, cut through the middle along its length.*

DR 138-143: *Six arrows with wooden point from the Japuy, from Brazil.*

MLP 3170-3175: *Arrows - Tapuy, Brazil.*

20. Javelins and

21. Wooden bow

B - AB 6, 236: *In the Brazilian Empire the Barbarians who inhabit the mountains, in the vulgar language called* Kiriri*, also use other arrows, or rather javelins, almost eight palms long, of which the points are made from red & heavy wood, rough like saw teeth. The remaining part of the spear is made of the very light marsh-reed, to which they tie the feathers of birds; they call either thing with the name* Vuba. *They join reeds into a sharp point, with which they easily pierce through in battles, since they march out completely nude in the manner of wild beasts. They call the [first] arrow* Iurupara; *the one from reed is called* iacoara*, it has a sharp point. Bows are made by them from heavy and smooth wood, almost nine palms long. The cords with which they are bent, are from cotton, but strong. They call such bows* Guirapara, *and* Urapara, *but the wood from which they are made,* Guirapariba *and* Urapariba*, is called* Pao d'arco *by the Portuguese. The cotton cord they call* Guirapacuma*, as reports George Marcgraf ch. 10. These Barbarians make war-trumpets from human bones, which they call* Canguenca. *They also have other war-trumpets made from sea-shells, which they call Tuata, pignacu and the war-trumpets themselves* Nhum bugo acu. *They also use arrows of this kind to catch wild animals in the forests, and fish in the rivers.*

[70] Donatella Saviola (former curator of the American ethnographical collections at the Museum Luigi Pigorini) has indicated that these are probably not Tapuya.

DR 145-148: *Four wooden bows from the Kiriri Indians, from Brazil.*
DR 149-151: *Three javelins with reed points from the Kiriri Indians, from Brazil.*

MLP 3154-3162: *arrows with point and shaft of bamboo - Kiriri, Brazil.*
MLP 3163-3166: *wooden bow - Kiriri, Brazil.*

22. Rush knives

DR 171-174: *Four small rush knives from Brazil.*

23. Caccimbo

B - FE 4, 236: *A Brazilian fruit called* caccimbo *in the shape of a fowl's egg. If you would strip its hairy covering and smooth it, it would show a shining pale yellow surface. It grows on a tree which is called* Priasaba *by the Brazilians.*

24. Gourds

DS 145: *[V]ases fashioned out of American* Gourds, *sent to the* Author *from there*[71] *as a gift.*

B - FE 5, 237: *Gourds from different kinds are also counted. Some of them are half a palm long, others even smaller. They have different forms, but all of them are black. They are decorated with various incisions. Peruvian and Brazilian balsams are stored in them, by which they retain a delicate and quickly evaporating odour. From these, the Brazilian Barbarians make this kind of flasks, drinking cups and vases.*

25 Cocculi

B - FE 8, 238: *Very many cocculi, sent from Brazil, are also counted; they are no larger than hazelnuts, but they have a thick shell and are very hard.*

26. Chestnuts

B - FE 12, 238: *Brazilian Chestnuts of different kinds, some of which have a shell so hard, that they should rather be counted amongst the nuts. They have a chestnut colour, leaning towards black, and are very shiny.*

[71] America.

27. Apeibà

B - FE 13, 238: *A Brazilian fruit called* Apeibà *with an oval shape. It contains a white kernel similar to the Almond under a hard shell, which is prickly like a chestnut's.*

28. Cashews

B - FE 15, 238: *The fruit of the cashew is called* Faba Malaccana *by the Portuguese. There are two kinds: the first, which grows in the Malabarian Empire, has a square-ish and stretched neck; the other, from Brazil, is curved, and is called* Cajous.

29. Beans

B - FE 20, 239: *Brazilian beans, some of which resemble the broad bean, but shaped like kidneys and white with a dark black spot in the middle. Others, however, are smaller, dark black, and decorated with snaking black lines. From these an oil is extracted, which is used to feed lanterns. Others resemble pepper grains, but a bit more oblong, gleaming with a blood-red shell, which a black stain either decorates or disfigures. Other beans are almost round, with the same size as our native beans. Their vivid colour resembles coral, but a third of them is stained with a deep black. They have been brought here from the New Kingdom of Granada.*

30. Vases

B - FE 28, 240: *Other Vases are made elegantly with a lathe from different foreign woods, namely red and white sandalwood; black Ebony, and red, from Brazil, Verzino in the vulgar language (…).*

31. Pao de Sabon

B - FE 31, 241: *Little balls grown on a tree in Brazil, which the inhabitants call Quity. It is called* Pao de Sabon *by the Portuguese, & the fruit* Sabaon.

32. Bread and flour

DS 146: *A piece of Bread from* Brazil*, as well as grain from which the bread is made, rendered from the roots of the otherwise poisonous* Iucca *plant into food safe to eat, and bread, which they call* Mandioc.

B - FE 32, 241: *Nor lacks the flour, which the Brazilians call* Mandioca*, from the root of the fruit which is called* Mandyba.

33. Amber gummi

B - G 24, 245: *Gummi collected in the Brazilian Empire, which you would rather call pure amber. For it is a golden yellow and appears transparent like amber. It flows down copiously from a certain tree, which the Inhabitants call* cagiù.

34. Indian snake

B - P&A, 273: *Besides the Crocodile fastened to another part of the ceiling hangs down the skin of an enormous Snake, which number 38 in the Table shows. Inhabitants hunt it in the Marshes of Brazil to eat, as the Italians do with eels. It equals a length of twelve palms, but a Missionary from our Society in Brazil has reported one case of a Snake of this kind extending to forty palms, which constricted a calf in its coils and devoured it gradually by sucking, like some Snakes gulp down toads.*

35. Greater Brazilian lizard

B - P&A, 273: *From the Brazilian Empire I have received a Lizard, which is called Lagarto by the inhabitants, with a body similar to common Lizards, like number 39 shows. Describing it, Calzolari p. 615 called it the Terrestrial Crocodile.*

36. Armadillo

B - P&A, 274: *Another animal tastes like tortoise as well, the one depicted under number 40, of which skins are in the Museum, frequent in the Mexican and Brasilian Empire.*

37. Brazilian rattlesnake

B - P&A, 274: *Close to the Italian vipers is the tail of the Brazilian Snake drawn under number 43, which Edward Tyson, physician from Londen, calls the Rattlesnake, because the Animal has been provided with a rattle by nature, similar to very many Vipers.*

Appendix II. Catalogue chapter titles

Giorgio de Sepi (1678), translation Davidson 2015

FIRST PART

1. Compendium by which the description of the *Roman Museum* and a series of particular objects is set forth
2. The vaulted ceiling and its mystical significance
3. A description of masks of marble and earthenware vases
4. Concerning various Pictures & Effigies
5. Old images of Heroic Idols of bronze and cut in stone and marble
6. Diverse Monuments of Foreign Languages and Kingdoms
7. Concerning the Obelisks of the Egyptians

SECOND PART

1. The Glassware Gallery
2. The workshop of Ancient and Modern Lights or Lamps
3. Concerning Mathematical Instruments
4. Concerning Magnets and Magnetic Devices and their Functions
5. The Collybistic Art, of Weights and Measures, selected from the ancient Monuments of the *Romans*
6. Exhibition of Exotic Objects collected from all regions of the World
7. Optical, Catoptrical and Dioptrical Experiments
8. The Fruits of the World Underground
9. Hermetic Experiments

THIRD PART

1. Numismatics
2. Concerning Musical Instruments
3. Concerning Thermoscopes, Smicroscopes, and Psychroscopes
4. Concerning Clocks
5. Concerning the Appearance of Perpetual Motion
6. Concerning the Play of little Metal Spheres
7. Concerning the Delphic Oracle

Filippo Buonanni (1709), my translation

FIRST PART

1. Containing Idols, & Instruments concerning Sacrifices of the Heathens
2. Containing Votive Tables, & Votive Offerings
3. Containing Tombstones, & Funerary Inscriptions
4. Containing Oil Lamps
5. Remnants of Learned Antiquity
6. Containing Stones, Fossils, other masses of earth bestowed by Nature with some kind of likeness
7. Has the collection of Foreign Objects, collected from different Regions of the World
8. Exhibited are Marine Plants, trees, & Animals, both Marine and Terrestrial
9. Mathematical Instruments
10. Shown are Paintings, marble statues & Coins of different Kinds
11. Contains observations of the smallest objects made with Microscopical work
12. Containing Shellfish

SECOND PART

Shellfish are described, which are depicted in the fourth part

THIRD PART

Contains different Problems that come to Mind in Observing Shellfish

FOURTH PART

Depictions of the shellfish that are described in the second part