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Research Article

"Authentic provenance." Locality and Colonial Collecting for the Lisbon Zoological Museum, 1860s–1880s

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Nineteenth-century zoological collections consisted of large series of animals, which had been trapped, uprooted, hunted, killed, put into containers, dried, and preserved. From distant far-flung outposts overseas, colonial collections were shipped to central metropolitan institutions where they were claimed as a crucial part of the understanding of global biodiversity. Knowledge about nature was reliant on such scientific specimens and, therefore, dependent on fieldwork, which comprised much more than the act itself of sampling nature. Collecting from the field is a matter of access to places, materials, tools, and people with the know-how to find, capture, and interpret nature and, often, to prepare animals as specimens. Although different layers of labor, expertise, and knowledge lie behind zoological collections, much of it was produced and negotiated outside museums' walls.

Using the historical documentation of zoological collections in the Museu Nacional de Lisboa in the second half of the nineteenth century as a case study, this paper highlights the role of colonial suppliers as mediators for the museum's agenda while adjusting to local circumstances and maintaining their own personal goals. Studies of historical provenance have clarified not only how zoological specimens were gathered and collated but also how their geographical origin was used as a mechanism of centralization of authority.

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Interpreting the natural world was, especially since Linnaeus, a matter of assembling scientific specimens as material evidence of natural bounty and diversity. The physical organization of material collections alongside the use of tools such as cabinets, card indexes, and catalogues has been shown to have an epistemological impact on the understanding of nature. The negotiation between diversity in nature and its controlled representation within the limitations of a cabinet or a catalogue imply a management of information about the characteristics of the sampled specimens, and about the circumstances of where and when they were removed from the field. As the introduction to this issue suggests, collecting practices are not neutral, and result from particular encounters that are both social and political. Authors such as Anke te Heesen, Isabelle Charmantier and Staffan Müller-Wille have shown how eighteenth-century practices of information management and their associated paper technologies also worked as modes of recognizing community and asserting credit.[1] Museum collections represent classic examples of accumulation sites,

[1] Relevant literature includes Heesen, "Accounting for the Natural"; Müller-Wille, "Linnean Paper Tools"; and Müller-Wille and Charmantier. "Natural History and Information."

with images of rooms filled with objects up to ceiling filling our collective imagination. Bruno Latour used the example of the Paris natural history museum to bring attention to museums, as much as laboratories, as sites of calculation and centers of accumulation, where a specific paradigm of information management is made possible.[2] A problem arising from the view of natural history museums as privileged places of interpretation of nature is to overemphasize the museums' claims to authority as an exceptional site for knowledge production when, in fact, collection specimens are products of cultural and political conditions and contexts often instigated by museums but not controlled by them. Accumulation and extractivism, it has been shown, are central features of natural history collections and of western practices of gathering knowledge on natural resources.[3]

Scientific work, as Susan L. Star and James Griesemer demonstrated, requires cooperation and is, by nature, heterogeneous and intersectional.[4] Accordingly, authors Subhadra Das and Miranda Lowe recently prompted interest in finding new approaches to decolonize the study of natural history collections, and consider them as products of social and cultural situatedness.[5] Several new works followed suit and there is now more interest in a nuanced provenance of natural history collections that includes the history of subjugation and colonial labor regimes. As Samuel Alberti has shown, "local contingency of practice and identities" is key to the understanding of collecting practices that go much beyond the amateur/professional division.[6]

In this paper, I look into the nineteenth-century collection management practices as visible from the archival and published materials of the Lisbon zoological museum. As the senior professor of zoology and compared anatomy at the Polytechnic School of Lisbon – Escola Politécnica de Lisboa – EPL, José Vicente Barbosa du Bocage (1823–1907) was inherently the director of the zoological section of the *Museu Nacional de Lisboa*, created in 1861. During the 1860s, Bocage set a program for the development of the collections, the specialization of the assistant naturalists into zoological groups, and invested in the engagement of external collaborators. In this period, several of the museum's publications contributed to the relevance of colonial collections for the affirmation of the Lisbon museum's eminence and for Bocage's scientific and political career. With access to specimens shipped from locations within the Portuguese empire, Bocage became an expert in Angolan vertebrate fauna and subsequently described tens of new animal species and contributed to the improvement of animal distribution studies, what was at the time the growing field of zoogeography.[7]

Tragically, a fire in 1978 destroyed most of the nineteenth-century zoological collections of the Lisbon museum. Examining the archives of the zoological museum, the extant scientific and personal correspondence of Bocage, and the published articles and books nevertheless allows us to draw a picture of how field collecting done by the museum's colonial correspondents played a crucial role in the expansion of the collections and of the museum's scientific and political relevance. Even though the physical specimens no longer exist, their published descriptions, especially in the case of new species, are still relevant and a necessary part of contemporary taxonomical assessments. Understanding the connections between collection objects, their nomenclatures, their geographical localities or origin, and the names of their suppliers – their provenance – is still a key to the history of how zoological specimens are a result of negotiations in the political space of both the field and metropolitan institutions. Provenance research on collections, independent of whether they still exist today or not, reveals relevant mechanisms of how western knowledge about nature is constructed.

In Lisbon, the EPL, created in 1837, was a school for higher technical education responsible for the formation of a new technical elite during the Regeneração period. After the initial decades of the nineteenth century, marked by war and political upheaval, the period after 1851 was deemed one of a regeneration of the body politic, with more relative political stability and investment in techno-infrastructure. The EPL's influence in the social make-up of Lisbon was also seen in a new generation of young colonial employees trained in the schools created during Portugal's period of liberalism, as medical surgeons, pharmacists, engineers, and military and naval officials, pursuing careers in the Portuguese colonial world.[8]

[2] Latour, *Science in action*.
[3] See, for example, Gómez-Barris, *The Extractive Zone*; Saha, "Accumulations and cascades."
[4] See Star and Griesemer, "Institutional Ecology."
[5] Das and Lowe, "Nature Read," 6–7.
[6] Alberti, "Amateurs and Professionals," 116.
[7] Madruga, "Expert at a distance." For the co-constructed nature of biogeography and empire, see also Browne, "Biogeography and Empire."
[8] See Carolino, "The making"; and Simões and Diogo, "Science, Technology and Medicine."

By the end of the nineteenth century the EPL included a chemical laboratory, a meteorological observatory, a botanical garden, and the *Museu Nacional de Lisboa*, officially established in 1861 with separate mineralogical and zoological sections. The museum, as Luís Ceríaco has shown, was initially established to support teaching and as a means to reorganize Lisbon's natural collections under one institution.[9] However, as the collections were organized, the contribution of new collections shipped by young correspondents gained increasingly more weight.

In 1866, in an article on new species of African herpetofauna, Bocage declared including, after each enumerated specimen, the name of the individual who sent it to the museum, as a means to "assure the authenticity of the specimen." He further explained how he wanted to "encourage the discoverer with esteem and acknowledgement for his due part."[10] Associating individual names of suppliers with the specimens in scientific publications, and not just the label or the catalogue, was a common practice. This was a means to acknowledge the unpaid work for the museum and pay due credit to external collaborators, who were not necessarily professional naturalists. By further bestowing these contributors with the epithet of "discoverer," Bocage was enacting a promise of notoriety that was commonly attached to field collecting, as not just new specimens from hitherto unknown locations were arriving, but also new species were routinely described in zoological museums with the help of the incoming shipments. Affixing specimens (and species) to names of individuals contributed to building a relationship of *interessement* between the museum curator and/or author and the individuals responsible for the incoming shipments and appealed to more contributors to "join forces" and therefore provide them with redefined identities as collaborators of the Lisbon museum.[11]

Bocage's goal was to make sure prospective contributors were aware that shipping specimens to the Lisbon museum was an accessible task that gave access to potential honors and distinctions. While in earlier decades collecting in the Portuguese empire was a task performed by either trained naturalists on so-called "scientific expeditions" or the result of diplomatic gift exchange, the way was paved for non-professional contributions. The location of the Portuguese administration's colonial network provided the potential for the Lisbon collections to gain weight as research collections. The presence of Portuguese men interested in collating and shipping natural history products to Lisbon, from the 1860s onward, was a tenuous but serious manifestation of the colonial machine at work.

From the perspective of correspondents mentioned in this paper, their duty as colonial officers was to collaborate in the needs of the liberal institutions in the metropolis. During their service, many of them produced written reports on acclimation, phytosanitary conditions, geographical (orography, hydrography, cartography) descriptions, or military strategies and diplomacy adapted to specific colonial areas. Others, from higher social backgrounds, were local governors of provinces, and fulfilled other roles in the overall colonial administration. Their expertise derived from their firsthand experience in the colonial territories, and many published reports and books on the topics of colonization. As army or navy employees, journalists, secretaries of specific official committees, and even as authors of reports on specific issues, they shared a common expertise derived from serving in the colonies and contributed to the betterment of the colonial regime in their own ways.

When faced with the issue of a proper format in which to describe suppliers of zoological collections, several authors have pointed out that each "sense of 'collector' has a corresponding sense of 'collection.'"[12] In turn, the English language provides an additional problem, as there is no clear distinction between "collectionneur" and "collecteur" as in other European languages, like French or Portuguese. Therefore, a proprietor of a private collection, the *colecionador*, is often taken as a collector as much as the individual who gathered, the *coletor*, who amassed plants or animals after they were plucked or killed. These two socially and spatially distinct endeavors are entangled, and often conflated, especially when the action of "collecting" is concerned.

In their position as correspondents of the Lisbon museum, and while situated in colonial localities, they indeed collated specimens from various local origins and in so doing, were also local "collectionneurs." Just as Bocage continuously advertised that he was looking for more and new specimens, so too, his correspondents were increasingly known locally as middle-men for the Lisbon museum. In fact, to complicate matters, I find that it was their locally known status as individuals who were looking for animals or would pay for animals

[9] Ceríaco, "A Evolução da Zoologia," 281–285; See also Felismino, *Saberes, Natureza e Poder*.

[10] Bocage, "Lista dos Reptis," 39 (this translation is my own, as are all the other translations in this article).

[11] Callon, "Some elements," 206–211.

[12] Lucas and Lucas, "Natural History 'Collectors'," 68.

that provided them with more contacts from interested local anglers, hunters, gatherers, and other people interested in a job or in a trading opportunity. The fact that the word "collector" is used to conflate different positions, including associations with a reductionist and neutral stage of knowledge gathering, has become more and more problematic. Recently, Yann Legall and Sebastian Sprute called out how considering a supplier of ethnographic collections as, for example, an "amateur ethnographer" who "collected" is not just no longer an acceptable simplification but, more relevantly, implies an awkward neutralization of local interactions and positions.[13] The category of "collector" can and should be critically revised by researchers, museum professionals, and in contemporary museum labels and catalogues. Seemingly, "collecting" and "collector" will continue to be ambiguous words, often hiding contexts of subjugation and power inequality.

What is more, a conflation of these two roles also appears in Portuguese nineteenth-century sources. On several occasions Bocage acknowledged suppliers for their skills as a "coletor" but would still use the practice of "coleccionar" (instead of the verb "collectar") to describe what he would like them to keep doing.[14] The various labor distinctions were in that period also used interchangeably, which could suggest this discussion is a dead end. Nevertheless, in this paper I favor the use of expressions such as "correspondent" and "supplier" to describe the contributions of the individuals mentioned, in an attempt to highlight their role as local amassers and mediators.

If the sources are sketchy when it comes to the biographical details of some of the suppliers mentioned here, they are more often than not indifferent and opaque when it comes to the role played by the "invisible technicians" who locally helped the suppliers with their labor, possibly under unfair and unequal conditions.[15] In the 1996 *Osiris* volume on "Science in the Field," McCook's contribution uses Shapin's concept of "invisible technicians" to establish that "field collectors could not easily be written out of the story of how natural specimens were obtained."[16] With the case study on the Lisbon contributors it will be made clear that most museum suppliers were indeed part of the specific scientific literature that consists of shorter or longer descriptions of new specimens received and analyzed by museum curators. That being the case, the situation in which those shipments were collated on the ground, the local contexts of labor and access, and the many local co-collectors were, and often remain, absent. Contrary to other cases mentioned in the literature, no conflicts of authority erupted between museum naturalist Bocage and his colonial (non-professional) collaborators.[17] Bocage's expertise was not questioned by colonial suppliers who prepared the occasional shipment and knew that in the social environment in Portugal there was no evident gain, economic or otherwise, to be made in natural history alone, as even assistant-naturalists had a weak professional standing in this period.[18]

This paper contributes to an understanding of the heterogeneity of collecting practices and the role of personal agendas, and to fostering a more critical definition of scientific labor and practices, especially taking scientific collections as part of the colonial archive. In the following three sections, I focus on the establishment of networks of colonial correspondents and the gift economy that lies behind natural history collections; the mediation role behind the collecting practices; and the inscriptions of locality in catalogues and publications as means to acknowledge work outside the museum and simultaneously reiterate the authority of the museum.

Colonial Networks and the Gift Economy

In 1861, in his correspondence with Leiden zoologist Herman Schlegel (1804–1884), Bocage complained, frustrated that whenever he needed to compare information on African species, he often needed to request specimens from London or Paris.[19] One year later, Bocage published *Instrucções praticas*, a guideline with instructions on how to collect, prepare, and ship animal specimens to the museum, in the hope of engaging a network of Portuguese field collectors that could reach beyond Lisbon.[20] The instructions contained guidelines to finding, capturing, and collecting animals in nature, shared proper conservation techniques

[13] Legall and Sprute, "Steile Thesen."
[14] Dores, *Como se adquire*, 173.
[15] Shapin, *Social History of Truth,* 355.
[16] McCook, "'It May Be Truth,'" 179.
[17] Endersby, *Imperial nature*, 93, 137.
[18] Madruga, "Taxonomy and Empire," 27–28.
[19] Bocage to Schlegel, 12 January 1861. Leiden, Naturalis Biodiversity Centre Collection Correspondence Archives u. Museum Lissabon.
[20] Bocage, *Instrucções praticas.*

and formulae, and assured prospective collaborators that by shipping materials to Lisbon they would become part of the nation's scientific advancement. Like many natural history museum instructions, it included a *desiderata* – a list of relevant material lacking in the museum collections published in order to enlist contributions in specific areas of, in this case, zoological groups. The aim of this publication was to engage the largest audience possible, and to "challenge the solicitude of our fellow citizen overseas."[21] The *Instrucções* were distributed among the colonial governments in the Portuguese empire, which at the time stretched from Cape Verde, Guinea Bissau, São Tomé, Angola, and Mozambique in Africa; to Goa, Macao, and Timor in Asia. Copies of the instructions were directly sent to the governor of Mozambique, appealing to his "patriotism," and persuading him to "promote the acquisition and shipment of the animals that inhabit the interesting region" under his command.[22]

Issuing questionnaires from the metropole to the colonies with the purpose of accessing information from distant realities was not new and not limited to natural history museums. The history of the production of instructions as a means of imperial control, as observed by Podgorny, transcends national empires, administrative reforms, revolutions and ruptures in political orders.[23] Several authors analyzed instructions as an epistemological tool to modulate observations and control what and how was collected.[24] Indeed, the publication and distribution of the 1862 *Instrucções* advertised the Lisbon zoological museum as a receiving social space to which colonial officers could contribute, and further their career as well as the advancement of national science. Besides the zoological museum, another scientific institution in the EPL was also interested in engaging a network of colonial contributors: the Meteorological Observatory Infante Dom Luiz – IDL. The first directors of the IDL observatory sought to establish a "meteorological league" of collaborating observatories spread across the Portuguese territory.[25]

In fact, at least two correspondents positioned in colonial outposts contributed at the same time to the IDL and to the zoological museum. During 1861, Francisco António Pinheiro Bayão (1833–1883) who was in his second army post in Luanda, Angola, established the Luanda meteorological observation site, produced regular meteorological notes, and sent monthly reports back to Lisbon.[26] And, in 1864, on top of his medical and clerical duties in Cape Verde, Manoel Leyguarda Pimenta sent meteorological datasets to Lisbon which were mentioned in the IDL annual reports as the single observatory within the African colonies "currently in implementation and prepared for climate studies."[27] As Pimenta and Bayão corresponded regularly with the IDL, sending their observation series, they also shipped specimens to the zoological museum in the EPL. During the period of their correspondence with both scientific institutions, their daily observations and regular correspondence kept Bayão and Pimenta in close ties with Lisbon.

Many others enrolled as suppliers prompted by their positions in the colonial structure, as physicians or pharmacists, as army or navy officials and government representatives, or as journalists, missionaries, and entrepreneurs. Many of these correspondents had had generic training in natural history provided in the EPL, army and navy schools, and medical schools. Surgeons and other members of the medical profession were also apt to follow the intricate preparations and preservatives formulae. Colonial doctors or pharmacists had access to a particular set of skills, and a familiarity with materials and instruments of taxidermy and conservation.

Pickling zoological specimens required large amounts of alcohol, as well as sturdy glass jars or metal containers, which in turn required wax, or other sealing agents, with which to properly secure lids and to stop the alcohol solution from evaporating during the ocean voyage. These were not always available materials and suppliers often complained about the lack of proper conditions, excusing themselves over the less than ideal state of their shipments.[28] In order to pursue work for the Lisbon museum, prospective collaborators were invited to contact the museum directly in case they needed technical information or to

[21] Dores, *Como se adquire*, 173.

[22] Bocage to the Governor General of Mozambique, 1863.03.28, letter and reply transcribed in *Boletim Official do Governo Geral da Provincia de Moçambique*, 1863 (13), 58–61.

[23] See Podgorny, "Las Instrucciones," 34.

[24] On the literary form of questionnaires and instructions, see Collini and Vannoni, *Les Instructions Scientifiques,* and Jarvis, "'Take with You'." On the connections between standardization and imperial control, see also Kury, "Les Instructions de Voyage" and Bourguet et al, *Instruments, Travel, and Science.* For an analysis of the content and form of the *Instrucções*, see Madruga, "Taxonomy and Empire," chapter 2.

[25] Silveira, "Introducção," vi.

[26] Biographical information on Bayão taken from the personal files at the military archive in Lisbon. AHM, Processos Individuais, Cx. 1717; AHM/G/LM/A-02/22/0077; and AHM 1146 Cx. 903.

[27] Silveira, "Relatorio," 4–5.

[28] Madruga, "Taxonomy and Empire," 67–68, 142.

be compensated monetarily for the purchase of natural objects locally. Certain procedural arrangements were required, for example, for the specialized duties of specimen preparation and adequate transport. Director Bocage often emphasized to his correspondents that he would "promptly help" with any needs and supplies such as "any drugs for skin preparation," if these were not found locally.[29] In fact, most of the specimens arriving in Lisbon from the colonies included expense receipts.

Another correspondent of the zoological museum, Pedro Craveiro Lopes, a colonial administrator in São Tomé, wrote to Bocage in 1869 to request a compensation to cover the expenses he had made procuring and preparing specimens. He also asked for an *almude* (*ca.* sixteen liters) of alcohol to restore the quantity he had already used from the local pharmacy. Lopes further insisted he preferred to have more suitable equipment in order to get better preservation results, and requested an alembic to distil his own alcohol in the future and, "if that can't come immediately," a second portion of alcohol to get him started in the preparation of a new shipment. He was particular about some of the instruments and petitioned "2 dissection knives, one small, another large; 4 scissors (two straight and two curved); 4 scalpels; [and] a quantity of canisters." He included a note with the "expenses made with the objects sent."[30] This informal receipt differentiated between various items: the cost of the transport containers; the price of the steamship ticket; the fee of 800 reis for two of the snakes; including the "payment to the 2 men who captured the [sea] sponges – 2000." Lopes added that "all the rest was offered or collected without expenses."[31] Correspondents, too, used the language of the gift to their advantage by making sure there was a record of the lengths they went to and their dedication to the museum's interests. Whenever possible they would detail the multiple tasks of logistical and manual labor involved. The construction of the centuries-long Portuguese overseas empire had traditionally included a gift economy of natural and artificial products sent by colonial governors to the crown, and live or dead animals were always a part of the representations of exotic lands and power over distant territories.[32]

Although there is a notable continuity to the vocabulary of the "gift" – most of the specimens were described as "offers" – new shipments were often paid for from the museum's budget, a possibility duly publicized in the various colonial bulletins accompanying the distribution of the museum's instructions. This practice notwithstanding, the museum seemingly reinforced a perceived relationship of symbolic trade through scientific publications. In his effort to engage not only occasional but steady and long-lasting suppliers, in the tradition of natural history knowledge practices, Bocage regularly acknowledged successful relationships with suppliers, offering new taxonomical names in their honor (patronyms) and, on one occasion, petitioned for a recognition in the form of an honorific medal of the military Order of Christ.[33] There was also a somewhat more tangible retribution when Bocage himself helped further their careers by writing recommendation letters describing the value of their contributions for the national museum and asking for the acknowledgement of that work.

The flow of circulation between Bocage in Lisbon and his collaborators in the colonies was not unidirectional. For every shipment of zoological products arriving successfully in Lisbon there were at least as many letters, receipts, and boxes travelling in the opposite direction. The gift economy represented in museum catalogues and publications recording specimens as "received from" or "a gift by" was enacted in a similar flow in the other direction of both physical supplies and social recognition. On the one hand, correspondents received materials, tools, and specialized instruments to perform the various tasks of fieldwork, as well as monetary compensation for expenses declared. On the other hand, contributors received recognition as participating members of the construction of new knowledge through the mention of their individual names in scientific articles, and on certain occasions were granted the honor of having their name associated with a new species. The act of mentioning suppliers and donors by name in taxonomical listings worked on different levels. It was simultaneously a measurement of recognition of the work done outside the museum's walls, and a reinforcement of the museum's authority as the place of the production of new species and of published knowledge.

Museum correspondents acted in fact as representatives of the metropole and, at their scale, stockpiled information and specimens by locally brokering natural knowledge. Thus, a picture emerges of a network,

[29] Bocage cited in Dores, *Como se adquire*, 173.

[30] Lopes to Bocage, 8 September 1869, AHMB/DIV 120.

[31] Shipment from Lopes, s/d [8 September 1869], AHMB/DIV 120c.

[32] See Davis, *The Gift*; and for studies on the meanings of "exotic" see Simões, "Non-European animals"; and Martinho, "Rhino horns."

[33] Bocage to Navy Ministry (draft), s/d, AHMB/DIV 111.

with its center in Lisbon, with multiple nodes scattered across the Portuguese empire, from whence shipments of animals were identified, prepared, and shipped. These nodes appeared and disappeared as time went by, and there needed to be constant efforts to engage old and new correspondents through the continuation of a meaningful gift economy.

Collectors and Mediators

At the same time as Bocage was issuing the *Instrucções*, the Portuguese crown communicated to the several colonial provinces the desire to establish local museums with their respective natural products. Indeed, the context of national and international exhibitions of national and colonial products of science, industry and commerce prompted the creation of museums of colonial products all over Europe. In 1863, a directive from the colonial government of Cape Verde appointed Pimenta as responsible for the collection of specimens for a future natural history museum planned for the main island of Santiago. In 1865, Pimenta's role in the colonial administration was changed to "responsible for the collection of natural history products for the national museum," extending his reach from the apparently defunct project of a local museum to the national museum in Lisbon.[34] Inside the colonial government, he was part of the commission to organize Cape Verde's participation in the 1865 International Exhibition in Porto, which featured products from the all over the Portuguese colonies and, in the spirit of the time, aimed for a public representation of the nation.[35] It is fair to assume that the idea of creating natural history museums in the colonies was prompted by the successful representation of Portuguese colonial products at home and abroad, in European international exhibitions. Still, it is unclear whether there was in fact, as Antunes claimed, a "colonial policy" in place at the time.[36]

The collation of colonial natural history objects, especially before the era of field stations, was heavily reliant on "lay participants," socially diverse actors who were obscured by the specific workings of eighteenth- and nineteenth-century scientific practices.[37] An analysis of the different roles of suppliers hints at the local engagement of these other actors. Outsourcing collecting skills and finding the best local helpers was also an important ability to encourage, for "in localities where [reptiles] abound one should find people who know them and know how to hunt them; these are the best collectors to employ."[38] Different socio-professional responsibilities were in place, and the collector was presented as a mediator between local knowledge and local techniques of capture, and the transformation of the animals into prepared specimens ready to be shipped. Suppliers mediated between the museum standards and local conditions, as well as understanding the basic preparation techniques and shipment procedures. The instructions elaborated in detail the best opportunities to procure specimens, suggesting that "beside visiting the markets, one should wait the arrival of fishermen at the coast to obtain from them the species they usually dismiss."[39] Collecting for the museum was, in this sense, collating and organizing sources of material. The use of phrases such as "was brought to me" or "the fishermen caught them," readily found in the available correspondence, reveals implicit participants and points to the local mediating role of the museum contributors as go-betweens operating between the metropolitan museum and the local circumstances.[40] They were mostly amassers of materials, and acting as local representatives of the museum's interests they themselves became recognized locally for the trade of dead and living animals.

The establishment of a local museum in one of the colonial cities was to Bocage a waste of valuable research resources and endangered the possibilities of reference collections and collection-based knowledge production in Lisbon; a network of suppliers, albeit irregular, was easier to control and to steer. The more reliable and constant the flow from colonial suppliers, the more reliable the Lisbon collections could become as reference collections. As such, in 1865, Bocage tried to convince Bayão to become a systematic, professional field collector, working directly for the Lisbon museum on a stipend. However, at the time, Bayão was discouraged by his then unfavorable situation with the colonial government in Luanda, and an underpaid career as a museum collector was not a great incentive. Instead, Bayão suggested José de Anchieta (1832–1897) take that paid position as a professional naturalist and Anchieta ended up spending

[34] "Portaria 101 [1866.05.01]," *Boletim Official*.
[35] See also Hoffenberg, "'A Science of Our Own'."
[36] Antunes, "Museus e Ciência," 6.
[37] On the discussion of "lay participants," see Vetter, "Introduction: Lay participation."
[38] Bocage, *Instrucções praticas*, 32.
[39] Bocage, *Instrucções praticas*, 34.
[40] On mediation in the construction of knowledge, see Raj, "Go-betweens."

thirty years in the Angolan interior, where he became a systematic collector for the Lisbon museum.[41] As for Bayão, he only collected for the Lisbon Museum from 1863 to 1866, when Anchieta took on his position. Aside from the stipend for Anchieta, which Bocage justified with the interest (both scientific and political) of the study of the Angolan interior regions, there were no other official positions created for colonial suppliers.

In Cape Verde, after pharmacist Pimenta passed away after a yellow fever outbreak, a sequence of colonial doctors took over and maintained an occasional contact with Bocage in Lisbon, through to the 1880s, while they were on colonial duty. From other scientific geographical localities of interest, such as the islands of São Tomé and Príncipe, in the gulf of Guinea, during this period, the Lisbon museum received shipments from two main suppliers, both exclusively during the time when they were colonial administrators. The Lisbon museum depended on the time and availability of colonial outposts for the colonial collections – for its relevance in terms of the relative position of the Lisbon museum in Europe. Museum correspondents depended on local circumstances, their specific geographical location, their spare time, and their class and social standing in order to be able to contribute regularly to the museum. Individual suppliers (and their biographies), physical specimens, and the geographical localities they represented were all embedded in the colonial structure of the Portuguese empire.

Pimenta, for example, who corresponded with Bocage between 1865 and 1866, sent during this period several shipments of zoological specimens. With one of his shipments, he attached a report on the specimens which included notes on habitat, behavior, and common usage of some of the mollusks, reptiles, and insects he collected. Pimenta revealed himself keen to pursue a lasting relationship and wrote to Bocage that he would "make all diligences to gather the most specimens for the Lisbon museum."[42] Although his first shipments were unsystematic and did not follow any particular plan, with the addition of this eight-page report Pimenta wanted to differentiate himself from other correspondents. Pimenta expected to further his career and asked for Bocage's help in getting a better, and more consolidated, social status than what he enjoyed as a colonial pharmacist. He was keen to show himself as an irreplaceable node in Bocage's network of collaborators.

One salient strategy used by Pimenta to assert himself as a go-between for the museum was to repeatedly instigate Bocage to commission him to also travel to Guinea (present day Guinea Bissau), so that he could be of service to the Lisbon museum, following the governor's next visit to the African coast. Pimenta urged Bocage to take Guinea under the museum's "scientific protection," reminding him that it was a geographical locality of interest because it was "a very rich country for science and yet unexplored."[43] Just before the opportunity to collect in Bissau, which finally happened in January 1866, Pimenta made the acquaintance of a French taxidermist, Beaudouin, who lived in Guinea Bissau and had travelled to Santiago in Cape Verde to recover from arsenic poisoning. Pimenta introduced him to Bocage as a once in a lifetime opportunity to purchase a collection of Guinean fauna. Pimenta thus became a go-between between Bocage and the French taxidermist, and insisted with Bocage and wrote again only two weeks later describing Beaudouin's reptile and bird collections, and how there was a rare Guinean ram for sale. In the end, Bocage authorized a transaction and Pimenta acted as the official go-between for the museum of Lisbon in Cape Verde.[44] Pimenta illustrated his mediating role by writing to Bocage that he hoped "he will not charge [him] too much for his preparations" because Pimenta already had "the opportunity to pay him favor in these islands."[45]

Inscriptions of Locality

In the headings of a manuscript inventory of the Lisbon zoology museum from the 1880s, seven categories are recorded for each specimen: "Designation, Age, Sex, Locality, Provenance, Condition, Observations."[46] Taxonomical information on genus and species was recorded under the column for "designation" and the information on the supplier was recorded under "provenance." The history of the accession of each specimen, its provenance, was clearly disambiguated from its geographical origin, its "locality." In such an inventory, similar to many other zoological collection catalogues elsewhere, there is a limited number of columns which contain the key features to allow for a prompt and correct identification of a physical object in the

[41] Madruga, "Taxonomy and Empire," 130.
[42] Pimenta to Bocage, 15 March 1866, AHMB/CN P 14.
[43] Ibid.
[44] Ibid.
[45] Pimenta to Bocage, 14 January 1866, AHMB/CN P 13.
[46] "Catalogo geral d'osteologia," s/d, AHMB, Rem 032.

collection storage. Measurements of the physical objects, documented for the purpose of morphological comparison, are published as part of descriptions in scientific publications and are customarily not part of zoological inventories and catalogues. Other associated data was noted in shipment manifests and kept along with the correspondence and receipts associated with each incoming shipment. However, limited as the space is in a general catalogue, information of not only "locality" of origin but also of "provenance" was considered just as relevant, because it often acts as short-hand for the connection between each specimen and the associated documentation. Provenance, or the way in which specimens made their way into a scientific collection, is a part of the production of knowledge on nature. Recording and managing the information on provenance, which can be the name of a supplier, a trading house, a zoological garden, or an expedition, helps retain the thread between the specimen and the circumstances in which it was originally captured. In fact, the provenance history of physical specimens held today in museum collections was, and still is today, part of scientific publications and, therefore, a function of collection-based knowledge, including taxonomical and biogeographical knowledge. The metadata that accompanies collection objects and clarifies where, when, and how specimens were collected in the field is at the core of research on colonial, labor, and environmental history.

Access to specimens is related to the logistical access to specific geographical localities. Documenting a new geographical locality for a known species provides new data for geographical distribution maps. On the other hand, when it comes to registering a new species with its locality of origin, geographical localities of new species are not necessarily spread evenly across the world. Mountain ranges have inaccessible stretches, and it is estimated that remote ecosystems and ocean depths can still reveal unknown species. Type localities are associated with each type specimen – individual specimens used to determine new species. Knowledge about biodiversity and geographical distribution of species is dependent on access to geographical locations, and the infrastructure and logistics of transportation available. In fact, in 2007 a study on recent descriptions of new mammal species found that biases in taxonomical knowledge and geographic localities are "clearly intertwined."[47] This means that data on biodiversity is heavily determined by human access and human presence in a particular region.

The available results of fieldwork are determined by access to specific geographical localities, and in subjugated territories in colonial systems, fieldwork was made possible by colonial infrastructures. In the Portuguese colonial system, the *Instrucções* were sent directly to governors. The Angolan official colonial bulletin, for example, mentioned that the Governor should distribute the *Instrucções* "to the people he finds apt, recommending that they employ all diligence into finding and shipping to the Lisbon museum the different zoological products of the various localities where said individuals reside."[48] Each locality controlled by the colonial government could, in theory, become a scientific locality in zoological catalogues. Local names were also referred to in the collecting manual and considered as part of the animal's basic report. Suppliers should record the "common name in the localities where it comes from."[49] Colonial recording practices of using local vocabulary were not only a measure of appropriation and control, but could also stand for and validate the physical presence of imperial forces in contested territory. In a sense, building a collection of specimens from a given region was a way of keeping a record of military and colonial advancement. Origin localities as well as the local common names for animals were registered in institutional catalogues, and, more prominently, also published alongside lists of specimens, when species were described, as in this example of a venomous viper:

> The indigenous names of *C[ausus] rhombeatus* vary according to localities: *Quimbanda* in S. Salvador (Bishop of Himeria); *Quimbolo-bolo* in Cassange (Capello and Ivens); *Bandangila* in Caconda and *Cucuta* in Quindumbo (Anchieta).[50]

In this quote, Bocage links the occurrence of a species with geographical localities, individual contributors, and the local common name for the species which, according to the *Instrucções,* was information gathered locally by the suppliers and should be associated with the physical specimen. Thus, the different collaborators stationed in the field conveyed a geographical validation for the scientific locality through the information they gathered on common names spoken by specific ethno-linguistic groups. Scientifically, local common

[47] Reeder et al., "Global trends and biases," 30.
[48] *Boletim Oficial do Governo Geral da Província de Angola*, N°869 (31.05.1862).
[49] Bocage, *Instrucções praticas*, 24.
[50] Bocage, *Herpétologie*, 146.

names were important data for subsequent collecting efforts, and could even help distinguish between disparate species. Politically, Bocage was publishing names of individual suppliers, attaching them to specific localities under colonial control, and using their local knowledge-gathering skills as an announcement of the development of Portuguese colonial research.

Specimens from specific and "as yet unknown" localities were important in research on animal geographical distribution, and contributed to the establishment of the museum of Lisbon as a meaningful node in European zoological museums. In 1866, for example, Bocage wrote that, except by his intermediation, "no museum in Europe has received any authentic specimens" from the specific location of "Duque de Bragança" – today's Kalandula, Malanje, in the interior of Luanda.[51] What he meant, and that is still verifiable in contemporary online repositories of biological data, is that the scientific locality of "Duque de Bragança" was attributed to all the specimens shipped by a singular individual stationed there: Bayão. Correspondingly, all duplicate specimens with scientific locality from the colonial denomination "Duque de Bragança" are associated with Bayão and, if they exist in other collections in Europe and America, they were according to Bocage "received by trade with the Lisbon Museum."[52]

A scientific locality is thus the result of concrete access to a given site by a distinct set of individuals. Zoological publications and scientific catalogues function as a testament to biodiversity as much as they are a historical testament to the political landscape of occupation and territorial appropriation. Access to certain natural environments is dependent on multiple factors, and in some cases, the geographical bias in catalogues and collections is a result of decades of colonial presence.

Conclusion

By associating the name of each supplier with each specimen mentioned in scientific articles, names of individuals granted the specimens in the collection with reliable information. For Bocage, this was a method of assuring "authentic provenance." This process entangled physical specimens, individual suppliers, dates of collection, and concrete geographical localities. From the perspective of the Lisbon museum, the particular location of each stationed colonial officer was stable and dependable and their descriptions represented trusted and "authentic" scientific localities. From the perspective of the colonial correspondents of the museum, collaborating with metropolitan institutions was a break from other colonial duties and a means to progress in their colonial careers.

The makeup of scientific locations recorded in the Lisbon collection catalogues was associated with the colonial locations where colonial contributors were stationed, and were conventionally taken as reliable geographical provenance, fashioning the arriving specimens as trustworthy and "authentic." Within a history of extraction and dislocation of samples of nature, it is interesting to note that it was the fixed nature of the locations of colonial administrators, officials or pharmacists, who were not as mobile as travelers or explorers, that was what endorsed the possibility of "authentic provenance" for the museum's collections and what made them most valuable. Provenance research plays a relevant role in the investigation of how collection-based knowledge in western museums is a product of a negotiation of particular circumstances. Zoological specimens embody the building blocks of western knowledge about nature and continue to contribute to on-going research. The historical context of how they were identified, hunted, and prepared in the field is as much part of their significance as how they were measured, inventoried, and managed after their accession as collection objects. Original geographical locations and the provenance history of each shipment bring to the fore implicit actors and underlying gift economies.

Taking examples from the contributions of colonial correspondents of the Lisbon zoological museum, this paper aimed to situate the role of suppliers as a crucial part of the understanding of meanings and knowledge production At the same time as they complied with the museum's instructions and scientific agenda, suppliers added their locally acquired expertise and adapted to local circumstances. The circumstances of colonial collecting practices underline a nexus between the network of engaged individuals who gathered and mediated crucial local data from colonial locations and the growth of the zoological museum catalogues in the number of new species and specimens from hitherto unrecorded geographical localities. Collections in the zoological section of the Museu Nacional de Lisboa grew in number and specialization during the second half of the nineteenth century, largely owing to the engagement of contributors stationed in various locations of the then Portuguese empire.

[51] Bocage, "Lista dos reptis," 38.
[52] Brygoo, "Les Types de Scincidés," 90.

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