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On the Writing of History of Science in Brazil in the Second Half of the 20th Century: What is inside and outside?

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Abstract:

The present article is elaborated in two parts. In the first part, we present a survey of authors and their works that throughout the second half of the 20th century, developed significant references for the history of science in Brazil, establishing and consolidating this field of studies in the country, with an exacerbated emphasis on the historical aspects that occurred in Minas Gerais, Rio de Janeiro and São Paulo. In the second part of the article, we present a concrete historical experience in the 19th century, in the province of Ceará, totally disregarded by the traditional and the current historiographic production of history of science. This situation ultimately raises the question: What is the history of Brazilian science? What are the determinants of the history of science in Brazil? To what extent is the history of science in Brazil national?

Keywords: History of Science, Natural History Museums, Brazil, Ceará, 19th and 20th century.

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Science, Ideas and Explanations

In 1956, the Brazilian sociologist from Minas Gerais and based in São Paulo, Fernando de Azevedo, published the book *A Ciência no Brasil* [Science in Brazil] (Azevedo 1956),² the result of a commission made by the Larragoiti foundation, an institution created in 1950 by *Sul América Companhia de Seguros de Vida* [South America Life Insurance Company] (SulAmérica). Fernando de Azevedo's work was the third book published by this foundation. The first publication was *As Artes Plásticas no Brasil* [Plastic Arts in Brazil], by Rodrigo Melo Franco de Andrade. The second was *Literatura no Brasil* [Literature in Brazil], by Afrânio

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² In 1943, Fernando de Azevedo wrote *A Cultura Brasileira* (3 volumes), a work in which the author had already made observations concerning the sciences in Brazil, some of these considerations taken up for the new book of 1956.

Coutinho. The fourth and last work printed was *A Medicina no Brasil* [Medicine in Brazil], which was under the responsibility of Leonildo Ribeiro, physician and Director of the Larragoiti foundation (Oliveira 2016, 496). Notably, the foundation's name was a tribute from the company's controlling family to its creator and patron of the family: Dom Joaquim Sanchez de Larragoiti Lucas.³

Azevedo's book and the other works published under the same heading were not just simple works published in one of the many editorial collections in vogue in Brazil motivated by the editorial boom of the 1940s and 1950s. Instead, by selecting renowned and recognized authors in their respective areas, the objective was to create a reference work, a work of synthesis that would guide its readers towards what was most characteristic of cultural and scientific advances at the time. Imbued with this spirit, Fernando de Azevedo (1956) organized a collective work, in two volumes, with 14 chapters,⁴ in which he stated that the sciences in Brazil following all scientific requirements, it is the exclusive result of the University of São Paulo - USP, founded in the city of São Paulo in 1934. It is necessary to emphasize that Azevedo was one of the educators who participated in the movement to create USP, and it is not surprising to defend such an understanding.

A more assertive response to the proposition that determined the beginning of science in Brazil with the founding of USP came to light 21 years later with the Brazilianist Nancy Leys Stepan, who published in 1976 the book: *Beginnings of Brazilian Science: Oswaldo Cruz, medical research and policy 1890-1920* (Stepan 1976a). In this work, the author argues that science in Brazil began in the 20th century, but not with the creation of USP, as stated by Fernando de Azevedo. On the contrary, for Nancy Stepan, creating the *Instituto Soroterápico Federal*,⁵ [Federal Serum Therapy Institute], nowadays named Fiocruz, was the beginning of academic science in Brazil. It is not by chance that Fiocruz itself endeavored to arrange for the translation and dissemination of Stepan's book in Brazilian soil, still in 1976, with the title in portuguese: *Gênese e evolução da ciência brasileira: Oswaldo Cruz e a política de investigação científica e médica* (Stepan 1976b).⁶

Subsequently, in 1978, the sociologist by training José Murilo de Carvalho published a very expressive work, *A Escola de Minas de Ouro Preto: o peso da glória* [Ouro Preto's School of Mines: the weight of glory] (Carvalho 1978). The great merit of Murilo de Carvalho's book is that it leaves the limits of the 20th century and sheds light on scientific activity in the second half of the 19th century, in Minas Gerais, beyond the Rio de Janeiro and São Paulo axis. In this way, the spaces of performance of scientific activities in Brazil came to include, in academic historical studies, the Minas-Rio-São Paulo triad.

It is noteworthy that in this work, the young author who would gain projection and notoriety among Brazilian historians in the 1980s was still a recent Ph.D. in Political Science with a thesis defended at Stanford University, in the United States, in 1975.⁷ The thesis was

³ Historical Information of the Sul America Insurance Company available at:

<https://portal.sulamericaseguros.com.br/institucional/sobre-a-sulamerica/historia/>

⁴ The book was written in Portuguese and the chapters of the book are: "Mathematics in Brazil"; "Astronomy in Brazil"; "Physics in Brazil"; "Meteorology in Brazil"; "Geology and Paleontology in Brazil"; "Mineralogy and Petrography in Brazil"; "Geography in Brazil"; "Chemistry in Brazil"; "Zoology in Brazil"; "Botany in Brazil"; "Biology in Brazil"; "Psychology in Brazil"; "The Political Economy in Brazil"; "Anthropology and Sociology in Brazil".

⁵ After several changes since the 1970s received the name Oswaldo Cruz Foundation - Fiocruz

⁶ In an article about the academic production of Nancy Stepan, retired professor of Columbia University, Simone Petraglia Kropf and Gilberto Hochman attest that the book was published in Portuguese in the same year of publication of the original in English, with omissions of notes and of the original bibliography. See (Kropf and Hochman 2011, 391).

⁷ In Brazil, José Murilo de Carvalho's Doctoral Thesis was initially published in Portuguese separately in two books: *A Construção da Ordem: A elite política imperial*. Rio de Janeiro/Brasília: Ed. Campus/Ed. da

on the “Elite and State Building in Imperial Brazil”. Carvalho was invited by his fellow Simon Schwartzman, a Brazilian sociologist, who at the time coordinated a research project of the *Financiadora de Estudos e Projetos – Finep*⁸ [Founding Institution of Studies and Projects], on the history of science in Brazil, to record the “glories” of the traditional school of mines.

Soon after, another work on the history of science was published. The sociologist Simon Schwartzman published, in 1979 the book: *Formação da comunidade científica no Brasil* [A Space for Science: the development of the scientific community in Brazil, English language version published in 1991] (Schwartzman 1979).⁹ Commissioned by Finep and had the consultancy of sociologist Joseph Ben-David (Edler 2015, 29).

Unlike his predecessors, the author was not concerned with determining where true scientific matrix knowledge (understood as logical, rational, pragmatic and European) “was born or gestated in the country”. In this project, the author had more freedom to develop a thorough overview and address what he called the 18th-century heritage,¹⁰ presenting with more acuity the scientific activities of the 19th century, with an emphasis on naturalists, higher education, engineering and mining, and in medicine and surgery. Thus, Schwartzman’s book drew attention to scientific practices in Brazil hitherto disregarded.

The final years of the 1970s were a very fruitful period for the history of science in Brazil. In addition to the works of Nancy Stepan, José Murilo de Carvalho and Simon Schwartzman, the publication of a collection on the scientific theme came to light. Entitled *History of Science in Brazil*, Mário Guimarães Ferri and Shozo Motoyama organized a work in 3 volumes, printed in 1979, 1980 and 1981. Although respectively the two organizers were professors from USP, Ferri was a biologist and Motoyama was a physicist by training but with a strong interest in the history of science and a pioneer in the history of science at the History Department of USP (Silvia 2021, 635-637). Their book was financed by the *Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPq* [National Council for Scientific and Technological Development] and published by *Editora da Universidade de São Paulo – Edusp* [São Paulo University Press], in partnership with *Editora Pedagógica Universitária – E. P. U.* [University Pedagogical Press], (Ferri & Montoyama 1979-1981).

Given this scenario, we open a quick parenthesis to mention the research carried out by professor Margarida de Souza Neves, published in 1986, under the title: *As Vitrines do Progresso* [The showcase of progress], (Neves 1986), which, in addition to the usual funding from FINEP, was supported by CNPq and the *Pontifícia Universidade Católica do Rio de Janeiro - PUC/Rio* [Pontifical Catholic University of Rio de Janeiro], the latter, the professor’s binding institution. In this text, Margarida Neves draws attention to the importance of Universal Exhibitions in the second half of the 19th century and the first half of the 20th century as

Universidade de Brasília, 1980; *Teatro de Sombras: A política imperial*. São Paulo/Rio de Janeiro: Vértice/Instituto Universitário de Pesquisa do Rio de Janeiro. 1988.

⁸ According to Pirró e Longo and Derenusson, in 1965 the FINEP - Fundo de Financiamento de Estudos e Projetos e Programas, “with an accounting fund and directed by a Coordinating Board, its purpose was to provide resources to finance the preparation of feasibility studies of investment programs and proposals.” However, in 1967, FINEP - Financiadora de estudos e Projetos, empresa do setor público, que sucedeu ao fundo [created two years before in 1965] assuming its rights and obligations, and must also assess the feasibility of investment projects for the Ministry of Planning”. See (Pirró e Longo and Derenusson 2009, 517).

⁹ In 2015, the book had its 4th edition, and was published under a new title: *Um espaço para a ciência: a formação da comunidade científica no Brasil in Brazil*. Thus, the publication in Portuguese was given a title closer to the English language title: *A Space for Science: the development of the scientific community in Brazil*. University Park, Pennsylvania. The University of Pennsylvania Press, 1991. According to the author’s preface, the translation into English was completed in 1988, during his time as a researcher at USP with the support of a grant from the Ford Foundation.

¹⁰ Here, Schwartzman only reproduces the idea of “18th-century heritage” forged by Fernando de Azevedo to justify the Brazilian scientific backwardness.

authentic arenas of political, economic and cultural influence. In these Universal Exhibitions, the participating countries should present themselves in the “concert of nations” through what they had best in terms of technique, objects, and industrial, scientific, and technological production.

Even though it was not published in book format, Margarida Neves’ research circulated among her peers within the scientific community of the humanities in Brazil. Thus, in a pioneering way, she pointed out to Brazilian researchers the material culture and exhibitions importance as arenas of social and scientific action in Brazil (and other nations) in the 19th and 20th centuries.

In the 1990s, Lilia Katri Moritz Schwarcz (1993) defended her PhD thesis in the anthropology course at the University of São Paulo, originating the book: *O Espetáculo das Raças: cientistas, instituições e questão racial no Brasil (1870-1930)* [Lilia Moritz Schwarcz. The Spectacle of the Races: Scientists, Institutions, and the Race Questions in Brazil, 1870-1930. English version published in 1999]. In this work, the author focuses on the scientific discourses and practices developed in the institutions where science was practiced in Brazil. The author’s institutional cut is formed by historical institutes, medical institutions, law schools and natural history museums. By observing the tensions and contradictions existing in the practices that constitute each of these “areas” of action, from the institutions investigated, the author shows how the science practiced was permeated by a priori, preconceived ideas and prejudices, which they manifested, among other problems, a huge social and racial gap between the people and the “men of letters and science”.

It is necessary to point out that in this work, Lilia Schwarcz inserts the museums of natural history and material culture in the dynamics of production, dissemination and circulation of scientific knowledge, something that had been done in a timid way by the researchers who preceded her. But if on the one hand, it includes, on the other hand, it does so with reservations, because when studying natural history museums, it focused only on three museums: Museu Nacional, Museu Paulista and Museu Paraense Emilio Goeldi.

In the second half of the 1990s, readers received a book by Maria Margaret Lopes, entitled: *O Brasil descobre a pesquisa científica: os museus de ciências naturais no século XIX* [Brazil discovers scientific research: natural science museums in the 19th century] (Lopes 1997), as the result of her PhD in history, with an emphasis on the history of science, in University of São Paulo, under the supervision of Professor Maria Amélia Mascarenhas Dantes. In her book, Margaret Lopes is peremptory in stating that before universities and laboratories, it was in natural history museums that science was carried out in Brazil throughout the nineteenth century. In addition to going back in time, “to the beginning of science in Brazil in the 19th century”, the author also precisely demarcated natural history museums, which until then had low priority from science historians in Brazil, as the locus par excellence of scientific practices.

Throughout the book, Margaret Lopes analyzes the creation, the constitution of collections and the effective scientific activities of four museums, are they respectively: *Museu Nacional* - Rio de Janeiro; *Museu do Ipiranga* - São Paulo (also known as *Museu Paulista*); *Museu do Paraná* (also known as *Museu Paranaense*) and the *Museu Paraense Emilio Goeldi*. Three museums on the south axis and just one in the north of the country. If, as Margaret Lopes maintains, science in Brazilian territory began and was practiced in natural history museums, would the museums she studied be the only ones that existed until then? Problematizing the author’s option to focus on just four museums in such a large and vast country, we ask: would there be a possibility of other museums, in different spaces where science was practiced in Brazil and that simply she has not studied? Unfortunately, Margaret Lopes does not answer this question.

Before concluding this list of authors and works, it is necessary to approach the book: *Espaços da Ciência no Brasil* [Science Spaces in Brazil], a work organized by Maria Amélia

Mascarenhas Dantes and published by Fiocruz Press (Dantes 2001). In this book, that covers the period from 1800 to 1930, several articles are dealing with different scientific institutions such as the *Faculdade de Medicina do Rio de Janeiro* [Faculty of Medicine of Rio de Janeiro]; *Jardim Botânico* [Botanical Garden]; *Sociedade Auxiliadora da Indústria Nacional – SAIN* [Auxiliary Society of National Industry], among others. If the temporal recoil until the beginning of the 19th century is fully contemplated in the work, however, the amplitude of the “scientific spaces” was restricted to the traditional regional binomial Rio de Janeiro – São Paulo. That is, even expanding the scope of the research to the nineteenth century, it does so by limiting itself to the same spaces already addressed by other researches previously, confirming as “most relevant” the subjects, institutions and scientific practices of the large economic, political and urban centers from Brazil. Indeed, once again, the slow process of growth and expansion of scientific activities developed until the publication of the work of Margaret Lopes was disregarded by her supervisor, Maria Amélia Mascarenhas Dantes, what seems an explicit process of involution.

An eventual explanation for the incorporation of other “scientific spaces” in the book involves the limitations imposed by the publisher. It is certainly not possible to include all institutions that developed scientific practices in Brazil over 130 years. When we look at the curriculum vitae of professor Maria Amélia Dantes¹¹ - one of the main researchers on this topic in Brazil and Latin America -, we realize that she guided postgraduate students in History at USP, as well as had been a member of several postgraduate boards (Masters and Doctorate) that presented research objects located in different places in the country, Acre, Bahia, Ceará, Mato Grosso do Sul, Pará, Paraná, for example. However, in the book *Espaços da Ciência in Brazil*, this “broad Brazilian reality” was not addressed. This problem would be fully solved if, after just one volume, the USP professor published two or three books, reserving for the subsequent volumes an adequate focus on these “other realities” not contemplated in the single volume published in 2001.

After this presentation, the historiography of science is evident, emphasizing works and authors more focused on or related to the studies of natural history museums in the country, whose orientation demonstrates an appreciation of the activities developed in the southern area of Brazil. We also note that the analyzed production seeks to legitimize the actions carried out almost exclusively on the tripod Minas - Rio - São Paulo. This production covers Minas Gerais in the 18th and 19th centuries with less emphasis and a greater focus in Rio de Janeiro in the 19th century and São Paulo in the century XX. The result is the exclusion of the others constituent spaces of the country, such as the North, Northeast, South and Center-West in the making of the “genealogy of national knowledge”. What induces the reader to understand that one is not included in these works is simply because it does not exist.

In this way, we perceive that the historiographic production presented carries in its core elements similar to what the Brazilian historian Manoel Salgado Guimarães criticized as a disciplinary memory:

(...) belief in a history that seems to be confused with the report of past events, ensuring a dose of naturalness to the task of giving meaning to human actions, made this past come to inhabit the spaces of the sacred, preserved from the exercise of criticism, building in this way a memory of the discipline (Guimarães 2003, 10).

Taken all together, this production is presented as a memory that is not only disciplinary but thoroughly disciplined that only accepts a certain way of reading, writing and

¹¹Maria Amélia Dantes’ curriculum vitae at <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4783109H0>

producing history, excluding other forms and/or possibilities (Turin 2009, 79-80).¹² It is based exclusively on the so-called processes of state formation national with an exacerbated emphasis on economic and political aspects that made possible and still make possible the scientific and didactic production carried out by the official institutions of the instituted power, intensely sharing and disseminating this worldview with the various areas that make up the country.

Another structuring aspect of Brazilian historiographic production on the history of science is the mobilization, sometimes explicit and sometimes implicit, of the so-called epistemic virtue.¹³ What legitimizes, in this way, the importance of specific productions and spaces that are taken as representative of the nation. Therefore, when talking about these practices and these spaces, one speaks, by metonymy, of Brazil. Thus, if there was science in Brazil in the 18th, 19th or 20th centuries, it was necessarily in the places and the molds presented by the dominant historiography.

Aware of this situation, it remains for us to ask how to practice other ways of understanding and writing the history of science in Brazil and “disciplinary memory” to incorporate the many experiences of the different realities of the country. Such problematization is necessary, as it is still being done incipiently by a few researchers in the area. Moema Vergara, for example, who, upon concluding the review of the book *Espaços da Ciência no Brasil* [Science Spaces in Brazil], launched the following question: “But the challenge remains: is it possible to make a history of science in Brazil outside institutions?” (Vergara 2003, 81).

Here, taking advantage of Moema Vergara’s questioning to broaden the question: is it possible to make the history of science in Brazil that includes a diversity of times, spaces, subjects and experiences? More specifically, is it possible to make a history of science in Brazil that absorbs and presents distinct areas and regions such as the North, Northeast, South and Midwest? Present alternatives to the current writing of history centered on the antithetical pairs “core/peripheral”, “developed/undeveloped”, “true/false”, “presence/absence”? One must bear in mind that maintaining this framework is nothing more than the reproduction, within national borders, of an argumentative logic developed by nations with greater capacity for scientific production to legitimize iniquity between national groups that produce and those that consume science.

In opposition to the understanding presented above and still in full execution in how historians of science think and write the history of science in Brazil, we offer a specific case (aware that all cases are specific, even the so-called general cases). This case refers to the reality of Ceará in northeastern Brazil (a region historically considered the poorest in Brazil and usually seen as a place for the reproduction of science carried out in the southern of Brazil).

¹²By analyzing the writing of history in the 19th century Turin presents some characteristics that are still seen in the writing of the history of the history of science in the 20th century (Turin 2009, 79-80).

¹³ According to João Ohara, there are two variants to the concept of epistemic virtues: the first that presents itself as a reliable cognitive faculty, “so that its exercise is conducive to the truth” and the second variant that states that epistemic virtue “is a trait of character or disposition that an epistemically responsible agent would possess or demonstrate when producing knowledge”. See (Ohara 2016b, 172). Still on this concept of epistemic virtues in Brazilian historiographic production, see (Ohara, 2016a, 39-56). For a general understanding of the so-called epistemic virtue in the historiographic field, see (Paul 2011, 1-19). See also (Mcgill 1994); (Daston and Galison 2010).

Disregarded Science

In the book, *O Brasil descobre a pesquisa científica: os museus e as ciências naturais no século XIX*, Maria Margaret Lopes (1997) did a great work of synthesis and presented the general lines of the development of museums and natural sciences in nineteenth-century Brazil. Focusing on specific cases of the Museu Nacional, Museu Paulista Paulista (Ipiranga), Museu Paranaense and Museu Paraense (later named Museu Emílio Goeldi). However, the researcher's quick mention of the reality of Ceará and the existence of a museum in this province draws attention, commenting that:

In Ceará, in mid-1871, a private collector, Dr. Joaquim Antônio Alves Ribeiro, doctor at Santa Casa de Misericórdia and Captain Surgeon of the National Guard, had a small museum with Natural History objects, open to the public. (...) the doctor asked to donate [his collection] to the government to compose the initial nucleus of a Cabinet of Natural History in the province in exchange for an honorary distinction. (Lopes 1997, 151)

Although not specifically focusing on the reality of the Province of Ceará, the author mentioned the request for donation of Dr. Joaquim Antônio Alves Ribeiro's collection to the President of the Province in 1871. The President, in turn, asked the Director of the National Museum, Ladislau de Souza Mello Netto, to issue an opinion on the case. In his response, the Director replied in the affirmative, as this would be an excellent opportunity to create a local museum if the items offered were in good condition and of good quality (Vasconcelos 2017, 159).

The positive opinion attested by the scientific authority, in this case, the Director of the National Museum, did not satisfy the President of the Province, most likely the bachelor in law, José Fernandes da Costa Pereira Júnior, from Rio de Janeiro, who did not purchase the collection. According to Margaret Lopes, "(...) the president of the Province of Ceará considered that the objects were not in very good condition, no they were so curious". And the author continues, "(...) the physician [collection donor] enjoyed a modest position, few fees and no position as a man of knowledge". Finally, according to the same author, "(...) besides, as she considered that very few people in Fortaleza were dedicated to Natural History, it was a high expense for the province, which had more urgent needs" (Vasconcelos 2017, 159-169).

Unfortunately, despite a wide range of research dealing with 19th-century natural history museums in Brazil, Maria Margaret Lopes only approached Dr. Alves Ribeiro's Natural History collection *en passant*, restricting the few information mentioned above.

In this sense, the following lines have as main focus to present the history of the Natural History Cabinet, the first Museum of Ceará.

The Creator

Seeking to understand the work, that is, the history of the constitution of the Ceará Museum, we started to look for news about its creator. Thus, in the *Dicionário Bibliográfico Brasileiro* [Brazilian Bibliographic Dictionary], a work published by Sacramento Blake in 1883, we find the following record:

Joaquim Antonio Alves Ribeiro - he was born in the city of Icó, in the province of Ceará, on January 9, 1830, and died on May 2, 1875. He was a doctor in medicine at Cambridge University (sic), in the United States, where he practiced for some time, and approved by the faculty of Rio de Janeiro on his return to Brazil, he settled in his native province

and served there in the charity hospital. He was a surgeon in the national guard, knight of the order of the rose, member of the imperial academy, now the national academy of medicine, of the *Sociedade Auxiliadora da Indústria Nacional* and other associations of letters, national and foreign, and was part, as an adjunct member, of the commission Brazilian at the Vienna d'Austria Universal Exhibition in 1873. (Blake 1883, 83-84)

We also identified another record, also of a biographical nature, registered in the *Dicionário Biobibliográfico Cearense* [BioBibliographical Dictionary of people born in Ceará], written by Guilherme Studart (Baron of Studart), with brief information about the character in question.

Joaquim Antonio Alves Ribeiro - One of the 17 children of Antonio Manoel Alves Ribeiro and Mrs. Alexandrina Mendes Ribeiro, he was born in Icó on January 9, 1830, and died in Fortaleza on May 2, 1875, a victim of stomach cancer. His mother died on March 7, 1860, at almost 55 years of age. Graduated in medicine from the University of Harvard, Cambridge, in 1853, he maintained his thesis at the Medical faculty of Bahia, coming to exercise his profession in his native province. He was a doctor at the hospital of Charity of Fortaleza, surgeon of the National Guard, Knight of the Order of the Rose (December 2, 1858) and of Christ (October 12, 1867), corresponding member of the Imperial Academy of Medicine of Rio de Janeiro, of the Medical Society of Massachusetts, Natural History Society of Frankfurt, Aid Society of National Industry. This doctor is responsible for the 1st Museum that Ceará has seen; after his death, the various collections, some of them very precious, were donated to the state government, which entrusted them to the Public Library, and were later removed to the Escola Normal.

He married in Fortaleza his cousin Madam Adelaide Smith de Vasconcellos, daughter of José Smith de Vasconcellos and his wife Mrs. Francisca Mendes da Cruz Guimarães, 1st Barons de Vasconcellos, who died in Rio de Janeiro on 8 October 1903 and she on 4 August 1873 in Liverpool. (Studart 1910, 06)

27 years separate the two publications. The first came to light in 1883 and the second in 1910. When comparing the two publications, we realize that Sacramento Blake briefly presents exclusive information of a professional nature, public or related to bureaucratic tasks. On the other hand, Guilherme Studart's writing mixes professional, public information with some personal information.

In addition to the time difference between the two works, the difference in information is clear because Blake states that Alves Ribeiro graduated in medicine at Cambridge, where he worked and revalidated his diploma at the faculty of medicine of Rio de Janeiro. Studart claims that Alves Ribeiro graduated from Harvard, revalidated his thesis at the medical faculty of Bahia and developed his professional activities in his native divot.

When comparing the two biographical records, it is clear that the record made by Sacramento Blake contains some errors. Probably the result of mistakes or minor confusions, as the creator of the first Museum in Ceará studied medicine at Harvard (Harvard University 1980, 230), which is located in Cambridge (Middlesex County in the state of Massachusetts, United States) and according to the *Levantamento Nominal dos Formando de 1812 a 2008 da Faculdade de Medicina da Bahia*¹⁴ [Nominal Survey of Graduates from 1812 to 2008 at the Faculty of Medicine of Bahia], it is reported that Dr. Alves Ribeiro revalidated his diploma at the Faculty of Medicine of Bahia. But unfortunately, we still don't find documents or

¹⁴ Levantamento Nominal dos Formando de 1812 a 2008 da Faculdade de Medicina da Bahia at http://www.cbg.org.br/wp-content/uploads/2012/07/b_formandos_medicina.pdf

indications that he has practiced or developed his professional activity in the United States of America.

Finally, it is necessary to emphasize the total silence of Sacramento Blake regarding the Museum of Natural History of Ceará created by Dr. Alves Ribeiro. The same did not occur in Guilheme Studart's record, who emphatically recorded:

To this doctor is owed the 1st. Museum that Ceará saw; after his death as several collections, some very precious, were donated to the State government. (Studart 1910, 06)

When Studart published his Bibliographic Dictionary in the first decade of the 20th century, the republican political regime was already consolidated. And by recording that the collections were donated to the State government, we must understand that the collections and their respective pieces were under the auspices of the provincial government a from 1871.

The Cabinet of Natural History

Unfortunately, the Cabinet of Natural History, the first Museum in Ceará, is an incomplete history, with few and scarce records. Thus, we did not obtain further information and details on how Dr. Alves Ribeiro's collection was constituted. When did he start collecting the pieces? What are the first objects? Who helped you? Who visited and researched this Museum? As it was a private collection, made for the private use of studies on Natural History, we cannot answer these and other questions, as we lack the records concerning this first moment in the collection of Dr. Alves Ribeiro.

However, little by little, the Natural History Museum grew and drew the attention of the residents of the city of Fortaleza, the capital of Ceará, to the point that, in 1868, the President of the Province, Pedro Leão Vellozo, directly mentioned the establishment when he said that:

Dr. Joaquim Antonio Alves Ribeiro, a physician established in this city who, as I am informing, has dedicated himself to the studies of the natural sciences, managed, after a few years, to form a collection of various natural species that he presents for public examination and of usefulness, as you know. in Cuvier's opinion – a natural history museum is a public school of instruction.

The creation of this Museum by the efforts of a private individual is an important fact for science and a real service, which deserves to be taken into account and assisted by the public authorities for the benefit of the province, and to encourage attempts of equal utility. (Relatorio 1868, 12)

The President of the Province, in a flattering tone, acknowledged, in the above passage, the effort and dedication of the museum creator in his studies of natural sciences, highlighting the educational usefulness of museums and reinforcing the need for public authorities to support this and other initiatives beneficial to province.

After a little more than six months of praise given by Pedro Leão Vellozo on November 1, 1868, the new President of the Province of Ceará, Diogo Velho Cavalcanti de Albuquerque, on the Museum, said that:

Dr. Joaquim Antonio Alves Ribeiro, a physician in this city, owes the existence of a set of nature reserves, already in proportions greater than the resources of a private amateur. (Relatorio 1868, 26)

Parsimonious, the new President of the Province peremptorily attested to the grandiosity of the Museum it already possessed by reaffirming that the establishment already had large proportions than that of an amateur. Even though this information is valid, as it is a testimony of the time, it is necessary to discuss it, since without raising more information, mentioning only the lines mentioned above, what was the experience of the President of the Province in the area of museums and/or natural history collections to support that the establishment had resources superior to an amateur? Is this just a personal opinion without scientific backing?

From Cavalcanti de Albuquerque's peremptory statement, we have a more weighted statement following. Thus, in 1869, a new President of the Province, João Antonio de Araujo Freitas Henriques, also made his remarks about the Museum:

There is in this capital, as is not unknown to you, a curious establishment of this kind, due to the efforts of its owner, Dr. Joaquim Antonio Alves Ribeiro.

Having already had the pleasure of visiting it, it seems to me that it is not in much worse condition than others of the same species, which exist in various provinces, those which have cost large sums to the public coffers".

So determined efforts, so usefully employed, deserve the attention of enlightened men, and must be encouraged by all those who take up the study of the sciences, and applaud the vocations to useful knowledge. (Relatorio 1869, 25)

A little more profound than its predecessors, as the three paragraphs uttered by the new President of the Province of Ceará respectively address: the curiosity of the establishment; the comparison with other museums¹⁵ and the need to support useful knowledge.

Both the first and third paragraphs are usual topics used to talk about museums, that is, the curiosity and the almost obligatory nature of the government to financially support these institutions. However, the second paragraph is quite innovative. It suggests that its author knew or had previous experience with other museums existing in other provinces of the country, even if only as a visitor.

So, after visiting the Natural History Cabinet, Freitas Henrique suggested that this one was not as inferior as the others he met and that cost hefty sums. In other words, the President of the Province stated that, in other provinces, there would be larger and more expensive museums; that the Natural History Cabinet was inferior, but not so much, without the onerous cost of other museums. Thus, by basing his analysis on the pragmatic bias of the cost-benefit relationship, the public administrator implicitly suggested that from the bottom of the public coffers, the Natural History Cabinet was set up and maintained by a private person and Ceará society enjoyed, in this way, a great benefit.

As already mentioned in this article, in 1871, the Cabinet of Natural History was offered in the form of a donation to the Ceará Province by its creator and then maintainer, and the provincial administration quickly expressed its opinion on the matter:

Since Dr. Joaquim Antonio Alves Ribeiro offered the province a natural history cabinet, which he had, in order to serve as a nucleus for the creation of a public museum, - I informed the Provincial Assembly, which was working at the time, of such an offer, asking it to congratulate the means of contributing to the expenses that acceptance would entail (Relatorio 1872, 19).

¹⁵ For an overview of museums in 19th century Brazil, with an emphasis on the 1870s, see (Vasconcelos 2019, 151-166).

Thus, after communication to the Provincial Assembly, Baron de Taquary, then President of the Province, ordered the necessary steps to be taken to receive the donation:

On December 4 last [1871], I authorized the payment of the amount of 520\$000 reis, spent on the purchase of shelves and cabinets for the Museum, and the 22, the expense of 80\$000 reis with the replacement of glass that had broken during transport from the same shelves, and with the invoice of a wooden grid. (Relatorio 1872, 20)

Next, the conscientious Baron concludes by stating that:

By act of December 30, I appointed a guard to the Museum, with an annual bonus of \$400 reis, who has to serve under the orders and instructions of the Librarian. This act, dealing with the creation of a job, is dependent on the approval of the Provincial Assembly. (Relatorio 1872, 19)

The collection of natural history objects started, initially a private collection for private use and after the donation became part of the heritage of the province of Ceará. It possessed a fixed place of shelter for the collections and with open visitation to the public.

From Cabinet to Provincial Museum

After accepting the donation from the Cabinet of Natural History, it started to operate in the same building in which the public library of Ceará was already operating, in Marques de Herval square, in the center of Fortaleza (Almanak 1873, 361). The Museum had several specimens: monkeys, wild cats, birds, fish, spiders, shells. As it was a collection made by a researcher from Ceará and in Ceará, it is assumed that the specimens that constituted the Museum were mostly from Ceará fauna and flora, but as there is no indication of origin in the classification list of objects, we cannot effectively make such a statement.

A difficulty that arises when checking the classification list of objects. The great power of synthesis that those responsible had, makes it impossible to have a broader view of the collections, as it is possible to verify in the point concerning the mineral kingdom:

MINERAL KINGDOM

There are several samples of rocks, the number of which rises to 560, 25 of which are iron, lead, copper, gold, iron tetaniferous (sic) and bismuth. (Pereira 1873, 365)

If those responsible for the classification had been more detailed, they could have specified more than the 560 rocks, informing their shapes, sizes and weights. Furthermore, the indication of origin would also help a lot, as was done in the paleological collection with the indication of the existence of fossil fish from the Araripe mountain range (in the southern region of Ceará) and the existence of bones obtained through excavations made in Quixeramobim (central region of the Ceará). But none of this was done and so we only have the raw information on the existence of 560 rocks.

This same difficulty can still be seen in the details of the archeology and numismatics collection:

ARCHEOLOGICAL [AND] NUMISMATICS

There are Indian instruments suitable for war and hunting, 2 well-worked oars, a firearm of extraordinary thickness, 1 photograph of Lopes,¹⁶ 1 pair of clogs suitable for walking on ice.

As for numismatics, there are coins of copper, silver and paper money from Paraguay (Pereira 1873, 365).

Once again, we asked ourselves about which instruments used by the indigenous peoples were these? Where did they come from? How way obtained? But as already mentioned, unfortunately, there is no detail of this information. And along with the indigenous objects, a firearm, a photo of Francisco Solano Lopes and shoes for walking on ice. Objects worthy of a cabin of curiosity, especially the photo of the President of Paraguay and the boots for walking on ice. The pictured man was killed in the war and boots in Ceará would have no use.

We conclude by mentioning the words of Austriciliano Deoscorides Damon Padilha, in charge of the Museum and responsible for the information provided to the *Almanak Administrativo, Mercantil e Industrial da Província do Ceará*, who clearly realized that the continuity and growth of the Museum involved the engagement of both the public authorities and private interests: “These are the objects that make up the museum, it is to be expected that it will take on other proportions, if perhaps the city councils and even private individuals take an interest in the aggrandizement of this institution, bearing in mind the recommendations that have been made for this purpose” (Pereira 1873, 365).

Conclusion

After presenting how historically the history of science in Brazil has been and continues to be researched and explained with an exaggerated emphasis on specific cases in the southeast region of Brazil (Minas Gerais – Rio de Janeiro – São Paulo), we presented a concrete historical experience that took place in Brazil in the second half of the nineteenth century in the current northeast region of Brazil, not studied by the historiography production on the subject.

If the cases presented are ontologically equivalent, the same does not happen epistemologically. When historians present specific cases that occurred exclusively in the southeast region of Brazil and self-title these experiences as “The Only Brazilian Experience”, an alleged metanarrative is created that is accepted and never questioned, because for these historians, science is synonymous with money, of investments and the only place that presents the adequate economic conditions for this logic is the Southeast region of Brazil, as that is where the country’s industrial park is located, with the largest cities, consolidating, in this way, the Southeast as the largest economy. In other words: As the place in the country with the infrastructure, the Southeast region of Brazil can fully develop the superstructure that involves science.

In addition to being a Marxist argument with a determinist bias, this way of explaining disregards and ignores other forms as they do not fit the parameters of this understanding, they are disregarded. Knowing different experiences, expanding the cases in which science was thought and experimented in Brazil in past centuries - as the Museum of Natural History of Ceará in the 19th century demonstrates -, is to broaden the notion of science and broaden the notion of a nation that is still quite restricted both yesterday and today.

¹⁶ Francisco Solano López Carrillo, usually known as Solano López (1827-1870). He was the second constitutional president of the Republic of Paraguay. He was commander of the Armed Forces and supreme chief of his country during the war between Paraguay and the Triple Alliance (Argentina, Brazil and Paraguay), also known only as the Paraguay War. Occurred in 1864-1870. For a broad understanding of the impact of the war in Brazil, see (Izecksohn 2020).

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