# The "reality of the knowledge and the ability instilled": climate, doctors, and public health in Brazil, 1808-1835

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> Abstract This article analyzes the efforts to build spaces for the medical community in Brazil since the transfer of the Court from Lisbon to Rio de Janeiro in 1808, through the country's independence process, until the creation of the Imperial Academy of Medicine, in 1835. Such initiatives affirm the prominence of medical-scientific knowledge in the face of traditional healing practices, as well as a hygienic agenda for the independent nation, strongly linked to the legitimation of local expertise in Brazilian climatology. Throughout this process, some medical leaders involved sought to affirm the convergence between the hygienic discourse and the interests of the nascent imperial state, while at the same time announcing the renewal of the mechanisms of legitimation of the career that, supposedly, started to be given by scientific merit instead of the patronage system typical of the Ancien Régime.

> **Key words** Weather, History of public health, Brazil, Imperial Academy of Medicine

<sup>1</sup> Casa de Oswando Cruz, Fundação Oswaldo Cruz. Av. Brasil 4365, Centro de Documentação em História da Saúde, Manguinhos. 21040-900 Rio de Janeiro RJ Brasil. rcabral.freitas@gmail.com Normally, when we consider the process of independence in Brazil, the legal landmark is the 1824 constitution. That was the document which organized the State and created the base for the political power, which gradually revoked the legislation of the Ancien Régime in a context of the affirmation of liberal ideology. However, a variety of publications have highlighted that public health had already become a fundamental theme since the century of the Enlightenment, especially for the absolute monarchies, at a time when new mercantilist theories began to affirm that the wealth of the nations depended mainly on the lives of productive individuals, reunited as a people.

In the context of the Portuguese empire, medical and botanical information about the colonial territories, registered by travelers, government officials, settlers, doctors, and surgeons were aimed at the production of a systematic body of knowledge, leading toward an interest in hygiene for the towns. In the tradition of medical topography, urban disorder was pointed out as being responsible for the circulation of a wide range of infectious elements, present in the customs, objects, air, and soil. The debate regarding urban densification, coupled with the damaging use of this space, involved the notions of insalubrity and salubrity, generating, as we shall see, a considerable literary production aimed at investigating and controlling the causes of that new source of insecurity.

This article focuses on the context in which some medical leaders sought to affirm the convergence between the hygienist discourse and the interests of the newly created Imperial State, in the field of sanitation. The leading element will be the efforts for the construction of spaces suitable for medical intellectuals in Brazil, and through such efforts, the affirmation of the knowledge will be analyzed in light of traditional healing practices, as well as of a hygiene agenda for the independent nation, strongly attached to the legitimation of local expertise about the climatology of Brazil. Our analytical effort will be focused on the period which extends, from the first studies on climate and diseases in Rio de Janeiro, promoted by an enlightened Brazilian-Portuguese elite, starting from the time of the transfer of the Royal Portuguese Court to Brazil in 1808, passing through the process of Brazilian independence, until the creation of the Imperial Academy of Medicine in 1835.

### "As a sign of gratitude, love and respect": the establishment of a new medical elite in the Court of D. João

The arrival of the Royal Court in Rio de Janeiro provided a new momentum for investigations on climate and the illnesses found in Portuguese America. However, with the colony upgraded to the condition of the capital of the Portuguese empire, it was no longer a question of bringing royal officials from the metropolis to conduct research on the specificities of the colony; the research began to be done by intellectuals residing in the new center of the empire. The feeble sanitary measures that had characterized the colonial administration to that date, gave way to a progressive institutionalization of the methods of the inspection of healing practices, to the trade and production of medication, as well as to the production of knowledge that provided the foundations for health policies.

The establishment of a medical-surgical school in Bahia (1807) and another in Rio de Janeiro (1808), as well as the reactivation of the position of "Fisicatura-mor", were some of the points related to health which stood out in the new phase. The new medical regulation emphasized the health of the population and the medical policies, rather than providing benefits to doctors and officials. It also established a better control of the sales of medication by apothecaries and drugstores. Another innovation was the creation of the office of the "Provedoria-mor de Saúde" ("Chief Health Provider"), responsible for sanitary inspection of ports, ships, and the products that arrived in the city<sup>1</sup>.

From the European point of view, Rio de Janeiro at the time of the arrival of the Royal Court was far from anything that could be considered a capital of a multi-continental empire. Its streets were windy and unhealthy, poverty was rampant, and there were thousands of enslaved people wandering its streets<sup>2-4</sup>. Faced with that reality, the royal government began to encourage the creation of reform proposals by the intellectuals who settled in the town during the ongoing transformation process. The book Reflections on some of the proposed measures as more conducive to improving the climate in the city of Rio de Janeiro, written by Manuel Vieira da Silva, was one of the symbols of that new phase, and it placed the matter of salubrity in the center of attention. It was one of the first publications by the Royal Press established in 1808, the first year of the presence of the Portuguese king in the town. Another important publication was the *Memory of the general clean-up of this town of Rio de Janeiro,* written by the architect José Joaquim de Santa Ana in 1815. Both publications used as a starting point the principles of climatology to understand the capital's climate specificities that contributed to the diseases registered in town and hampered any modernizing projects.

Although similar, from a theoretical point of view, both books were far from the galenic works published in the 17th century by Morão and Rosa5. At that point, these new books already incorporated references to variations of temperature and humidity in the city throughout the year. The galenic and magical-astrological references had also been substituted by medical terminology. Scientists looked into the effects of climate on the fibers which constituted the human organs and the effect of the alterations in the moral state of the individuals. They were also seeking architectural solutions to guarantee the proper renovation of the town's air, thus avoiding the supposed putrid emanations originating from the swamps which surrounded the new capital.

Fevers, smallpox, and dysentery were among the diseases that affected the population repeatedly in that day, even members of the Court were not protected from those scorges<sup>6</sup>. In 1813, the newspaper "O Patriota", a short lived publication which nonetheless published many important scientific works at the time, published the results of a consultation by the Municipal Assembly of Rio de Janeiro about the endemic and epidemic diseases in the capital. Originally, the request had been made in 1798, but its results were only published in the newspaper 15 years later. The edition presented the work performed by the doctors, Manoel Joaquim Marreiros, António Joaquim Medeiros, and Bernardino Antônio Gomes<sup>7</sup>. The authors indicated the heat and the humidity as the main causes of insalubrity, followed by filth, flooding of the streets and lands, pouring rains, impurities in the air, as well as moral and dietary causes. The three studies fit in the area of scientific literature defined as medical topography. Those climatological studies proposed that the climatic and telluric environment was a complex modifier of the physiological processes, and therefore, the origin of several pathologies. The human body was perceived as a system of dynamic interactions with the environment. Health and disease were the results of the interactions between the individual constitutions and the circumstantial environment.

Another important figure at that time was José Maria Bomtempo. He arrived in Rio de Janeiro in the same year as the Royal Family after having served the Crown during seven years in Western Africa. Soon after his arrival, he was chosen as the director of the recently created School of Anatomy and Surgery, and he also became the author of the institution's regulations. He wrote Memory of specific illnesses in Rio de Janeiro in 1814, in which he investigated the climate and geography of the capital, searching for its nefarious effects on the bodies of the city's inhabitants8. He indicated the hills of Santo Antônio and Castelo, two of the most important in the town, as hindrances to the good circulation of air. He also pointed to the forest around the urban area as a cause of the town's humidity, which also favored the spreading of diseases. Part of the book is dedicated to fevers. Bomtempo argued that the socalled "malignant" fevers, supposedly frequent in the town, were nothing but "essential", less serious. He justified that the deadly diseases in Brazil presented "general fevers", without directly affecting the functions which "are immediately related to life", in other words, brain function, breathing, or circulation<sup>8</sup> (p. 16-18).

In 1820, the Royal Press published an article, entitled "Prolegomeni", which as the term indicates, was conceived to be the introduction to a set of observations to be performed every quarter, concerning the endemic diseases in the city of Rio de Janeiro. Its author, Domingos Ribeiro dos Guimarães Peixoto, Chief Surgeon of the Royal Chamber, sought to register the "different causes which may influence, directly or indirectly, the health of the individuals who inhabit it and their effects on the animal economy"9 (p.90). Like the work by Manoel Vieira da Silva, the investigation on the different pathogenic agents sought to provide support to the actions of medical inspections. Beginning with the assumption that the "organic constitution" of the individuals "has the essential nature of being acquired", varying according to the different climates and to "countless natural agents"9 (p. 90), Peixoto highlights that the main purpose of hygiene is to prevent diseases and to preserve health. In the end, he defined what he considered as the main causes of insalubrity in the capital. He blamed the miasma emanations from vegetation, waters, and corpses buried in the floorboards of churches, as well as the gases produced by the forges and the diseases supposedly brought by the enslaved people who had arrived in town, among other causes9 (p. 108-118).

Themes of that nature usually called the attention of the thinkers who had recently arrived in the capital. Francisco de Mello Franco arrived in Rio de Janeiro in 1817, after living in Lisbon for over 40 years. Originally born in Minas Gerais, Brazil, he moved to Coimbra when still young, where graduated in Medicine. After settling in Lisbon, he soon joined the circles of the intellectual and medical elite, of which he was a part for nearly 25 years. After he arrived in Rio de Janeiro, he no longer had his important political connections; therefore, he was forced to resort to strategic movements to become well-established in the disputed social space of the Portuguese Court<sup>10</sup>. At that time, he wrote *Essay about the* fevers in Rio de Janeiro<sup>11</sup>, a custom-made book to meet the sanitary interests of the government. Although written in 1821, it was only published in 1829, a few years after the physician had died.

Mello Franco stated that his work had been motivated by his disquiet regarding the absence of contagious fevers in the town, although the climate was hot and humid. It was more than a mere pretext. For us, it is important to note that Mello Franco's questioning reveals an important change in opinion when compared to the books published during the colonial period. It was no longer a matter of explaining to the local inhabitants why fevers occurred, but rather to comprehend the reasons why tropical climate fevers were different from those observed in Europe. Here, the experience acquired by the physicians in temperate climates was not enough. He stated that the peculiar characteristics of the city were given by the interaction of the corporal electricity of the inhabitants associated with the local atmosphere, loaded with electric fluids<sup>11</sup>.

The cases of Vieira da Silva, Guimarães Peixoto, Bomtempo, and Mello Franco illustrate some of the mechanisms of social legitimation used by the medical intellectuals of the Court during the reign of Dom João VI. His singular observations about climate and tropical diseases can be highlighted as the factor which provided originality and relevance to his writings when compared to the core powers of the day. In the style of medicine during the Enlightenment, Mello Franco began his Essays defining that the ideas that he was using derived from his own "medical system", crafted over many years of observations in Lisbon<sup>11</sup> (p. 1-3). Bomtempo, by contrast, stated that his experiences in the new capital had made his own system developed during his stay in Africa even more precise8.

Once successful in the environment of the Court, his works could help him to convert his intellectual prestige into nobility titles and political influence, boosting his authority among his peers as well as among the patients that sought his clinical help. In a society defined by privileges, performing a service presupposed by the perspective of reaching some advantage or reward from the king. Therefore, the Memory presented by Vieira da Silva in 1808, was inspired by the order given by the Prince Regent to his Chief Physician to "write about the causes, being remote or likely, of the diseases in this country [...] in order to excite the well-educated people to make their feelings public, and through discussion, produce one article..."12 (p. 67).

Dictated by the monarch, this policy of "favors" sought to maintain cohesion centered around the core power through the concession of titles of nobility, orders, and positions, and by obtaining the services of those subjects who desired a position of social distinction. Vieira da Silva was one of those who benefited considerably from this political culture. He arrived in Rio de Janeiro in 1808, accompanying the Royal Family. While still in Portugal, he had received the Order of Christ, the titles of Physician of the Royal Chamber and Noble Knight, in addition to commendations from the Order of Christ and from the Tower and Sword<sup>3</sup>. In Brazil, he was given the title of Baron of Alvaiázade in 1818, and returned with the king to Lisbon in 1821. According to Innocêncio, not long after his return, he became involved in a quarrel with António de Araújo da Cunha, Baron of Pombalinho, regarding the validity of a favor offered by Dom João VI to the Chief Physician of the Ribatejo region<sup>13</sup> (p. 123).

The proximity to royal power also marked the trajectory of Domingos Guimarães Peixoto. His Prolegomeni (1820) was dedicated to the royal prince, Dom Pedro, and his wife, Dona Leopoldina, as "a sign of gratitude, love, and respect" and "dictated by obedience"9. Native of Pernambuco, he graduated from the former Surgical-Medical School where he later worked as a professor. As a doctor of the Royal Chamber, he assisted in the birth of Prince Dom Pedro de Alcântara, who would later become Dom Pedro II, and in the birth of his sisters<sup>14</sup> (p. 228). He also accumulated some of the honorific titles common to the members of the Court's medical elite, such as the Ordem da Rosa, the Ordem de Cristo, and the title of Gentleman Knight. He also acted as the Crown's Envoy at European medical colleges, which enabled him to write the regulations of the Medicine College founded in 1832<sup>15</sup>.

As we mentioned before, Bomtempo was another of those figures close to the main power. However, regardless of his proximity to the Court of D. João, his Memory about the illnesses... ended up being included as part of a collection offered by the doctor to the emperor Dom Pedro I in 1825. According to the custom, his gesture was far from casual. The return of the royal Family to Portugal in 1821, and especially the process of independence, required adaptations from the intellectuals established in the Brazilian capital. Demonstrations of sympathy to the liberal order became an invaluable tool for survival in the Ancien Régime. When he published his collection, Bomtempo had already taken leave from his position at the Medical-Surgery School. The work had also been prepared in compensation for the elation and other gifts, awarded by the king to the doctor and to his son<sup>8</sup> (p. 3,4). This case is similar to the story of Francisco de Mello Franco, who, though did not live to see the rupture consolidated, apparently had the sympathy of the Emperor, of which his sons benefited after his death6.

Even though such gestures corroborate the mechanisms of personal favors typical of the day, they took place at a moment when the professional prestige of the doctors began to depend increasingly more on the legitimacy and ability evaluated by their own peers. As we shall see in the next section, the imperial regime provided a new momentum to the process of institutionalization of medicine in Brazil. The modernizing obsessions of the Reign of D. João continued present; however, they were assimilated by the search for a national identity. As we shall see, the creation of the Medical Society of Rio de Janeiro in 1829, by a group of doctors graduated in Paris - recognized by an Imperial decree in the following year - was one of the first landmarks of the new phase of Brazilian medicine.

## From "talent and scientific merit": Academy of Medicine and the sanitation agenda after Independence

The period that runs from Brazilian Independence to the beginning of the Second Reign was marked by a series of regional rebellions and political oscillation. Throughout that period, popular therapeutics maintained its prestige, dominating healing practices. Limited to the urban centers of only a few provinces and relatively expensive, regular medical care provided by doctors and surgeons remained inaccessible to the majority of the population dispersed throughout rural areas and, in general, more keen on healing practices that originated from the oral tradition. In the main villages and provincial capitals, in addition to the religious brotherhoods that offered care to their brethren, there was also medical care provided at devotional brotherhoods, especially the Santa Casa da Misericórdia hospitals.

The most remarkable changes that happened in the period of monarchic consolidation took place in the field of public health. On August 30, 1828, the Fisicatura - as the Governmental organ responsible for sanitary inspection and regulation of therapeutic arts - was extinguished<sup>16,17</sup>. With a stroke of a pen, there was the complete disappearance of an entire structure provided by the Provedoria-mor of the Court and the State of Brazil – which had delegates in all the provinces – as well as commissary judges, their examiner-visiting auxiliaries, clerks, and notary publics. That special court, which had emphasis on inspection actions, as well as on judging and punishing, with authority to charge and collect taxes related to its services, was dissolved. With the end of the court, the municipal assemblies began the inspection of urban elements that were believed to cause diseases through the corruption of the atmosphere's salubrity. Therefore, actions were taken, such as the cleaning up of streets and ditches, the architecture of the houses (always considered too low and humid, poorly ventilated, and dirty), the custom of burying the dead in the floorboards of churches, the draining of swamps and other places with stagnated and infectious water, among other actions taken to eliminate other focuses of disease. The exams conducted for the verification of the quality of food items, the inspections of pharmacies and drugstores, the inspection of health professionals' work, all of this came under the responsibility of the municipal working groups, and were included in the codes of conduct. However, the attributions of charging sanitation taxes and judging cases were transferred to the common justice system. Bloodletters and healers were definitively deemed to be illegal, even though they continued to perform their trades widely, protected by local elites.

The most relevant event for the theme covered by this article was the creation of the Medical Society of Rio de Janeiro, on July 7, 1829, which gathered doctors to debate matters of public health and medicine. The movement that resulted in its creation started in the beginning of that year, driven by the institutional vacuum which followed the extinction of the administrative and sanitation structure during the Reign of D. João. Using the Royal Medical Academy of France, created in 1820, as its model, the association was founded by the Frenchmen, José Francisco Xavier Sigaud and João Maurício Faivre; the Genovese, Luís Vicente de Simoni; and the Brazilians, José Martins da Cruz Jobim, Joaquim Cândido Soares de Meirelles, Francisco Freire Allemão de Cysneiros, Francisco de Paula Cândido, among other professionals who were present at the Court and already stood out as emerging leaders in the medical environment<sup>18,19</sup>.

It is important to highlight that the initiative of the "members of the art of healing" was marked by a reformist rhetoric which interconnected improvements in public health with the philanthropic and civilizational ideals of constitutional monarchy. The reform was meant to affect every aspect of medicine, and it was believed that it had to begin with the very education of doctors. To "rescue suffering mankind and particularly the governing class", it was necessary to guarantee that the monopoly of medicine would no longer remain "in the hands of a few privileged people in detriment of Science and those who cultivate it"20 (p. 21). In the Public Health Weekly Journal, a branch of the association, the project for the Medical Society sought to distinguish itself from the modus operandi of the Ancien Régime, in which the "number of honors and commendations" served as the basis for the reputation of the sanitation authorities, given by a government which "favors them and keeps them with quite frequent and fairly easy bounties". The rejection of the ways of recruiting the government bureaucrats based on the system of favors, in which reputation was provided "without previous proof of real knowledge and ability"20 (p. 6) began, from then on, to be contrasted with a new ideal of service in which "the public sphere and the government no longer believe that a doctor is able, unless he shows his observations, and that his published works were available to all so that his talents and scientific merits are judged"20 (p. 8).

Even though the document's name only refers to the capital of the empire, it states that its scope reaches insalubrity in all of the major cities and in the countryside of the provinces of the Empire. The "vigilant guard of public health" and the proposition of sanitation laws should conform to the "current state of medical knowledge, the commercial relations between peoples, and the constitutional institutions of Brazil"<sup>20</sup> (p. 25).

Guided by a philanthropic ideal, the medical institution rejected any claim of exercising the legal monopoly of medicine, as had been the case in that time, as it was believed to be attributed to "isolated individuals or groups, which were a kind of arbitrary court and whose sentences had been so prejudicial for the progress of medicine in Brazil and the interests of humanity [...]"<sup>20</sup> (p. 25).

In January 1830, it achieved the status of an advisory governmental agency with regards to a variety of questions related to public health and the practice of medicine. In 1835, during the regency period, it began to be known as the Imperial Academy of Medicine. Since its beginning, it sought to cover everything that could be of interest to public health, especially regarding the epidemics, the specific diseases of each location, the epizootic diseases, and the different cases of legal medicine. The Academy became involved with the propagation of vaccines and claimed control over new or secret medication, which could not be offered to the public without its examination and approval. It brought to its jurisdiction the analysis of mineral waters, and sought to reach every area of study and investigation which could contribute to the progress of the different fields of the art of healing. The Academy made an effort to monopolize all the production, circulation, and control of the knowledge based on hygienist precepts and clinical anatomy, and sought to present itself as a governmental agency that formulated actions of medical care. Through its initiative, inspired by the French teaching model, the medical-surgical schools of Bahia and Rio de Janeiro were transformed into medical colleges, educating clinical doctors, surgeons, pharmacists, and midwives<sup>19</sup>.

Two aspects present in the strategy of the Imperial Academy of Medicine (IAM) should also be highlighted. On the one hand, in the context of the medical profession illustrated herein<sup>21</sup>, the hygienist discourse provided the theoretical instruments which translated into a social medicine at the service of the manorial organization of the urban space. On the other hand, it consolidated itself as the institution responsible for the production, control, and diffusion of knowledge related to endemic and epidemic pathologies which threatened public health.

Concerning the first aspect, many studies emphasize the role of the doctors, especially hygienists and psychiatrists in the organization of Brazilian social life. That strategy of medicalization of society demanded a detailed mapping of the towns and villages, capable of organizing the population and disciplining the individuals, especially the patriarchal family<sup>22-24</sup>. That was how hygiene, disputing with other instances of social control, acted preventively, planning and executing measures that were at the same time medical and political, related to hospitals, cemeteries, schools, barracks, prisons, brothels, factories, and ambiguously, to slavery itself. In those spaces, the institution of discipline techniques was interpreted as a possibility to transform the individual into a perfect citizen, who was free and laborious<sup>25,26</sup>.

The second aspect was determined by the effort in producing a diagnosis about the sanitation situation in Brazil and to establish hygiene measures capable of improving salubrity, especially in urban spaces. That hygienist utopia demanded a certain understanding about the climate in each location, as well as the hygiene and dietary habits of the population, which were considered the main pathogenic factors in the country. Therefore, it is important to emphasize the peculiar characteristics of the scientific activity performed by the medical elite at the time of the Empire. The members of the IAM, together with its permanent associates and correspondents, were invited to send memories that were discussed during regular sessions of the academy, thereby creating a correspondence network, containing observations collected from every part of the country. That constituted the basis for scientific innovation in the fields of diagnosis and therapeutics, for the identification of unhealthy environmental factors which were believed to be involved in the production of diseases that are typical of the country's weather, and in the adequation of the prophylactic measures proposed by hygiene as being adequate for the conditions of the country. That was in fact accomplished, not only by institutionalizing anatomoclinical and hygienist research, but also by selectively assimilating some branches of the natural sciences - botany, chemistry, meteorology, climatology, geology, topography - which provided the knowledge that the doctors depended on to carry out the research agenda on Brazilian pathology<sup>27</sup>. Now, we will briefly discuss how the formulation of a sanitation agenda and the scientific authority of the IAM were constructed in a parallel manner.

When the Medical Society was created, hygiene and anatomoclinical medicine began to occupy a place that was strategically positioned to weaken the influence of old-school Portuguese surgeons and of those who had graduated from the Medical Surgery schools from Rio de Janeiro and Bahia. In that context, anatomoclinical medicine was practically the totality of medicine, since the experimental physiology of Claude Bernard (1813-1878) and the cellular pathology of Rudolph Virchow (1821-1902), which would produce a laboratory medicine – medicine without sick people – were sciences which were still being formulated on the clinical horizon. In that period, marked by the belief that pathology and medical therapy depended on the telluric-climatic factors circumscribed by the environment, the rejection of the colonial heritage of the *Fisicatura-mor* and the legacy of the medical information which was somewhat impressionist, described by naturalist travelers, imposed itself as a precondition for the affirmation of a new professional ethos<sup>8</sup>.

To achieve this goal, the Academy offered prizes in annual competitions, collected and examined epidemiological information, managed anti-smallpox vaccinations, and helped the government in matters of medical education, hygiene policy, and public health, aimed at building a network of information and specimens that needed to be processed as a whole, then analyzed, and eventually applied by the members of the Academy. In that manner, the regional inequalities were consolidated, benefiting the medical elites of the capital, who had the direct advantage of proximity to the governmental power.

In the studies by the academics, published in the Public Health Weekly Journal (1831-1833) and in the Diary of Health (1835-1936), there was a prominence of the main morbidity in national pathology – marsh fever. Other epidemics identified by that group of professionals were rheumatism, erysipelas, yaws, hydrocele, leprosy, hemorrhoids, intertropical hypoemy, Arab elephantiasis, and hemato-chyluria. Along with those endemic diseases, some epidemics were discussed in the weekly debates: the flu, smallpox, liver, heart and skin diseases, measles, scarlet fever, typhoid fever, tetanus and scurvy<sup>28</sup>.

In its attempt to impose the monopoly of the debate over the national medical problems on the Imperial Government and the medical-scientific European institutions, the Academy made an effort to fulfill the task of translating and updating the hygienist agenda and the European anatomoclinical agenda of the day<sup>19</sup>, making it the legitimate interlocutor for Brazilian pathology<sup>18,29</sup>.

#### **Final considerations**

As we sought to discuss, the creation of the institutional space of the Academy of Medicine,

within the Monarchic order, simultaneously marks the rupture and complementarity with the entire medical tradition of Europe, as well as the subjection of observations and medical reports performed by naturalist travelers, barber-surgeons, and apothecaries from the colonial period, to the anatomoclinical protocol and to the precepts of medical climatology. The participation of the Imperial Academy of Medicine presumed meritocratic criteria. The scientific debates in the medical field were no longer based on social status or honor, measured by the doctors' inscription in the elitist order. They began to be based on participation in a scientific corporation. Therefore, what provided credit to the doctors was no longer nobility titles or being part of a clientelistic network, as we have shown in the cases of Francisco de Mello Franco and José Maria Bomtempo. Credit began to be given according to the ability to comply with the scien-

tific rules established by medical climatology and consecrated in that microcosmos. We could propose our argument in the following terms: when they shared with their European peers, the notion about a disease inextricably connected to the environment, Brazilian doctors and hygienists from the time of the Empire admitted a particularist concept, in territorial and climatic-telluric terms of medical knowledge. That knowledge was based on an environmentalist etiology. The hygienists from the IAM, based on the principles of climatology, were demanding a formal jurisdiction, on a territorial basis, for the practice of medicine. It was around that tacit consensus that a major part of the scientific controversies were developed, until 1870, when some branches of experimental medicine, like parasitology and Pasteur's germ theory, came to subvert its foundations by proposing new scientific canons.

## Collaborations

Both authors participated equally in the article's production.

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