



The scorching tropics: fevers and public health in Brazil during the Joanine period, 1808-1821

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Abstract

Although fevers (with the exception of yellow fever) have not yet been fully explored by the historiography of Brazilian health, they were almost inevitable in nineteenth-century Brazilian society, affecting huge portions of the population. Their victims suffered from a wide variety of symptoms, and identification and treatment of these symptoms were the object of intense debates in medical circles. The Luso-Brazilian intelligentsia considered European medical debates as well as their own clinical experiences and attempted to provide answers in a flurry of publications. Even so, the manifestations of fever in the tropics presented a challenge that lay beyond their European training, forcing them to combine experiences acquired in different parts of the Empire to comprise specific knowledge on tropical fevers.

Keywords: fevers; tropical medicine; Joanine period (1808-1821).



The *Gazeta do Rio de Janeiro* newspaper closed its May 30, 1812 edition with a long text occupying nearly three-quarters of a page announcing the death of the Infante Dom Pedro Carlos de Bourbon e Bragança. The tone was somber, as expected with the death of a member of the royal family, but the youth of the deceased (who died at 25 years of age) also intensified the surrounding drama:

this is the death of a Prince in his prime: a Prince replete with virtues and truly Royal qualities, and for only two years had been united by the bonds of marriage with an eminently respectable Princess, not only for her own virtues and rare qualities but also as the firstborn daughter of His Highness the Prince Regent and his august wife Our Princess (*Gazeta...*, 30 maio 1812, p.4).¹

This fatal disease that widowed Maria Teresa, Princess of Beira, was described as a slow nerve fever that struck the young prince when he had nearly recovered from an “illness he had suffered from.” It was not the first painful loss suffered by the royal family that year; the January 29 edition of the same newspaper announced the death of the minister and counselor Rodrigo de Sousa Coutinho. One of the major architects behind the celebrated Luso-Brazilian reformism was struck down by a violent malignant fever “that ended his life within 55 hours” (*Gazeta...*, 30 maio 1812, p.4). In the previous year, amid the fervor of the last French invasion, Lisbon had also been subjected to an epidemic of contagious fever brought by the population of the interior of the kingdom as they took refuge in the former court. It also sickened many Lisbon residents and the Anglo-Portuguese troops who fought the Grande Armée commanded by General Massena (*Gazeta...*, 30 maio 1812, p.4).

As we can see, what links these events is fever. The young prince, the old state adviser, the poor peasants of the old kingdom, the bedraggled soldiers: all sickened by the same illness that appeared to have little regard for the status of its victims amid the rigid social architecture of Portugal’s Ancien Régime. On the other hand, although they were all sickened by fever, it was not the same in each case. Dom João’s son-in-law was struck down by a “slow nervous fever” while Rodrigo de Souza Coutinho’s fever was “malignant” and Lisbon was afflicted by an “epidemic fever.” Each of these classifications has its own history, and the way they appear in the newspapers is the result of a long and controversial tradition of studies on a topic which has animated medical debates since ancient times (Hamlin, 2014; Bynum, 1981).

In this article, however, we will focus less on the task of reestablishing this archeology and more on presenting fevers as an almost unavoidable presence in the lives of individuals in the Luso-Brazilian world at the opening of the nineteenth century. Although considerable literature has already addressed this topic in the European context (Bynum, 1981; Hamlin, 2014), little work has been done in the Brazilian historiography, which has paid more attention to yellow fever, especially after the 1849 epidemic (Chalhoub, 2004; Benchimol, 1999; Franco, 1969). Although this infirmity played an undeniable role, especially because of increasing concerns caused by epidemics in Luso-Brazilian ports and cities from the early decades of the nineteenth century, it should be noted that yellow fever was just one of the fevers that had taken lives here for a long time. In this sense, as recent historiography

has observed, nineteenth-century discourse on yellow fever cannot be properly assessed without attention to the various conceptions of fever which were in dispute at that time.²

For this reason our exploration will take place in three parts, each addressing one aspect of the presence of fevers in the Luso-Brazilian social environment, all of which have also proved promising areas for research: (1) the strong presence of fevers in matters of public health in Portugal and Brazil via references in newspapers, personal correspondence, and public health policies; (2) the existence of a Portuguese tradition of studies on fevers which (especially during the latter half of the 1700s) became increasingly refined due to European medical debates on this topic as well as the process of affirming public health policies in Portugal and the colonies; and, finally, (3) the constitution of specific knowledge about fevers in Brazil during the time that the Portuguese court of Dom João was resident in Brazil (1808-1821), borrowing largely from the previous experiences of physicians who worked for the Empire in Portuguese realms.

Before going any further, we should note some fundamental characteristics of our object of study which consequently cannot be ignored. To readers in the twenty-first century, the reports of fevers in the newspaper may seem odd; after all, what did it mean to die of a fever? With rare exceptions (such as yellow or scarlet fever), today fevers are a symptom of some pathological process rather than diseases in themselves. Elevated body temperature (usually above 37°C) indicates an immune reaction to the presence of some pathogen in the body, which is associated with a specific diagnosis in the modern medical repertoire. In the past, however, this was not the case. From ancient times until the establishment of microbiology in the late nineteenth century, fevers corresponded to a large and diffuse group of pathological manifestations and could be construed as a symptom of a disease as well as illnesses in themselves. Heat, which today is the defining characteristic of a fever and can accurately be measured with a thermometer, was only considered a marginal and less important symptom by many medical practitioners. They were instead more attentive to the pulse and to the patient's vigor, the pain reported, and the secretions expelled, along with the patient's life history, eating habits, daily activities, and an intricate series of other factors.

Considering this broad spectrum of manifestations attributed to fevers, the symptoms considered relevant by medical practitioners varied greatly in the definition of diagnoses and treatments. Between the eighteenth and nineteenth centuries, this translated into a real battle between nosographic traditions which, by assigning distinct natures to fevers, spawned a profusion of classifications and therapeutic models that clashed with each other (Hamlin, 2014). As we shall see, the plasticity of this topic, together with its presence in the life of society, definitively fueled the long-lasting presence of fevers in the medical agenda.

Fevers and social life

Less than a year after the Portuguese court moved to Brazil, the *Gazeta do Rio de Janeiro* reported the death of the Count of Ponte, Governor of Bahia, caused by a "continuous fever" accompanied by "pain in the side" and "weariness." The Count had been monitored by the physician José Avellino Barbosa, who "placed him on a strict diet of warm water, and

caramel, and much use of Laudanum.” After the symptoms persisted for twenty days, the physician applied a “blister” to lessen the pain. The unsuccessful Barbosa was replaced by a group comprised of doctors França, Manoel Luiz, and Alvarenga and a surgeon named Barata. Together, “they settled on applying poultices to the painful site to see if they could understand the subject.” These efforts again proved fruitless and the Count died between ten and eleven o’clock on the morning of May 24, 1809 (Gazeta..., 9 jul. 1809, p.3).

We can imagine the effect that such deaths had on those who were arriving in the colony under the purview of the Portuguese Empire at that time. It was not by chance that the Crown implemented a broad program of reforms to ensure the healthfulness of local urban spaces, with greater emphasis in Rio de Janeiro, as we shall see. In the meantime, suffice it to say that even in the new capital, these efforts did not have an immediate effect and other illustrious personalities of the court died of fevers in the following years.

In the year after the deaths of Rodrigo de Sousa Coutinho and Dom Pedro Carlos de Bragança, it was the turn of Thomé José de Sousa Coutinho Castello Branco e Menezes, the first Marquis of Borba. The newspaper stated that he fell victim to an unspecified “violent fever” that drained his energy over eighteen days, during which “he endured the illness with a truly Christian resignation” (Gazeta..., 23 out. 1813, p.4). Months later, this slow nerve fever would claim another victim among the ministers of Dom João: the Count of Galveas, Secretary for Navy and Overseas Dominion Affairs, died on January 18, 1814 at age 56 (Gazeta..., 22 jan. 1814, p.3). Finally, in 1817 Antônio de Araújo de Azevedo, the Count of Barca, died at age 65, also the victim of a nerve fever (Gazeta..., 28 jun. 1817, p.2). His death came about one year after he helped Dom João during the process of elevating Brazil to the United Kingdom of Portugal, Brazil and the Algarves, and he was the prince’s third minister lost to the fevers.

During these years, the librarian Luiz Joaquim dos Santos Marrocos lived in the capital. He had been tasked by Dom João with organizing and preserving the Crown’s manuscripts after serving as an assistant in the royal libraries in Lisbon. His proximity to the center of power made him privy to private court affairs, which he frequently recounted in letters to his family in Portugal. For example, in 1813 he commented in a letter to his father that the Infante Dom Miguel “was sick with a great fever” (Marrocos, 1939, p.143). As he told it, the death of the Count of Galveas in 1814 was caused by grief after he was not granted the title of Marquis (Marrocos, 1939, p.180). In 1816, he described to his father in detail the deteriorating health of Dona Maria I, which led to her death in the same year (Marrocos, 1939, p.228, 256, 258).

But what is most noteworthy in his reports is the frequent presence of fevers in his private life. Even in his prestigious position in the court, Marrocos and his family were vulnerable to the diseases and epidemics that regularly ravaged the city. In a letter from March 1814, he expressed his fears about the drought in Rio de Janeiro, which was atypical for that time of year: “There have been major diseases and sudden deaths, and many fevers.” His concern was especially directed at “a certain ailment of throat and nose” that violently and fatally struck down its victims in fewer than ten days, especially children (Marrocos, 1939, p.187). Two months later he described his son’s illness to his father, a continuous fever “that they call intermittent, which is currently prevailing; for three days he has not been himself,

luckily we can force down broth and medicines; I suspect that there is smallpox nearby, because he has not yet had it" (Marrocos, 1939, p.196). In September 1816 he complained that "nearly everyone in this House has suffered to some extent during this season of epidemics that have swept throughout the City." Marrocos (1939, p.286-287) stated he had fallen ill not long after his wife and remained in bed for seventeen days "due to fevers that continued during that time." At the end of that year he again fell ill, the victim of a "continuous bilious fever." The illness was aggravated by a hemiplegia that almost made him "depart into eternity" and left him deaf and partially blind on his left side: "For over a month I suffered through a fever that was continuous and with deadly weariness, but gradually worsened until I was near death" (Marrocos, 1939, p.290). The treatment, as he reported in his letter later, was no less challenging:

Twice I withdrew from the City to the Countryside, where I rented a small Farm to take the air and fortify myself after this excessive weakness I was reduced to ... As well as bathing in the sea, they applied leeches to the hemorrhoids twice, and now I am back to baths and electric shocks to the ear (Marrocos, 1939, p.297).

In the summer of 1818, the family yet again was struck by fever. The librarian's house, as he described it, "looked like a Hospital with fevers, catarrh, and measles." This time, Marrocos (1939, p.347) was the first to be infected, but the disease more harshly affected his daughter, who "was nearly dying with three rounds of bronchitis, which reduced her to considerable dispiritedness and emaciation." Fortunately all were cured, but only thanks to the exhaustive efforts of the librarian and his wife.

Even though they describe the family of an esteemed employee of the Crown, Marrocos' reports help us glimpse the universe of experiences among the population that faced fevers in the family environment, beyond the prominent figures who appeared in the newspapers. If his family was as vulnerable as they seemed to the oscillating epidemics in the capital, the situation was certainly much worse among the less advantaged local population. Sources on these people are still scarce, and the few exceptions appear to be precisely those who were even more disadvantaged, whose very humanity was overshadowed by their consideration as merchandise, such as the Black woman Maria Conga, who was found sick with fever at the farm belonging to the Counselor-Mor of the Kingdom and taken to the Santa Casa de Misericordia. There she was kept for at least six months, along with other prisoners waiting for the discovery of "those whom these Blacks belonged to" (Aviso, 29 jan. 1814, p.4).

Among the authorities, fevers caused the greatest concern when they arrived as epidemics that could even halt the workings of the administration. In October 1816, the Surgeon-Mor of Minas Gerais, João Rodrigues da Cruz, justified his delayed arrival in Rio de Janeiro to the surgeon of the Royal Chamber, Florêncio dos Santos Franco, explaining that he himself had been affected by an epidemic of fever that was raging in São João del Rey. The disease, which had claimed several victims there, left the surgeon confined to his bed for three weeks and made it impossible for him to carry out his endeavors (Cruz, 26 out. 1816). Fevers among the royal staff also generated extra costs for the treasury. In June 1817, the official registrar of the Court of the Overseas Council, Camillo Alexandre de Azevedo and Costa, sent a petition to Dom João stating that he had suffered a malignant

fever the previous year that “obliged [him] to use more medication.” He thus requested assistance from the Crown, since “in such circumstances Your Majesty tends to provide an allowance for officials who serve well” (Costa, 3 jun. 1817).

Considering that the Empire was strongly reliant on seaports, there is no doubt that fevers brought by ship were even more greatly feared. An article published in 1812 in the *Correio Brasiliense* sharply criticized the administration of the Division of Health at the port of Lisbon, which supposedly continued to implement inadequate measures to prevent the spread of epidemics in the city even after a royal charter was sent requiring thorough monitoring of these services. A certain passage of the article criticized the quarantine required for ships arriving from Rio de Janeiro after an epidemic of contagious fever in that city: “as if 4 to 6 days was more evidence of no contagion than the 80 or 100 days elapsed during that long journey” (Miscelânea, 1812, p.687).

During the Napoleonic wars, port supervision intensified after outbreaks of disease in Europe. In the new capital, the *Gazeta do Rio de Janeiro* followed the news of fever epidemics in conflict areas. In 1811, the newspaper showed particular concern with information from Gibraltar that a new outbreak of fever had emerged in Cartagena amid the Peninsular War. The news highlighted the violence of the epidemic and the preventive measures taken by the Portuguese Crown:

The news we received yesterday from Cartagena on the progress of the fever that unfortunate City is dire. More than 60 people die each day, and since many fugitives have escaped from various parts of the coast it was deemed prudent to cut all communication with Spain, by sea or by land, from now on. Yesterday 11 people died aboard the transport vessels in this bay, and 40 are dangerously ill (Gazeta..., 2 fev. 1811, p.1).

Later the epidemic of fever was confirmed; it had also affected Cádiz, the port of Santa Maria, and the town of Chiclana, reaching French troops (Gazeta..., 2 fev. 1811, p.1).

Even so, this epidemic that affected Lisbon in 1810-1811 was considered less malignant:

The inhabitants of the lands invaded by the enemy, beyond many moral afflictions, suffered and still suffer deprivation of the things most necessary for life; contractors of various types, scarcity of all things, make subsistence even more difficult. Here is primarily where many fevers arise; similarly, many people are clustered in small, low, and damp houses etc. But these fevers are by nature not very malignant; at the Royal Hospital of São José, and in the military Hospitals (where they are, however, much fewer in number) many have been and are being cured, according to reports from many physicians, and certainly those in Portugal are among the most educated in Europe; in private homes nearly all patients who have the means to be treated are cured: with the exception of special cases that do not in any way alter the general rule (Gazeta..., 25 maio 1811, p.3).

Although our approach here is confined to the Joanine period while the Portuguese court was resident in Brazil, it is clear that fevers already represented a risk to public health long before the court arrived. As we shall see in the next section, fevers had been on the horizon of the Luso-Brazilian intelligentsia for some time. Thanks to European debates on this topic many of the Crown’s subjects focused on fevers, and also considered the social and climatic diversity of the Empire.

Luso-Brazilian studies on fever

The latter half of the eighteenth century was marked by a growing rapprochement between medical knowledge (especially originating from academia) and the agendas of the European governments. In epistemological terms, this process strongly contributed to solidifying the roots of Vitalist thinking, which gave rise to a medical cosmology increasingly founded on interdependence and the inseparability of individuals' physical and moral aspects (Rey, 2014; Duchesneau, 2012; Williams, 1994). In practical terms, this meant that the health of the body was increasingly linked to the health of the spirit, and vice versa.

The most visible social effects were seen in the sense of a growing barrage of medical knowledge about behavior, both individual and collective. As a result, the social order came to also depend on good physical and moral balance among the citizenry. Governments, in turn, faced new challenges to manage increasingly complex and growing urban populations. The destitute masses subjected to precarious hygiene conditions were seen as threats to the social order and health, to the extent that medical plans to protect the whole of society calmed government concerns. The results of these efforts varied widely, from the emergence of new models to regulate trade and public spaces to (often thwarted) attempts to institutionalize the medical professions and exclude traditional healing knowledge from the public sphere (Quinlan, 2007).

In the case of Portugal, it is important to highlight two of the most obvious effects of this process. The first was the strengthening of hygiene as a medical discipline and indispensable part of the curriculum at the Faculty of Medicine of Coimbra, starting from the 1772 reform (Freitas, 2017). The second was the profusion of medical works and treatises produced within the context of the celebrated reformism, which far from limiting itself to economic aspects also sought to reform the cultural foundations of Portuguese society, in part by creating physically and morally healthy individuals who were committed to orderly maintenance of the social fabric (Barreiros, 2014).

A notable portion of these works that circulated in Brazil dedicated a significant number of pages to fevers. If we consider that this literature targeted not only physicians but also lay individuals and families, we can understand the presence of fever as a marker of their importance in the personal dramas of most of the population. This is hinted by José Manoel Chaves (1746-1811), who defined fever as "the most powerful serpent that destroys human nature" (Chaves, 1790, p.8). His work, *Febriologia acomodada* [Febriology established], was meant to be a reference to Portuguese audiences amid the "nearly overwhelming multitude of books such as those by the masters of France, Germany, Italy, and England that have flooded our Europe." He thus called for medicine geared to the local particularities of pathological manifestations, which above all were based on practical experience in the region. Chaves consequently stated that Portugal could have much broader knowledge of common pathologies in the kingdom if the doctors who occupied the "Chambers" were required to report their observations to the central administration:

There are countries in this Kingdom where intermittent and malignant fevers cause terrible damage nearly every year, such as in the regions of Chaves, Golegam, and

Coimbra. A doctor who newly enters any country will not be so fortunate in his cures as one who already knows the disease symptoms that appear there and their qualities. ... According to Cicero, man should be useful to his homeland, *non solum nobis nati sumus* (Chaves, 1790, p.9).

His work was based on the knowledge he acquired as a doctor in the village of Condeixa. Eclectic illuminist inspiration, loudly espousing “direct” observation of phenomena, combined with the discourse of promoting the public good as primary motivations for publishing this text, which was meant to reach a wider audience than just medical professionals:

This is nothing more than a confirmation of some practical doctrines established by those doctors who carefully looked to the nature of the fever, and for this reason I gird myself with Eclectic Medicine.

The Wise and the commoner can embrace them, and the Censor who is friend of novelty can abandon them, because each is well versed in his own thinking. ... I shall avoid optional terms and pompous expressions as much as I can in order to better explain myself and so that I may be better understood, since these are only for this persons who are well studied in Medical Matters (Chaves, 1790, p.11).

Manuel Henriques de Paiva was another prominent character in this context. A professor at the Faculty of Philosophy at the University of Coimbra, among other prestigious positions (Silva, 1858, p.12-13), he was exiled to Brazil in 1808 because of his alleged sympathy for the French Revolution. But his production did not cease during this period of political isolation. In Bahia in 1813, he published *Da febre e a sua curação em geral* [Fever and its general cure], a translation of a text by Gottfried Christian Reich (1769-1848). Paiva stated that Reich’s method for “easily curing all types of fever” was widely accepted in the court of Prussia, and was endorsed by Royal College of Medicine and the king himself. This physician’s miraculous method was based on the use of mineral acids to treat fevers and could sound “dark, and extravagant, to those who ignore Modern Chemistry” (Paiva, 1813). The version in Portuguese was published twelve years after the original and was derived from the French edition, published in the memoirs of the Société Médicale d’Émulation de Paris. As was common in his translations, Paiva did not limit himself to simply translating the original, but rather added his own notations, generally with regard to the Portuguese-Brazilian context. For example, when Reich rejects the use of nitric acid due to its corrosive characteristics, Paiva noted that these properties could be mitigated by diluting the acid in water and sugar, and added that his experience showed that the use of this substance could be “energetic and fruitful in the hot and humid climate of Bahia” (Paiva, 1813, p.71, 118).

On the other hand, Paiva’s appreciation for the mineral acids espoused by Reich clearly went far beyond a selfless contribution to the fight against fever. The publication was also a response to the political situation:

My intention was to reveal this memoir, accompanied by a chronological summary of the use doctors have made of mineral acids, either mixed with water or with alcohol, and with the aromatic substances, in various diseases of the human body; but besides the afflictions of ongoing malaise that impede my intentions, I also lack the necessary books which I cannot obtain due to my adverse circumstances. The time will come

when I will be able to fulfill these ardent desires, and I will provide yet more proof that I love my land and my people (Paiva, 1813, p.10).

Stripped of his titles and expelled from the court, Paiva staked his future on introducing an innovative method to combat a scourge that attacked a good portion of the colonial population. If this had the intended effect, he might recover the prestige necessary to send him back to the heights of privilege he occupied previously: which was what happened only three years later, with a royal pardon in 1816 (Filgueiras, 1992).

His other celebrated translations also devoted considerable space to fevers. *Aviso Advice to the people in general, with regard to their health*, by Samuel August Tissot (1786), devoted four of the twenty-two chapters in the first volume to “inflammatory,” “putrid,” and “malignant” fevers. Throughout the text, the most visible causes and symptoms of each of these fevers are described, and finally the most suitable means of dealing with them are presented. Because this also was a text aimed at an audience not academically trained in medicine, it very carefully described the progress of the disease and suggested measures for each type of expected manifestation, which can also be seen in *Medicina doméstica* [Domestic medicine] by William Buchan (1788), which Paiva translated two years later.

Even in Europe, such texts were highly desirable for medical discourse, which was eager to extend the reach of its discourse among a population with only scarce and expensive access to physicians. Their force came precisely from their ability to refer to a set of experiences that were to some extent shared by individuals and medical practitioners in different contexts. There is no doubt that these factors did not go unnoticed by savants like Paiva; it was not by chance that he chose to translate texts that had already been successfully published and were closely connected to the universe of medical ideas from the Old World. In the meantime, other drivers motivated the production of medical works during this period. In addition to texts that sought more widespread applicability, many scholars dedicated their writing to understanding unique pathological manifestations in specific climates and geographies. This was an important trend, especially in imperial contexts such as the Portuguese and British empires, where European doctors were often challenged when practicing far from their own temperate climates. Fevers offered a particular challenge in these cases.

Atlantic medicine and fevers in the tropics

The construction of overseas empires from the late fifteenth century amplified the circulation of people, goods, and information to an unprecedented extent between Europe and Asia, Africa, and the Americas. At the same time that this permitted the establishment of complex colonial companies, these networks also renewed contact between European knowledge and diverse cultures, climates, and geographies (Boxer, 2002). Dominating the specific characteristics of these new environments often became indispensable for the survival of those who established themselves there, as well as for proper maintenance of colonial relations. These imperatives, as highlighted by Londa Schiebinger (2017), helped make the colonial environments true medical complexes. Within these complexes

experimental cultures flourished, nourished by the exchange of plants, medications, people, and animals, permitting an interweaving of healing traditions and expanding the curative repertoire of European academic medicine. Along these lines, part of the historiography in English has pointed out that British colonial expansion played a fundamental role in the literature on fever, especially from the eighteenth century onward. Some of the most prestigious works at the turn of the century emerged from the experience of doctors on military missions in colonial areas, such as James Lind (1716-1794), Sir John Pringle (1707-1782), and Robert Robertson (1742-1829). Even William Cullen (1710-1790), a reference in the treatment of fever among the Luso-Brazilians, spent several years serving in Jamaica before writing his famous text entitled *First lines of the practice of physics* (1784) (Hamlin, 2014; Bynum, 1981).

As we know, the Portuguese Empire also was constructed through the establishment of large circulation networks for goods, individuals, and knowledge (Boxer, 2002; Russel-Wood, 2016), and although military missions do not seem to have played such a decisive role in the British context, the literature on fevers also takes advantage of overseas experience. In a recent work, Hugh Cagle (2018, p.12-13) points out the contribution of studies on fever in the Portuguese Atlantic to establishing the concept of “tropics” in the European mentality. He highlights a relatively wide range of politically connected Portuguese medical practitioners with university training, who from the seventeenth century helped clarify the nosological and climatic similarities of intertropical areas which were far from each other but equally subject to Portuguese rule. In analyzing the trajectory of Aleixo de Abreu, a physician who served the Crown in Angola and Pernambuco in the seventeenth century and wrote the *Tratado de las siete infermidades* [Treatise of the seven infirmities], Cagle shows how the manifestations of fever in tropical regions became a very important topic for the colonial administration, motivating its representatives abroad to explore innovative therapies that brought together local healing knowledge, which was subsequently forwarded to Lisbon (Cagle, 2018, p.208-233).

In general, the relevance of these works for the colonial administration was directly proportional to its potential to shed light on local matters of health and salubrity that could threaten productive activities. It was no accident that, during the height of the sugar trade in Pernambuco, João Ferreira da Rosa published his *Tratado único da constituição pestilencial de Pernambuco* [Sole treatise on the pestilent constitution of Pernambuco] (1694, p.2) related to a fever that had ravaged the region years earlier:

Seven years ago, a serious disease was seen, which had never been seen before there [Pernambuco] (previously the climate was so admirable, that there always seemed to be a gentle spring, so free of cruel diseases, that in none of the years of our memories had struck).

The serious disease to which he referred is defined as a pestilent fever,³ “the most cruel disease in the world: which due to its terrible hidden quality as the enemy of the heart, has done more damage than other contagious diseases” (Rosa, 1694, p.3). Rosa highlighted the high mortality seen early in the epidemic in Pernambuco, which “left it nearly deserted.” He described the victims’ suffering as lasting around six to nine days, although there were

cases in which the sick “did not last more than twenty-four hours.” The number of deaths reached slightly over two thousand, but some reports were even higher, and even brought some of the deepest fears of seventeenth-century colonial elites to the fore: “it reached the point that there were no men to accompany the Blessed Sacrament; and it was assumed that the Gentiles would want to conquer [it], which was miraculously prevented” (Rosa, 1694, p.5).

The contagious nature of the disease was influenced by the “pestilential quality” in the churches, where “at all times graves were so carelessly [dug], which not only were not deep but also served to bury five or six bodies in the same hole” (Rosa, 1694, p.4). But these causes were no more than ancillary. To Rosa, a “more general” disease would also require a “common and general” cause rooted in the specific climate of Pernambuco. Modeled on an appropriation of the Hippocratic *corpus* permeated with Aristotelian and magical/astrological elements, Rosa stated that the quality of the air in Recife was a direct result of the morality of its inhabitants, condemning them: “And angry and Divine justice for our faults will continue this contagion, as long as we do not reform our appalling habits” (Rosa, 1694, p.13). Finally, eclipses also had supreme power, with harmful effects driven by “vapors from rotten meat” that already existed in the air.

Published 17 years earlier, *Queixas repetidas em ecos dos arrecifes de Pernambuco* [Repeated complaints in echoes of the reefs of Pernambuco] (1677) was another notable work during this period. It was written by Simon Pinheiro Morão, a physician from Covilhã who probably arrived in Brazil in 1671 after a troubled trajectory with the Portuguese Inquisition. At the beginning of the text he recounted his frustration with the ignorance of the local population, who supposedly were not familiar with the basic principles of good medicine and were subject to abuse of all sorts when dealing with the healing arts. Ignorance about the climate appears in first place among the list of twelve complaints described by the physician. He stated that the inhabitants attributed “various qualities they had, without considering as they should” to the hot and humid climate found in “all of the Americas but very particularly Pernambuco,” criticizing not only the inhabitants in general but specifically the surgeons who worked in the region (Morão, 1692, p.6). The author assumed a pedagogical stance and dedicated himself to pinpointing ways to suppress or extinguish the widespread abuses committed there. In the three chapters devoted to fevers, Morão analyzed them as the result of a disturbance in the humors that comprise the human body, most commonly caused by an excess of choler (Morão, 1692, p.31). He described them thoroughly so they could be clearly distinguished from each other, and prescribed bloodletting as the best therapy, warning of the abuses of this practice committed in Pernambuco.

During the period of reformism in the Portuguese Enlightenment, the utilitarian character of Lusitanian medical production reached its peak, but the local character of diseases began to take on a more central role. *Ensaio sobre algumas enfermidades de Angola* [Essays on some illnesses of Angola] (1799) was the result of the period when José Pinto de Azeredo was in Luanda as the Counselor-Mor, a post to which he was appointed in 1789. The first paragraph exhibits a significantly different posture compared to the works of Rosa and Morão:

Fevers in Angola are of the same nature as those observed in other countries situated in the tropics. I have noticed them in Rio de Janeiro, Bahia, and Pernambuco, as well as that in these latter two they are much less frequent. The paroxysms, crises, progress, and symptoms are also the same, and, for this reason the method of healing these [fevers] that I shall describe must be the same as those applied to fevers from other climates. I started to put [these] into practice in the city of Rio de Janeiro, and my subsequent success convinced me to continue in Angola, where I found a completely opposite cure (Azeredo, 2013, p.19).

Azeredo proposed an approach to fevers geared specifically toward “torrid” or tropical climates. Though it was not unheard of in medical circles in Europe at the time, the approach was still uncommon in the Portuguese Empire. The works by Rosa and Morão were not intended to produce an original approach to fevers in hot climates, but rather to indicate the mechanisms that led to the manifestation in the colony of fevers already known in Europe. This is very clear in the professorial tones used by Morão, who arrived in Pernambuco willing to reveal the real nature of the diseases suffered by the supposedly ignorant local population. Azeredo, in turn, started from a renewed medical cosmology in which the stars and divine wrath at worldly sins were not as prominent. Even using European literature on fevers (and even tropical fevers) as a foundation, he attempted to develop an original approach and spared no criticism of the authors who were consecrated among their peers in Europe, even one such as William Cullen:

The Doctors who carefully and blindly follow the doctrines of Hippocrates, even today expect fevers on critical days. Some authors of this century simply copy old doctrines, no longer reflecting on them, and they have caused inviolable respect for their opinions to move into our own age. Even Cullen, my wise teacher, a free and eclectic man, fell into the same error of the critical days. Cullen supports the Hippocratic doctrine of similar days, presenting as proof periodic movements that are continuously observed in animal economy, in health as well as illness (Azeredo, 2013, p.33).

To Azeredo (2013, p.33-34; emphasis in the original), such movements did not arise in the “‘medicating force of nature’ discovered by Stahl,” as Cullen insinuated, but rather in physical causes of a different nature, which for him completely ruled out this part of Hippocratic doctrine:

I observe fevers that end on the days known as critical as well as on non-critical days. Cullen’s opinion is unlikely. The invention of the critical days leads the Professor, who is waiting for the crisis, to discontinue the necessary remedies even when they are needed, and when they may decide the life of the patient.

Another notable point in Azeredo’s work is that both his critical stance with regard to the European literature and his knowledge on fever in Angola are based (as he himself states) on his experiences in Rio de Janeiro and Pernambuco. This aspect involves a horizontal movement of knowledge within the Portuguese Empire that has not yet been explored in depth by the historiography. His performance in Brazil was decisive in creating original methods to combat the fevers that now were intruding into the new knowledge acquired on the African continent.

This aspect can also be seen in productions from the Joanine period, when concerns with the specifics of Brazil's climate, geography, fauna, and flora acquired new momentum. After the Portuguese court moved to Rio de Janeiro in 1808, it became imperative to intervene in the abysmal hygiene conditions in that city and combat the diseases that threatened the health of its inhabitants and visitors, granting healthfulness renewed importance on the agenda of the local administration. After all, the effort was not only civilizing, but it was also necessary to make the city a productive space that could generate economic, social, and political profits for a politically weakened government with its sovereignty in jeopardy, considering the complicated political framework of Napoleonic Europe (Villalta, 2016; Silva, 2013).

The Crown consequently began to directly encourage scientific works dedicated to understanding the specifics of health in the new capital. One of the milestones of this period was *Reflexões sobre alguns dos meios propostos por mais conducentes para melhorar o clima da cidade do Rio de Janeiro* [Reflections on some of the means proposed to be more conducive to improving the climate of the city of Rio de Janeiro] by the physician to the Royal Chamber, Manuel Vieira da Silva. Published in 1808, the text eventually became widely known, partly for being one of the first products of the newly-opened Royal Press in Brazil. Produced at the order of the prince regent, it described the characteristics of the terrain, temperature, and air movement as well as the effects of these factors on the health of Rio de Janeiro's inhabitants (A saúde pública..., 2008). Most of the authors who produced work of this nature were part of the intelligentsia attracted to Brazil in the wake of the court's arrival. In order to establish themselves in the relatively new social and political context, they turned their intellects to themes that were relevant in the eyes of the capital's governance, for political and professional gain. Considering the losses to fevers suffered by the court during only a few years, it is no surprise that these illnesses were among the topics thoroughly investigated by the intelligentsia.

Francisco de Mello Franco is an emblematic example of this intellectual profile. In 1821 he wrote *Ensaio sobre as febres do Rio de Janeiro* [Essay on the fevers of Rio de Janeiro], describing the particular characteristics of fevers found in the capital compared with those which were most common in Europe. As mentioned in another study, he was born in Paracatu, Minas Gerais, and had returned to Brazil a few years earlier when he concluded his successful trajectory in Lisbon, accompanying the Archduchess Leopoldina on the journey that would unite her with her husband, Prince Dom Pedro de Alcântara (Freitas, 2017).

In his analysis of fever in Rio de Janeiro, he was surprised to note the absence of the contagious type, which he claimed was very common in Europe, although exanthematous fevers were slightly more frequent. At the beginning of his essay, Mello Franco defined himself as a physician experienced with fevers, since he had an "unswaying and uninterrupted practice in the superb and populous City of Lisbon" over 34 years, which allowed him to create his own "system" of medicine. He also participated in the committee of the Academy of Sciences of Lisbon which worked to combat the contagious fever epidemic that struck the Portuguese capital in 1811, as mentioned elsewhere (Freitas, 2017). For Mello Franco, the case of Rio de Janeiro required specific study, since the febrile states proposed by the European literature of the time did not apply to the region. In theory, the hot and humid climate was expected to encourage contagious fevers, but that was not the case:

But how is it possible that, with so many combined causes that develop contagious emanations, that they are not active? It is indeed very difficult, not to say impossible, to give an explanation that satisfies the philosophical spirit: why, if the nature of these emanations is entirely unknown to us, and, in general, of all the different ‘viruses’ and miasmas that attack human organization in various ways, we cannot precisely say what the major agents of nature are which give them or deprive them of their strength and energy (Franco, 1829, p.45).

In the meantime, the doctor was unable to leave the question unanswered. Based on the studies of Tiberius Cavallo (1749-1809), William Henley (?-1779), and others who dedicated themselves to the notion of animal electricity, he stated that the reason for the lack of contagious fevers in Rio de Janeiro was related to the interaction between the bodily electricity of individuals and the atmosphere of the city, which was loaded with electrical fluids:

So since the atmosphere of this City is so electric (as it is called), it is natural that the human organization is continuously (so to speak) saturated with this fluid; which is modified in the brain, and is distributed throughout the entire nervous system, most likely forming what the ancients called *pabulum vitae*, although they did not yet know of electricity (Franco, 1829, p.47).

Although the findings seem highly speculative, the impact of the work does not seem to have been negligible. Pedro Nava (2004, p.52) mentions that this essay was a reference for nearly fifty years at the Faculty of Medicine, before it was supplanted by the work of Torres Homem in 1877.

While Mello Franco investigated the fevers in Rio de Janeiro based on his clinical experience on European soil, other authors arrived here with distinct baggage acquired in other realms of the empire. In this sense, the circulation of medical knowledge between the Portuguese Americas and Africa seems to have played an important role in the study of fevers. José Maria Bomtempo, a professor at the newly founded School of Anatomy and Surgery, came to Brazil in 1808 after seven years in West Africa. Six years after his arrival, he wrote his “Memória sobre algumas enfermidades do Rio de Janeiro” [Memoirs on some illnesses of Rio de Janeiro] (1814), in which he expressed skepticism with regard to the current opinion in the city of that time that fevers were “very frequent diseases.” To him, the vast majority of cases considered to be “malignant fever” were nothing more than harmless variations of the phenomenon characterized as essential fevers:

If all illnesses that bring with them a quickening of the pulse deserve the name of fever; then almost all diseases could be called fevers: but division and methodical arrangement is required in practice to solidify one’s clinical career, we also see that actual fevers are not so common in this country; however they do exist and are even very ordinarily different from are normally understood (Bomtempo, 1825, p.18).

Another prominent character of the period was the Italian Luiz Vicente de Simoni. He arrived in Rio de Janeiro in 1817, and two years later went to Mozambique at the service of the Portuguese Crown, where he remained until 1824 (Rodrigues, 2006; Wagner, 2012). During his time in Africa, he wrote *Tratado médico sobre o clima e enfermidades de*

Moçambique [Medical treatise on the climate and infirmities of Mozambique] (Simoni, 1821), in which he described the local geography, climate, and population in detail, along with the most common diseases and the traditional therapies which were frequently used. At the conclusion, he devoted an entire chapter to fevers, divided into four parts: the general character of fevers in the country, distinctions between the types of fevers observed, the general system to be followed in treating fevers, and finally, a last section in which he proposed modifications to known medical systems according to the peculiarities he noted in Mozambique.

As he confesses in his treatise, he first arrived at the Portuguese colony terrified of Mozambique's deadly reputation: "the name alone horrifies anyone who hears it, much more so anyone who expects to be transferred there, either in transit or to establish themselves definitively" (Simoni, 1821, p.6). This attitude transformed over his time there, motivating him to write his treatise, which was intended to make his successors as Physician-Mor less apprehensive about adapting to Mozambique. Once he had returned to Rio de Janeiro after Brazil's Independence, he was summoned by Dom Pedro I to be part of the commission responsible for combating an outbreak of epidemic fever in the villages of Magé and Macacu between 1828 and 1829 (Simoni, s.d.).

Final considerations

As we have seen, variety is an essential characteristic of experiences with fevers. Whether because of entangled descriptions of diseases in the press and private correspondence or the variety of causalities and therapies indicated in medical texts, it is difficult to establish clear standards for work in this area. But as we have indicated, in addition to the epistemological lines of medicine during the period under study, this diversity also results from the ontological plasticity attributed to fevers at that time. Their near-omnipresence in the society is partially explained by the fact that the common definitions of fever in those times (despite their differences) were flexible enough to encompass many of the pathological manifestations that afflicted the vast majority of individuals throughout their lives. In other words, many people died from fever precisely because many of the most common symptoms could be attributed to fever in some way. However, this does not allow us to consider these diagnoses to be merely speculative, since as the literature has emphasized (Hamlin, 2014; Bynum, 1981), these classifications tended to evolve together with medical knowledge itself, and are powerful resources for understanding concepts of the body, health, and illness that often served as the foundation for public health policies. In the meantime, more profound investigation of how this evolution took place specifically in the Luso-Brazilian environment is required, since part of our intelligentsia worked to produce useful and original knowledge to combat the fevers in the so-called "torrid climes." As we have shown here, the path seems promising, and points toward flexibilization of the traditional ways that knowledge circulated within the Portuguese Empire, showing that the experiences acquired by royal staff in several of the Imperial realms often were considered be at least as important (if not more so) than the medical literature produced in Europe.

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NOTES

¹ In this and other citations of texts from non-English languages, a free translation has been provided.

² In the Latin American context, authors such as Mónica García (2017) have criticized the use of contemporary understandings of yellow fever in analyzing discourse on this disease from this time period.

³ Odair Franco (1969, p.8), along with most of the historiography, indicates that Rosa's report was the first manifestation of yellow fever in Brazil. This however, is questionable and requires further investigation, and we consequently will not consider this at the moment..

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