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Abstract

During the War of the Farrapos, the Imperial Army called thousands of Brazilians to fight against the Rio Grande republicans. The ten years of conflict brought soldiers from different regions of Brazil together in one place, and reciprocal social interaction led to the construction of otherness relationships. A broad spectrum of accents, experiences and references came together, making the diversity of Brazilians from different regions visible. This diversity stimulated the demarcation of different and shared means of identification, among which we highlight diet and diseases, which served as signs to identify/differentiate the origins of the troops. These questions are analyzed based on handwritten documentation produced daily by Army administrators.

Keywords: War of the Farrapos; diseases; Imperial Army; soldiers; Imperial Brazil.

During the almost ten years of the War of the Farrapos, the Brazilian Imperial Army in Rio Grande do Sul received thousands of soldiers from other parts of Brazil. To better understand this contingent, note that in 1845 the imperial forces included 12,537 soldiers, of which almost 4,000 were a detachment of national guardsmen, most from Rio Grande, and about 9,000 were soldiers in the Army, mostly Brazilians from Pernambuco, Rio de Janeiro and Bahia.

The gathering of soldiers from different regions of Brazil together in one place and reciprocal social interaction fostered otherness relationships between them. A broad spectrum of accents, experiences and references came together, making the diversity of Brazilians from different regions visible. However, because the war took place in the South, the indicators of the differences were based on the characteristics of the people from Rio Grande do Sul. For this reason, the characteristics of the Brazilians from other regions were rarely mentioned in documents. Some characteristics were used to differentiate the inhabitants of Rio Grande from Brazilians from other regions, such as their adaptation to the cold winters in the region, their greater consumption of beef, and their fame as excellent horsemen. The goal of this article is to analyze some of these singularities.

The way in which the individuals related to the climate is one of the issues highlighted in the records from that era. As stressed by Witter (2007), the foreign travelers who passed through Rio Grande do Sul mentioned the mild, healthy climate, considered very similar to that of Europe and more appropriate for recent arrivals from the Old World than any other part of Brazil.¹ At the same time, Saint-Hilaire (1997), for example, stressed how little the inhabitants of Rio Grande were affected by low temperatures, and the spouse of the heir to the Brazilian imperial throne also complained of this some years later.² Of course, we must interpret the perceptions of foreigners with care, as they admired what they saw through specific perspectives and interests and did not always look at the big picture (Fleck, 2006). However, these records cannot be discarded and may suggest issues disregarded or rarely mentioned in other sources.

According to the reports of some of these observers, the temperatures in Rio Grande do Sul varied, in the summer, from 27°C to 29°C, sometimes reaching 35°C; in the winter, they varied from 1.5°C to 13°C, but the wind chill factor was greater with the arrival of the minuano and pampero winds from the Andes and Argentinean pampas, respectively (Hörmeyer, 1986; Baguet, 1997). While these oscillations could be agreeable to foreigners "suffocated by the heat waves in Rio de Janeiro, the dust storms and cold nights in Buenos Aires" (Isabelle, 1983, p.58)³, the individuals accustomed to hot regions found it difficult to adapt to the environmental conditions in the South, especially if they had to face them together with the other hardships of a soldier's life.

As hard as the summers were, the soldiers suffered more in the winter. The arrival of cold weather meant an almost total halt of fighting. The low temperatures and humidity increased the incidence of disease and desertions, and many men left the units to return home, refusing to return before the end of September. The horses were useless for marching, the roads became mires, and the rivers overflowed (Brito, May 27, 1836). It was the time to winter, meaning gather the soldiers together in camps protected from the cold and prepare them for the recommencement of operations.

Everyone suffered. However, in the same way the European soldiers were weakened by the heat and tropical diseases of the Brazilian Northeast (Mello, 1998), soldiers coming from other parts of Brazil had been plagued by the cold in the South since colonial times (Possamai, 2006; Seidler, 2003). The military commanders could calculate the harm caused by difficulty in acclimating in the following manner: "Each recruit from the North costs no less than 400 reis, because as soon as they leave their homes there in the hinterlands, they start receiving pay, plus travel costs, weapons and uniforms, but some of these soldiers only exist as a number, because they go directly to the hospital, and from there to the cemetery" (Rodrigues, August 17, 1839). In 1840, of the 7,979 soldiers stationed in Rio Grande do Sul, only 6,500 were able-bodied. "All the others are sick, or stationed at other locations" (Andréa, Oct. 3, 1840). Differentiating the origins of the sick, the Baron of Caxias (1950, p. 84) declared, in 1843, that about "two thirds of the recruits from the North will spend a lot of time in the hospitals."

Some of the illnesses were due to the difficulties in housing so many soldiers. Most of the ill were housed along the coast, and the difficulty in accommodating so many men led to frequent use of unhealthy locations transformed into relatively temporary barracks. Once the surgeon of the Rio Grande military hospital complained of the fact that some soldiers from Pernambuco were housed in a "beef drying facility... where they breathed putrid air" (Cunha, Jan. 24, 1841; Barreto, Jan. 19, 1841), which made them fall ill.4 In Porto Alegre, other beef drying facilities near barracks were described as the "first infection point... harmful to the health of the soldiers and the population of this city due to the putrefaction of the blood from cattle intestines" (Veloso, May 18, 1842). In 1842, a unit commander informed the president of the province that he had transferred his men from Rio Grande to São José do Norte due to the "horrifying mortality the battalion had suffered... with days in which 8 people died, with the result that 35 soldiers residing there had died over 10 days due to the intensity of the epidemic of cerebral diseases" (Veloso, May 18, 1842). This situation was not new and persisted with the soldiers arriving after the end of the War of the Farrapos, despite the measures taken by the physicians – isolation of the sick and treatment of soldiers at the Mercy Hospitals. (Andréa, Sept. 6, 1849; Landel, Jan. 24, 1837; Leitão, May 22, 1843).

These reports tend to match the statements of Eric J. Hobsbawm about the great risk of death in armies during the "Age of Revolution," when diseases killed more than the enemy. In his words, "only 6 or 7 per cent of the British sailors who died between 1793 and 1815 succumbed to the French; 80 per cent died from diseases or accidents". One of the great problems with armies, according to Hobsbawm, was poor salubrity and hygiene. However, the lack of hygiene and salubrity was a characteristic of the population in general, which Emanuel Araújo (1983) called "dirtiness as a habit." This must be understood, in a historical context, as the fruit of different sensibilities that did not necessarily see garbage and uncleanliness as something negative (Rodrigues, 1995).

Of course, specific features of the conditions of civil or military life could lead to a greater or lesser incidence of some typical disease. After all, it seems logical that individuals not accustomed to cold, humid Southern winters would suffer considerably after arriving in the province. According to Marlon Salomon (2005, p.101), the "climate does not directly

effect people," it affects them indirectly because individuals have different constitutions, different "prior habits and later adopt different ways of life." For example, civilians were rarely forced to march long distances, sleep outside, depend on the generally deficient food supply networks of the authorities, or spend nights at guard posts. Even when faced with one or another of these situations, the civilian population was able to shield itself from them easier and quicker due to its greater mobility and independence.

The difficulty of the military routine could be measured by the displacement of a unit. 1,200 men were moved from Santa Catarina to the west of Rio Grande do Sul. It was estimated that it took 35 days and three trips in steam ships to go from Desterro Island to Rio Grande; from there it took eight days to arrive at Triunfo in boats pulled by steamers. Cachoeira could be reached on foot in more than ten days, since it was almost impossible to take so many people on the Jacuí river in the winter, which would take more than a month if attempted. The march would continue to Alegrete through about 460 km of plains, crossing rivers and brooks which in the winter did not provide passage and could swell at any time. In times of peace, a single light unit, without artillery, could cover the distance in thirty days, but during war the journey would take an unimaginable amount of time. If the troops were acclimated, the attrition would not be too bad, but an experienced pessimist predicted: if the raw recruit "escaped the rigorous weather, [he] could not escape the iron of the enemy" (Rio Pardo, July 15, 1841). There were many opportunities to fall sick.

Despite this, mentions of disease among the troops from the North are not very precise. Bexigas (smallpox), fevers and cerebral diseases, typhoid fever, and dysentery were mentioned, among other diseases. Unfortunately, despite the great progress in research on the history of curing in Brazil, there are few studies on the relationship between diseases and the military in the country. Analyses of Army health divisions contribute little to the discussion because they addressed only the institutions⁷ and not the occurrence of diseases, treatments, mortality and other aspects. Military historiography has analyzed these occurrences in only a summary manner. This holds even for the war against Paraguay, when the outbreaks of cholera morbus killed thousands. In the broadest and most consistent analysis of this conflict, Francisco Doratioto (2002) refers only to health problems caused by freshly slaughtered meat and consumption of river water, especially in soldiers from the North, in addition to making other commentaries on Brazilian Army medical personnel and reproducing witness accounts of cholera. Ricardo Salles (1990) and Wilma Peres Costa (1996) present more detailed information. Based on War Ministry reports, Salles cites percentages of those sick with cholera morbus, fevers and diarrhea that attacked the soldiers of the Triple Alliance. Costa presents numbers that confirm Eric Hobsbawm's statements about the lethality of the diseases, which during some periods killed more men than the enemy. Sabina Loriga (1991) presents comparative figures for Europe for the causes of death for civilians and soldiers, especially for infantrymen. She concluded that three soldiers died for every civilian due to the poor salubrity of the barracks, where outbreaks of venereal diseases, tuberculosis, scurvy and smallpox were rife.

The only work specifically dedicated to analyzing the causes and incidence of disease in Brazilian soldiers on campaign is that of Jorge Prata de Sousa (2004), on the sanitary and hygienic conditions of the Brazilian troops during the Paraguayan War. Based on

War Ministry and Navy reports, the author concluded that soldiers died more from disease than from combat. The principal reasons for those deaths were the poor qualifications of the recruits mobilized; the physicians' lack of care during health examinations; the dismal salubrity and hygiene during the war, including with respect to diet; and the inappropriate soldier transport conditions.

Government data and memoires of the war against the Rio Grande republicans are not as detailed as the documents available to researchers of the Paraguayan War or the wars in Europe. However, we know that the health assessments in the recruit barracks were not very discerning, and that individuals who were sick when they arrived in the South were attested to be able-bodied. These discrepancies between the surgeons in the Rio Grande do Sul army and Rio de Janeiro persisted until the end of the war, and soldiers considered unfit in the South were judged healthy in Rio de Janeiro (Brazil, 1943, daily report, Nov. 8, 1844). This data allows us to infer that the Imperial Army employed many individuals who were not healthy. Similarly, Jorge Prata de Sousa observed the same in the mobilization during the Paraguayan War, years later.

Therefore, the objective of this article is not to analyze the physical conditions of the soldiers, but rather understand in what way the occurrence of illnesses served as a differentiating and identifying element for the soldiers from the Northern and Southern provinces of Brazil. Unfortunately, we only have statistical data on disease incidence in Rio Grande do Sul for the period of almost 18 months after the end of the war, at the time of year during which winter is hardest in the province.

In Table 1, note that slightly more than 1% of the patients listed died, a very low percentage compared to the death rate in Brazilian hospitals during the war against Paraguay.⁸ And, with the exception of one patient with gonorrhea, none of the individuals died of anhidrosis or any of the other more frequent conditions. There is no contradiction between the higher incidence of some diseases and the fact that most deaths were the result of other illnesses. Obviously, some diseases were more lethal than others, since epidemics could be controlled.

According to the report from the War Ministry in 1844, Rio Grande do Sul and Rio de Janeiro were the places in Brazil which most needed hospitals and health professionals due to the large concentration of soldiers. In the South, the difficulties were even greater, in part because most of the surgeons were commissioned and were able to find better jobs

Table 1: Extract from the record of patients treated in the 14 regimental hospitals in Rio Grande do Sul in the 3rd quarter of 1846

Most common diseases	Total patients	Most lethal diseases	Total deaths
anhidrosis (196), gastritis (170), contusions (145), gonorrhea (116), rheumatism (95), venereal chancres (95), syphilitic ulcers (89), syphilitic pain (82)	2,118	dysentery (6), bexigas (4), diarrhea (3), pulmonary tuberculosis (3)	28

Source: Sousa, Nov. 23, 1846.

outside the army. In 1846, there were 14 regimental hospitals in Rio Grande do Sul. However, many of the ill soldiers in the province were sent to Rio de Janeiro for better treatment due to the seriousness of the diseases suffered. As a result, although the number of ill soldiers in Rio Grande do Sul was greater than the number of soldiers treated in Rio de Janeiro, the greatest concentration of the smaller number of cases considered more serious was in Rio de Janeiro. Table 2 indicates the number of patients and the most lethal diseases in the hospital stations in Rio de Janeiro in the first half of 1845.

In Table 2, note the greater correspondence between the most common diseases and those that caused the most deaths, especially in the second quarter.¹⁰ Additionally, the numbers in the table indicate that 4% of the patients treated died, a larger proportion than that seen in Rio Grande do Sul (1%). However, note that these numbers are much lower than those analyzed in other studies. According to Beatriz Teixeira Weber (1999), outbreaks of epidemics in the first decades of the twentieth century killed 25% of patients in Porto Alegre, 20% in Rio de Janeiro, 16% in Buenos Aires and 15% in London. Weber stresses that people tried to cure their illnesses through many other resources before turning to hospital treatment, simply because they had no way to stop working and still make enough to live on. Only in cases in which no cure was achieved through other treatments were they taken to hospitals.¹¹ The hospitalized soldiers, however, continued to receive their salaries, even though the sums could revert to the health institutions. This explains, for example, the large number of cases of anhidrosis and scabies among those treated in the military hospitals, contrary to what probably happened in hospitals serving the civil population.

Many soldiers asked to leave Rio Grande do Sul, alleging that the province's climate made curing their illnesses more difficult, and they would be cured more quickly after returning to their families in their provinces of origin. However, in addition to these

Table 2: Extract from the "clinical-nosological table of diseases treated during the 1st [and 2nd] quarter[s] of 1845 at the military hospital station in Rio de Janeiro"

First quarter 1845	Most recurrent diseases	Total patients	Most lethal diseases	Total deaths	
	scabies (23), quotidian bilious intermittent fever (19), inflammations (13), bronchitis (17), diarrhea (11)	352	tuberculosis (4), tisic (4)	14	
Second quarter 1845	scabies (86), diarrhea (26), quotidian bilious intermittent fever (16), hepatitis (8), pulmonary tuberculosis (8)	244	hepatitis (2), pulmonary tuberculosis (2)	9	
Total number of sick and killed by the most recurrent and/ or lethal diseases	227	596	12	23	

Source: Bastos, April 10, 1845.

soldiers, many others were sent to Rio de Janeiro for better treatments for their diseases. According to the War Minister, experience showed that it was expensive and ineffective to create well-equipped hospitals in various locations, and he therefore urged the creation of a large military hospital in Rio de Janeiro to serve the increasing number of patients, most arriving from Rio Grande do Sul. The project was implemented in 1844-1845 with the merging of two military hospitals in the capital in a new building on Morro do Castelo (Santos Filho, 1991).¹²

The most serious cases were sent to Rio de Janeiro for treatment, but some patients were not sent there because "they remained [in Rio Grande], waiting, because their conditions were not as pronounced" (Rodrigues, April 4, 1844).¹³ The procedure for sending sick soldiers to Rio de Janeiro was simple. After an initial examination in Rio Grande do Sul, the physicians decided if patients should be transferred to Rio de Janeiro. These transfers explain why many of the diseases in regimental hospital records in Rio Grande do Sul resulted in low lethality.

There are records of the examinations of 160 soldiers arriving in the military hospital station in Rio de Janeiro in 1844 from Rio Grande do Sul. They are only partial samples, but they give us a better idea of the state of health of the soldiers in the Imperial Army because they refer to the cases considered most serious. The lists do not indicate the origin of the patients, only their diagnoses and the units to which they belonged. Few members of the infantry and artillery were from Rio Grande do Sul, since soldiers from the province were almost all members of the cavalry. Assuming this is a valid criterion for indicating the origin of these individuals, one can deduce the origins of the sick soldiers. Based on this, the proportional comparison and by branch between the number of sick and the soldiers in the Imperial Army, in 1844, in Rio Grande, suggests something interesting (Table 3).

There is great similarity between the percentage of soldiers in the infantry, artillery and cavalary and the percentage of patients treated in Rio de Janeiro, which allows us to infer that the most serious illnesses occurred more or less uniformly among the imperial troops, whether from the North or the South. For example, these lists include both Antônio Felipe, the bugler from Paraíba¹⁴, and Bento Bandeira de Melo, the cavalry soldier, both diagnosed with "lung disease." Many more Northern soldiers appear on these lists because there were many more of them. However, in another war context, the occurrence of disease is the opposite, and even then the most lethal diseases spread equally to all. This is also clear when consulting the 1827 death records from the Porto Alegre Military Hospital,

Table 3: Table showing the results of health examinations at the Rio de Janeiro military hospital station in the first half of 1845 and the number of soldiers in each branch of the Imperial Army in 1844

Total number of soldiers in the Imperial Army		Total number of patients examined		
Infantry	7,046	91%	139	86%
Artillery	317	4%	12	8%
Cavalry	366	5%	9	6%
Total	7,729	100%	160	100%

Sources: Fragoso, 1939; Brazil, 1844.

during the Cisplatina war, another period during which soldiers from various regions in Brazil fought side by side. In addition to the name, unit and cause of death, the records included the place of birth of the deceased, among other information. There were more deaths of Southerners, especially those from Rio Grande do Sul, but the causes of death were the same.¹⁵

If the most lethal diseases attacked soldiers from different regions of the country equally, how can we explain that those from the North fell ill easier? On one occasion, a high official categorically stated: "it is not the cold that kills soldiers in Rio Grande do Sul, what kills them is sending them there with insufficient food and light clothing, wearing canvas pants and jackets, which I saw myself in 1836" (Brito, May 15, 1841). There is some exaggeration in this statement, even though complaints regarding the insufficiency and inadequacy of uniforms was frequent and affected all soldiers. In this respect, those from Rio Grande do Sul had an advantage because they had more appropriate clothing and could take shelter in their own homes or in those of people known to them, although they were also subject to the elements on marches through the countryside. In summary, the cold and humidity contributed greatly to the occurrence of disease, but it seems more appropriate to search for causes of death by analyzing the most frequent diseases.

More detailed analysis of the lesser or greater seriousness of the diseases are beyond the scope of this article and shall be left to historians on curing practices. However, we would like to mention a few aspects of the cases of tuberculosis, diarrhea and/or dysentery. When studying slaves in Rio de Janeiro in the first half of the nineteenth century¹⁶, Mary Karasch (2000) produced an important study on the occurrence of various diseases in Brazil. According to the author, tuberculosis was the disease responsible for the greatest number of deaths of slaves and the free poor in the capital. It could be transmitted through sexual contact - like typhus, which devastated troops in Europe (Bercé, 1985) - and through living in groups and in poorly ventilated areas, and principally affected individuals suffering from poor nutrition, great stress and an excess of work. These were the living conditions of the soldiers in barracks, in military posts, and in the city-garrisons in Rio Grande do Sul, regardless of their origin. According to Karash, dysentery was used to designate the two variants of the disease, indistinguishable to doctors in the nineteenth century. The more lethal type was shigellosis, which caused fever and intestinal movements in those infected, with bloody vomit and mucus, and killed them within four days. The less contagious and less lethal was amebic dysentery. Both could be transmitted in unclean environments and by consuming water and food contaminated by excrement.

There is no way to determine which of these two diseases afflicted a greater number of Imperial Army soldiers. However, the tables showing the most lethal diseases treated in the military hospitals in Rio Grande do Sul and Rio de Janeiro allow us to note the similarities and differences between the regions. Tuberculosis, for example, killed soldiers in all cities, but dysentery only caused deaths in Rio Grande do Sul. This geographic limit might be explained by the quickness of death, but could also be related to the different eating habits of the troops and the types of food available.

In Brazil, food was basically beans, manioc flour and dried meat, with some peculiarities in each region (Silva, 2005). In the extreme South, the abundance of cattle led to a diet

based principally on dried or freshly slaughtered meat. In extreme cases, soldiers in a unit could have to subsist on just meat for months. A diet almost exclusively of protein was not something easily digested by stomachs accustomed to other food or greater nutritional variety, and resulted in frequent illness in the troops from outside the province. Some commanders reported the situations in this way: "cold weather and rain, which annihilated our infantry, who had no manioc flour whatsoever and were reduced to simple beef, and have fallen ill with dysentery, to which many have succumbed" (Rio Pardo, July 18, 1841a). Jorge Prata de Sousa (2004) also observed the consequences of this food restriction on soldiers unaccustomed to it during the Paraguayan War, and similarly for Silmei de Sant'ana Petiz (2007) with respect to African slaves in the Rio Grande do Sul countryside.

Observations related to food marked an important difference between those from the province and the "soldiers from other regions who could not live without ... manioc flour because without it they quickly fell ill, because they were not accustomed to these privations like we are" (Seara, July 18, 1841).¹⁷ The production of corn and manioc is one of the legacies of the tribes that inhabited the American continent, and one or another of these crops was present throughout the territory corresponding to modern-day Brazil when the Europeans arrived, and they adapted to consumption of these foodstuffs in various forms (Dean, 1996; Holanda, 1994; Silva, 2005). Manioc flour and corn flour were always two of the foods most accessible to the general population and were used by the colonial population as a substitute for bread (Algranti, 1997). The prescribed diet for soldiers was composed of various foods, but often manioc flour was the only available food and, since the colonial period, from the North to the South, the soldiers consumed it (Mello, 1998; Osório, 2007).

Analyzing the dispute for control of the Prata region, Cidade (1948) suggested that, without manioc flour, the history of Portuguese expansion could have been different, and Richard Graham (2005) highlighted how much the activities of boatmen supplying manioc flour from Bahia was vital to the defeat of the Portuguese in the war for independence. Therefore, manioc flour was present in the diets of the troops throughout Brazil, and meat was commonly supplied to soldiers from the North, as indicated by Manuel Correia de Andrade (2005). The issue here is the proportion of consumption of one or another of these foods. In the North, more manioc flour was consumed than meat, or was consumed alone; in the South, meat was the soldiers' staple food, and this is why the northerners' health was so affected.

Some of the problems with food were due to how the food arrived at the soldiers' locations. During operations, and even in the cities, the meat most commonly consumed was freshly slaughtered. It was brought by suppliers and slaughtered by the soldiers themselves, who returned the animals' hides to the owners afterwards. This procedure favored a lack of sanitary precautions and a consequent deterioration of the product's quality. Additionally, the meat was often from animals that, driven to the campsites, arrived thin and diseased.¹⁸ Therefore, in addition to meat frequently being the only food available, the sanitary conditions of the animals and during slaughter led to serious intestinal disturbances, especially in individuals unaccustomed to this fare.

Dysentery also affected soldiers from Rio Grande do Sul, but the authorities in the province did not attribute this to meat consumption, but rather to the poor water quality

and to the consumption of unripe fruit (Witter, 2007). Ingesting spoiled beverages and food was certainly indissociable and directly related to dysentery. There are references to the poor quality of the water consumed in the province and even the soldiers' general preference for wooden canteens, which were more durable and particularly advantageous because they kept their contents cooler during the summer (Silva, July 30, 1838; Travassos, Aug. 22, 1846; Castro, Feb. 18, 1838). However, the military commanders attributed the greater incidence of disease among the Northern soldiers to the greater consumption of meat, which they were not accustomed to, unlike the troops from Rio Grande do Sul. A survey of soldiers in the province in 1847 shows that the number of deaths among the infantry (fusiliers and riflemen) from the North was seven times greater than that among the cavalry from the South (Costa, Nov. 12, 1847). The data confirms the opinions of the commanders, but even if they are not accurate, what is important for this analysis is that the Northerners were identified as more susceptible to diseases.

In summary, more important than analyzing the occurrence of one disease or another or seeking to discover the causes or the number of cases, is to highlight that some diseases, such as dysentery, were considered by military commanders to be illnesses that attacked the Northern soldiers especially, regardless of the accuracy of this belief. And this was an element in the construction of the identities and otherness relationships between those from Rio Grande do Sul and those from other regions – a demonstration of the diversity of Brazilians that concerned the administrators of the Brazilian Imperial Army.

NOTES

- ¹ In the words of Joseph Hörmeyer (1986, p.41), "it is hard to find a region more temperate and healthy than the province of Rio Grande do Sul." According to Nicolau Dreys (1961, p.173), "the sobriety practiced in the middle of plenty, under a salutary sky, on a land that preserves even cadavers, must certainly create a robust, healthy and vivacious generation; this is what one sees in Rio Grande." Even the representatives of the Portuguese colonial government praised the region's qualities. In 1754, one of them wrote that "it is the best climate in America, since there have been no cases of malaria there, nor malignant fevers, and the women that I sent from Rio, the most worn down or suffering from syphilis, improved without treatment, and almost all gave birth" (cited by Cesar, 1998, p.108; Noal Filho, Franco, 2004).
- ² The French botanist wrote: "When I arrived, it was cold, but I noted that all the doors and windows were open. In general, the inhabitants of this region resist inclement weather easier than we do. Despite the frosts almost every night, everything is open; there is no heating in any of the homes, nor the means to heat them" (Saint-Hilaire, 1997, p.24). In his trip to Rio Grande do Sul, the Count of Eu (1981, p.37) noted that "blankets appear to be unheard of in the province of Rio Grande do Sul: from what they tell me, they use a poncho for a blanket. Fortunately, I had obtained blankets in Porto Alegre, so I did not feel the cold so much in bed... it is always the same blanket of red silk spread out on the bed, the same transparent sheet decorated with a large border of lace and embroidery... Very luxurious, but not practical."
- ³ In this and other citations of texts from non-English languages, a free translation has been provided. The French traveler and naturalist Arsène Isabelle (1983) referred to Porto Alegre, where he found "temperate, perfumed, pure and salubrious air; and physicians do not become rich! The druggists are reduced to perfumeries" (p. 58).
- ⁴ In numbers, this contingent was made up of 350 men (Cunha, Jan. 24, 1841), and 60 of them had to be hospitalized (Barreto, Jan. 19, 1841).
- ⁵ Eric J. Hobsbawm, *The Age of Revolution*, New York, Vintage Books, 1996, p.102.
- ⁶ On behavior changes in Western civilization, see Elias, 1994, and Vigarello, 1988. Leila Algranti (1997) highlights the incorporation of some hygiene habits among family customs, especially in the case of the

richer families, but the consolidation of these values for the rest of the population began to take place only at the end of the nineteenth century; for more information, see Challhoub, 1990 and Rocha, 2003.

- ⁷ The development of the history of health may be measured by collective works; see Chalhoub, 2003 and Hochman, Argus, 2004. Analyses of Imperial Army health institutions may be consulted in Mitchell, 1963, Santos Filho, 1991 and Passos, Barreira, 2003.
- ⁸ When analyzing deaths in the Brazilian hospital in Montevideo from 1865 to 1866, Sousa (2004) noted the death of almost 10% of patients, while in 1864, 17% of those treated in the Navy hospital and 16.5% of those treated in the Army hospital died.
- ⁹ At least four of the nine physicians appointed chief surgeons by the Army at Rio Grande do Sul, at the end of 1842 (Pereira, Oct. 27, 1842), resigned from the position less than two years later and another, a little more than three years later (Brazil, 1943, daily reports June 25, 1845, Aug. 19, 1845 and April 1, 1845; Coelho, Dec. 16, 1846). Before this, even in the more important military hospitals in the province, such as the Porto Alegre Military Hospital, the number of surgeons was insufficient and at the same time there were problems with supply of necessary medicine and food (Silva, March 9, 1841). During the Paraguayan War, there were also few physicians interested in working as Army surgeons (Sousa, 2004).
- ¹⁰ In 1845, 299 Army soldiers were treated at the Navy hospital in Rio de Janeiro. The predominant diseases, between July and October, correspond to the same in the army hospital: diarrhea/dysentery (34), bronchitis (31), intermittent fever (24), and pneumonia (24). The exception is the large number suffering from syphilis (66) not mentioned in those records (Manx [?], Oct. 8, 1845). This data was not included in the table because the document does not cite the number of deaths. In some examinations carried out at the Navy hospital during the Paraguayan War, the most common diseases were tuberculosis, asthma, bronchitis, pneumonia, heart problems, rheumatism and hepatitis. The cholera epidemic would only take place in 1868 (Sousa, 2004).
- ¹¹ "When a person fell ill, he first listened to the advice of neighbors, relatives or friends who had already had the same symptoms, in order to know what treatment methods they had used... Falling ill or seeking out a physician meant not working and, therefore, not being able to provide for oneself and one's family" (Weber, 1999, p. 215).
- ¹² Requests for leave to seek treatment with their families in their home provinces can be seen, along with many other documents, in Silva, Oct. 1837, Carpes, Sept. 10, 1837 and Souza, Nov. 22, 1848. On the reorganization of the military hospitals in Rio de Janeiro, see the annual reports of the Ministry of War for 1843 and 1844.
- ¹³ See also the case of Sargent Manoel B. Fávila, transferred to Rio de Janeiro due to serious injuries received during combat, and which resulted in his discharge. (Pereira, Jun. 22, 1841, Jun. 20, 1841).
- ¹⁴ Antônio Felipe was recruited in 1833 in Paraíba, where he worked as a shoemaker, and was a bugler in the Army in 1834. This position, plus references to the unit in which he served, allow him to be distinguished from two others with the same name. In 1843, Felipe was examined and transferred as a patient to the depot barracks, and was then sent on to Rio de Janeiro for examination.
- ¹⁵ There are 26 soldiers from the North and 36 from the South, in addition to 19 foreigners, especially Germans (11). Of the 16 soldiers from Rio Grande, two died of hectic fever and another two from *bexigas*, along with one of the two soldiers from Ceará, one of the three soldiers from Bahia and a single soldier from Sweden; one soldier from Rio Grande, one from the state of Rio de Janeiro, one from Bahia and one from Buenos Aires died of tisic (Examination Book, 1827, examinations 26, 29 and 33).
- ¹⁶ On the relationship between disease and slavery in various regions of Brazil, see Pôrto, 2007.
- 17 See also Barreto, May 22, 1841, Rio Pardo, July 18, 1841b and Oliveira, Dec. 7, 1836. On the occasions in which meat was the only food available, in general each day one animal was provided to feed about 25 soldiers (Labatut, June 22, 1840; Villas-Boas, June 26, 1845).
- ¹⁸ On the state of the animals slaughtered, see Maciel, July 6, 1845, Oliveira, Sept. 28, 1836, Calderón, Sept. 22, 1839 and Seara, Aug. 29, 1841. It appears that it was common, in Rio Grande do Sul, to eat the meat of sick animals. At least this is what an officer suggested when he wrote that he ordered "that the beef be slaughtered as soon as possible, so the nation would not suffer losses from the lack of supply to the troops, which certainly would occur given the progression of the damage caused by the disease" (Souza, April 29, 1844). There are records on soldiers' consumption of meat from cattle suffering from cattle plague during the eighteenth century (Cesar, 1998). On the great cattle plague in Rio Grande do Sul between 1840 and 1855, see Farinatti, 2010.

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