Prophylaxis and treatment of diseases in western São Paulo state: the Sanitation Service and trachoma in the early twentieth century

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Abstract

In 1906, Emílio Ribas reorganized the Sanitation Service and centralized São Paulo state public health services in the state capital. A campaign to combat trachoma, an ophthalmic disease, was implemented as part of this project. This article analyzes this campaign, which provided care for the sick living on rural properties in a process that predated the 1917 Rural Sanitary Code. The empirical data was obtained from government reports, decrees, medical journals and newspapers. We conclude that Ribas, by creating an organization that integrated the efforts of the sanitary districts and the Trachoma Commission medical teams, sought to form a complex apparatus to combat the diseases present in both urban areas and the countryside.

Keywords: São Paulo (state); trachoma; Sanitation Service; public health; rural diseases.

The province of São Paulo, endowed with abundant land suitable for coffee crops, became the leading agricultural exporter in Brazil in the mid-nineteenth century after a period of intense coffee production in the Paraíba Valley caused by the withdrawal of Jamaica and Cuba from the coffee-producing market and the rise of the United States as an important consumer country (Melo, 2006; Marquese, Tomich, 2009).

In order to maintain coffee export growth rates, ensuring and expanding the work force – which had become scarce after the abolitionist measures implemented beginning in the 1850s – was essential. In order to meet this demand, in the 1880s the provincial government began to promote immigration policies, employing strategies such as subsidies for travel costs, assistance and housing, encouraging the arrival of European immigrants, principally Italians (Stolcke, 1986; Bassanezi et al., 2008).

With these measures, the population of the state rose suddenly, with the number of residents tripling from 1872 to 1900 (Ribeiro, 1991). Without adequate state government sanitary planning for the number of immigrants arriving in the port of Santos, newcomers and those already living in the state were immersed in an unhealthy environment that was conducive to the spread of disease.

In order to control the health problems triggered by the new situation, in the late nineteenth century the state government restructured its hygiene services and expanded its infrastructure by setting up new laboratories, isolation hospitals and disinfection services. Although, according to Merhy (1987) and Ribeiro (1991), the sanitary reform was supposedly undertaken to benefit the interests of the coffee oligarchy, which sought to ensure labor for plantations, the government prophylaxis and assistance measures were implemented principally in the capital and in some upstate cities. Public health administration was transferred to the municipalities for all other jurisdictions.

This centralization contributed to the high number of deaths in the countryside, as we can see from the data in the Sanitation Service reports for 1906, which cited the death of 36 people from measles in the capital and 1,391 in the countryside; the death of 387 people from tuberculosis in the capital and 2,229 in the countryside; and the death of 50 people from malaria in the capital and 985 in the countryside (São Paulo – estado 1907; Ribas, 1907).

Research on the diseases and public policies implemented in the state capital has been published in several studies. Among these are the works of Almeida (1998,1999-2000) and Teixeira (2001) who analyzed the debates and medical policies implemented by the government related to the implications of yellow fever for the state. Through the study of specific diseases, authors such as Bertolli Filho (2001) and Mastromaurus (2013) studied tuberculosis and Bertucci (2004) analyzed the Spanish flu, contributing to new approaches to medical knowledge and practices in São Paulo. And lastly, Castro Santos (1987), Telarolli Jr. (1996), Silva (2011) and Mantovani (2015) shed new light on public health policies begun in the early years of the Republic. Over the last three decades, there has been significant progress in studies on health and diseases, but we must recognize that they emphasized the capital of the state – the city of São Paulo – and barely mentioned the problems faced by the other cities in the state.

Noting this gap, Mota and Marinho (2013) edited a book seeking to address health and medical practices in cities in the state of São Paulo, inviting a variety of researchers to contribute with studies on public policies and on some diseases in Sorocaba, Rio Claro, São Carlos and Araraquara. Despite the initiative, these studies also failed to cover the different diseases present in rural areas, where most of the European immigrants who arrived in the state in the late nineteenth century lived. Domestic and immigrant rural workers were affected by worms, trachoma and malaria – all diseases that spread easily, especially given the environmental conditions of the region.

Incisive government interventions in rural regions began only in 1917, when the São Paulo state government enacted the Rural Sanitary Code. This analysis is seen, for example, in the work of Hochman (1998, p.219) when the author states that

> the introduction of a Rural Sanitary Code and the establishment of the General Prophylaxis Service resulted in the implementation of policies to fight malaria and ancylostomiasis, which were endemic diseases in the rural context, in addition to measures against trachoma. The latter strongly affected immigrant workers and therefore the coffee economy, and thus came to the attention of the representatives of the oligarchies.[1]

As in Hochman's study, Ferreira and Luca (2013, p.29) also indicated the importance of the Rural Sanitary Code for preventive activities and prophylaxis in rural regions by mentioning that "in São Paulo, it was only in 1917 that the General Prophylaxis Service, an agency of the Sanitation Service for rural regions in the state, was established, in the context of a strong campaign to recover the health of Brazilians." The same interpretation is found in Bernardini's dissertation, which defined the Rural Sanitary Code as the "institutionalization of an attentive look at the diseases that occurred on plantations in the state, such as ancylostomiasis, also known as 'amarelão,' and trachoma" (Bernardini, 2007, p.222).

Thus, with the enactment of the Rural Sanitary Code, the state government was able to establish a regulation that created obligations requiring rural landowners to ensure better public health conditions on their properties, interfering in the routines of plantations by charging fines and filing administrative court cases to deal with infractions.

Castro Santos (1987) and Faria (2002) state that, in addition to the code, the state government signed an agreement to partner with the Rockefeller Foundation to fight diseases in rural regions. With the support of the foundation, the government was able to take measures to deal with rural endemic diseases, such as founding rural prophylaxis clinics and sending treatment teams to treat patients on private properties. According to these authors, the partnership between the government and the philanthropic organization was important in creating an environment of cooperation, since government intervention was not well accepted by the oligarchy.

However, some researchers, such as Luna (1993), Ribeiro (1991) and Telarolli Jr. (1996), demonstrated that, even in the early twentieth century, the state government sought to implement measures to combat some rural diseases. According to these authors, in 1906 the Sanitation Service installed clinics in the urban centers of the municipalities for the prophylaxis and treatment of trachoma and, later, to combat ancylostomiasis. Despite these

studies discussing the campaigns, the authors did not explain how they were established, what difficulties were encountered when implementing and maintaining the service, how patients were treated, nor why the services were discontinued just two years after they began.

Castro Santos (1987), who analyzed public health services in the state of São Paulo in the early twentieth century, infers that the campaigns against trachoma were part of a larger Sanitation Service program. According to this author, Emílio Ribas sought to centralize the public health policies of all municipalities in the state, organizing public health interventions and the treatment of a variety of diseases. Thus, in the same year in which it created campaigns against trachoma, the state government enacted another measure that sought to establish 14 sanitary districts in different municipalities that would be the responsibility of the state.

In this context, this article seeks to fill in the gaps in the historiography of public health in the state of São Paulo, focusing on two objectives: analyzing the state government's actions in rural areas to combat diseases like trachoma, ancylostomiasis and malaria before and after enactment of the Rural Sanitary Code, and how the plan to centralize care was related to the campaigns to fight trachoma.

We structured the article to first describe the attempt to centralize municipal sanitation services at the state level, and then analyze the implementation process and the problems the government faced when trying to keep the trachoma clinics open. Starting with these two points, were will establish a dialog between the hypotheses and the evidence to search for a historical explanation that allows us to understand the motives that led the state government to implement services for the sick in rural regions, a problem previously neglected by other Sanitation Service programs, and in what way the process of administrative centralization might have created favorable or unfavorable conditions for this initiative. The empirical data used in the analyses were collected from a variety of documents. Official documents produced by the São Paulo state government were broadly used, such as the "Sanitation Service Reports," the "Reports of the Secretary of the Interior" and state laws and decrees. However, we sought to cross-check these with other data produced by social agents outside the political arena, which allowed us to observe another debate on the measures implemented in the São Paulo countryside. To this end, we performed an extensive literature search of medical journals, notes and articles published in various Brazilian newspapers for the years 1898-1916, allowing us to create a corpus of more than two thousand documents. This large collection of documents allowed us to employ a large number of analysis approaches, as will be shown throughout this article.

Emílio Ribas and centralization

After the Proclamation of the Republic and the 1891 Constitution, the federal government defined the separation of powers between the federation and the state governments, with the former responsible for foreign relations and the latter given autonomy to govern their own territories (Hochman, 1998; Telarolli Jr., 1996). São Paulo, which became one of the richest states in Brazil due to its agricultural export economy, was able to create a broad government apparatus to manage the different spheres of public administration.

Under such favorable economic conditions, the Sanitation Service was designed to be supported by laboratories, hospitals, disinfection services and a sanitary demographic statistics service that, together, allowed the state to identify diseases, develop vaccines, isolate the sick and provide prophylactic care. According to Castro Santos (1987), the political ideology that sought economic expansion based on the prerogatives of progress was soon the basis for policy in the state – together with the bacteriological era that prevailed despite a variety of disagreements and resistance from adherents of the theories of contagions and miasmas – and caused São Paulo to stand out in relation to other regions of Brazil.

Even with a support network focused on eliminating epidemics, the government faced a serious problem: the difficult relationship between the state and the municipalities. The clashes between these two powers are believed to have started soon after the Proclamation of the Republic, during a period marked by division in the agricultural-export, coffee industry, in which some defended a strong state that could help obtain capital for agricultural undertakings, while others defended the interests of the oligarchic power, which demanded freedom for citizens to act independently of the state (Merhy, 1987).

The disagreements between these groups reached the House of Representatives and affected the debates in which topics related to municipal autonomy were discussed, including issues related to public health (Merhy, 1987; Telarolli Jr., 1977; Bernardini, 2007). During legislative sessions, the representatives who were against state centralization used paragraphs of sections 2 and 56 of Statute no. 16 of Nov. 13, 1891, which stated that "each municipality is fully autonomous and independent in all aspects related to economic and administrative issues," including "everything related to the hygiene of the municipality, enacting all legislation and decreeing all measures." Those in favor of more centralized action defended the idea that the Sanitation Service was based on the provisions that governed the limits between federal, state and municipal laws, and that the municipalities would have autonomy as long as they "respected federal and state laws, as well as the rights of other municipalities" (São Paulo – estado, 13 nov. 1891, art. 2.).

Public health administrators knew that, in order to control and improve the state's public health situation, prophylactic measures and actions to fight epidemics and endemic diseases needed to be implemented simultaneously in several regions, in order to reduce the possibility of new outbreaks. Thus, in order to fight the diseases like smallpox, bubonic plague and yellow fever that assailed the workers in the state's coffee fields and devastated the city of Campinas in 1890, the Sanitation Service had to develop a model that prioritized the sanitary needs of the state – to the detriment of the interests of the oligarchies that wished to maintain power in their regions.

Telarolli Jr. (1996) shows us that the search for this model was a complicated process that began in 1892 when the Sanitation Service was organized. In that year, the state government, by establishing a "Hygiene Regulation," chose a centralizing policy, planning to establish many Hygiene Stations throughout the state, including both economically important cities and more remote areas called "towns" by the state (São Paulo – estado, 29 jul. 1892). This first attempt to reorganize the Sanitation Service was criticized in various

ways by municipal authorities. Due to these disagreements, plus financial difficulties, the plan was not fully implemented and the results were insignificant.

Pressure from some legislative representatives supportive of municipal autonomy led to a vote on a new bill the following year, in 1893, which transferred the responsibility for public health from the state to the municipalities. With decentralization, administration of personnel and allocation of infrastructure became the responsibility of local governments, and thus the state also transferred the financial burden for sanitary problems in the region to the municipalities. The Sanitation Service could provide financial support and personnel as long as the requirements of the municipalities were "satisfactory to the State Government" (São Paulo – estado, 4 set. 1893, art. 9). In these sporadic situations, the state government helped the municipalities by providing funds and sending sanitation commissions.

Together with this structuring, which preserved municipal autonomy, the state government developed mechanisms to attempt to ensure that the municipalities implemented some measures to make the regions more healthy. Control over municipal actions would come the following year through the Sanitary Code, enacted after prolonged negotiations in the House of Representatives (Telarolli Jr., 1996).

Analyzing the process of developing the 1893 decree and formulating the Sanitary Code, we determined that the government gave in to the pressure from the legislative representatives and modified the centralizing structure of 1892 in an attempt to mediate the disagreements between the state and the municipalities, without, however, ceasing to try to interfere in municipal activities. So, the state allowed the municipalities to have some freedom to decide how to act, how much money to spend and what their priorities were, but at the same time established rules in the Sanitary Code on minimum measures that had to be taken in order to ensure the health of the region.

In 1896, the Sanitation Service underwent another reorganization due to two factors: the spread of yellow fever and other diseases in the countryside, demonstrating municipal inefficiency, and an attempt to increase state centralization which, as indicated by Telarolli Jr. (1996), continued to be debated in House of Representatives sessions.

In the 1896 reorganization, the Sanitation Service claimed a little more power from local authorities and obtained authorization to limit municipal actions during epidemics. Without placing a heavy burden on the state, it stipulated that the region would be divided into three zones and these would be occupied under exceptional circumstances, namely during epidemic and endemic periods. When interventions were necessary, the local public health team would lose its autonomy and assist the state commission (São Paulo – estado, 7 out. 1896).

The attempt at partial centralization was not easily accepted by the municipalities, as we can see from the disputes cited in the texts published by Telarolli Jr. (1996), André Mota and Cássia Baddini (2013) and Maria Alice Ribeiro and Marili Junqueira (2013), who described conflicts in the municipalities of São Simão, Sorocaba, Rio Claro, São Carlos, Araraquara and Santos. In addition to Telarolli Jr. (1996), Mota (2005) noted that the municipal councils sought to hinder state public health actions because they thought that they infringed upon municipal autonomy.

It was in this context that, in 1898, Emílio Ribas was appointed director of the São Paulo Sanitation Service, after successfully combating the yellow fever epidemic in the municipality of Campinas (Martins, 2015). Despite being appointed after an important victory against yellow fever, his leadership of the Sanitation Service did not alter the conflict between the state and the municipalities. The actors were reluctant in many ways, and the municipalities were constantly criticized for their sluggishness during Ribas's term (Mota, 2010). Complaints included a lack of information provided by the municipalities, death certificates signed by non-physicians even when physicians were present, and even the failure to establish public health measures when the state government requested them (Ribas, 1907). In one of the reports published in the first decade of the 1900s, Emílio Ribas (1907, p.237) mentioned that he had been waiting for some time for "a general law [to] establish effective measures, since it was useless to wait for the City Councils to take the necessary precautions."

Despite a network of laboratories supporting public health policies and an attempt to control some epidemic processes by sending sanitary commissions to the municipalities, the problems persisted. In 1906, in an attempt to make the municipalities less unhealthy and eliminate the epidemics and endemic diseases in the countryside, Emílio Ribas promoted another change in the Sanitation Service's regulations, seeking to build a structure that would give the state government powers over not just public health "decisions," but also "actions," or in other words the Sanitation Service would both plan and implement the measures decreed. Unlike the Sanitation Service reorganizations in 1893 and 1896, when the state government tried to gradually create mechanisms to control the municipalities, the change proposed by Ribas eliminated the municipalities from the process, with the state assuming all responsibility for public health through a totally centralized administration.

Under this reorganization, the state was divided into 14 sanitary districts that covered almost the entire state. The districts were allocated permanently, rather than linked temporarily to "exceptional cases," as proposed in the 1896 regulation.

In this reform, enacted on January 27, 1906 as decree no. 1343, state health inspectors were to intervene together with municipal powers when providing sanitary services. In the law, the powers were defined as follows:

> The [state] health inspectors, when carrying out their jobs, will have the authority and duty to ensure compliance with the provisions of sanitary laws and their respective regulations, issuing subpoenas, imposing fines and taking any other measures needed (São Paulo – estado, 27 jan. 1906).

The power provided by this new hierarchy allowed Emílio Ribas to not only neutralize the actions of municipal inspectors by eliminating their duties, but also monitor and punish those responsible for any situations not meeting the standards established by the state government. With these measures, together with vaccination and revaccination, Ribas thought that some diseases – such as yellow fever, smallpox and others caused by sanitary problems in urban areas – could be remedied.

The reorganization proposed in 1906 sought to control the urban regions of the municipalities by defining sanitary districts in almost all parts of the state, with a model

that attempted to eliminate the diseases present in these urban areas. However, there were other diseases that affected the rural areas, such as trachoma and ancylostomiasis, which could not be mitigated by the reduced team allocated to each district. The director of the Sanitation Service had to advance into the agricultural zone in order to provide prophylaxis and treatment for the residents of private plantations. He decreed and implemented the Trachoma Prophylaxis and Treatment Commissions in the same year. With the clinics operating, the activities of the Sanitation Service were expanded to rural areas and, little-by-little, other patients with malaria, ancylostomiasis and typhoid fever began to be assisted by the state team, as we will see in the next section.

Trachoma prophylaxis and treatment service: intervention in the countryside

Trachoma, or granular conjunctivitis, is a contagious bacterial ophthalmia very common in different parts of Africa and in some regions of Latin America, Asia and Oceania. The disease causes chronic inflammation of the conjunctiva and the cornea, and can cause sequelae such as blindness if re-infections are recurrent. It is transmitted through contact with the sick, through contaminated objects, or via flies who act as mechanical vectors (Polack et al., 2005).

The earliest records of the disease have been found in China, in 2700 BC, in Sumer in 2000 BC, in Egypt in 1500 BC and in Rome in the first century BC. With the mass movements occasioned by wars and the Crusades (eleventh through thirteenth centuries), the disease spread to regions far from urban centers, with irregular endemic cycles for centuries (Taylor, 2009; Schellini, Souza, 2012; Schlosser, 2011). In the mid-nineteenth century, a new endemic process began in several European countries, affecting the Netherlands, Belgium, France, Germany, Switzerland, Scotland, England and Italy (Ottoni, 1898; Al-Rifai, 1988).

In the state of São Paulo, the earliest cases of the disease date back to the 1890s and were of Italian immigrants suffering from trachoma who were enticed to move to São Paulo by immigration policies. According to the Secretary of the Interior, Gustavo de Oliveira Godoy, the intense flow of immigrants from regions of Italy where trachoma was endemic to agricultural regions in São Paulo, beginning in 1887, was believed to have spread the trachoma bacteria throughout the countryside of the state (São Paulo – estado, 1907; Burnier, 1932). With conditions conducive to dissemination, such as sun and dust, combined with the precarious hygienic habits of rural workers, trachoma invaded the countryside and affected a large number of individuals in just over 10 years. The ill were treated both in private clinics and by philanthropic institutions (Ottoni, 1898).

For the economy of the state of São Paulo, trachoma negatively affected immigrant labor, since the treatment for the disease, with daily dressing changes, kept the worker away from his work for at least 15 days (Álvaro, 1904). Depending on the number of people affected on a single plantation and the rate of recurrence, productivity was affected, as well as profits.

Without assistance and with an increasing number of patients, some actors began to use medical and journalistic vehicles to request government intervention. Based on the observations and claims of these actors, including physicians and representatives of the

Italian government, about 120,000 immigrants were estimated to have been infected with the conjunctivitis in the countryside (Ribeiro, 1991).

News about the proliferation of trachoma in São Paulo began to be reported in international articles that identified the state as a highly dangerous location. According to Ernesto Paparcone, a physician in Milan, Italy, as well as the Pan-American Health Organization (PAHO), the state of São Paulo had a trachoma rate as high as Argentina, India and Italy (Paparcone, 1922; OPAS, 1928). With the worldwide repercussion of the disease, representatives of the São Paulo government demanded inclusion of trachoma in Sanitation Service activities because the "disease is already damaging our reputation abroad because it has become so common, especially among rural workers" (Notas..., 17 fev. 1905).

With complaints in both medical journals and newspapers, in 1904 Emílio Ribas decided to commission health inspector Guilherme Álvaro, a physician specialized in eye diseases, to carry out a study on the progress of trachoma in the São Paulo countryside (Ribas, 1907). Heading to the western part of the state, the physician opened a clinic in the municipality of Ribeirão Preto where, aided by two other physicians, he treated some patients, inspected schools, factories and other collective establishments, and visited several plantations in the region to examine and treat immigrant tenant farmers (Ribas, 1907).

With free access to the plantations, the physician denounced that the precarious hygienic conditions of the workers and their housing were related to the high contagion rates. The problems were related to contaminated objects, such as sheets and the cloths used by workers to clean their sweaty faces while toiling in the fields, and to infestation of housing by flies due to the unfortunate location of housing next to stables and pig pens, with poor ventilation and dirt floors. The fly, known as "pólvora," is a mechanical vector of trachoma and appeared in the physician's descriptions, such as when he reported that "several times, when we turned the eyelids of the ill to apply dressings, we found 'pólvora' cadavers wrapped in flakes of mucus-pus in the conjunctival sac" (Álvaro, 1904). Álvaro's report, containing prophylactic measures and treatment methods, and which Emílio Ribas thought was clear and objective, was published in Portuguese and Italian in order to be widely distributed to municipal authorities and plantation owners, who were seen by the Sanitation Service as partners in combating the disease at that time (Ribas, 1907). At the end of the same year, on December 17, 1904, the first official measure against trachoma was taken with the signing of decree no. 1225, which ordered inspection of ships to identify outbreaks of the disease in immigrants arriving from Europe, with the stipulation that "immigrants suffering from granular conjunctivitis or trachoma would be repatriated at the expense of the agents who had recruited them" (São Paulo – estado, s.d.).

With the intention of implementing the plan for administrative centralization that would take effect beginning in 1906, as seen in the previous section, Emílio Ribas, together with the Secretary of the Interior, José Carlos de Almeida, set up a commission to propose alterations in Sanitation Service regulations. For this task, carried out in 1904, the secretary formed a team consisting of the department's engineer, Mauro Álvaro, and medical inspectors Paulo Bourneal, Clemente Pereira and Theodoro Bayma. This work was monitored by Victor da Silva Freire, representing the municipalities, and Alfredo Braga, representing the Water and Sewage Department. Some of the objectives of this update,

which was to be sent to Congress for consideration in February 1905, were division of the state into 14 sanitary districts and the inclusion of trachoma on the Sanitation Service's agenda (Notas..., 17 fev. 1905).

In early 1906, the state centralization process began with approval of Sanitation Service reorganization and the implementation of health inspectorates in the state capital, Santos, Campinas and in 11 municipalities upstate. This new organization, in addition to providing more control over the public health conditions of the municipalities, made the fight against trachoma more effective. Even with just a small team of inspectors working in the urban areas of the municipalities, Emílio Ribas was able to employ these teams to obtain detailed information on the extent of trachoma infections in each region, inspect schools, and distribute instructions for prophylaxis. As recommendations, Emílio Ribas (1907, p.230) told his health inspectors: "I highly recommend trachoma prophylaxis, and you will provide this Administration with very detailed information on the extent of the disease in your district, principally in prisons, factories, collective establishments and schools."

In addition to the work of agents in the sanitary districts, Emílio Ribas began to liaison with the municipalities to develop a special service whose objective was to treat individuals with trachoma in rural areas and prevent new contagions. While visiting several municipalities, Emílio Ribas proposed a division of tasks, in which the state government would be responsible for sending drugs and managing teams to care for patients and, in return, the municipalities would provide financial support and/or clinics where the teams would work. The trips taken by Emílio Ribas to request the help of the municipalities in setting up anti-trachoma clinics were reported in the newspaper *Correio Paulistano*, with the director traveling on June 8th to Ribeirão Preto and neighboring municipalities; on June 17th to the zone containing Sorocaba; on June 20th to São Simão and later to Palmeiras (Notas, 17 jun. 1906; Notas, 20 jun. 1906).

One month after asking the municipalities for support, some initiatives were already being implemented, such as those reported in the newspapers *O Estado de S.Paulo* and *Correio Paulistano*, both in the state of São Paulo, and *O Paiz*, in Rio de Janeiro. Cooperation was in the form of buildings, funds or support staff. The municipality of Pirassununga, for example, provided a large building to be used as a hospital and clinic; the municipality of Avaré, in turn, offered the use of the Santa Casa ward; the municipality of Jaú contributed the Santa Casa wards, medications and staff; Belém do Descalvado pledged 6:000$000 réis a year; Jardinópolis, 1:800$000 réis a year and a clinic; and Pedreira had a house contributed by Coronel João Pedro de Godoy (Notas, 13 jul. 1906; Interior..., 17 jul. 1906; Os municípios, 25 jul. 1906).

Since not all municipalities had responded positively to the request, Emílio Ribas used the press to pressure them, as he usually did (Almeida, 1998). Through the pages of the *Correio Paulistano*, he announced that the municipalities of Ribeirão Preto, São Manuel, Batatais, Franca, Botucatu, Dois Córregos, Brotas, São Carlos, Santa Rita do Passa Quatro, Santa Cruz das Palmeiras, São Simão, Cravinhos and Sertãozinho had shirked their responsibilities. The request, which was for cooperation, since the municipalities would also benefit from the establishment of clinics to treat the coffee plantation workers who fell

ill, took on an imposing tone when Emílio Ribas claimed that only with the collaboration of all could he initiate actions to combat trachoma (O tracoma, 27 jul. 1906).

Even with the plan to create commissions already approved by the state government and with the names of the municipalities where the trachoma clinics would be located already defined, in July of that year Secretary Gustavo de Godoy, together with Emílio Ribas, called a meeting with ten ophthalmologists to present the complete plan of the prophylactic measures and treatments that would be employed by the government. The invitation, published in the newspaper *O Estado de S.Paulo*, stressed that the participation of this group would lead to discussions on the measures that would be put into practice and to the proposal of new suggestions to prevent spread of the disease. The physicians invited to the meeting were Eusébio de Queiroz Mattoso, recently appointed to lead the commissions; Francisco Pignatari, a prestigious physician in São Paulo and the founder of the only ophthalmic hospital in the state; Guilherme Álvaro, charged with studying the endemic disease in the countryside in 1904; and the physicians Mello Barreto, Ataliba Fiorence, Jambeiro Costa, Pedro Pontual, Theodomiro Telles, Bueno Miranda and Carlos Penna (Notas..., 4 jul. 1906).

Some measures were suggested at the meeting, including mandatory notification and treatment of all cases; periodic inspection of schools, factories, barracks, nursing homes, prisons and other communities; free treatment provided by physicians appointed by the government and acceptance of the offer of wards and clinics offered by the municipalities and by the private sector (Combate..., 7 jul. 1906; São Paulo..., 6 jun. 1906). Although all measures to combat the disease had already been defined before the meeting, it provided Ribas with important support from the medical profession for prophylaxis of the disease. The importance of the event can be seen by the fact that it was reported in a variety of periodicals in the state of São Paulo and by the newspapers *O Pharol*, in the state of Minas Gerais; *Jornal do Brasil* and *Gazeta de Notícias* in Rio de Janeiro, and *A Notícia*, *Diário da Tarde* and *A República* in the city of Curitiba.

After all municipalities agreed to take part, contributing buildings or funding, and with the support of the medical profession, the Sanitation Service defined which physicians would be allocated to the clinics. Almost 15 days before the decree making the trachoma service official was promulgated, Ribas published the list of the first physicians selected in the newspaper *O Estado de S.Paulo*. In one week, 26 physicians and 52 assistants were appointed to work in 19 municipalities in the countryside (Notas..., 16 ago. 1906; Notas..., 24 ago. 1906).

Within three months after the decree was signed, 36 physicians had already been appointed to work in 25 districts, with a clinic in the capital, another in Santos, and the others scattered throughout the municipalities in the west of the state, bordered by the Paulista, Sorocabana and Mogiana railways (São Paulo – estado, 1906). Among the cities chosen to receive the commissions were Ribeirão Preto, São Carlos, São Simão, Santa Rita do Passa Quatro, Jaú, Descalvado, Cravinhos and Araraquara, all ranked among the top most productive coffee districts during the period 1915-1919 (São Paulo – estado, 3 set. 1906).

The establishment of the anti-trachoma clinics was reported by several newspapers. The *Correio Paulistano*, when reporting on the inauguration of the clinic in São Carlos, highlighted the marble furniture, varnished benches, American iron furniture, Austrian furniture and ceramic sink. A sign in front of the building, written in Portuguese, Italian, Spanish and

German, stating that treatment was free, demonstrates the scope of the service and which communities would benefit (São Carlos..., 19 set. 1906). At the São Simão clinic, the emphasis was on the walls where portraits of the secretary of the interior, the Hygiene director, and the head of the commission were displayed (Avulsos, 27 nov. 1906). The celebrations when inaugurating the most important clinics, like that in Ribeirão Preto, were attended by the secretary of the interior, the director of the Sanitation Service, the head of the anti-trachoma service and municipal authorities, in addition to the broad participation of residents.

The decree on the formation of trachoma commissions, which was signed on September 3, 1906, stated that the physicians appointed should perform treatments and surgeries anywhere that the disease was present; monitor treatment and patient numbers in hospitals; formulate instructions and distribute them at no cost; provide directions on trachoma prophylaxis measures and treat other ophthalmic diseases (São Paulo – estado, 3 set. 1906).

With the intention of expanding state authority in the municipalities and in rural areas, Emílio Ribas gave the physicians on the Trachoma Commission the same powers as the health inspectors. Replicating the provisions in the January 1906 decree, which divided the state into sanitary districts, the decree on the establishment of the Trachoma Commission stated that:

> The trachoma service physicians, when carrying out their duties, will have the authority to ensure that the provisions of the Sanitary Laws and respective regulations are being complied with, issuing subpoenas, imposing fines and taking any other needed measures (São Paulo – estado, 3 set. 1906).

The results of the first three months of operation of the Trachoma Prophylaxis and Treatment Service were published in the 1906 Sanitation Service report. Of the 38,037 individuals examined, 39.35% were diagnosed with the disease, and of the 15,468 school children assessed, 18.83% had the disease. From September to December 1906, 201,179 dressings were applied and 248 surgical interventions were performed in the clinics located in the municipalities (São Paulo – estado, 1907).

With the high number of patients treated at the clinics set up in urban areas in the first months of operation, the Trachoma Commission was unable to attain the objective of developing prophylaxis and treating the inhabitants of the state's rural areas. When the campaign was planned by Emílio Ribas, he did not intend to establish permanent clinics in urban regions, but rather form itinerant teams that would travel through the most affected areas, treating principally the residents of plantations. In a report, the secretary of the interior described the attempt to begin traveling to the countryside in the beginning of the first months after the commissions were established, but the large number of ill people appearing at the clinics hindered execution of the initial plan. In his words:

> The three-month time frame was too short for the commission to be able to accomplish everything it had hoped; the number of people appearing daily at the clinics was huge, so much so that only the sick residents of the cities and the neighboring communities could be seen, and the populations in rural areas farther from the clinics will only be treated later (São Paulo – estado, 1907, p.14).

The following year, they began to visit some plantations. For example, in the records of the Santa Gertrudes plantation there are references to the visits of the physicians and nurses from the Rio Claro anti-trachoma clinic to perform inspections and daily dressing changes (Bassanezi, 1973). In 1908, records of the treatments performed on plantations began to appear in the reports of the Secretary of the Interior. Some difficulties related to providing treatment in rural areas were noted in monthly medical bulletins, such as "getting to the plantations and the embarrassment of the adult immigrant not wanting to be treated because it would mean losing a few day's salary, unless there were painful complications for the cornea" (São Paulo – estado, 1908, p.12). Despite the setbacks, the physicians noted that "fortunately the difficulties are disappearing and the information campaign is already giving rise to positive results" (São Paulo – estado, 1908, p.12).

Landowners' acceptance of medical teams on plantations, giving them access to the rural population, allowed the Sanitation Service to carry out campaigns for ancylostomiasis prophylaxis, another disease that strongly affected rural workers (São Paulo – estado, 1907, p.10). In mid-1908, the service, which had begun with less than 50 clinics, had 38 districts and 292 dispensaries – 37 urban and 255 rural (São Paulo – estado, 1908).

With the commissions operating, Emílio Ribas left his position as director of the Sanitation Service to study the prophylaxis of tuberculosis, an issue that was on the health agenda in São Paulo for many years (Almeida, 1998; Bertolli Filho, 2001; Mota, 2005). During his trip to the United States and Europe, the physician José Bento Paula Souza was left in charge of the Sanitation Service, and remained so from June 16, 1908 until March 31, 1909 (Mascarenhas, 1949). Six days after Ribas stepped down, on June 22, 1908, Governor Albuquerque Lins eliminated the trachoma commissions. The pretext was the provisional nature of the service, as well as the government's difficulty in maintaining the immense network using "Public Aid" resources, such as team member salaries, medication and transport costs (São Paulo – estado, 1908). The campaign, which operated from September 1906 to June 1908, provided 2,828,115 dressings, performed 1,404 surgeries and identified 78 individuals who had been blinded by trachoma (São Paulo – estado, 1908).

Despite this work, trachoma continued to be endemic among the residents of São Paulo. In this context, Emílio Ribas returned to manage the Sanitation Service in 1911 and a new commission was established, this time consisting of two itinerant groups. A total of 16 physicians were appointed to travel throughout the two regions. The first commission, consisting of six physicians, served four municipalities: Ribeirão Preto, Cravinhos, Sertãozinho and Jardinópolis. The second, with 10 physicians, served eight municipalities: São Carlos, Araraquara, Taquatinga, Descalvado, Jaboticabal, Jaú, Dois Córregos and São Manuel (São Paulo – estado, 14 nov. 1911).

With this second initiative, visits to plantations increased, evidence of the Sanitation Service's belief in the importance of having inspectors in the rural regions of the state. During the three years in which the second commission operated, 1,850 visits to plantations were recorded, almost a thousand operations were performed and more than a million dressings were applied. In annual terms, 502 plantations were visited in 1912, 550 plantations the following year, and 798 in 1914. As reported in the "Quarterly Sanitation Service Summary for the Ribeirão Preto Region," 43 plantations were visited in Ribeirão

Preto, 14 in Jardinópolis, thirty in Sertãozinho, twenty in Cravinhos and another 14 in São Simão in April–June 1913 (São Paulo – estado, S. Paulo, 10 jul. 1913).

The second commission expanded the services provided by the physicians even further, as they were charged with developing prophylactic measures and/or treatment for ancylostomiasis, malaria, and smallpox, including vaccination, application of medications, advice and information campaigns (São Paulo – estado, 1917). One can follow the work carried out by these commissions in the newspaper *Correio Paulistano*, since it published weekly news on the municipalities and the respective commissions. For example, in February 1914, in the municipality of São Simão, 14,367 dressings were applied for trachoma, two patients were treated for malaria, 47 cases of ancylostomiasis were treated, and visits were made to smaller clinics and plantations in Serra Azul, Santa Rosa, Mococa, Fazenda S. Paulo Coffee, Bento Quirino and Tamanduazinho (Mala..., 9 mar. 1914).

With cuts in funding for materials, salaries and public aid expenses due to First World War, the Trachoma Commissions were once again eliminated on September 14, 1914 during the term of Secretary of the Interior Altino Arantes. Once again, the second commission was unable to considerably reduce the number of trachoma sufferers, with the disease remaining endemic in several regions.

Although the members of the commissions tried to alleviate the endemic diseases and epidemics that plagued the rural population, the unhealthy environment led to new outbreaks. From 1913 to 1916, while Emílio Ribas was studying leprosy abroad, the Sanitation Service was run by Guilherme Álvaro, the physician charged with mapping trachoma in 1904. During his administration, he noted in his reports that specific legislation needed to be enacted to regulate sanitary practices in rural areas, since the plantations were unhealthy, with problems such as lack of sanitation and inappropriate structures. He wrote:

> [The Commission against Trachoma] continued to provide services of indisputable importance to this department of the state Sanitation Service. Its actions could be more productive if there were other supporting elements, especially the introduction of a Rural Sanitary Code. In fact, without a legal means to alter the way of life of the inhabitants of the countryside, regulate the construction of living quarters, solve the problems of potable water, topographical features serving as anopheles mosquito breeding grounds, and what to do with wastewater and feces in rural regions, what could that Commission do to carry out the mission for which it was created, to combat trachoma, malaria and ancylostomiasis? It could only give advice, without resources to ensure the advice was followed, even in the most pressing cases (São Paulo – estado, 1917, p.24).

These and other considerations on the need to regulate the sanitary conditions in rural regions led, in late 1917, to the enactment of the Rural Sanitary Code during the administration of Arthur Neiva at the Sanitation Service. In the same year, the third Commission to Combat Trachoma was established, continuing the itinerant nature of the prior commission, traveling throughout the region and staying in each place as long as needed to control the disease. The third commission was formed according to the precepts of the Rural Sanitary Code and the provisions of the Rural Hygiene Commission with the goal of "observing sanitary laws regarding the prevention and repression of anything

that could jeopardize public health" (São Paulo – estado, 9 abr. 1918). These commissions remained active until the Paula Souza Reform in 1925, when they were incorporated into the Hygiene Inspectorate (Luna, 1993).

Final considerations

When Emílio Ribas took over the Sanitation Service after managing to control yellow fever in Campinas, the state of São Paulo was still suffering from other outbreaks of this disease and was at risk of a new smallpox epidemic. Only after 1903, when he was able to solve these two more urgent problems, could he propose sanitary and prophylactic measures that would serve the state of São Paulo as a whole. In 1904, together with the Secretary of the Interior, Ribas brought together a group of physicians, engineers and municipal representatives to reorganize the Sanitation Service, in a process that would lead to the signing of decree no. 1343 in 1906, and which centralized municipal public health services at the state level.

Within this centralization plan, which generated disagreements between the state and municipal powers, was the implementation of Trachoma Prophylaxis and Treatment Services, an intensive action that sought to serve the sick in the rural regions of the state.

This article sought to highlight what the service to combat trachoma was and how, through the commission physicians, Emílio Ribas gained access to private plantations that had until then been closed to government agents. The first commission, which was active for a short period, only 1 year and 8 months, was not sufficient to eliminate trachoma as an endemic disease in the state. With a new commission established in 1911, the Sanitation Service was able to broaden its services, treat a larger number of diseases and have greater access to plantations. However, the second commission was instituted at a time when a new reorganization of the Sanitation Service had taken place and demands regarding municipal autonomy had been respected.

Despite his difficulty in achieving all of these objectives during the first initiative, Emílio Ribas was able to map and provide services in rural areas during a period in which the debates on a Rural Sanitary Code had not even begun yet. We did not attempt to compare the activities of the Trachoma Commission with the prerogatives of the 1917 Rural Sanitary Code, since the later allowed for the issuing of subpoenas and imposition of fines when public health regulations were violated. However, we did try to underline that the physician Emílio Ribas intended to initiate activities in rural areas, discarding the idea that state public health actions were limited to the urban areas of the municipalities.

We thus conclude that Emílio Ribas, by creating a large organization in 1906 that integrated the efforts of the inspectors of the 14 sanitary districts with the trachoma commission teams, sought to form a complex state sanitary and prophylactic apparatus to combat the epidemics and endemic diseases present in both the countryside and the capital.

NOTE

[1] In this and other citations of texts in Portuguese, a free translation has been provided.

REFERENCES

ALMEIDA, Marta.
Combates sanitários e embates científicos: Emílio Ribas e a febre amarela em São Paulo. *História, Ciências, Saúde – Manguinhos*, v.6, n.3, p.577-607. 1999-2000.

ALMEIDA, Marta.
República dos invisíveis: Emilio Ribas, microbiologia e saúde pública em São Paulo (1898-1917). Dissertação (Mestrado em História Social) – Universidade de São Paulo, São Paulo. 1998.

AL-RIFAI, Kassim M.J.
Trachoma through history. *International Ophthalmology*, v.12, n.1, p.9-14. 1988.

ÁLVARO, Guilherme.
Profilaxia e tratamento das oftalmias do oeste de São Paulo. *Revista Médica de São Paulo*, ano 7, n.24, p.580-582. 1904.

AVULSOS.
Avulsos. *O Estado de S. Paulo*, p.2. 27 nov. 1906.

BASSANEZI, Maria S.C.
Fazenda de Santa Gertrudes: uma abordagem quantitativa das relações de trabalho em uma propriedade rural paulista, 1895-1930. Tese (Doutorado em Ciências Sociais) – Universidade Estadual Paulista Júlio de Mesquita Filho, São Paulo. 1973.

BASSANEZI, Maria S.C. et al.
Atlas da imigração internacional em São Paulo, 1850-1950. São Paulo: Editora Unesp. 2008.

BERNARDINI, Sidney P.
Construindo infraestruturas, planejando territórios: a Secretaria de Agricultura, Comércio e Obras Públicas do governo estadual paulista (1892-1926). Tese (Doutorado em Arquitetura e Urbanismo) – Universidade de São Paulo, São Paulo. 2007.

BERTOLLI FILHO, Cláudio.
História social da tuberculose e do tuberculoso, 1900-1950. Rio de Janeiro: Editora Fiocruz. 2001.

BERTUCCI, Liane Maria.
Influenza, a medicina enferma: ciência e práticas de cura na época da gripe espanhola em São Paulo. Campinas: Editora da Unicamp. 2004.

BURNIER, Penido.
O tracoma no Brasil: sua origem e difusão. *Arquivos do Instituto Penido Burnier*, v.1, n.1, p.62-72. 1932.

COMBATE...
Combate ao tracoma. *O Pharol*, p.1. 7 jul. 1906.

FARIA, Lina Rodrigues de.
A Fundação Rockefeller e os serviços de saúde em São Paulo (1920-1930): perspectivas históricas. *História, Ciências, Saúde – Manguinhos*, v.9, n.3, p.561-590. 2002.

FERREIRA, Antônio Celso; LUCA, Tânia Regina.
Medicina e práticas médicas em São Paulo: uma introdução. In: Mota, André; Marinho, Gabriela (Org.). *Práticas médicas e de saúde nos municípios paulistas*: a história e suas interfaces. São Paulo: USP; Universidade Federal do ABC; Casa de Soluções e Editora. 2013.

HOCHMAN, Gilberto.
A era do saneamento: as bases da política e da saúde pública no Brasil. São Paulo: Hucitec; Anpocs. 1998.

INTERIOR...
Interior: combate ao tracoma. *O Paiz*, p.2. 17 jul. 1906.

LUNA, Expedito.
A epidemiologia do tracoma no Estado de São Paulo. Dissertação (Mestrado em Ciências Médicas) – Universidade Estadual de Campinas, Campinas. 1993.

MALA...
Mala do interior: S. Simão. *Correio Paulistano*, p.3. 9 mar. 1914.

MANTOVANI, Rafael Leite.
Modernizando a ordem em nome da saúde: doenças, política e administração urbana em São Paulo, 1805-1840. Tese (Doutorado em Sociologia) – Universidade de São Paulo, São Paulo. 2015.

MARQUESE, Rafael; TOMICH, Dale.
O Vale do Paraíba escravista e a formação do mercado mundial do café no século XIX. In: Grinberg, Keila; Salles, Ricardo (Org.). *O Brasil Imperial*. v.2: 1831-1870. Rio de Janeiro: Civilização Brasileira. p.339-383. 2009.

MARTINS, Valter.
Cidade-laboratório: Campinas e a febre amarela na aurora republicana. *História, Ciências, Saúde – Manguinhos*, v.22, n.2, p.507-524. 2015.

MASCARENHAS, Rodolfo.
Contribuição para o estudo da administração sanitária estadual em São Paulo. Tese (Livre-docência em Técnica de Saúde Pública) – Universidade de São Paulo, São Paulo. 1949.

MASTROMAURO, Giovana Carla.
As ações higienistas e a tuberculose em São Paulo (1890-1924). Tese (Doutorado em História) – Universidade Estadual de Campinas, Campinas. 2013.

MELO, José E.V.
Café com açúcar: a formação do mercado consumidor de açúcar em São Paulo e o nascimento da grande indústria açucareira paulista na segunda metade do século XIX. *Saeculum*, n.14, p.74-93. 2006.

MERHY, Emerson Elias.
A emergência das práticas sanitárias no estado de São Paulo: o capitalismo e a saúde pública. Campinas: Papirus. 1987.

MOTA, André.
No caminho dos tropeiros: sanitarismo paulista e municipalidades na República Velha. In: Monteiro, Yara (Org.). *História da saúde*: olhares e veredas. São Paulo: Instituto de Saúde. p.175-182. 2010.

MOTA, André.
Tropeços da medicina bandeirante: medicina paulista entre 1892-1920. São Paulo: Edusp. 2005.

MOTA, André; BADDINI, Cássia. M.
Dilemas revelados e mito desfeito: Sorocaba e a epidemia de febre amarela na República Velha. In: Mota, André; Marinho, Gabriela (Org.). *Práticas médicas e de saúde nos municípios paulistas*: a história e suas interfaces. São Paulo: USP; UFABC; Casa de Soluções e Editora. p.153-182. 2013.

MOTA, André; MARINHO, Gabriela (Org.).
Práticas médicas e de saúde nos municípios paulistas: a história e suas interfaces. São Paulo: USP; UFABC; Casa de Soluções e Editora. 2013.

NOTAS.
Notas. *Correio Paulistano*, p.1. 13 jul. 1906.

NOTAS.
Notas. *Correio Paulistano*, p.1. 20 jun. 1906.

NOTAS.
Notas. *Correio Paulistano*, p.1. 17 jun. 1906.

NOTAS...
Notas e informações. *O Estado de S. Paulo*, p.1. 24 ago. 1906.

NOTAS...
Notas e informações. *O Estado de S. Paulo*, p.1. 16 ago. 1906.

NOTAS...
Notas e informações. *O Estado de S. Paulo*, p.2. 4 jul. 1906.

NOTAS...
Notas e informações. *O Estado de S. Paulo*, p.1. 17 fev. 1905.

OPAS.
Organización Panamericana de la Salud.
Tracoma. *Boletín de la Oficina Panamericana*, v.7, n.7, p.839. 1928.

OS MUNICÍPIOS.
Os municípios. *O Estado de S. Paulo*, p.2. 25 jul. 1906.

O TRACOMA.
O tracoma. *Correio Paulistano*, p.1. 27 jul. 1906.

OTTONI, David.
Clínica oftalmológica: conjuntivite granulosa. *Brasil Médico*, ano 12, n.41, p.362-365. 1898.

PAPARCONE, Ernesto.
Il tracoma e sue complicazioni. Milano: Societá Editrice Libraria. 1922.

POLACK, Sarah et al.
Mapping the global distribution of trachoma. *Bulletin of the World Health Organization*, v.83, n.12, p.913-919. 2005.

RIBAS, Emílio.
Relatório referente ao ano de 1906, apresentado pelo Dr. Emílio Ribas, Diretor do Serviço Sanitário ao Sr. Secretário dos Negócios do Interior. *Revista Médica de São Paulo*, ano 10, n.11. 15 jun. 1907.

RIBEIRO, Maria A.
História sem fim: um inventário da saúde pública, São Paulo, 1880-1930. Tese (Doutorado em Economia) – Universidade Estadual de Campinas, Campinas. 1991.

RIBEIRO, Maria A.; JUNQUEIRA, Marili P.
A saúde pública nas cidades de Rio Claro, São Carlos e Araraquara, em fins do século XIX. In: Mota, André; Marinho, Gabriela (Org.). *Práticas médicas e de saúde nos municípios paulistas*: a história e suas interfaces. São Paulo: USP; UFABC; Casa de Soluções e Editora. p.235-258. 2013.

SANTOS, Luiz Antonio Castro.
Power, ideology and public health in Brazil, 1889-1930. Tese (Doutorado em Sociologia) – Harvard University, Cambridge. 1987.

SÃO CARLOS...
São Carlos do Pinhal. *Correio Paulistano*, p.4. 19 set. 1906.

SÃO PAULO...
São Paulo: O trachoma. *Jornal do Brasil*, p.3. 6 jun. 1906.

SÃO PAULO – estado.
Decreto n.2.918, de 9 abril de 1918. Dá execução ao Código Sanitário do Estado de São Paulo. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1918/decreto-2918-09.04.1918.html>. Acesso em: 3 mar. 2016. 1918.

SÃO PAULO – estado.
Relatório do Serviço Sanitário do estado de São Paulo, anos de 1913, 1914 e 1915. São Paulo: Tipografia do Diário Oficial. 1917.

SÃO PAULO – estado.
Relatório da Secretaria do Interior, ano de 1912. São Paulo: Tipografia Brasil. 1914.

SÃO PAULO – estado.
Decreto n.2.141, de 14 de novembro de 1911. Reorganiza o Serviço Sanitário do Estado. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1911/decreto-2141-14.11.1911.html>. Acesso em: 3 mar. 2016. 1911.

SÃO PAULO – estado.
Relatório da Secretaria do Interior, anos de 1907 e 1908. São Paulo: Duprat. 1908.

SÃO PAULO – estado.
Relatório da Secretaria do Interior, ano de 1906. São Paulo: Tipografia do Estado de São Paulo. 1907.

SÃO PAULO – estado.
Decreto n.1.395, de 3 de setembro de 1906. Cria, na Diretoria do Serviço Sanitário, o serviço de profilaxia e tratamento do "Tracoma". Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1906/decreto-1395-03.09.1906.html>. Acesso em: 3 mar. 2016. 1906.

SÃO PAULO – estado.
Decreto n.1.343, de 27 de janeiro de 1906. Divide o território do estado em distritos sanitários e dispõe a respeito da polícia sanitária. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1906/decreto-1343-27.01.1906.html>. Acesso em: 3 mar. 2016. 1906.

SÃO PAULO – estado.
S.S. – Serviço contra o tracoma: nomeações. [s.l.]: [s.n.] (Arquivo do Museu de Saúde Pública Emílio Ribas, São Paulo). 1906.

SÃO PAULO – estado.
Decreto n.394 de 7 de outubro de 1896. Aprova o regulamento do Serviço Sanitário. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1896/decreto-394-07.10.1896.html>. Acesso em: 3 mar. 2016. 1896.

SÃO PAULO – estado.
Lei n.240, de 4 de setembro de 1893. Reorganiza o Serviço Sanitário de São Paulo. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/lei/1893/lei-240-04.09.1893.html>. Acesso em: 3 mar. 2016. 1893.

SÃO PAULO – estado.
Decreto n.87, de 29 de julho de 1892. Organiza o Serviço Sanitário do estado. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/decreto/1892/decreto-87-29.07.1892.html>. Acesso em: 3 mar. 2016. 1892.

SÃO PAULO – estado.
Lei n.16, de 13 de novembro de 1891. Organiza os municípios do estado. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/lei/1891/lei-16-13.11.1891.html>. Acesso em: 3 mar. 2016. 1891.

SÃO PAULO – estado.
Decreto n.1.235, de 17 de dezembro de 1904. In: Gonçalves, Marly Leme (Org.). *Legislação estadual referente ao combate do tracoma*: conjunto de leis e decretos, 1904 a 1969. [s.l.]: [s.n.]. (Arquivo do Museu de Saúde Pública Emílio Ribas, São Paulo). s.d.

SCHELLINI, Silvana; SOUSA, Roberta.
Tracoma: ainda uma importante causa de cegueira. *Revista Brasileira de Oftalmologia*, n.71, v.3, p.199-204. 2012.

SCHLOSSER, Katherine.
History of trachoma. International Trachoma Iniciative. Disponível em: <https://www.nps.gov/elis/learn/education/upload/Trachoma-Through-History-2.pdf>. Acesso em: 18 nov. 2016. 2011.

SILVA, Márcia Regina de Barros.
Concepção de saúde e doença nos debates parlamentares paulistas entre 1830 e 1900. In: Mott, Maria Lúcia; Sanglard, Gisele (Org.). *História da saúde*: São Paulo, instituições e patrimônio histórico e arquitetônico (1808-1958). Barueri: Minha Editora. p.63-91. 2011.

S. PAULO.
S. Paulo. *Jornal do Commercio*, p.5. 10 jul. 1913.

STOLCKE, Verena.
Cafeicultura: homens, mulheres e capital (1850-1980). São Paulo: Brasiliense. 1986.

TAYLOR, Henry R.
Tracoma, is it history? *Eye: Journal of The Royal College of Ophthalmologists*, n.23, p.2007-2022. 2009.

TEIXEIRA, Luiz Antonio.
Da transmissão hídrica à culicidiana: a febre amarela na sociedade de medicina e cirurgia de São Paulo. *Revista Brasileira de História*, v.21, n.41, p.217-242. 2001.

TELAROLLI JR., Rodolpho.
Poder e saúde: as epidemias e a formação dos serviços de saúde em São Paulo. São Paulo: Editora da Universidade Paulista. 1996.

TELAROLLI JR., Rodolpho.
Poder local na República Velha. São Paulo: Companhia Editora Nacional. 1977.