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Tropical Medicine behind Cocoa Slavery: A Campaign to Eradicate Sleeping Sickness in the Portuguese Colony of Príncipe Island, 1911-1914

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Tropical Medicine behind Cocoa Slavery: A Campaign to Eradicate Sleeping Sickness in the Portuguese Colony of Príncipe Island, 1911-1914

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Tropical Medicine behind Cocoa Slavery: The Campaign to Eradicate Sleeping Sickness in the Portuguese Colony of Príncipe Island, 1911-1914.

Introduction

In 1898, Patrick Manson, a British doctor, defined tropical diseases as a range of illnesses caused by microorganisms that required certain climatic conditions during their extracorporeal phase for their survival, or that depended on the action of intermediate hosts serving as vectors for their propagation. These conditions were present in areas with tropical climate.¹ However, the notion of tropics must not be understood only as a physical or geographical space, but also as a concept, a process of otherness in which the Europeans characterized regions politically and culturally different from Europe, as well as an environment that is different from the temperate climate areas.²

Tropical medicine was developed as a subdivision of the medical knowledge at the turn of the nineteenth to the twentieth century, in a historical context marked by the outset of microbiology and by the European imperialist agenda through the intensification of its domain over the African continent, which was almost completely divided into colonies controlled by European countries.³ The competition for colonial areas in Africa was a tough one, and the European nations with scarce military and economic resources, such as

¹ Patrick Manson, *Tropical Diseases. A Manual of Tropical Diseases* (London: Cassel and Company, 1898), 11-12.

² David Arnold, "Introduction: Tropical Medicine Before Manson," in *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*, ed. David Arnold (Amsterdam/Atlanta: Rodopi, 1996), 6-7.

³ Deborah Neill, *Networks in Tropical Medicine. Internationalism, Colonialism and the Rise of a Medical Specialty, 1890-1930* (Stanford: Stanford University Press, 2012).

Portugal, were at risk of losing their colonial territories to countries with increased military and industrial resources. After Brazilian independence was declared, Portugal tried to build a major colonial empire from its colonies in Africa. However, at the end of the nineteenth century, the intentions of Portugal collided with the increasing interest of the other European potencies regarding Africa, and the outcome was unfavorable to Portugal, such as in the 1890's British ultimatum that frustrated the Portuguese dream of uniting Angola and Mozambique into a single territory, a project that became known as the Rose-Coloured Map.⁴

Despite its unsuccessful attempt to significantly increase its colonial domains, Portugal maintained important African territories – Angola, Mozambique, Guinea, Cape Verde and São Tomé and Príncipe – in spite of having scarce and limited resources. This situation increased the interests of the major powers and the Lusitanian overseas territory was the target of partition projects between Britain and Germany in 1898 and 1913.⁵

The “Scramble for Africa” and the European domain imposed by means of violence and coercion against the native populations were also ruled by the control of diseases that jeopardized the feasibility of colonial empires by raising difficulties to European settlements and by producing casualties in the native population used as cheap manpower for economic activities such as the

⁴ Maria Teresa Pinto Coelho, *Apocalipse e Regeneração: o Ultimatum e a Mitologia da Pátria na Literatura Finissecular* (Lisbon: Cosmos, 1996), 44-47.

⁵ Valentim Alexandre, *Velho Brasil novas Áfricas: Portugal e o Império, 1808-1975* (Porto: Afrontamentos, 2000).

extraction of rubber, ivory and minerals.⁶ Changes to environment caused by human intervention affected the ecological balance and increased the contact between human, vectors and parasites, which represented a risk of epidemic outbreaks.⁷ That was the case of the sleeping sickness that, from 1900 to 1920, decimated hundreds of thousands of Africans whose bodies were weakened by exhaustive labor and hunger caused by the European exploitation.⁸

However, until the beginning of the twentieth century, the etiology of the dreaded sleeping sickness, a chronic disease that caused the death of its victims after long periods of uncontrollable somnolence, was still not known. Portugal, a country intending to consolidate its colonial territories before its stronger opponents, sent the first scientific mission group to Africa to study the causes of the disease in 1901.⁹ The mission group was composed of Portuguese bacteriologists who examined twenty-seven sick people in Angola and Príncipe Island, and it was concluded that the disease was a meningoencephalitis of microbial nature.¹⁰ In 1902, a British mission group sent to Uganda initially identified another bacterium and the Portuguese entered into a scientific controversy with the British regarding the sleeping sickness etiology between

⁶ Joseph Ki-Zerbo, *Histoire de l'Afrique Noire* (Paris: Hatier, 1972), 85-86; Maryinez Lyons. *The Colonial Disease: A Social History of Sleeping Sickness in Northern Zaire, 1900-1940* (Cambridge: Cambridge University Press, 1992), 26-27.

⁷ Jonathan Patz et al., "Effects of Environmental Change on Emerging Parasitic Diseases," *International Journal for Parasitology*, no. 30 (2000): 1395-1405.

⁸ Eric Fèvre et al., "Reanalyzing the 1900-1920 Sleeping Sickness Epidemic in Uganda," *Emerging Infectious Diseases* 10, no. 4 (2004): 567-573.

⁹ Isabel Amaral, "Bactéria ou Parasita? A controvérsia Sobre a Etiologia da Doença do Sono e a Participação Portuguesa, 1898-1904," *História, Ciência e Saúde- Manguinhos* 19, no. 4 (2012): 1275-1300.

¹⁰ *A Medicina Contemporânea*, "A Doença do Sono" (October 6, 1901): 327-328.

1902 and 1903. Nevertheless, Aldo Castellani and David Bruce, members of the British mission group, observed a trypanosome in samples collected from people with sleeping sickness and proved the relationship between this pathogen and the symptoms of the disease. The parasite was known since 1901 as *Trypanosoma gambiense* and it was described as the etiological agent of a disease known as *Trypanosoma fever*. As of 1903, a relationship was established between this condition and the sleeping sickness, which became known as human African trypanosomiasis. The disease was transmitted by the bite of a hematophagous fly of diurnal habits, belonging to the genus *Glossina* and known as the tsetse fly.¹¹

During the turn of the nineteenth to the twentieth century, institutes of tropical medicine studies and research were created in countries such as the United Kingdom, Germany and France.¹² In Portugal, tropical medicine was institutionalized with the creation of the *Escola de Medicina Tropical de Lisboa* [Tropical Medicine School of Lisbon], in 1902, whose main purpose was to: “Complete the professional education of doctors from the health teams at overseas provinces and of navy doctors, by means of theoretical lessons followed by demonstrations and practical exercises at infirmaries and laboratories on all areas of the tropical medicine.”¹³

¹¹ James Busvine, *Disease Transmission by Insects. Its Discovery and 90 Years of Effort to Prevent It* (Berlin: Springer-Verlag, 1993), 40-44.

¹² Isabel Amaral, “Emergence of Tropical Medicine in Portugal: The School of Tropical Medicine and the Colonial Hospital of Lisbon,” *Dynamis* 28 (2008): 312-318.

¹³ Luís Pina, “Investigadores Portugueses sobre Medicina Tropical,” *Anais do Instituto de Medicina Tropical* 9, no. 1 (1958): 471 (All translations unless otherwise noted are by the author).

One of the professors at the abovementioned school, Ayres Kopke, Chair in the Bacteriology and Parasitology department, became internationally known in 1905 for his researches on the use of atoxil, an arsenic compound synthesized in 1859 by the French Chemist Antoine Béchamp,¹⁴ for the treatment of sleeping sickness. Kopke recommended administering the drug via subcutaneous injections at maximum doses of fifteen cubic centimeters diluted in aqueous solution.¹⁵ The use of atoxil, which could lead to blindness, was deemed to be effective for trypanosome destruction while it remained in the bloodstream; however, its effects were innocuous when the disease reached the Central Nervous System through the cerebrospinal fluid. At this stage of the disease, the sick person was inevitably going to die.

Forced labor at cocoa farms (*roças*)

In August 1904, Annibal Correia Mendes, a Portuguese doctor serving in Angola, left Luanda for a short expedition in some villages, including: Golungo Alto, Dondo, Ambaca, Massangano and Lucalla, to capture specimens of tsetse flies in the regions that were most affected by the sleeping sickness in Angola, villages located in the vicinities of the Cuanza River, a common route for merchants, soldiers and groups of *serviçais* (the contract labourers, hired to replace the slaves).¹⁶ During his voyage, Annibal had the opportunity to

¹⁴ Dietmar Steverding, “The Development of Drugs for Treatment of Sleeping Sickness: A Historical Review,” *Parasites & Vectors* 3, no. 15 (2010):par.3, <http://www.parasitesandvectors.com/content/3/1/15>.

¹⁵ Ayres Kopke, *Estudo da Doença do Sono* (Lisbon: Military Cooperative Typography, 1915):113.

¹⁶ Aida Faria Freudental, “Angola,” in *Nova História da Expansão Portuguesa. O Império Africano, 1890-1930*, ed. António Henrique de Oliveira Marques and Joel Serrão (Lisbon: Editorial Estampa, 2001), 315; Augusto Nascimento, “Escravidão, Trabalho Forçado e

examine some of the sick people and to contact the health delegates in countryside villages. From one of the health delegates, settled in Dondo, Correia Mendes collected the information that, from 1901 to 1903, the sleeping sickness caused approximately 30% of the deaths. The distance between the visited locations were crossed by train, riverboats and hammocks carried by black workers. Throughout the course, tsetse flies were a constant (and bothersome) companion:

Throughout the journey, I've seen a number of grey-colored flies of the genus *Glossina*. Some of them entered the marching convoy and a travel mate, who was conducting the Malange railway, was bitten on the neck by a fly that was caught by us and that, upon a quick and very superficial examination, seemed to belong to the *palpalis* species.

The number of tsetse flies is abundant on the way between Cassualalla and Dondo, a six hours journey by hammock (a net carried on the back of black workers). The flies never ceased to land on the net and on the back of the carriers, who, from time to time, were obliged to hit the palm of their hands against their backs to scare the flies off, thus smashing some of the ones that were full of freshly sucked blood [...]. From Dongo I went to Massangano, a village located at the right margin of the Cuanza, going down the river using a dory. Throughout the trip I was bothered by the tsetse flies that constantly invaded the boat, especially when I got closer to the margins.¹⁷

Correia Mendes returned to Luanda with some specimens of *Glossina palpalis*, which were sent to the Tropical Medicine School and to the Bacteriological Institute in Lisbon, and reached a conclusion on the urgency of adopting prophylactic measures against the disease due to the risk of depopulation in large areas in the countryside of Angola. Based on the consulted sources, it was possible to find repeated references about the threat posed by the sleeping sickness, although there was not a great number of quantitative data,

Contrato em São Tomé e Príncipe nos Séculos XIX e XX: sujeição e ética moral,” *Africana Studia*, no. 7 (2004): 183-217.

¹⁷ Annibal Correia Mendes, “Glossinas de Angola,” *Archivos de Hygiene e Pathologia Exoticas* 1, no. 1 (1905): 68-69.

which may indicate the precariousness of the colonial health services: “In Dondo, Cazengo and Alto Dondo, the sleeping sickness persists”, “The sleeping sickness made four victims in Luanda, one victim in Novo Redondo, and an unknown number of victims in Dondo and Golungo Alto” [only in June 1907] and “From hypnosis, two deaths were recorded in Luanda, and the disease continued wreaking havoc in Dondo” [November 1907].¹⁸

Despite the endemic focus records of human African trypanosomiasis, Angola was the main colony of Portugal and was a major producer of primary goods such as coffee and rubber, as well as an important supplier of indigenous manpower to other colonies, a reminiscence of the slave trade period.¹⁹ From the legal point of view, slavery was abolished in the Portuguese colonies in 1878. However, subsequent executive orders, approved in 1899, 1911 and 1914, imposed to the native people from the colonies in Africa the moral obligation to work, and the Portuguese government could force them to do so if they did not volunteer.²⁰ According to the Europeans, labor was a tool to civilize “uncivilized people”; consequently, forcing the native people to work, following a discipline dictated by the colonizers, led to a series of arbitrariness, such as extensive and exhaustive working hours, filthy accommodations, very low wages and a number of punishments going from paddling to *cavalo*

¹⁸ Manuel Bordallo Pinheiro, “Revista Sanitária das Províncias Ultramarinas. Referida ao ano de 1907,” *Archivos de Hygiene e Pathologia Extoticas* 2, no. 1 (1909):200-201.

¹⁹ Jill Dias, “Relações Portuguesas com as Sociedades Africanas no Século XIX,” in *O Império Africano. Séculos XIX e XX*, ed. Valentim Alexandre (Lisbon: Colibri,2013), 69-92.

²⁰ Michel Cahen, “Seis Teses Sobre o Trabalho Forçado no Império Português Continental em África,” *África*, no. 35 (2015): 143-144, <https://doi.org/10.11606/issn.2526-303X.v0i35p129-155>.

marinho – a whip made of hippo leather – conditions that debilitated the native people and exposed them to local diseases.²¹ Labor was also considered to be a punishment to people convicted of crimes. It is said that one of the reasons of the Luso-Ovimbundu war of 1902 in Angola were the traps set by the Portuguese to capture the native people and submit them to forced labor. These ambushes worked like this: some Portuguese merchants or soldiers pretended to drop bottles of sugar-cane rum or powder barrels and, when getting close to these supposedly dropped items, the native people were taken by surprise and convicted of theft.²²

The use of local manpower was also justified by the racism present at that time, where the supposed inability of the European white man to adapt to the African weather contrasted with the robust bodies of the black men who, according to the colonizers, were born to work hard under the supervision of the white man:

The black man shall always bear the burden of carrying out all labors demanding a high energy consumption and that must be performed under the sunlight, facing the multiple physical and animated agents polluting the environment; the reason is that the black man has organic characteristics and immunities that preserve and protect him, while the white man, dislocated from his place and by the unique conditions of his race, finds himself unprotected and exposed to the aggressiveness of these multiple enemies, which do not cease to harass and almost always end up defeating him. In Africa, the white man will always be in charge of the supervision and

²¹ Valdir Zamparoni, “Da Escravatura ao Trabalho Forçado: teorias e práticas,” *Africana Studia*, no. 7 (2004): 299-335, https://www.cecult.ifch.unicamp.br/pf-cecult/public-files/projetos/9585/zamparoni_africanastudia_2004_-_escravatura_ao_trabalho_forcado.pdf; Maryinez Lyons, “African Trypanosomiasis (Sleeping Sickness),” in *The Cambridge World History of Human Disease*, ed. Kenneth Kiple (Cambridge: Cambridge University Press, 1999), 558.

²² Alberto Oliveira Pinto, *História de Angola. Da Pré-História ao Início do Século XXI* (Lisbon: Mercado de letras, 2017), 623.

execution of all activities demanding a high level of intelligence and less energy, more competence and less exposure.²³

The *roças*, plantations of coffee or cocoa in São Tomé and Príncipe, were eager importers of manpower and absorbed a significant part of the contingent from Angola, especially from the districts of Benguela and Luanda, but also from Cape Verde, Mozambique, India and even Chinese people from Macau were brought to the small archipelago.²⁴ Cocoa and coffee turned the two small islands into the most profitable colony of Portugal from 1880 to 1914.²⁵ A total production of 260,893 tons, recorded between 1904 and 1912, placed São Tomé and Príncipe as the second major producer of cocoa worldwide, only behind the Republic of Ecuador, and the wealth produced by forced labor fed the feasts at luxurious halls offered to the finest members of the Lisbon society by the aristocracy of São Tomé.²⁶ The opulence these owners, called *roceiros*, used to show on the streets of the Portuguese capital was so great that the expression “having cocoa” became a synonym of having (a lot of) money.

In these islands, these blessed farmlands, these cultures of tropical flora prospered, resulting in 8,323,000 kg of cocoa in the market value of 2,132 Portuguese contos, with a higher chance of increasing, not including 2,000,000 kg of coffee and other agricultural products, which make this territory in São Tomé and Príncipe the first plantation colony in the whole

²³ João Augusto Martins, “Revista Sanitária das Províncias Ultramarinas. Referida ao ano de 1909,” *Archivos de Hygiene e Pathologia Exotica*. 3, no. 1 (1910); 3 (1):265.

²⁴ Augusto Nascimento, “A Passagem de *Coolies* por São Tomé e Príncipe,” *Arquipélago História* 8, no. 2 (2004): 77-112.

²⁵ Elikia M'Bokolo, “África Central: o Tempo dos Massacres,” in *O livro Negro do Colonialismo*, ed. Marc Ferro, trans. Joana Angélica (Rio de Janeiro: Ediouro, 2004), 519-520.

²⁶ Secretaria da Agricultura, Comércio e Obras Públicas, *Boletim da diretoria de indústria e comércio, 1915*, São Paulo: Rothschild and Comp Brazil Typography, 1915; Augusto Nascimento, “S.Tomé e Príncipe no Século XIX: um esboço de interpretação das mudanças sociais,” in *O Império Africano, Séculos XIX e XX*, ed. Valentim Alexandre (Lisbon: Colibri, 2013), 95-116.

equatorial Africa and a true promised land where, I repeat, fortunes have been made – thank God.²⁷

Since this archipelago has historically been a relevant port for sea routes between the African continent, Brazil and Europe, this traffic is believed to have led to the islands specimens of *Glossina palpalis*, this explanation was defended by the islanders who called the tsetse the “Gabon fly”, a geographic reference to the continent location that was the closest one to São Tomé and Príncipe.

The cocoa trees at Príncipe island were planted at low altitudes (between one hundred and three hundred meters above sea level) with other trees that provided shadow and humidity in opposition to the intense winds and the scorching heat, which are not propitious for growing fruits. However, these conditions were also optimal for the survival and reproduction of the tsetse flies.²⁸ In addition to the propitious environment for the flies which was involuntarily created by men, the constant shipment of *serviçais* from endemic Angolan regions to work at cocoa farms in a small island where the tsetse flies proliferated resulted in a severe epidemic of the sleeping sickness.

Most of the population at Príncipe Island consisted of *serviçais*, who, in 1913, accounted for 3,438 individuals of a total population of 4,938 individuals.²⁹ The *Serviçais* were used in domestic or agricultural tasks at the

²⁷ Ernesto de Vasconcellos, “As Colónias nas suas Relações com o Mar,” *Revista Portuguesa Colonial e Marítima* 8, no. 44 (1901): 79,

<http://memoriaafrica.ua.pt/Library/ShowImage.aspx?q=/RPCM/RPCM-N044&p=15>.

²⁸ Sebastião Nuno de Araújo Barros e Silva, “The Land of Flies, Children and Devils: The Sleeping Sickness Epidemic in the Island of Principe (1870s-1914)” (PhD thesis, University of Oxford, 2008), 94-95.

²⁹ Bernardo Bruto da Costa. *Trabalhos sobre a Doença do Sono. Saneamento, estatística, serviços hospitalares e Brigada Oficial* (Lisbon: A Editora Limitada, 1913),7.

farms, where the sleeping sickness-related mortality was very high, being the main cause of death. The *roça Sundry* can be used as an example, it was one of the major producers of cocoa at Príncipe Island, where the human trypanosomiasis was responsible for more than 50% of the deaths recorded in the beginning of the twentieth century, the sleeping sickness caused the death of 251 out of 471 people between 1902 and 1907.³⁰

Due to the high incidence of the disease in Príncipe island, a study mission group was organized, formed by the doctors Annibal Correia Mendes (director of the bacteriological laboratory of Luanda) , António Damas Mora (health delegate of Príncipe Island) , and Bernardo Francisco Bruto da Costa (director of the bacteriological laboratory of São Tomé and graduate of the Tropical Medicine School in 1905).³¹ This mission, which crossed the island between 1907 and 1908, reached the conclusion that the southern region, with its strong winds and abundant rains, offered adverse conditions to the tsetse flies, which preferred and concentrated themselves in the northern region of the island, where its riversides and closed forests provided a safe shelter against storms for the flies. At that time, human beings were used as guinea pigs in experiments with atoxil, and Príncipe island was turned into a real outdoor laboratory:

³⁰ Annibal Correia Mendes et al., “Relatório Preliminar da Missão de Estudo da Doença do Sono na Ilha do Príncipe,” *Archivos de Hygiene e Pathologia Extoticas* 2, no. 1 (1909): 5.

³¹ Isabel Amaral, “A Doença do Sono/Tripanossomiase – O Elemento Catalisador do Progresso da Medicina Tropical Portuguesa (1901-1966),” in *As Enfermidades e suas Metáforas: Epidemias, Vacinação e Produção de Conhecimento*, ed. André Mota, Maria Gabriela Marinho and Cláudio Bertolli Filho (São Paulo: CD.G Casa de Soluções e Editora, 2015), 17.

Experiment I.

To check the time trypanosomes took to reappear in peripheral blood after the injection of single and successively increasing doses of atoxil of three decigrams to one gram.

We have singled out eight sick people who presented trypanosomes in their blood and who had not previously taken atoxil. Three decigrams of atoxil were injected in the first subject; four decigrams in the second one and so on, with the last subject (number eight) receiving one gram of atoxil.[...]

It must be observed that, except for the subject who received three decigrams, an eight-year-old child, all other subjects were adults.

Based on this experiment, it is concluded that the time trypanosomes take to reappear in the peripheral blood after a single injection of atoxil is not related to the injected dose. Therefore, the subject who received four decigrams remained twenty days free of trypanosomes in the blood, while the subjects who received seven decigrams and one gram experienced the reappearance of trypanosomes eleven days after the injection.³²

Doctors also observed trypanosomes in several mammals in the island (such as dogs, oxen and mules) and reported potentialities of Maldonado's method for capturing tsetse flies. This method was developed by the manager of the *roça Sundy*, Ângelo de Bulhões Maldonado, after observing the movement of the flies on the backs of workers who were weeding, a task carried out in a standing position while the torso is inclined, and the preference of the tsetse flies to land on darker fabrics. Thus, Maldonado determined that his *serviçais* should wear black cloths embedded in a sticky substance, produced from palm oil and pine tree resin, over their backs which would serve to capture the flies that landed on the trap. According to the inventor of the method, 28,692 flies were captured and killed in 1906, between April and September.³³

Despite the study's mission, which ended in September 1908, the number of deaths due to the disease continued growing, with a total of 682 deaths between 1908 and 1911. For a wider period, from 1902 to 1913, human

³² Mendes et al., "Relatório Preliminar," 16.

³³ *Ibid.*, 15.

trypanosomiasis accounted for the death of 2,525 people in Príncipe Island.³⁴ Since the island depended on the importation of forced labor, this high mortality rate represented human and economic losses. The situation was deemed to be an alarming one and leaving the island was considered an option.³⁵

The sea transportation of the indigenous people from other Portuguese colonies to Príncipe Island and the labor conditions at the *roças* also led to complaints in Europe regarding the small difference between the classes of *serviçais* and slaves in the Portuguese domains, such as the report prepared by the British journalist Henry Nevinson, published in *Harper's Monthly Magazine* (1905) and, later, in the book called *A Modern Slavery* (1906). Among other things, Nevinson described some unsuccessful attempts of escaping from Príncipe island using improvised canoes that accidentally arrived at the port of other colonies such as Fernando Po (governed by Spain) or Cameroon (governed by Germany). In these places, the fugitives were arrested by the colonial authorities and sent back to the island, where they were punished: "The eighteen were taken back to Príncipe, flogged almost to death in the jail, returned to their owners, and any of them who survive are still at work on the plantations, with but the memory of that brief happiness and overwhelming defeat to think upon."³⁶

³⁴ Vasco Bruto da Costa, "A Ilha do Príncipe e a Doença do Sono," *Anais do Instituto de Medicina Tropical* 9, no. 3 (1952):727-735.

³⁵ Bernardo Bruto da Costa et al., "A Doença do Sono na Ilha do Príncipe. Excertos do Relatório Final da Última Missão Sanitária (1912-1914)," *Portugal Médico* 9, no. 5 (1915): 257-261.

³⁶Henry Nevinson, *A Modern Slavery* (London and New York: Harper & Brothers Publishers,1906),201.

Nevinson's accusations caught the attention of the Cadbury family, the Cadburys were members of the Society of Friends or Quakers, known at the time for their anti-slavery position.³⁷ William Cadbury controlled one of the largest chocolate companies in the world, and after visiting the *roças* in the Portuguese islands, he started a commercial boycott to the "slave cocoa" from São Tomé and Príncipe in March 1909, an action that had the support from other English and German companies.³⁸

Although during our visit a few *serviçais* were for the first time allowed to return to the mainland, the whole system of "recruiting" slaves in the interior of Angola remains absolutely unchanged, and, needless to say, it is here that the root of the evil lies. [...]

In ceasing for the time being to buy cocoa from these Portuguese islands, the English firms do so with no personal or international prejudice. They will be the first to welcome reforms that are downright and sincere. [...]

I understand and sympathize with the patriotism of the Portuguese which resents the interference of another nation in the affairs of his country. But the progress of modern education, and the whole trend of modern thought, make it impossible for any one nation to put back the march of progress in the treatment of subject races which modern standards of right demand, without coming into conflict with the irresistible force of international public opinion.³⁹

Although the Portuguese press reacted to the boycott by accusing Great Britain of trying to damage the economy of Portugal, which was partially based on the cocoa from São Tomé, and on the fact that abuses against the native populations had also been reported in other European colonies,⁴⁰ reports of

³⁷ Lowell Satre. *Chocolate on Trial: Slavery, Politics, and the Ethics of Business* (Athens: Ohio University Press, 2005),146.

³⁸ Rui Miguel Martins Mateus, "Uma Controvérsia Luso-britânica: O Caso do Cacau de São Tomé," *Journal of Anglo-Portuguese Studies*, no. 27 (2018),212-213; Augusto Nascimento, "São Tomé e Príncipe," in *Nova História da Expansão Portuguesa. O Império Africano, 1890-1930*, ed. António Henrique de Oliveira Marques and Joel Serrão (Lisbon: Editorial Estampa, 2001), 218-219.

³⁹ William Cadbury, *Labour in Portuguese West Africa* (London: George Routledge and Sons, 1910), 95-96,

⁴⁰ Philip Havik, Alexander Keese and Maciel Santos, *Administration and Taxation in Former Portuguese Africa, 1900-1945* (Newcastle upon Tyne: Cambridge: Scholars Publishing, 2015), 15-16.

slavery cover ups and the severe health problems related to the sleeping sickness led to questioning the “civilizing mission” of Portugal in Africa and put the country in a delicate position regarding the dispute for territories in the African setting.⁴¹ It was in this historical context that the campaign for the eradication of tsetse flies in Príncipe island was initiated in 1911:

With the exportation of cocoa and coffee from São Tomé reaching extraordinarily high numbers in recent times, the ruthless war our competitors have brought against such exportation, the results of slavery on its traditions as a stain, and the ghost of the sleeping sickness, the maculo [a diarrheic disease] and the ancylostomiasis infesting it sum up to the emigration problem under its multiple aspects (in Angola, Mozambique and Cape Verde), all of which contribute to the importance of this province, not only under a humanitarian and political point of view, but also for all of those who are patriotically interested *sans parti pris*, nor with a speculative aim, regarding the colonial issues.⁴²

Campaign against the sleeping sickness, 1911-1914

In February 1911, by initiative of the colonial government of São Tomé and Príncipe, the owners of the lands were obliged to proceed with the weeding and deforestation of their properties, pig farming was strictly forbidden on the island, metallic nets should be installed on the doors and windows of houses, *serviçais* should wear light-colored clothes completely covering their bodies, from head to toe, and all people who were bitten by *Glossina palpalis* were obliged to receive atoxil injections. As of that moment, the actions adopted

⁴¹ Ewerton Luiz Figueiredo Moura da Silva, “O Combate à Doença do Sono nas Colônias Portuguesas na África: Medicina sob o Signo do Racismo e do Darwinismo Social (1901-1932),” *Revista Transversos*, no. 13 (2018): 94-95, <https://doi.org/10.12957/transversos.2018.35648>.

⁴² João Augusto Martins, “Revista Sanitária das Províncias Ultramarinas. Referida aos anos 1910-1911,” *Archivos de Hygiene e Pathologia Exoticas* 3, no. 1 (1912), 212-213.

against the disease consisted in the indiscriminate administration of the drug and in using Maldonado's method to capture flies.

The interim government of the Republic in Lisbon, which at the time had a little more than six months of existence and which was seeking the national and international legitimate acknowledgement of its regime, approved an executive order in April 17, 1911 that reinforced the provisions set forth by the colonial authorities regarding the combat against the sleeping sickness in Príncipe island. The matter of the damages caused by human trypanosomiasis in the small colony led to heated debates in the parliament about the possibility of establishing the obligation to conduct medical tests in those *serviçais* working at the *roças* of the island and about the impossibility of those who were affected by the disease in Príncipe island to return to their homelands:

Mr. Bernardino Roque: — Mr. President, this small change introduced by the committee of the Colonies is due to the following: the legislative bill states that repatriation must be carried out by the landlords at the end of the second year. This is undebatable. However, in some cases it may not be possible for the repatriation to occur in the end of the second year; the *serviçais* might not be in proper conditions to be repatriated. Let us suppose that the exams conducted in those *serviçais* who were part of the brigade indicate the presence of trypanosome in their blood; those *serviçais* should not return to their homelands as they would transmit the disease, provided that tsetse flies were present on that location. Therefore, the legislative bill should not restrictedly determine that repatriation should occur at the end of the second year; repatriation should occur when the test results are negative, when a second and a third tests determine the servant is not struck by the sleeping sickness. Repatriation must not occur if the servant is struck by the disease.⁴³

The metropolis had also approved the creation of an official brigade theoretically composed of three hundred *serviçais*, which was submitted to a

⁴³ República Portuguesa, *Diário do senado. Sessão legislativa de 1911-1912*. Sessão nº 114 de 19 de junho de 1912 ed., <http://debates.parlamento.pt/catalogo/r1/cs/01/01/02/114/1912-06-19/1>.

technical director to continue the sanitation services such as the hunt for flies, swamp drainage and land cleaning. A new medical mission team was sent to Príncipe Island; its main objective was to coordinate the health services that should eliminate tsetse flies and Bernardo Bruto da Costa, a medical colonel from Goa and member of the 1908 mission, was appointed as its head as of August 1912. The details of the health services developed on the island were published as reports, in specialized Portuguese journals such as *Portugal Médico* and *Arquivos de Higiene e Patologia Exóticas*, the latter being a publication of the Tropical Medicine School of Lisbon that dedicated an entire issue to the campaign against flies.

Although the geography of Príncipe Island, a small portion of land of one hundred and thirty-six square kilometers surrounded by the waters of the Gulf of Guinea, favored the medical mission by allowing a stricter health control on the island, its services were not limited to a linear sequence of successful events, but rather they were permeated by resistances and difficulties.

One of the first obstacles was the lack of manpower to form the official brigade, which started its services in February 1911 with forty-three men who were primarily recruited among war prisoners and convicts in São Tomé, Angola and India. The number of subjects employed in this brigade slowly increased throughout the years, reaching one hundred subjects in June 1911, and the number required by law of three hundred subjects was only reached in April

1914.⁴⁴ In addition, the personnel used in the combat against *Glossina palpalis* were not always subordinate to the authority of their superiors; it was quite the opposite, insubordination to the orders from captains and attempts of murder against Bruto da Costa were frequent. In some cases of insubordination, the doctor authorized the use of military force against the rebels, which resulted in bloodshed:

[...] there I went to face the rebels, and when getting closer to the settlement, I started hearing battle cries followed by a gloomy drumming in a regular rhythm that was both wild and frightening. It was a call to war, to which all men were sugar-cane rum drunk and looking more like beasts than human beings. It looked like hell! [...] I told the soldiers to protect the only two entrances to the settlement and to fire warning shots to the air; at that time the rebels were already landing powerful strokes with axes against the doors of the captains to force their entry. I screamed for the captains, who, after being helped, left their homes and engaged in a fight during which I was forced to tell the soldiers to shoot the rebels.⁴⁵

The combat against the sleeping sickness focused primarily on the destruction of the habitat of the fly; thus, the brigade personnel was mobilized to swamp draining, deforestation, and destruction of the herbaceous and shrubby vegetation, especially *capoeirões* (clumps of herbaceous plants in which creepers almost always predominated). The plants found next to riverbanks were also destroyed by means of axes and forest fires set by the official brigade personnel:

Deforestation was carried out following a certain method and guidance: trees were cut down from thirty to thirty meters, unless insufficient clearings for the sunrays to hit the ground were observed after cleaning the lands. In that case, some more trees were cut down so that the local temperature was high, thus being harmful to the tsetse flies. Creepers, which formed *capoeirões* climbing trees and shrubs, were destroyed, with their roots and the roots of

⁴⁴ Bernardo Bruto da Costa et al., "Relatório Final da Missão da Doença do Sono na Ilha do Príncipe," *Arquivos de Higiene e Patologia Exótica*, no. 5 (1915):61-152.

⁴⁵ *Ibid.*,129.

shrubs being burned. A higher number of trees were cut down next to riverbanks and swamps.⁴⁶

At an island with such an exuberant plant life with cocoa trees, mulberry trees, breadfruit trees and palm trees, deforestation should be done while preserving species which fruits and wood had economic value, such as the African oil palm trees, and especially, the cocoa trees. During the campaign, more than fifteen square kilometers or 11% of the total area of the island were deforested.⁴⁷ According to the law, and under the risk of receiving a penalty, every landowner was responsible for cleaning his lands. However, the laws exempted landowners who had a low number of *serviçais* from the costs of such operations; therefore, several landowners released their *serviçais* in order to not bear with the costs of weeding, transferring them to the official brigade. The resulting reports constantly accused the native owners of negligence and passivity regarding the services rendered:

With rare exceptions, the native people did not take care of their properties, showing their natural indolence, which increased when landowners became aware that they did not have to pay for any of the services rendered by the brigade if they did not have workers in their properties. It is extraordinary that the members of the native league did not explain to the less educated countrymen the need to eradicate the sleeping sickness, thus avoiding the annihilation of their race. The indigenous people showed only an unhealthy indifference.⁴⁸

It must be observed that the criticisms made by the Portuguese doctors regarding the local inhabitants of an African colony must be observed under a European racist and imperialist point of view, which, in general, considered the

⁴⁶ Costa, *Vinte e Três Anos ao Serviço do País*, 112.

⁴⁷ Costa et al., "Relatório Final," 100.

⁴⁸ Costa, *Trabalhos Sobre a Doença do Sono*, 68.

native people of their colonies to be of an inferior race and less inclined to work compared with the white man, with the abovementioned expression “natural indolence” being quite enlightening. However, the islanders were the ones who bore most of the costs of the mission services, in the amount of one hundred fifty-seven Portuguese escudos.⁴⁹

The methods employed by Bernardo Bruto da Costa to combat the human trypanosomiasis epidemic raised the resistance of the islanders, showing the absence of a cultural connection between the medical practice and knowledge, deemed to be arbitrary and oppressive by the local population, and the habits and beliefs of the people from Príncipe Island, frequently considered to be inconvenient and superstitious by doctors. In his book published in 1939, called *Vinte e Três Anos ao Serviço do País*, Bruto da Costa described some of the ways the hostility of the islanders, who were skeptic to the promise of eradicating the *Glossina palpalis* and dissatisfied with the costs of the sanitation program, was manifested. The complaints were reported to Lisbon with the purpose of having the doctor transferred to the metropolis; protests in Santo António, the only city on the island, with the image of Costa being burned, and even death threats.⁵⁰

Despite all efforts to clean the lands, dense forest and brushwood grew again after some time, challenging the authorities with the constant need for weeding. However, continuous observation showed that, if the animals were

⁴⁹ Costa et al., “Relatório Final,” *Arquivos de Higiene e Patologia Exótica*, 129.

⁵⁰ Costa. *Vinte e Três Anos ao Serviço do País*, 98-99.

eliminated, the flies would not return to those places, even if its vegetation grew again.⁵¹ Therefore, other action taken to eradicate the tsetse flies on the island consisted in eliminating some mammals, especially pigs.⁵² Since pig farming was prohibited in Príncipe island, many corral owners decided to release their animals, which sought shelter in the forests after being set free and hunted down by the brigade.

It is known that the flies seek shelter in dark humid places inhabited by animals, especially pigs, which allow a considerable number of flies to land on them without reacting to their bites and transport the flies for long distances. In addition to transporting the flies, pigs also feed them since flies are hematophagous. We have once seen thirty flies full of blood attached to a dead pig and, whenever pigs are shot to death, according to the information provided by the first captain of the brigade, some flies are found attached to their bodies.⁵³

But pigs were not the only target of the health campaign: from 1911 to 1914, approximately twenty–five hundred swines, two thousand stray dogs and two thousand African civets were killed.⁵⁴ The extermination of animals in endemic areas of the tsetse flies was recommended at that time as an effective prophylactic measure against the sleeping sickness, since the Europeans argued that wild animals could serve as reservoirs of trypanosomes and as food for the flies.⁵⁵ However, African civets did not seem to be associated with the epidemiology of the disease, which did not prevent their sacrifice as a “precaution”.

⁵¹ Costa et al., “A Doença do Sono na Ilha do Príncipe,” 269.

⁵² Isabel Amaral, “Medicina Tropical e Ambiente em Perspectiva: Reconstituindo o Puzzle da Erradicação da Doença do Sono na Ilha do Príncipe, 1914,” *Fronteiras: Journal of Social, Technological and Environmental Science* 7, no. 2 (2018): 64-82, <http://dx.doi.org/10.21664/2238-8869.2018v7i2>.

⁵³ Costa. *Trabalhos Sobre a Doença do Sono*, 69.

⁵⁴ Costa et al., “Relatório final,” 109-110.

⁵⁵ Lyons, *The Colonial Disease*, 51.

It does not seem that the flies, maybe due to the smell of these carnivores, have any preference for their blood; tsetse flies have never been seen sucking blood from them, and, in hundreds of tests, these animals have never been seen carrying trypanosomes that were locally transmitted by the *Glossina palpalis*.⁵⁶

Maldonado's method was used as a supplementary measure to the actions taken by the brigade; however, since the original slime recipe dried too fast, it was replaced by an imported British product. Its usage in the elimination of tsetse flies required some attention because it could not be used in dense forest due to the risk of capturing tree leaves instead of flies. Thus, the brigade supervisors designated the most robust men to cut down the forest trees and, in open clearings, other *serviçais* were instructed to walk around wearing a viscous piece of cloth on their backs to capture the flies that escaped from deforestation. The method, in spite of being useful to eliminate the flies, still had some elements that made it difficult to routinely apply it:

One of the obstacles for fully carrying out this measure was that the garment, together with the viscous cloth, limited the movements and caused increased sweating to those *serviçais* in charge of the heavy-duty, making them get tired really fast and forcing them to abandon these defenses; the viscous substance on the cloths should be renewed on a daily basis and their daily replacement was expensive, and after a period of time, due to the overlapping of successive layers of the product, the pieces of cloth weighed three to four pounds.⁵⁷

In spite of its severe side effects, such as vomiting, epigastric pain and blindness, and despite the criticism at the time it was employed,⁵⁸ atoxil was widely used in the men from the official brigade, who were in direct contact with the flies, and in the sick men on the island. The use of atoxil followed the

⁵⁶ Costa et al., "Relatório Final,"110.

⁵⁷ Ibid.,112.

⁵⁸ Gama Pinto, "As Perturbações Visuais na Tripanossomiase," *A Medicina Contemporânea* 29, no. 4 (1911):31.

same doses indicated by the committee headed by Correia Mendes in 1907 and 1908: injections of 0.6 gram of the substance in five cubic centimeters of distilled water, given at forty-eight hours intervals, and repeated every fifteen days for four months.⁵⁹

The medical team was also responsible for systematically conducting microscopic tests with the blood and cerebrospinal fluid samples to look for the presence of *Trypanosoma gambiense*: 11,338 tests were conducted from 1911 to 1914, with 268 cases of trypanosomiasis, 710 cases of malaria and 923 cases of filariasis being diagnosed.⁶⁰ Despite its lower incidence when compared with other tropical diseases, the sleeping sickness was the deadliest one, accounting for 551 out of 1202 deaths recorded in Príncipe Island between 1911 and 1913.⁶¹ It must be observed that some actions adopted against the flies, such as the use of metallic nets, swamp drainage and land cleaning, also served to combat the proliferation of mosquitoes that transmitted malaria and filariasis.

Through medical tests, the people bearing the sleeping sickness were isolated at farm hospitals or at home, and treated with atoxil. The health actions taken to combat trypanosomiasis required the private farm hospitals to have technical equipment and to create nursing wards intended for isolating the sick people.⁶² When tsetse flies started to become scarce at the *roças*, the isolation within an enclosed space was replaced by strictly prohibiting the sick people to

⁵⁹ Costa et al., “Relatório Final,” 120.

⁶⁰ Ibid., 118.

⁶¹ Costa et al., “A Doença do Sono na Ilha do Príncipe,” 259.

⁶² Amaral, “Medicina Tropical e Ambiente em Perspectiva,” 74.

leave the farm terraces were they worked, and their bosses were prohibited to employ these men in activities that could place them into direct contact with the tsetse fly.⁶³

Medical surveillance was imposed to all people entering or leaving Príncipe island: all *serviçais* were submitted to clinical and microscopic tests before being allocated to the *roças* on the island. Repatriation also depended on a favorable medical opinion and all those people whose tests indicated the presence of trypanosome in the cerebrospinal fluid, the final stage of the sleeping sickness, were forbidden to leave the island, even after the end of their contract, being forced to stay in a prison island, under the control of their bosses, until the end of their lives.⁶⁴

The threat posed by the sleeping sickness and the terrifying possibility of not leaving the island alive portrayed a negative image of Príncipe island as being an exiled land to the native population of Cape Verde and Angola. In 1912, Eugénio Tavares, a journalist and poet from Cape Verde, published a sonnet entitled *Emigração* [Emigration] in the newspaper *A voz de Cabo Verde*, in which he tried to immortalize the destiny of those who left the archipelago, trying to escape from poverty and famine, to go to São Tomé and Príncipe:

How sad and desolate it is,
To see this people, in packs, leave
Left to their fates, insensitive
To so much grief, so much pain!

If fortune still brings thee to a friendly land,
Emaciated, sad, exhausted
With the sleeping sickness, already hampered,

⁶³ Costa et al., “Relatório Final,” *Arquivos de Higiene e Patologia Exótica*, 120.

⁶⁴ *Ibid.*, 128.

To the cemetery a single grave begs thee!

But why go, thus gathered,
To such a damned, exiled land?
Is it famine that tethers thee?

Embrace the most of thy youth
And go much farther, go to America
The land of labor and home of the free!⁶⁵

Regarding the tsetse fly, the systematic attack to its ecosystem decreased the number of flies on the island: 203,629 diptera were captured in 1911; 197,326 in 1912; 68,322 flies were killed in 1913; there were thirty-four specimens in 1914 and, from May 1914 onwards, the rate of capture was zero.⁶⁶ In June 1914, a little more than one month before the First World War started in Europe, the island was considered to be free from the tsetse fly. This was reflected by the medical literature and served to highlight the colonial presence of Portugal in Africa:

With the extinction of the sleeping disease on Príncipe island in 1914, the potential to eradicate a hematophagous arthropod in its natural environment was shown for the first time, which is still unheard of up to the current days [...]

Considering the circumstances appointed by us, today, thirty-eight years after such a successful mission, we can state, with no fear of being controversial, that the eradication of the sleeping sickness in Príncipe island is the culmination of the combat against hypnosis in the Portuguese territory [...] this achievement, which could not be repeated by any other nation as of the current days, represents one of the most important accomplishments in the brilliant overseas medical history of our nation.⁶⁷

Sleeping sickness outbreaks stroke the colonies controlled by the Belgian, the French, the German, the British and the Portuguese in Sub-Saharan

⁶⁵ Mariana Berthet, “À Sombra do Cacau: Representações sobre Trabalho Forçado nas Ilhas de São Tomé e Príncipe,” *Revista do Arquivo Geral da cidade do Rio de Janeiro*, no. 11 (2016): 346, http://wpro.rio.rj.gov.br/revistaagcrj/wpcontent/uploads/2016/12/Dossi%C3%AA_Artigo-2.pdf.

⁶⁶ Costa et al., “Relatório Final,” 115.

⁶⁷ Costa, “A Ilha do Príncipe,” 732.

Africa. In the Portuguese domains, except for Príncipe Island after 1914, tsetse flies were observed in Angola, Guinea and Mozambique. However, none of these colonies had a health campaign with the same design and effects of the one implemented in the island as of 1911: in Angola, the sleeping sickness continued resulting in casualties and, in 1916, Bruto da Costa became responsible for conducting a campaign against the flies in the district of Benguela using similar methods, but the campaign did not achieve the same result achieved in Príncipe island; in Guinea, the first mission to study the sleeping sickness was sent only in 1932, and in Mozambique, where nagana or bovine trypanosomiasis was spreading, the sleeping sickness never reached the same epidemiological dimension it reached in Angola or in Príncipe island.⁶⁸

Conclusion

This article explored the connections between the proliferation of a disease, the economic organization of an insular colony and the aspirations of a metropolis to establish itself in the colonial setting. After 1914, the health conditions regarding the sleeping sickness in Príncipe Island improved, since the damages caused by the human trypanosomiasis during the previous years required the colonial authorities to pay more attention to the proliferation sites of the tsetse fly, to the entry of people and to animal farming on the island. These actions made it possible to keep Príncipe Island free of the disease until

⁶⁸ Costa. *Vinte e Três Anos ao Serviço do País*, 154-156; Ministério das Colónias / Escola de Medicina Tropical, *Relatório da Missão Médica à Colónia da Guiné, 1932*, Lisbon: Ministério das Colónias, 1932, 8; João Fraga de Azevedo, "A Tripanossomíase Humana Africana. Contribuição de Portugal para o seu Conhecimento," *Anais do Congresso Internacional sobre a doença de Chagas* 1 (1959):99-110.

1956, when other infestation of flies resulted in a new health campaign, which ended in 1958.⁶⁹ However, the health program, which started in the summer of 1911, had high social and environmental costs, such as: decrease in the forest area, elimination of part of the native fauna, infected *serviçais* were prohibited to leave the farms where they worked, and farmers were required to bear most of the costs of that task. The participation of local farmers imposed an obligation to provide part of their employed manpower in the combat against the flies, to provide the health defense material, to provide curative and prophylactic treatment for infected workers, and to sacrifice domestic animals bearing trypanosomes.⁷⁰ On the other hand, the eradication of the tsetse flies was used to justify the Portuguese colonialism because the rate of a severe disease could be controlled in an African colony.

⁶⁹ João Fraga de Azevedo, "Estado Atual e Perspectivas Futuras do Problema das Tripanossomíases Africanas," *Anais do Instituto de Medicina Tropical* 21, no. 1 (1964):6.

⁷⁰ Costa et al., "Relatório Final," 130.