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Screening, Treatment, Surveillance. Bureaucratic Practices in the Control of Sleeping Sickness in French West Africa, 1908–1945

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SCREENING, TREATMENT, SURVEILLANCE

Bureaucratic Practices in the Control of Sleeping Sickness in French West Africa, 1908–1945

Introduction

During the colonization of Africa, so-called tropical diseases marked the history of the presence of Europeans on the continent. Numerous publications by colonial physicians on the observation and identification of tropical diseases reflect colonial administrations' aim of managing these diseases through bureaucratic health control methods in support of the colonization and exploitation of Africa[1]. The French military doctor Léon Lapeysonnie, writing of the »strange diseases« confronting imperialists in Africa – malaria, smallpox, yellow fever, cholera, leprosy etc. – described it as the continent of »debilitating or fatal fevers which were the source of all ills, the cause of all deaths«[2]. But it was not until the early 20th century that science revealed how great a threat sleeping sickness, or trypanosomiasis, a disease spread by the tsetse fly, could be to the colonial system. This intensified the bureaucratization of health policies which began in the 19th century with the fight against epidemics of infectious diseases in Africa, and in French West Africa (Afrique occidentale française, or AOF) in particular.

In the proceedings of an international medical congress on sleeping sickness held in Paris in 1907, Professor Raphael Blanchard described the disease's worrying implications for the colonization of Africa.

> »Au moment où le partage de l'Afrique est achevé, où la pacification est faite, où les notions géographiques sont suffisamment précises, et, où, par conséquent la colonisation pourrait se développer, voilà, qu'une simple mouche et une misérable protozoaire menacent de rendre vains les efforts accomplis par les nations colonisatrices : l'intervention inattendue de ces deux êtres et les terribles épidémies qui en résultent mettent en question l'établissement définitif de la race blanche dans les contrées nouvelles, qu'elle a conquises aux prix de tant d'or et de tant de sang[3].«

1 Constant Mathis, L'œuvre des pasteuriens en Afrique Noire. Afrique Occidentale Française, Paris 1946.

2 » […] fièvres débilitantes ou mortelles qui furent la source de tous les maux, la cause de toutes les décès«: Léon Lapeysonnie, La médecine coloniale. Mythes et réalités, Paris 1988, p. 38–39.

3 »Just as the partition of Africa is completed, with pacification achieved, geographical notions sufficiently precise, and, consequently, colonization in a position to expand, suddenly a mere fly and a miserable protozoan threaten to undermine all the efforts of the colonizing nations. The unexpected intervention of these two beings and the terrible epidemic which results challenge the permanent establishment of the white race in these new lands, which it has conquered at the cost of so much gold and so much blood«. Archives de l'Institut Pasteur (CeRIS), fonds Raphaël Blanchard, La conférence internationale de la maladie du sommeil, Paris 1907, p. 4.

This state of affairs spurred the adoption of a set of regulatory measures establishing bureaucratic practices in the management of sleeping sickness for the sake of the colonization of African societies. In AOF, measures were taken in 1908 to isolate and monitor affected people in order to prevent its spread and transmission in French colonies such as Senegal. Beginning in the 1920s, the policy of »*mise en valeur* [economic development/exploitation] of the colonies«[4], wherein African populations were recruited and displaced to serve as labourers in colonial projects, increased the propagation of sleeping sickness in AOF. During the interwar period the disease was found to be highly prevalent, with the number of cases identified through screenings in the colonies of AOF rising from 50,000 in 1935 to 151,000 in 1938[5]. This work to identify carriers of the disease reflects both the scope of its impact on the exploitation of the colonial territories and the context of the Second World War. These drove the systematic organization of the surveillance, treatment, and control of the disease and of the sick in the societies of AOF from 1939. The Service général autonome de la maladie du sommeil (General autonomous sleeping sickness service, or SGAMS), created that year, was responsible for implementing this organization in all of the colonies of AOF and in Togo. In the disease monitoring system developed by this medical organization, the methods used in the fight against the disease were based on large-scale population screening, administrative surveillance, and systematic treatment.

The present article examines how bureaucratic measures and practices established between 1908 and 1945 organized the monitoring and control of both disease and patients. What strategies and techniques were used in the systems deployed to control and treat affected individuals? What does the management of sleeping sickness reveal about the bureaucratic practices of the colonial system in AOF? Based largely on the examination of archival sources from colonial health services and texts by French physicians, this study seeks to analyse bureaucratic practices within the systems used to monitor, treat, track, and control people with sleeping sickness in AOF. This proves to resemble the example of French health policy on the Spanish flu in Senegal, as Myron Echenberg showed: »French health officials appeared more interested in political control than in African health needs[6].«

Isolation, confinement, and surveillance of trypanosomiasis patients in AOF: The example of Senegal, 1908–1914

Analysis of archival sources on regulatory measures for the management of endemo-epidemic diseases in AOF[7] shows that during the first half of the 20th century, the screening system for sleeping sickness was built mainly around bureaucratic practices of active search, reporting, and confinement of persons suspected of being infected and patients in segregation villages. In Senegal, the first confinement system instituted for this purpose (see Figure 1) was built in 1908 following an assessment of the impacts of the disease by the Commission colonial in Petite Côte, south of Dakar, where the disease had paralysed the commercial activities of the trading

4 Albert Sarraut, La mise en valeur des colonies françaises, Paris 1923.
5 Bulletin de la Société de pathologie exotique, procès-verbal de la commission de la maladie de sommeil, Paris, 11 January 1939.
6 Myron Echenberg, The dog that did not bark. Memory and the 1918 influenza epidemic in Senegal, in: Howard Phillips, David Killingray (eds.), The Spanish influenza pandemic of 1918–19. New Perspectives, London, New York 2003, p. 230–238, p. 236.
7 These include the *journaux officiels* of Senegal and AOF, and the »Moniteur du Sénégal« where most of the *arrêtés*, decrees, and circulars concerning prophylactic measures against endemo-epidemic diseases in the federation were published.

centre of Nianing, in the M'Bour area[8]. On ministerial instructions, the director of the Senegalese health service ordered all individuals infected with sleeping sickness to be sent to the segregation village of Sor, in the northern region of Saint-Louis.

The first step towards the isolation of patients in this structure was a set of procedures for the reporting of cases in the cantons through the administrative organization of the *cercle*. Thus, the canton chiefs reported infected individuals, identified by means of their clinical condition, to mayors, *administrateurs-maires*, or *commandants de cercle*, who were then tasked with organizing the individual's transfer to Saint-Louis[9]. A standardized administrative procedure recorded and organized the patients' journey. The health service in Saint-Louis was tasked with picking them up on arrival at the station[10].

Provided with a subsistence allowance and medical care, the patients were confined during the time needed for their recovery, often based on the injection of Atoxyl (arsanilic acid). The side effects of this substance, a chemical derivative of arsenic acid, include extreme pain and vision loss[11]. It was also extensively used by British and German doctors, including Robert Koch. In Senegal, many trypanosomiasis patients, unable to bear the effects of Atoxyl, including visual impairment, fled Sor. At the end of treatment, patients faced restrictive surveillance measures combined with limitations on their movements.

These surveillance measures, once again, were based on regulated bureaucratic practices. Upon leaving the segregation village, patients who were declared to have likely recovered were prohibited from entering areas in Senegal with recognized tsetse fly infestations for three years[12]. The majority were, of course, precisely from these areas. These consisted mainly of Casamance as a whole, Petite Côte from Rufisque to the Gambia, the cercles of Sine-Saloum, Haute-Gambie, and Niani-Ouli, the canton of Diander in the Thiès cercle, the canton of Gandiolais in Tivaouane cercle, the villages of Guembem and Dairrher, the suburbs of Saint-Louis, the village of Guéllemban, and the area north of Leybar.

The patients thus experienced the control of the disease as a form of deportation from their place of origin, and had to choose other areas to move to. They were also required to possess a health passport, issued by the director of the segregation village, in order to be added to a control register that was kept rigorously up to date in the administrative centre of the *cercle*[13]. Canton chiefs were required to report every month on the situation of the patients, who then had to present their passport to the doctor at every opportunity. Contraventions of these measures by the canton chiefs were punishable by a fine ranging from 100 to 500 francs, rising to 500 to 1000 francs in case of repeat offenses.

Combined with the side effects of Atoxyl, these restrictive measures inspired societal resistance to the isolation and surveillance of trypanosomiasis patients in the colony of Senegal. The adverse consequences of Atoxyl treatment, which could be as severe as total blindness, were widely rejected as unacceptable. This was particularly true among canton chiefs, who consid-

8 Archives Nationales du Sénégal (ANS), H38, Villages de sommeilleux à Sor, Installation, Hospitalisation [Trypanosomiasis villages in Sor, Settlement, Hospitalization], 18 March 1908.

9 Journal Officiel du Sénégal (J.O.S.), 1912, Arrêté no. 1021 prescribing prophylactic measures to be taken against human trypanosomiasis, p. 536.

10 ANS, 2G8/25, Annual report of the Inspection Générale des Services Sanitaires et Médicaux, 1908, p. 42.

11 Manuela Bauche, Robert Koch, die Schlafkrankheit und Menschenexperimente im kolonialen Ostafrika, June 2006, online: http://www.freiburg-postkolonial.de/Seiten/robertkoch.htm, last accessed 11 October 2020.

12 J.O.S., 1912, Arrêté no. 1021 prescribing prophylactic measures to be taken against human trypanosomiasis, p. 536.

13 Ibid., p. 537.

ered the confinement of these patients as a vexatious control measure[14]. This situation led to a considerable decline in the number of trypanosomiasis patients registered in the colony. From 57 patients declared and interned in Sor in 1908, by 1913 the number of cases had fallen to just four[15].

This recurring situation contributed to the end of the practice of isolating patients and the control of sleeping sickness, which, as the First World War began in 1914, was no longer a priority for the colonial authorities. The outbreak of the conflict diverted their attention and transformed the financial and medical conditions of trypanosomiasis sufferers in AOF. During the war, the confinement and treatment of trypanosomiasis patients in segregation villages was limited to the administration of orpiment pills and very occasionally injections of Atoxyl[16].

The management of sleeping sickness no longer captured the attention of the colonial administration in Senegal and in AOF generally. This did not change until the 1920s and 1930s, when the economic activities associated to the »*mise en valeur* of the colonies« led to a surge in the propagation and spread of the disease, which, in the view of the colonial administration, was a demographic threat, and thus a threat to the forces of production, in AOF. The physician Gaston Muraz, who was tasked with evaluating the situation of the disease in AOF in 1938, wrote of this new »threat« in terms of its political and economic implications. Evaluating the results of his survey, Muraz found that sterility among people affected by sleeping sickness was having a major demographic impact in AOF. The disease particularly affected women's reproductive health, leading to amenorrhea, and contributed to higher morbidity among infants and young children. Sleeping sickness thus in effect represented a threat of demographic decline in AOF which endangered the *mise en valeur* of these colonial territories – that is, their economic exploitation through the labour of colonized populations.

His report, prepared in the lead-up to the Second World War, also discussed the impact of the disease on the populations called upon to fight on the French side. This was the context that saw the launch of a new organization to combat sleeping sickness in the colonies of AOF and Togo, the SGAMS. Its objective was to treat populations through systematic screening and treatment in order to conserve the workforce in sub-Saharan Africa, weakened by trypanosomiasis.

The organization of methods and techniques of mass treatment of trypanosomiasis in French West Africa, 1939–1945

The combat against trypanosomiasis during the Second World War in AOF was organized on the basis of mass screening. This was first undertaken by Dr. Eugène Jamot beginning in 1917, in Ubangi-Chari, Cameroon[17]. Through his concept of »aller au-devant des malades« (outreach to the sick), Jamot established a set of bureaucratic practices which specified the technical, material, and administrative conditions for the treatment of trypanosomiasis in the French colonies. Medical prospecting aimed at screening the mass of at-risk populations in infected areas thus became the unit of action in the organization of disease control. In AOF, medical prospecting operations were governed by the various rules that organized the creation of the SGAMS in 1939, under Muraz's authority. On the basis of a cartography of the contaminated zones, the territories of AOF were divided into special and ancillary prophylaxis sectors.

14 F. Heckenroth, La trypanosomiase humaine au Sénégal, in: Bulletin de la Société de Pathologie Exotique, vol. IX, Paris 1916, p. 723–730, p. 726.

15 ANS, 2G12/26, Senegal, Report of the Health Service, p. 56.

16 Danielle Domergue, La lutte contre la trypanosomiase en Côte d'Ivoire 1900–1945, in: Bulletin de l'O.C.C.G.E, 1979, no. 6, p. 35.

17 Léon Lapeysonnie, Moi, Jamot, le vainqueur de la maladie du sommeil, Brussels 1987.

Fig. 15. — Le village de ségrégation de la Maladie du Sommeil à Sor.

Figure 1: Confinement and treatment of people with sleeping sickness in the village of Sor in Saint-Louis, Senegal in 1910. Source: André Thiroux, Léon d'Anfreville de La Salle, La Maladie du sommeil et les Trypanosomiases animales au Sénégal, Paris 1911, p. 160. Reproduction: Bibliothèque nationale de France.

This division was followed by medical surveying operations in these sectors. Two days before medical prospecting operations, a notice informed the local authority of the upcoming arrival of the nursing teams tasked with screening the population. The technical infrastructure was set up in a public place in the village, and the entire population of the area gathered there. Grouped into separate queues by age and gender, they were first tested by palpation of the lymph nodes in the neck, whose swelling was considered one of the first potential clinical signs of sleeping sickness. Following this triage, blood tests and microscopic examinations were performed to confirm the diagnosis and determine the stage of the disease in persons suspected of being infected. They were subject to an obligatory system of administrative registration for medical treatment and monitoring.

The declaration of a positive test for trypanosomiasis was followed by the application of administrative practices ranging from the use of paperwork to the innovation of an administrative technique based on metal tags, initiated by Muraz in order to improve the medical administration and surveillance of people screened for sleeping sickness in the French colonies. After a positive test, patients were directed to a nurse-administrator, who added them to the observation register for the sector where they were identified. An index card was then created for the patients bearing the information required for weekly treatments[18]. This medical register was thus the first document to materialize the act of registration of those infected. The register included all the information on the colony, the sector number, the patient's marital status, and the results of the physical diagnosis, the examinations and blood tests performed by the head physician in the medical survey team[19].

These registers, a barometer of clinical management and medical administration, archived identifying information about infected persons detected during the screening process, in order to allow them to be tracked down in case they were to disappear from view. The SGAMS maintained the records of all patients, but the need to personalize each patient's treatment meant that each also had to be provided with an individual paper record for their periodic medical follow-up. This record featured the patient's identifiers and information on their first dose of medical treatment. In the 1930s, the substances used to treat trypanosomiasis were trypanocides, in addition to Atoxyl, suramin (Moranyl), and tryparsamide[20]. These three dangerous drugs[21] were used to, in the medical vocabulary of the time, »sterilize« patients whose trypanosomiasis was detected during its initial phase, making them less contagious.

The individual record allowed the treatment teams responsible for the weekly medical follow-up to verify the patient's state of improvement, check their tolerance to the injection, and modify the treatment regime accordingly. Aside from its role as an essential tool for medical monitoring, the medical file also served as a supporting document to claim the head tax exemption offered as a bonus for adherence to medical treatment regimes for trypanosomiasis in the French colonies[22].

This measure to combat sleeping sickness was initially taken by the German colonizers in Cameroon, on the recommendation of the Berlin epidemiologist Robert Koch. Trypanosomiasis patients in Cameroon were issued a certificate entitling them to a two-year tax exemption[23]. In

18 Archives of the Institut Pasteur, Fonds Société de Pathologie Exotique. Reference SPE.Icon1, Iconography, organization of the Service général autonome de la maladie du sommeil (SGAMS) in AOF and Togo, 17 March 1939–1 January 1941, p. 12

19 ANS, 1H28/26, File on the Service général autonome de la maladie du sommeil, 1930–1945.

20 Lapeysonnie, Moi, Jamot (as in n. 17), p. 4.

21 Ibid.

22 ANS, 1H85(163), Technical instructions on the screening, monitoring, and treatment of trypanosomiasis patients, 1930–1947.

23 Josiane Tantchou, De l'histoire à l'anthropologie des politiques de santé en Afrique. Maladie du sommeil et tuberculose au Cameroun, Paris, EHESS, PhD thesis, p. 57.

AOF, this measure was already in place in 1937, and was supplemented on 18 March 1939 by an instruction from Muraz establishing two types of stamps to be affixed to the medical records of trypanosomiasis patients, depending on the case. The first stamp entitled the individual to a head tax exemption; the second indicated the reinstatement of the tax in case of failure to follow the treatment regimen.

These medical files thus acted not only as a device for medical control, but also as a certificate entitling the patient to a tax exemption granted to all those identified as trypanosomiasis patients in the colonies. They were also used to criticize abuses of power by some administrative authorities, who failed to apply this bureaucratic measure aimed at combating sleeping sickness. Muraz wrote that in Haute Côte d'Ivoire, in present-day Burkina Faso, local populations complained of being made to pay the tax even after having proven their health status using the medical record[24]. The use of individual paper records also posed technical problems of conservation, and consequently of medical monitoring. It was in this context that the system of metal tagging was created in the French colonies.

In 1920, Muraz introduced metal tags into the system for combating trypanosomiasis in French Equatorial Africa (Afrique-Équatoriale française, or AEF)[25]. This technique of medical administration and surveillance was aimed at solving the problems with the maintenance of paper medical records, which were regularly declared lost or destroyed by water or fire[26]. In order to avoid these issues and the consequent disruptions of medical monitoring, and thus of the management of the disease, these metal tags were introduced with the SGAMS. A series of 163,000 collars were distributed throughout all the prophylaxis sectors[27], reflecting the scope of the medical monitoring undertaken using this system.

Worn around the patient's neck, belt, or wrist, the tags provided information on the patient's colony of origin, the abbreviation for the disease (TRYP), the sector, and the number of the register and the record. This simplified the work of counting patients, and facilitated the task of retrieving and recording observations for each individual when the population was gathered together for medical monitoring. This metal tag thus complemented the patient observation register.

The medical function of this metallic object was to serve as a symbolic marker of individuals specifically affected by sleeping sickness, in order to track their medical treatment. It was also seen as useful in classifying and counting the numbers of patients cured of sleeping sickness in AOF. Before these encoding operations, trypanosomiasis patients were grouped together by year of diagnosis. The metal tag then enabled the rapid retrieval of patient data archived by the SGAMS[28].

24 Gaston Muraz, Organisation du Service Autonome de la Maladie du Sommeil en AOF et Togo, Algeria 1942, p. 371.

25 Gaston Muraz, Protégeons mieux l'Afrique noire française contre la maladie du sommeil, in: La Nature. Revue des sciences et de leurs applications à l'art et à l'industrie 76 (1948), p. 122; p. 123 presents the photograph of a young *sommeilleux* with his metal tag. Another photograph from the archives of the Institut Pasteur, Paris (fonds Société de pathologie exotique, SPE.Ico.1), shows the examination and metal tagging of sleeping sickness patients by Muraz in Boromo (present-day Burkina Faso): »No 29/I5-I. Contrôle des trypanosomés de l'Hypnoserie de BOROMO (secteur 6. Dédougou) par le chef de service (Dr. MURAZ). – Fichage métallique des malades. 1941.«

26 Muraz, Protégeons mieux l'Afrique noire française (as in n. 25), p. 122–123.

27 Muraz, Organisation (as in n. 24), p. 160.

28 Archives of the Institut Pasteur, Fonds Société de pathologie exotique, Reference SPE.Icon1, Iconography, Organization of the Service général autonome de la maladie du sommeil in AOF and Togo, 17 March 1939–1 January 1941, p. 17.

The practice of metal tagging was much more widespread in Haute Côte d'Ivoire, where the Mossi people recall the wearing of the tag, which was locally called a »*lamblé*« and treated as an amulet[29]. Through the iconographies of the SGAMS collected in 1941 in the prophylaxis sectors of AOF, Muraz continually recalled the effectiveness of these techniques of medical identification and »encartement« (card-based administrative management) introduced into the systems for the control of sleeping sickness in AEF and AOF.

The inevitable question about this bureaucratic medical practice is whether there was any resistance to these metal tags among those who were required to wear them. The available documentation does not yet allow us to answer this question. It should be noted, however, that the colonial authorities had always criticized, and sanctioned, resistance in the populations of the colonies to Western medical practices, without taking into account the impact of medical measures on the lives of those affected. This technique for the medical control and management of endemic sleeping sickness in AOF was surely no exception.

Conclusion

The French colonial administration and its medical agents took various bureaucratic measures aimed at controlling sleeping sickness throughout AOF over the whole period of their presence. The fight against tropical diseases, and particularly sleeping sickness, presented many challenges to the colonial medical authorities in sub-Saharan Africa, given the immense areas affected and the associated political and economic effects. One of their main responses was to implement bureaucratic medical administrative and surveillance practices intended to help control sleeping sickness.

From the isolation of patients in segregation villages in 1908, to systematic screening and treatment in prophylaxis sectors from 1939, controlling trypanosomiasis was among the major concerns facing imperialists in establishing their projects of exploitation, supported through Assistance médicale indigène (AMI). Collectively, these bureaucratic measures and medical practices illustrated in the control of sleeping sickness were aimed at treating local populations who were expected to provide labour to the colonizers. Colonial physicians, like the Pasteurians, led the combat against sleeping sickness based on the codification of healthcare practices – efforts which conferred on them the legitimacy to occupy a central place in the French colonial enterprise[30].

However, the successes linked to the decline of sleeping sickness recorded from 1945 in AOF seem to mask questions about the legitimacy of the bureaucratic practices used to detect, treat, and monitor people infected with sleeping sickness. Both the social and medical impacts were sometimes fatal for the affected populations. The side effects of Atoxyl, as well as the forced relocation and alienation of people considered »patients« and »suspects« are illustrative examples. Bureaucratic medical practices also open up perspectives for reflection on the policy of *encartement* of populations through disease control systems in the aftermath of the Second World War in AOF. Analysis of the connection between the *encartement* of the population and health policies may prove important in the context of the abolition of the Code de l'indigénat, which in 1946 paralysed medical interventions in the societies of AOF and led to new health

29 Léon Lapeysonnie, La trypanosomiase humaine africaine et la Haute-Volta, in: Gabriel Massa, Y. Georges Madiéga, La Haute-Volta coloniale. Témoignages, recherches, regards, Paris 1995, p. 379–384, ici p. 380.

30 Jean-Pierre Dozon. Quand les Pastoriens traquaient la maladie du sommeil, in: Sciences sociales et santé, 3 (1985), nos. 3–4, p. 27–56.

reforms that strengthened the regulatory control of diseases[31] through medical surveillance systems in areas of migratory flows.

31 ANS, 1H23(26), Modification concerning the decree of 14 April 1904 on the protection of public health in AOF. With this change in regulations, medical assistance was deployed in the transit zones of the colonies, with a general requirement to possess a vaccination card for the vaccines against smallpox and yellow fever. But the new system also featured a trypanosomiasis »police sanitaire« [health police force], requiring populations crossing checkpoints and border posts of AOF to hold passports.