

Rethinking historical trajectories of Tropical Medicine in a global perspective

Repensar trajetórias históricas da medicina tropical numa perspetiva global

Philip J. Havik

GHTM – Global Health & Tropical Medicine.
Instituto de Higiene e Medicina Tropical,
Universidade Nova de Lisboa, UNL, Lisboa, Portugal
philip.havik@ihmt.unl.pt

Resumo

O Workshop sobre a História da Medicina Tropical (WHTM) organizado pelo Centro de Global Health and Tropical Medicine (GHTM) teve lugar no Instituto de Higiene e Medicina Tropical da Universidade NOVA, em Lisboa nos dias 14 e 15 de Dezembro 2017, fechando as celebrações do 115 aniversário do Instituto. O encontro juntou 27 académicos vindos de Europa, América do Norte, América Latina e África que apresentaram 22 comunicações, distribuídos em seis sessões temáticas, precedidos por uma palestra 'keynote'. As comunicações apresentadas e debatidas durante o encontro, cobriram um leque variada de tópicos, incluído epidemiologia, sistemas e serviços de saúde, programas de controle e erradicação de doenças, conhecimento e investigação biomédica, medicina militar e civil, medicina veterinária, medicina colonial e pós-colonial, entomologia, redes médicas, e saúde internacional e saúde global. Este artigo oferece um resumo dos trabalhos feitos e das comunicações apresentadas durante os dois dias do Workshop, o primeiro deste género organizado no IHMT.

Palavras Chave:

História, biomedicina, medicina tropical, epidemiologia, saúde global.

Abstract

The Workshop on the History of Tropical Medicine (WHTM) organized under the auspices of the Centre for Global Health and Tropical Medicine (GHTM) took place at the Institute for Hygiene and Tropical Medicine of the Universidade NOVA in Lisbon on 14th and 15th December 2017, forming part of the celebrations of the institute's 115th anniversary. It brought together 27 scholars from Europe, North America, Latin America and Africa who presented 22 papers, distributed across six thematic sessions, preceded by a keynote address. The papers presented and discussed during the meeting, covered a wide range of issues, including epidemiology, health systems and services, disease control and eradication programmes, biomedical knowledge and research, military and civil medicine, veterinary medicine, colonial and post-colonial medicine, entomology, medical networks, and international and global health. The present paper provides a summary of workshop proceedings and of the papers presented during the two-day meeting, the first of its kind held at the IHMT.

Key Words:

History, biomedicine, tropical medicine, epidemiology, public health, global health.

1. Introduction:

From the Pasteurian or microbiological revolution which began during the last quarter of the nineteenth century, tropical medicine developed into a scientific discipline with its own professional networks strongly embedded in industrialised nations (Arnold, 1988; 2003). Owing to its association with imperial projects, tropical medical schools which emerged from the late 19th century, became part of a broader research community engaging with tropical environments and populations (Amaral, 2008; Bashford, 2004; Havik, 2015; Morange & Fantini, Osborne, 2014; Power, 1998;) As a result, tropical medicine gradually developed a body of trans-national scientific and managerial expertise in the combat, control and eradication of communicable and non-communicable diseases (Neill, 2012; Mertens and Lachenal, 2012). As microbiology, parasitology and epidemiology established themselves as its core tools, preventive medicine and clinical research made its inroads in public and international health. The expansion of public health networks during the twentieth century with supranational organizations such as the League of Nations Health Organisation (LNHO), the Rockefeller Foundation Health Organization, the World Health Organization (WHO), and more recently the Global Fund, intensified the focus on and raised public awareness of the combat against neglected tropical diseases (NTDs) (Birn, 2009; Borowy, 2009; Brown, Cueto and Fee, 2006; Farley, 2004; Siddiqi, 1995; Weindling, 2009). Over a period of more than a century, new forms of treatment, screening, diagnostics and control and surveillance programmes were developed for trypanosomiasis, Chagas disease, malaria and yellow fever as well as dengue, chikungunya, onchocerciasis, leishmaniasis, schistosomiasis and leprosy (Fürst et al, 2017; Hotez et al, 2007). Over time, tropical medicine also engaged with public health and social medicine as its focus centered on reducing the burden of disease among vulnerable populations in low income countries (Porter, 1997; 2006).

In the meantime, the political context in tropical regions was to change radically, with the end of empire and decolonisation, obliging tropical medicine and its institutions to adapt to new public health strategies at a national and international level. Since the Alma Ata Conference (1978) gave priority to the development of primary health care and social welfare, vertical disease control programmes were gradually integrated into health services (Bitton et al, 2016). However, epidemics, famines, ecological disasters, climate change, conflict and migrations were and are placing a heavy burden upon the capacity of already fragile health

systems in low income countries to cope with these challenges and implement effective strategies (Hotez, 2017; Pantoja et al, 2017). The progressive interaction between tropical medicine and public health broadened the range of expertise, to include sexually transmitted diseases, incl. HIV/AIDS, and opportunistic diseases, health systems management, sanitation, travel medicine, nutrition and the environment.

But at the same time, the implementation of disease and eradication measures gave rise to a series of questions on the effectiveness of new screening methods and rapid tests, preventive surveillance programmes, their impact upon therapeutic trajectories and upon patients' health and increased drug resistance. At the same time, (re)emerging diseases underline the need to look beyond tropical regions and redesign methods and strategies, strengthen inputs in biomedical research, improve the capacity of health services and human resources in health, new digital technologies such as e-Learning and m-Health, and the production and exchange of reliable and compatible health statistics (Hurt et al, 2016; Snowden, 2008). The internationalization and globalization of health through the agency of international organizations and global health campaigns, have also focused attention on partnerships between them, the pharmaceutical industry, tropical medical schools and developing countries to effectively reduce the disease burden of communicable and non-communicable diseases.

The WHTM aimed to provide a platform to further develop the critical debate on the role and trajectory of tropical medicine in a global context, privileging the presentation of innovative approaches and unpublished data from the late 1800s to the present. Above all, the organizers welcomed contributions that offered multi-, trans-disciplinary as well as comparative perspectives on the historiography of tropical medicine. PhD and post-doctoral researchers were strongly encouraged to submit proposals and provided with an opportunity for an informed and constructive debate on their research projects.

2. From tropical to global health: historical trajectories

The papers presented at the meeting were organized in six thematical sessions which covered the following subjects: Tropical Medicine: Perspectives on the Evolution and Circulation of Medical Knowledge; The Affirmation of Tropical Medical Schools: Experts and Medical Networks; Health systems, Endemic diseases and Control Strategies; The Entanglement of Colonial and Tropical Medicine; From Tropical to Global

Concerns: Trajectories of Services and Biomedical Research; Global health, Epidemiology and Public Health Policies and Practices in Lusophone Africa. Besides questions from the audience, 6 discussants commented on the papers and provided suggestions for their improvement. The papers presented and discussed during the meeting, covered a wide range of issues, including epidemiology, health systems and services, disease control and eradication programmes, biomedical knowledge and research, military and civil medicine, veterinary medicine, colonial and post-colonial medicine, entomology, medical networks, and international and global health. A summary of the papers follows below.

Although far from pretending to form a representative sample of the current state of the historiography on tropical medicine, the papers do provide valuable insights into the ongoing debate on the issue. The main themes that emerged can be summarised under the following headings, i.e. the production and circulation of medical knowledge in tropical regions, the globalization of tropical medical schools, medical networks and tropical medical expertise; the entanglement of public health and disease control; the continuity of colonial and post-colonial trends in public health and disease control; the diversity of trajectories in the combat against neglected tropical diseases (NTDs). The main pathologies discussed at the meeting were leishmaniosis, leprosy, sexually transmitted diseases (STDs) and HIV, malaria, trypanosomiasis, yellow fever, bubonic plague, schistosomiasis, onchocerciasis and tropical mycoses. In terms of the topics discussed, the most recurrent were epidemiology and disease control, health systems, entomology and biography. While the papers demonstrate the trans-national nature of tropical medicine, they also engage with national and imperial narratives which were deeply associated with the implementation of public health and disease control strategies. The great diversity of geographical spaces, ranging from Angola, Belgian Congo, Brazil, Cabo Verde, Ethiopia, France, Goa (India), Guinea Bissau, Mozambique and Portugal, illustrates the multiplicity of contexts and experiences discussed during the meeting. Given the celebrations of the 115th anniversary of the IHMT, it is by no means surprising that CPLP (Comunidade de Países de Língua Portuguesa, Community of Portuguese Speaking Countries) countries formed the mainstay of presentations and debate. Thus, the encounter served to strengthen the cooperation maintained by the IHMT and its researchers with CPLP countries including Brazil and African countries with Portuguese as Official Language (PALOP). The following sections provide a summary of the papers presented at the meeting.

3.1. Tropical Medicine: Perspectives on the Evolution and Circulation of Medical Knowledge.

Opening the first thematical session, Matheus Alves Duarte da Silva (École des Hautes Etudes en Sciences Sociales, EHESS, Paris) and Daniel Dutra Coelho Braga (Federal University, Rio de Janeiro, UFRJ) presented 'The Tropics without the Tropical: French Naval Medicine on the threshold of Tropical Medicine (1882-1898)'. The paper discussed the career of the French Navy physician Paul-Louis Simond (1858-1947), as well as his writings. An early member of the Pasteur Institute, Simond observed diseases such as leprosy, plague and yellow fever in tropical regions such as French Guyana, Bombay (India) and Rio de Janeiro, from 1882 onwards. In his writings, he applied the methods and assumptions associated with medical topography, popular in the naval medical field, and bacteriology. In his dissertation on the transmission of the bubonic plague, which was published in 1898, right after his mission to India to study the disease, he depicted the plague as mainly related to precarious social and economic conditions which intensified interactions between men, rats and fleas. Therefore, he argued that bubonic plague was not ultimately caused by factors only intrinsic to the tropics. A careful analysis of his writings demonstrates the complex history of medical practices in tropical areas, as well as the multiple historical links between tropical medicine and other medical fields, such as the French Naval medicine.

In the 'South American Evangelical Union and its impact in Tropical Medicine Missionary in Central Brazil', Heliel Gomes de Carvalho (Departamento de História, Universidade Federal de Goiás) and Sandro Dutra e Silva (Centro Universitário de Anápolis, UniEvangélica) looked at the historical impact of an under-researched subject, i.e. the South American Evangelical Union (SAEU), a British organization composed of missionaries, physicians and health professionals who were active in Central Brazil in the first half of 20th century. This European religious organization arose from the union of three missions that operated in Argentina, Peru and Brazil in the late 19th century. With regard to SAEU's its work in Brazil, the authors highlighted parallel contemporary historical perspectives: (i) the opening of ports to friendly nations of Portugal in 1808; (ii) Victorian-era foreign policy (1837-1901), which associated missionary and medicine with its expansion abroad; (iii) and the reaction of the founding institutions of SAEU on the positioning of Edinburgh Conference in 1910, which considered the work of missionaries in Latin America, including those working in the medical field, unnecessary. The protestant missions engaged in so

called “pioneer medicine”, in which health professionals trained in United Kingdom played a major role. In Brazil, the SAEU promoted Tropical Medicine, above all in the country’s backlands (*sertão*), where medical care was scarce, developing a set of actions that became known as the “ABC of Philanthropy” in Goiás, Central Brasil, with agencies located in Anápolis, Bananal Island and Catalão.

In the paper ‘Into Africa: Two different ethical approaches to tropical diseases’, Carlos Lemos (CHLN, Hospital de Santa Maria, Lisbon) discussed the careers of two key figures, Albert Schweitzer (1875-1965) a Nobel Peace Prize winner, and Peter Singer (1946 -), an eminent contemporary philosopher, specialized in applied ethics. It compares the professional trajectories and ethical thinking of the two authors, focusing on their concerns regarding tropical diseases and the different ways they chose to combat them, while underlining the topicality of their ideas on reducing the burden of tropical diseases. Schweitzer was a Lutheran physician who self-funded his work with the Paris Missionary Society’s mission at Lambaréné, current Gabon. By means of concerts and other fund-raising activities he founded and equipped a hospital there. Together with his wife, he examined and treated thousands of patients, who suffered from dysentery, malaria, sleeping sickness, leprosy and tuberculosis. He was, however, a controversial figure on account of his methods and the conditions in which his hospital operated. Peter Singer, an atheist philosopher, has argued in favour of charitable activities to end global poverty. Endorsing the idea of effective altruism, he holds that suffering should be reduced in the most effective manner, using ‘charity calculators’ to identify the most reliable charities. Examples given are the *Against Malaria Foundation* which buys long-lasting insecticidal nets to protect people from malaria, and the *Schistosomiasis Control Initiative*, that provides deworming tablets to schools.

3.2. The Affirmation of Tropical Medical Schools: Experts and Medical Networks.

In the second session, Jane Costa (Curator CEIOC, Casa de Oswaldo Cruz/Fiocruz) and Magalí Romero de Sá (Deputy director of Research and Training, Casa de Oswaldo Cruz (Instituto Oswaldo Cruz/ Fiocruz) presented ‘The Entomological Collection of the Oswaldo Cruz Institute/ Oswaldo Cruz Foundation: 115 years of history on biodiversity and infectious diseases’. The first expeditions by researchers of the COC/Fiocruz) were carried out in the end of the 19th and beginning of the 20th century, aiming to record and study the vectors

of infectious diseases such as malaria, yellow fever, and Chagas disease, while evaluating the health conditions in the Brazilian countryside. As a result, a great variety of insects were collected, and new species described, thereby laying the foundations for the Entomological Collection of the Oswaldo Cruz Institute (CEIOC). The symbolic milestone of this collection is *Anopheles lutzii*, a malaria vector, which was collected and deposited by Oswaldo Cruz himself, in 1901. Today, this collection is estimated at 5.5 million insect specimens, being one of the biggest and oldest scientific collections in Latin America, and a relevant testimony of the Brazilian science, biodiversity, and history. Several well-known entomologists working on disease vectors deposited specimens in the CEIOC, which is a reference for innumerable research projects developed by Fiocruz and other scientific institutions in Brazil and abroad. The celebrations of the 115 years of CEIOC, highlighted the importance of the collection, while acknowledging researchers who contributed to it. Nowadays, CEIOC forms the basis for its research team’s work on biodiversity and infectious diseases.

‘The entomological collection of the *Instituto de Higiene e Medicina Tropical* (1938-1970)’ presented by Rita Lobo (Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT), Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa), focused on the history of medical entomology in Portugal. In the context of scientific missions conducted during disease outbreaks and epidemics, entomological collections were assembled for further research into specimens. IHMT’s entomological collection is not only a biodiversity repository from tropical regions, but also the material testimony and the scientific heritage of the development of medical entomology in Portugal. IHMT’s collection consists of specimens collected during study missions and researches conducted by Bruno de Mesquita, A. Colaço, Álvaro Gândara, Marini Abreu, Henrique Ribeiro, Rui Pinhão, Costa Mourão, M. Pereira, A. Rebelo, Gardette Correia, F. Gonçalves, Pedroso Ferreira and Fraga de Azevedo. They were based at the IHMT, and the institutions it managed or supervised, i.e. the Medical Research Institutes, Permanent Commissions for the Combat against Endemic Diseases, and governmental health Services of Angola, Macau, Mozambique, Portuguese Guinea, Portuguese India, S. Tomé e Príncipe, and Timor, between 1938 and 1970. The paper is based upon primary sources on medical entomological research, and secondary bibliography on the Portuguese and European history of medical entomology and tropical medicine. It signals the existence of broader, national and international networks and their contribution to the consolidation of medical entomology in Portuguese tropical medicine during this time frame.

Paulo Gouveia de Almeida and Maria Teresa Novo (GHTM-IHMT, Universidade NOVA de Lisboa), discussed the insect and other arthropod collections deposited in the “Entomoteca Henrique Ribeiro and Helena Ramos”, or *Entomoteca* of the IHMT in their paper ‘The Institute of Hygiene and Tropical Medicine insect collections: from tropical medicine to (re)emerging vector-borne diseases in global health’. The collection totals about 190,000 identified specimens, preserved, filed and archived, constituting a scientific, but also historical, didactic and biodiversity repository. Vector species of infectious and parasitic agents of numerous tropical diseases, and others re-emerging at present, are represented here. These specimens originate from a variety of zoogeographic regions and are closely associated with the activity and mission of the IHMT since its foundation in 1902. Its invaluable historical core results from Scientific Missions to Angola, Cape Verde, S. Tomé and Príncipe, Guinea Bissau, Mozambique, Timor, Macao and Portugal, undertaken by several generations of Portuguese scientists since the beginning of the 20th century. The latter include França, Figueiredo, Kopke, Sant’Anna, Gardette Correia, Fraga de Azevedo, Gândara, Cambournac, Barros Machado, Pinhão and Ribeiro. These collections illustrate the history not only of Tropical Medicine but also of Medical Entomology. The collection is composed of specimens of sand flies (Diptera: Psychodidae), tsetse flies (Diptera: Glossinidae), mosquitoes (Diptera: Culicidae), fleas (Siphonaptera) and ticks (Acari: Ixodida). Among them, there are type specimens of 52 new species of medical importance described by Medical Entomology staff at the IHMT, recognised in international databases of biodiversity.

The paper ‘Invisible Women: a new perspective of the medical networks in the Institute of Tropical Medicine (1953-1966)’, João Lourenço Monteiro (CIUHCT, FCT-UNL), is a result of the author’s PhD project on ‘Medical Knowledge Network: the Institute of Tropical Medicine, among institutions, actors, diseases and pathogens (1935-1966)’, funded by the FCT. It focuses on the research developed by female medical doctors of the Institute of Tropical Medicine, from the first published scientific paper in 1953 to 1966, when the Institute changed its designation to Escola Nacional de Saúde Pública e Medicina Tropical (ENSPMT). The research analysed available bibliographic sources, i.e. the research papers published in “Anais do Instituto de Medicina Tropical”, the scientific journal of the institution, as well as other scientific publications. Social Network Analysis and Digital Humanities methodology were applied to visualize the networks created by scientists. The results of this investigation show that 12 female researchers published 22 scientific papers in the journal

of the institution, some of them as first authors. The focus of their scientific studies varied from subjects like cell biology and nutrition to parasitic infections, in the metropolis and Portugal’s colonies. Most of these scientific papers were co-authored by João Fraga de Azevedo and Guilherme Jorge Janz, medical staff pertaining to the same institution. This paper is meant to contribute not only to a better understanding of medical networks created in the institution, but it also gives visibility to a group of researchers who are rarely mentioned in the historiography of Tropical Medicine.

3.3. Health systems, Endemic diseases and Control Strategies

In the third session, Mónica Saavedra (CRIA- ISCTE-UNL) discussed ‘Malaria control and tropical medicine in former Portuguese India’, a neglected issue in the study of public health and tropical medicine in this former Portuguese territory. She focused on the extent to which tropical medicine was practiced in Portuguese India and contributed to the combat against malaria in Goa during the interwar period and after the Second World War. The paper examines the crucial importance of tropical medicine as a medical specialty in a malaria endemic area, and how epidemiological data were used for the planning and implementation of a malaria control strategy in Goa. The paper engages with the intersections between criteria established by international standards, and local choices based on the available resources and epidemiological conditions, as well as guidelines used by Portuguese tropical medical experts. These interactions will be examined by taking a closer look at the role and interests of Goan medical doctors involved in malaria control programmes and the resurgence of scientific medical missions to Portuguese India from the late 1940s onwards.

João Dinis de Sousa (Katholieke Universiteit Leuven, GHTM-IHMT) and Anne-Mieke Vandamme (Katholieke Universiteit Leuven/GHTM-IHMT) authored the paper ‘Sexually transmitted diseases and their treatment in colonial Leopoldville (1920-1960)’ which focuses on a longitudinal study of epidemiological data on STDs in the former Belgian Congo. During the colonial period, STDs took on epidemic proportions in African cities. Since its first application in 1911, *Neosalvarsan* provided the first effective treatment of syphilis, only to be discontinued during the following decades. Treatments for chancroid, gonorrhoea and chlamydia were not effective until the late 1930s, when sulfonamides became available. Once anti-biotics arrived in the late 1940s, the treatment of bacterial STDs improved significantly. Better therapies, better coverage of urban populations

by health services, and the screening and treating of high risk populations had a big impact on the combat against these diseases. The authors reviewed colonial records for Leopoldville (Belgian Congo) concerning the incidence rates of diseases and demographic data. The combined annual incidence of treated primary and secondary syphilis averaged: 1) 2,44% in the period 1919–29 (when *Neoarsenobenzol* treatment was irregular); 2) 3.16%; during the period 1930–36, when screening of the entire population and monitoring of commercial sex workers was carried out; 3) 0.97% for the period 1937–47, after these efforts effectively reduced real incidence; 4) 0.034% in the period 1948–58, following the introduction of penicillin. A similar pattern was found for other STDs. We conclude that the incidence rates of these diseases follow a temporal pattern consistent with the aforesaid treatments and health campaigns.

The paper by Bernardo Pinto Cruz, *Vaccination and resettlement in Angola (1955-1974)*, deals with the mass vaccination campaigns against polio and smallpox which were implemented by recently reformed health services between 1962 and 1966. Although operating through a dense transnational network of actors and institutions, these campaigns became part of the broader Portuguese colonial war effort (1961-1974). Devised as a counter-subversive technique, the delivery of vaccines to African civilians in the countryside was presented as a major improvement in the domain of preventive healthcare, along with hygiene and sanitary prevention. The author traces the history of these large-scale operations organized at different levels, i.e. between the WHO and other specialized international agencies, colonial officials in Portugal and medical experts, administrators and military officers in Angola. He argues that the colonial war policy of population resettlement and village-building, accompanied by a reorganization of statistical procedures, led to a growing (but otherwise small) sector of medical agents providing the material basis for successful vaccine provision. The building of *aldeamentos*, new African villages, which also a belated constitution of an interwar medical-imperial dream, brought public health benefits as well as raising several concerns, all related to an increase in African mortality rates due to a higher prevalence of communicable diseases (tuberculosis, leprosy, diarrhoea) and increased risks of measles, whooping cough and jaundice epidemics. The paper focuses on the way in which how these medical assessments became part of the logic of counter-subversion, and how they influenced the pathways of ongoing resettlement schemes.

In the paper ‘Chronic political instability and the implementation of the HIV-AIDS response in Guinea-Bissau: a case study of the intersections of politics and epidemiology (2000-2015)’ Josh Galjour (University of Geneva/Global Fund, Geneva) gives an account of the situation

in Guinea-Bissau regarding HIV/AIDS. In contrast to most of its West African neighbors where HIV/AIDS rates have remained low, HIV/AIDS remains a major public health problem, being second most common cause of death in Guinea-Bissau. Guinea Bissau is a small country on the West African coast, with approximately 1.8 million inhabitants. Once a Portuguese colony until gaining independence in 1974, it is today one of the world’s poorest countries. In addition, Guinea-Bissau is also one of the most fragile states, plagued by chronic political instability, and its health indicators are among the worst in the world. Guinea-Bissau’s chronic political instability - vis-à-vis its neighboring countries with lower HIV/AIDS prevalence - begs the question whether this circumstance may somehow be related to its higher prevalence and the country’s weaker performance on key coverage indicators. From 2000 to 2015, Senegal, The Gambia, and Guinea have all been relatively stable or have experienced relatively isolated periods of political instability or uncertainty when compared to Guinea-Bissau. The author’s PhD research applies an interdisciplinary approach, drawing on the fields of public health, political economy, and public finance and administration. The analysis of quantitative and qualitative data, shows for the period from 2000 to 2015, chronic political instability characterized by frequent *coup d’états* and changes in leadership in key government health positions served as major barriers to an effective HIV/AIDS response in Guinea-Bissau.

3.4. The Entanglement of Colonial and Tropical Medicine

In the fourth session, Isabel Amaral (CIUHCT-UNL) discussed the role of ‘Portuguese physicians overseas and the consolidation of tropical medicine in the twentieth century: case study of Rafael António de Sousa Caixeiro (1923-1990)’. The author addressed the power relationships entertained by the second generation of physicians who received military and civil training in Africa and Lisbon and were committed to the consolidation of tropical medicine. The paper traces the career of Rafael António Caixeiro, a so far unknown physician in Portuguese historiography, based upon the study of his personal archive. Specializing in sanitary hygiene, tropical medicine, sociology and anthropology, he pursued a military career after the Second World War, like many other physicians in empire, visiting Cabo Verde, Guinea, Macao and Angola. Returning to Lisbon in 1969 as a medical colonel, he taught military and tropical hygiene at the *Escola de Serviço de Saúde Militar* and at the *Escola Nacional de Saúde Pública e Medicina Tropical* (ENSPMT) respectively, defending his PhD dissertation at the IHMT in 1980. The professional

trajectory of this physician, who pursued a professional career based on the symbiosis of two distinct medical training centers (military and civil), provides an interesting tool for analysing the complementarity of the two fields of expertise for the consolidation of Portuguese tropical medicine overseas. It allows for filling gaps in the study of the circulation, appropriation and imposition of the knowledge and practices of European medicine after World War II in colonial settings, at the intersection of bio- and tropical medicine and the realm of religious beliefs and practices of native populations.

The politics of disease control and their local impact are addressed in 'The St. Anthony' Leprosarium of Harär: a harbinger of Ethiopian modernity and missionary ideals (1901-1965)' by Vanessa Pedrotti (Institut des Mondes Africains, Université Aix-Marseille), using written and oral sources. After centuries of (self) isolation from the rest world, the 20th century unfolded in Ethiopia with the introduction of Western knowledge, ideas and practices which clashed with local conceptions of health and illness. In 1901, the first leprosarium was built in Harär under the name 'St-Antoine', a French missionary initiative consolidated by Dr. Jean Feron, which survived many vicissitudes while marking the beginning of a new conception of disease. Leprosy was gradually regarded as a microbial virus and the struggle against the spread of this tropical disease would become the main focus of the Ethiopian Ministry of Health. By raising questions about how, in the twentieth century, leprosy was perceived, managed and institutionalized by different actors, this study aims to provide a new perspective on the process of Ethiopian state modernization implemented under the reign of Haile Selassie. The St. Anthony Leprosarium of Harär – which still survives - became the birth place of a socio-medical construction of leprosy built around the contagious conception of the disease. As such it served as an exemplary harbinger for the emergent modern state and its hygienic modernist program of lepers' isolation, but also shows that the example of St. Antony (a French missionary settlement) how the balance of power between religion and science was moving from France to Harär.

Bárbara Direito (CIUHCT-FCT/UNL) discusses 'The relationship between human health and veterinary health in 20th century colonial Mozambique: a view from the colonial health system', by delving into under-researched aspects of colonial science in empire. Taking the growing importance of the 'One Health' approach as an opportunity to explore a particular historical context, the author questions the relationship between human and veterinarian health in 20th century colonial Mozambique. In the context of recent post-doctoral research, this work in progress focuses on the role of and the relations between science, health and power by means of a case study of

the policies and practices of veterinarian health in former Portuguese colonies in Africa in the 20th century. It mostly draws on published sources in order to uncover the evolving relationship between human and veterinarian health in the state run colonial health system put in place in Mozambique. This preliminary effort, later to be complemented with further archival and field research, attempts to identify the evolving views of public health, both human and veterinarian, possible instances of tensions between human and veterinarian health, the role of practitioners in both fields, the relation between health and colonial economic projects and, last but not least, the impact of the colonial human and veterinarian health systems on both African and settler populations.

The professional career of 'Francisco José Carrasqueiro Cambournac and his role in the WHO's Regional Office for Africa (AFRO), 1946-1965' is the subject of Simplicio Ayangma Bonoho (University of Geneva)'s paper which engages with the role of biography in historiography. Life histories which became particularly popular in the 19th and 20th centuries. The criticisms, dilemmas and epistemological choices that marked the social sciences during that period caused this discursive form to lose popularity to the point of being abandoned. From the individual story of a singular actor, this paper wishes to contribute to the debate on the rehabilitation of biography in history by posing the essential problem of the relations between the actor of history and the social space. Thus, by tracing the career of Francisco Cambournac – a Portuguese military, physician and professor in public health at the Institute of Tropical Medicine in Lisbon – it revisits the little-known history of the establishment of the WHO's Regional Office for Africa (AFRO). Based upon rich and varied archival documentation, the author moves beyond the personality of this actor, to look at the functioning of AFRO and its relations with the colonial territories of Africa in the run up to the independence of many African nations. The move of Cambournac to the WHO and its African Office, acting both as an expert and as its director, is portrayed here against the backdrop of political, economic, diplomatic and strategic developments in public health and disease control in Africa.

3.5. From Tropical to Global Concerns: Trajectories of Services and Biomedical Research.

Mohsin Sidat (Faculty of Medicine, Universidade Eduardo Mondlane, Maputo) discussed the 'Diagnostics of tropical micoses in Mozambique: past, present and future', a manifestly under-researched topic, attempting to fill existing gaps in biomedical knowledge. Mycoses or fungal infections affect humans and animals globally; as-

sociated morbidity and mortality levels vary according to region and the availability of modern biomedical technologies. Many fungal infections are endemic in tropical and subtropical regions such as Mozambique. The evolution of exact morbidity and mortality rates of mycoses in Mozambique over time are not well known. Currently, serious fungal infections are estimated to affect approximately 1.8 million people (about 7.6% of population), particularly due to complications of HIV infection. The author provided an overview of longitudinal trajectories of clinical and diagnostic capabilities in Mozambique, while discussing the present situation and perspectives for the near future. Given that fungal infections are not captured accurately in routinely published data, the paper relies on scarce reports and papers that were found through a comprehensive search on Google, Google Scholar, PubMed platforms, as well grey literature in different library archives in Maputo City. Although the analysis thus has its limitations, the review of retrieved materials allows for a relatively reliable understanding of tropical mycoses diagnosis in Mozambique in different periods and contexts.

The paper 'Brazil and leishmaniasis: diseases from the tropics that become global risk' presented by Jaime Benchimol (FioCruz/Casa Oswaldo Cruz) focused on the epidemiological trajectory of leishmaniasis in Brazil during the 20th century. The first cases of cutaneous and *muco-cutaneous* leishmaniasis in the Americas were described in São Paulo in 1909; but only in 1934, a pathologist of the Yellow Fever Service found cases of visceral leishmaniasis (kala azar) in Brazil. The Commission for the Study of Leishmaniasis created in 1939 by São Paulo's Health Department resulted in a study of American tegumentary leishmaniasis published in 1944 by Samuel Barnsley Pessoa and Mauro Barretto. In the meantime, the Commission for Studies on American Visceral Leishmaniasis headed by Evandro Chagas (Instituto Oswaldo Cruz) had given rise to the *Instituto de Patologia Experimental do Norte* (IPEN) in 1936 and the *Serviço de Estudo de Grandes Endemias* (SEGE) in 1937. They were absorbed into the National Department for Rural Endemic Diseases in 1956. As a result, the study of leishmaniasis gained relevance, especially in the Northeast of Brazil, giving rise to control measures against hosts (dogs) and vectors (*Phlebotomine sand flies*). Development projects undertaken in Brazil's hinterland following the 1964 military coup, transformed leishmaniasis in a serious problem, also in the Amazon region. By the end of the 20th century, forms of leishmaniasis that appeared to be under control, re-emerged in rural and urban areas owing to environmental changes, human migrations, chaotic urban growth and economic policies affecting large portions of the Brazilian hinterland.

Denis Guedes Jogas Junior (FioCruz/Casa Oswaldo Cruz) addressed the role of medical entomology and its impact on research into diseases (possibly) transmitted by

hematophagous insects in 'Leishmaniasis and its vectors: building and circulating knowledge on Phlebotomine sand flies on a global scale'. The work by Patrick Manson on the transmission of filariasis and the research conducted by Ronald Ross and Giovanni Grassi, Amico Bignami and Giuseppe Bastinelli on malaria, provided an explanatory model for this new field of research. A global network of mutual exchange of knowledge, specimens and information was promoted by the British Museum of Natural History, with strong participation of Latin American experts. Its aim was collect and describe all hematophagous insects acting as vectors and intermediate hosts of diseases considered relevant to tropical medicine. Initially, the *Culicidae* gained the lead, turning this period into the "golden era of medical entomology." However, in a process as yet little explored by historians of tropical medicine, other hematophagous insects became the targets of medical-scientific investigations, such as the *simuliidae*, *triatomas*, *tabanids* and *Phlebotomine sand flies*, as new theories and speculations associated them emerged with advancing research on the transmission of tropical diseases.

3.6. Global health, Epidemiology and Public Health Policies and Practices in Lusophone Africa

In the paper 'Neglected Tropical Diseases (NTDs) past and present: the case of Angola', Filomeno Fortes (Health Ministry, Angola), Virgílio do Rosário (former IHMT), Dinora Lopes (GHTM-IHMT) and Philip J. Havik (GHTM-IHMT) provided an overview of the evolution of Neglected Tropical Diseases (NTDs) and control measures in Angola from the 19th century to the present. Focusing on yellow fever, schistosomiasis, onchocerciasis and trypanosomiasis, it concludes that the NTDs in question remain 'old' infectious diseases affecting vulnerable populations, in a country that experiences protracted armed conflict, a lack adequate and effective human resources, limited research, non cost-effective measures, logistical problems, insecticide resistance and climate change. We consider that NTDs control in any country will only be possible with an understanding of disease distribution, investment of adequate resources in parallel with understanding the social determinants of health. Taking the 2008-2015 Global Plan developed by the WHO - based upon tool-ready NTDs, individual case management, cross-cutting strategic approaches in order to prevent, control, eliminate or eradicate NTDs - as a reference, the paper assesses the progress made in Angola, identifies existing constraints and makes recommendations for improvement.

The paper by Philip J. Havik (IHMT-UNL) 'From Tropical to Social Medicine and back again? Transformations in

public health and disease control in Guinea Bissau', provided an analysis of the longitudinal development of health services and disease control programmes in Guinea-Bissau from 1945 to the 1980s. The Mission for the Combat of Sleeping Sickness and other Endemic Disease created in 1945, the belated expansion of colonial health services in the late 1950s and early 1960s, the challenge posed by the nationalist movement PAIGC as armed struggle began in 1963 and the establishment of military health services until independence in 1974, turned the country into a veritable laboratory for health development. As the territory became fragmented into areas which remained under colonial and military control on the one hand and liberated areas under nationalist authority on the other, it became a site of competing public health policies and programmes. Portuguese colonial medicine and tropical medical expertise would be challenged by social medicine introduced by the PAIGC in areas under its control with Cuban support, saw different approaches vying for popular support. After independence, the war-torn country was faced with the rebuilding of its heavily impaired and deeply divided health system with bilateral (incl. Portuguese) and multilateral support (WHO) which proved to be a formidable task in this small territory.

Mélanie R. Maia (GHTM-IHMT) and Luís V. Lapão (GHTM-IHMT) co-authored the paper on 'The health organisation of Cape Verde: a global history approach (1960-

1980)', which looks at the pathways of epidemiological control and its impact in the Cabo Verde Islands. Using a global history approach, the paper focused on (1) the evolution of the health system, services and human resources, (2) the development of a health security consciousness as well as (3) a quality culture. The analysis was mainly based on bibliographical research in the "Annals" of the Institute from 1960 to 1980, before and after decolonisation. Severely affected by drought and famine in the recent past affecting successive generations, these calamitous events led a severely weakened population to emigrate in large numbers from the mid-1960s. Nevertheless, the highly resilient population would benefit from control programmes which effectively reduced the prevalence of communicable endemic diseases, as living conditions and nutrition improved after independence. Efforts - made with Portuguese technical support - to improve the planning of public health and sanitation services, epidemiological surveillance, legislation and raising health awareness provide clear examples of positive change. In addition, through its international partnership network, Cabo Verde strengthened the capacitation and training of the health workforce and healthcare delivery. The paper demonstrated how the introduction of new technologies including telemedicine benefited these processes and significantly increased the sharing of key knowledge through contact networking.

References:

- Amaral, I. M. (2008). The emergence of tropical medicine in Portugal: The School of Tropical Medicine and the Colonial Hospital of Lisbon (1902-1935), *Dynamis*, 28: 301-328.
- Arnold, D. (coord.) (1988). *Imperial Medicine and Indigenous Societies*, Oxford University Press, Oxford.
- Arnold, D. (coord.) (2003). *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*
- Bashford, A. (2004) *Imperial Hygiene: a critical history of colonialism, Nationalism and Public Health*, Palgrave, Basingstoke.
- Birn, A-E. (2009). The stages of international (global) health: Histories of success or successes of history?, in: *Global Public Health*, 4, 1, 50-68.
- Bitton, A., Ratcliffe, H.L., Viellard, J.H., Kress, D.H., Barkley, S., Kimball, M., Secci, F., Wong, E., Basu, L., Taylor, C., Bayona, J., Wang, H. Lagomarsino, G., and Hirschhorn, L.R. (2016). Primary Health Care as a Foundation for Strengthening Health Systems in Low- and Middle-Income Countries, *Gen Intern Med*, 32 (5): 566-71.
- Borowy, I. (2009). *Coming to Terms with World Health: The League of Nations Health Organisation 1921-1946*, Peter Lang, Basel.
- Brown, T.M., Cueto, M., and Fee, E. (2006) The World Health Organisation and the transition from 'International' to 'Global' public health, *American Journal of Public Health*, 96 (1): 62-72.
- Farley, J. (2004). *To Cast Out Disease. A History of the International Health Division of Rockefeller Foundation (1913-1951)* Oxford University Press, Oxford.
- Fürst, T, Salari, P., Llamas, L.M., Steinmann, P., Fitzpatrick, C. and Tediosi, F. (2017). Global health policy and neglected tropical diseases: Then, now, and in the years to come, *PLOS-Neglected Tropical Diseases*, 11 (9): e0005759.
- Havik, P. J. (2015). O IHMT numa perspectiva histórica: trajetórias institucionais desde 1950, *Anais do Instituto de Higiene e Medicina Tropical*, 14: 85-100.
- Hotez, P. 2017. Ten failings in global neglected tropical diseases control, *PLOS-Neglected Tropical Diseases*, ?
- Hotez, P., Molyneux, D.H., Fenwick, A., Kumaresan, J. Sachs, S.E., Sachs, J.D., and Savioli, L. 2007. Control of neglected tropical diseases, *New England Journal of Medicine*, 357: 1018-1027.
- Hurt, R J., Walker, J., Campbell, A., Egede, L. E. (2016) mHealth Interventions in Low and Middle-Income Countries: a systematic Review, *Global Journal of Health Science*, 8, (9): 183-93.
- Mertens, M. and Lachenal, G. (2012) The History of 'Belgian' Tropical Medicine from a Cross-Border Perspective, *Révue Belge de Philologie et d'Histoire*, 90, 1249-1272.
- Morange, M. Fantini, B. (coord.). (1991). *L'Institut Pasteur: contributions à son histoire*, Éditions La Découverte, Paris.
- Neill, D. (2012). *Networks in Tropical Medicine: Internationalism, Colonialism, and the Rise of a Medical Specialty, 1890-1930*, Stanford University Press, Stanford.
- Osborne, M. (2014). *The Emergence of Tropical Medicine in France*, Chicago University Press, Chicago.
- Pantoja, T., Opiyo, N., Lewin, S., Paulsen E., Ciapponi A., Wiysonge C.S., Herrera C.A., Rada G., Peñaloza B., Dudley L., Gagnon M.P., Garcia Martí S., and Oxman A.D. (2017) Implementation strategies for health systems in low-income countries: an overview of systematic reviews, *Cochrane Database Syst Rev.*, 12, 9: CD011086.
- Porter, D. (2006). How did social medicine evolve, and where is it heading?, *PLOS Medicine*, 3, 10: e399.
- Porter, D. (coord.) (1997). *Social Medicine and Medical Sociology in the Twentieth Century*, Rodopi, Amsterdam.
- Power, H. J. (1999). *Tropical Medicine in the Twentieth Century: a history of the Liverpool School of Tropical Medicine, 1898-1990*. Kegan Paul, London.
- Siddiqi, J. (1995) *World health and world politics: the World Health Organisation and the UN system*, University of South Carolina Press, Columbia.
- Snowden, F.M. (2008) Emerging and reemerging diseases: a historical perspective, *Immunol Rev.*, 225: 9-26.
- Weindling, P. (1995) *International Health Organisations and Movements, 1918-1939*, Cambridge University Press, Cambridge.

Appendix:

Workshop on the History of Tropical Medicine

1. Organisation:

1.1. Scientific Committee:

Sanjoy Bhattacharya (Centre for Global Health Histories/University of York, UK)
Guillaume Lachenal (Laboratoire SPHERE, Université Paris Diderot)
Emília Noormohamed (Faculty of Medicine, Universidade Eduardo Mondlane, Mozambique)
Filomeno Fortes (Faculty of Medicine, Universidade Agostinho Neto, Angola)
Socrates Litsios (retired Senior Scientist World Health Organization)
Jaime Larry Benchimol (FioCruz/Casa Osvaldo Cruz, Brazil)
Magali Romero de Sá (FioCruz/Casa Osvaldo Cruz, Brazil)
Paulo H. Martinez (Universidade Estadual de São Paulo, Brazil)
Isabel Amaral (Faculdade de Ciência e Tecnologia/Universidade NOVA de Lisboa)
Cristiana Bastos (Instituto de Ciências Sociais/Instituto Universitário de Lisboa)
Virgílio do Rosário (retired Full Professor IHMT-Universidade NOVA de Lisboa)
Jorge Seixas (IHMT- Universidade NOVA de Lisboa)

1.2. Organizing Committee:

Philip J. Havik (IHMT-UNL)
Isabel Amaral (FCT-UNL)
Zulmira Hartz (IHMT-UNL/FioCruz-Casa Osvaldo Cruz)
Paula Saraiva (IHMT-UNL)
Celeste Figueiredo (IHMT-UNL)

2. Programme Workshop on the History of Tropical Medicine (WHTM)

Day 1: 14 December

Session 1:

Tropical Medicine: perspectives on the production and circulation of medical knowledge

Keynote address, Guillaume Lachenal (Université Paris Diderot)

Chair: Jorge Seixas (IHMT-UNL)
Discussant: Jaime Benchimol (FioCruz/Casa Osvaldo Cruz)
Mathews Alves Duarte da Silva (École des Hautes Études en Sciences Sociales-EHSS, Paris) and Daniel Dutra Coelho Braga (Instituto de História, Universidade Federal de Rio de Janeiro) 'The Tropics without the Tropical: French Naval medicine on the threshold of tropical medicine'
Heliel Gomes de Carvalho (Centro Universitário de Anápolis-Universidade Federal de Goiás) and Sandro Dutra e Silva (Universidade Estadual de Goiás) 'The South American Evangelical Union and its impact upon tropical medical missionaries in Central Brazil'
Carlos Roberto de Oliveira (Departamento de Saúde da Comunidade, Universidade Federal de Rio de Janeiro) 'Cholera in Nineteenth Century Bahia and the Bahian Tropical Medical School'
Carlos António Menezes de Lemos (CHLN, Hospital de Santa Maria, Lisbon) 'Into Africa: two different perspectives on tropical diseases'

Session 2:

The affirmation of Tropical Medical Schools, experts and collections

Chair: Bárbara Direito (FCSH-UNL)
Discussant: Odete Afonso (IHMT-UNL)
Jane Costa and Magali Romero de Sá 'The Entomological Collection of the Oswaldo Cruz Institute/ Osvaldo Cruz Foundation: 115 years of history on biodiversity and infectious disease'
Rita M. Lobo (CIUHCT-UNL) 'Tropical medicine and medical entomology in Portugal: the historical entomological collection of the Instituto de Higiene e Medicina Tropical (1938-1970)
Paulo G. Almeida and Teresa Novo (IHMT-UNL) IHMT's insect collections: from tropical medicine to (re)emerging vector borne diseases in global health
João Lourenço Monteiro (CIUHCT-UNL) 'Invisible Women: a new perspective on medical networks in the Institute of Tropical Medicine (IMT), 1953-1966'

Session 3:

Health systems, endemic diseases and control strategies

Chair: Philip J. Havik (IHMT-UNL)
Discussant: Filomena Pereira (IHMT-UNL)
Mónica Saavedra (Centre for Global Health Histories-CGHH, University of York) 'Malaria control and tropical medicine in former Portuguese India'
João Dinis de Sousa (Katholieke Universiteit Leuven, GHTM-IHMT) and Anne-Mieke Vandamme (Katholieke Universiteit Leuven/GHTM-IHMT) 'Sexually transmitted diseases and their treatment in colonial Leopoldville (1920-1960)'
Bernardo Pinto da Cruz (FCSH-UNL) 'Vaccination and resettlement in Angola (1955-1974)'
Josh Galjour (Global Fund, Geneva) 'Chronic political instability and the implementation of the HIV-AIDS response in Guinea-Bissau: a case study of the intersections of politics and epidemiology (2000-2015)'

Day 2: 15 December

Session 4:

The entanglement of colonial and Tropical Medicine

Chair: Rita M. Lobo (FCT-UNL)
Discussant: Philip J. Havik (IHMT-UNL)
Isabel Amaral (CIUHCT-UNL) 'Portuguese physicians overseas and the consolidation of tropical medicine in the twentieth century: case study of Rafael António de Sousa Caixeiro (1923-1990)
Vanessa Pedrotti (Institut des Mondes Africains, Université Aix-Marseille) 'The St. Anthony' Leprosarium of Harär: a harbinger of Ethiopian modernity and missionary ideals (1901-1965)'
Bárbara Direito (CIUHCT-UNL) 'The relationship between human and veterinary health in twentieth century colonial Mozambique: a view from the colonial health system'
Simplice Ayangma Bonoho (University of Geneva) Francisco José Carrasqueiro Cambournac and his role in the WHO's Regional Office for Africa (AFRO), 1946-1965

Session 5:

From tropical to global concerns: trajectories of pathologies and biomedical research

Chair: Sónia Dias (IHMT-UNL)
Discussant: Sofia Cortes (IHMT-UNL)
Mohsin Sidat (Faculty of Medicine, Universidade Eduardo Mondlane, Maputo) 'Diagnoses of tropical micoses in Mozambique: past, present and future'
Jaime Benchimol (FioCruz/Casa Osvaldo Cruz) 'Brazil and leishmaniasis: diseases from the tropics that become global risk'
Denis Guedes Jogas Junior (FioCruz/Casa Osvaldo Cruz) 'Leishmaniasis and its vectors: building and circulating knowledge on Phlebotomine sand flies on a global scale'

Session 6:

Global health, epidemiology and public health: policies and practices in Lusophone Africa

Chair: Isabel Amaral (FCT-UNL)
Discussant: Silvana Belo (IHMT-UNL)
Filomeno Fortes, Virgílio do Rosário (former IHMT), Dinora Lopes (GHTM/IHMT-UNL) and Philip J. Havik (IHMT-UNL) 'Neglected Tropical Diseases (NTDs) past and present: the case of Angola'
Philip J. Havik (IHMT-UNL), 'From Tropical to Social Medicine and back again? Transformations in public health and disease control in Guinea Bissau'
Mélania R. Maia (GHTM/IHMT-UNL) and Luís V. Lapão (IHMT-UNL) 'The Health Organisation of Cape Verde: a global history approach (1960-1980)'