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Book Reviews

Deborah J. Neill, *Networks in Tropical Medicine: Internationalism, Colonialism and the Rise of a Medical Specialty, 1890–1930* (Stanford, CA: Stanford University Press, 2012), pp. xxiii, 292, $65.00, hardback, ISBN: 978-0-8047-7813-8.

Over recent decades, historians of medicine specialising in the *Age of Empire* have paid considerable attention to two intertwining questions: (1) how science, public health and medicine were envisioned, organised and practised in colonial contexts, including how ideas and activities were perceived, rejected and reshaped by local populations; and (2) how these developments interacted with and influenced political, scientific, professional and socio-cultural developments in the corresponding metropoles.

Networks in Tropical Medicine makes a pathbreaking contribution to this arena by going beyond particular colonial case studies to explore the transimperial (and transnational and transcolonial) dimensions of tropical medicine as exemplified by research, preventive and therapeutic policies, and control measures for African trypanosomiasis (sleeping sickness). Although this is well-trodden historiographical territory for individual French, German, British and Belgian colonies, the collective and comparative lens proffered by Deborah Neill, who has mastered an impressive array of archives across four countries and three languages, contributes a set of insights impossible in unitary empire-colony studies.

The book begins by tracing the rise of the peculiarly geographically and geopolitically oriented specialty of tropical medicine and its accompanying institutions and professional organs, including journals, societies and conferences. The international (not just pan-European) dimensions of professionalisation in an era of intense nationalism meant that participants held 'dual loyalties' of science and patria. The late nineteenth and early twentieth centuries were thus marked by a race for the discovery of 'tropical disease' microbes and vectors (with scientists often generously subsidised by government patrons). Nationalism also impeded and delayed international sanitary agreement, particularly among European powers jealously protecting their commercial turf. The division of loyalties was not unique to tropical medicine, but the overlapping of this specialty with intense inter-imperial rivalries has led other scholars to overlook its substantial co-operative dimensions.

Once the Berlin Conference of 1885 established firm contours of European holdings in Africa, colonial doctors increasingly held that the challenges of, and potential solutions to, the problems of yellow fever, malaria and sleeping sickness, were not confined to intra-imperial contexts, but transcended borders, nationalities and even diseases. Colonial medical experts, whose foremost charge was protecting the health of European settlers and directly or indirectly safeguarding profitable industries, believed that the measures employed against malaria and sleeping sickness in Brazzaville, French Equatorial Africa, were applicable to the struggle against yellow fever in Douala, German Cameroon, as they had been in other French and British colonies. These measures involved the clean-up of potential breeding sites, improvements in housing and roads, large-scale environmental sanitation and, above all, the segregation and separation of African and European populations, justified on racial, economic, political and medical grounds.

Such mutual learning and transfer of approaches among colonies was not anomalous, Neill argues, but rather the fruition of medical experts' common set of cultural values—honed in the process of their professional development—around European superiority, the 'civilising mission' of colonialism and the humanitarian aims of scientific progress. Whether in Conakry, Douala or Freetown, these doctors were also united in frustration against recalcitrant concession companies, colonial administrators and the lack of resources to carry out measures that, after all, they had learned about in reciprocal cosmopolitan institutions. Neill shows how much the cadres of colonial physicians (and at times policymakers and administrators) shared in terms of trajectories (including military stints, and sanitary and hygiene training), aspirations, professional identities, research ideas, faith in science and technology, public health and treatment policies, and racial assumptions about the African populations affected by tropical diseases.

Knowledge-sharing across colonies was heightened in the case of sleeping sickness, particularly after the trypanosome was identified in 1903 as the causative agent and the tsetse fly as its vector (albeit with fierce infighting between Italian Aldo Castellani and Scotsman David Bruce over who could claim credit). Unlike malaria and yellow fever, trypanosomiasis was little known to Europeans before the colonial occupation of Africa, which itself greatly exacerbated the disease by displacing populations and disrupting herding practices through land development. Colonial sleeping sickness campaigns introduced drastic treatment and control policies, involving the creation of segregation camps, administration of painful and marginally effective medications, especially atoxyl, and in the case of the severe epidemic in eastern Africa (present-day Uganda and Tanzania), even more draconian measures, such as forced population removal and detention of suspected carriers. As illustrated through a detailed comparison of German Cameroon and French Congo further west, even as colonial physicians learned from their colleagues' failed experiences, they continued to favour medication and human segregation, if somewhat attenuated, over fly control measures.

Research and learning exchanges took place through correspondence, publications, communication at international conferences (especially the trypanosomiasis meetings of 1907 and 1908) and attempts at joint policy formulation, as well as a series of difficult expeditions to neighbouring colonies. A particularly interesting finding, also published as a separate article, is how important colonial links were to 'magic-bullet' man Paul Ehrlich's research vision. The famed German used his connections with French and British colleagues to justify and field-trial various chemical preparations against trypanosomiasis, which, although unsuccessful, immeasurably helped his larger chemotherapeutic agenda.

Despite the importance of these international networks to the forging of tropical medicine, patria ultimately trumped science. Colonial doctors were not immune to the nationalist propaganda accompanying the outbreak of the First World War and its aftermath. After the Treaty of Versailles distributed Germany's colonies to the Allies and the League of Nations, German physicians were stripped of their research foothold in Africa, sullying the spirit—and revealing the fragility—of scientific co-operation. While longtime mutual admiration between British and German scientists softened the vitriol, French and Germans turned prior back-and-forth adaptation into damning *ex post facto* re-interpretations of one another's pre-war commitment, approach and capacity to control trypanosomiasis. Moreover, the isolation of German tropical medicine specialists partially fuelled the rise of Nazi scientific research, including research on malaria.

The one defect in Neill's argument stems from her confining of tropical medicine networks to Europeans (and the odd Canadian). Given the book's focus on African

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trypanosomiasis, one would hardly expect detailed worldwide coverage, and Neill does mention certain key figures and developments in Asia and the Americas. But the silence on the extensive contacts between the Brazilian scientist Carlos Chagas, who discovered American trypanosomiasis in 1909, and his European counterparts working on African trypanosomiasis at precisely the same time is disappointing. Chagas first published his finding in the journal of the Hamburg tropical medicine institute and was in close communication with several leading German protozoologists.[1] Yet Neill overlooks Chagas and relegates Brazil's notable role in the international rise of tropical medicine to an aside. Including this dimension—and understanding the global character of scientists' interchanges beyond the 'international' European-imperial theatre—would add an important interpretive lens to this otherwise excellent work.

In sum, and my lament notwithstanding, this is a learned and impressive volume, which should become a new classic for the field.

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James F. Stark, *The Making of Modern Anthrax, 1875–1920* (London: Pickering & Chatto, 2013), pp. 251, £60.00, hardback, ISBN: 978 1 84893 446 7.
Rosemary Wall, *Bacteria in Britain, 1880–1939* (London: Pickering & Chatto, 2013), pp. 254, £60.00, hardback, ISBN: 978 1 84893 427 6.

The history of medical bacteriology has seen an almost complete inversion of its grand narrative over the last decades. In 1955 Erwin Ackerknecht could still maintain that 'the whole of medicine was transformed, with the fields of public health and surgery undergoing a complete rejuvenation'.[1] To him the rise of medical bacteriology seemed pivotal to a transformation from hospital-based to laboratory-based medicine that characterised late nineteenth-century medicine. With the advent of medical bacteriology the laboratory revolution in medicine which had taken its departure in basic medical sciences was brought to matter at the bedside, in urban sanitation and in household hygiene. While we may with some justification think that this view was more indebted to (heroic) actors' accounts than is considered acceptable today, it still fundamentally shaped the historiography of field. Invaluable textbooks on the history of the discipline are written from that perspective and it is easy to trace its influence into later historiography.[2] Such an approach could also be refined into philosophy of science where it would result in a heroism of concepts rather than of historical individuals. It would then portray medical bacteriology as a cornerstone of a transformation of medicine through a grand research

[1] Simone Petraglia KROPF and Magali Romero SÁ, 'The Discovery of *Trypanosoma Cruzi* and Chagas Disease (1908–1909): Tropical Medicine in Brazil', *História, Ciências, Saúde – Manguinhos*, 16, supl. 1 (2009), 13–34. http://www.scielo.br/pdf/hcsm/v16s1/02.pdf.

[1] Erwin H. Ackerknecht, *A Short History of Medicine* (Baltimore, MD: Johns Hopkins University Press, 1955, 1982), 184.

[2] William Bulloch, *The History of Bacteriology* (London: Oxford University Press, 1938, 1960). Think of the chapter 'Pettenkofer's last stand' in Richard J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years 1830–1910* (Oxford: Clarendon, 1987), which gives a good example of how a progressivist alliance of bacteriological hygiene and Prussian politics prevailed in the field of cholera research. Bacteriological research made all the difference.