

Introduction

Situated at the crossroads between the history of colonialism, of modern Southeast Asia and of medical pluralism, this book traces the “life of pharmaceuticals” in Vietnam under French rule. By focusing on the circulation and consumption of *colonial medicines* from the last third of the nineteenth century to the eve of World War II, it addresses neglected, and sometimes surprising, facets of the medicalization of Vietnamese society.¹ By colonial medicines, I mean not only medicines introduced and distributed by the colonizers, but also, importantly, medicines that were generated within and (re)defined by the process, and experience, of colonization. This book covers a period during which pharmaceuticals as we now know them were being defined, when their characteristics became stabilized and their modalities of distribution were tightened. It illuminates, by placing them side by side, two predominant, apparently contradictory, features of the changing sphere of Vietnamese health care during this period. On the one hand, there were persistent and serious problems of accessibility. On the other hand, a plurality of options was on offer. Constantly under negotiation, these reveal clear manifestations of patient agency. More broadly, I seek to historicize the roles and identities of medicines in the Global South by going back to the early phases of the modern pharmaceutical industry’s expansion and globalization, before the advent of antibiotics.² Also in these pages, I describe the tricky task of interpreting heterogeneous and fragmented sources, which are full of omissions and of dissonant discourses. I hope this will contribute new ways of investigating and writing (colonial) histories of health.

¹ I address medicalization as a historical process that, from the end of the eighteenth century, redefined problems and behaviors as “medical,” falling under the purview of medical professionals and institutions, state laws and policies. The process cannot be reduced to social control, even in colonial contexts; rather, it is a negotiated encounter between a “supply” and “demand” that is both variable and complex.

² The choice of this chronological endpoint also recognizes World War II as a watershed in the medical history of Vietnam, opening onto thirty-five years of war and instability (beginning with Japanese occupation of Indochina in 1940), associated with major challenges and deficiencies in the provision of health care.

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Reinterpreting Discrepancies

The government doctors working for the Assistance médicale indigène (AMI; Native Medical Assistance) very rarely wrote about medicines. When medicines were mentioned in the reports that, from 1907, they were required to submit to the Inspection générale d'hygiène et de santé publique (IGHSP; General Inspection of Hygiene and Public Health), this was usually in the budget section.³ Here, we can sometimes track down a number: an amount allocated to “medicines and materials” – the latter term encompassing surgical instruments, hospital bedding, cleaning and disinfecting products – for the district hospital or clinic under the physician’s responsibility. Occasionally, report authors might make some marginal comments on attempts to alleviate the situation (particularly in accounts of local outbreaks of infectious disease) with an emergency pharmaceutical treatment. There were also usually a few lines, often repeated word for word from one report to the next, on the operation of the Service de quinine d'état (State Quinine Service), created in 1909 to distribute quinine in zones of high malaria prevalence. A similar indifference to therapeutics prevailed in medical journals: these published a small number of reports, mostly of hospital-based trials of arsenical or sulfa drugs, the two “wonder drug” classes of the 1910s to 1930s, and of field trials of quinine-based prophylaxis.

Most (of the relatively few) mentions of medicines in colonial sources addressed the problem of inadequate consumption or even outright refusal by “the natives.” A common assertion was that, as a general rule, the Vietnamese only deigned to accept the therapeutic options proffered by AMI doctors as “a last resort.” For many clinicians, this “last resort recourse” was explained by a shared, indeed a cultural, indifference to disease and its consequences, and a tenacious mistrust of Western medicine.⁴ In short, it was a product of collective ignorance paired with

³ The translation of French institutional names, of French colonial categories, and of some pharmaceutical terminology into English poses problems of equivalence in relation to their specific meanings and uses in the context of the French history of colonialism and pharmacy. Original French terms will be given and used wherever appropriate throughout the book, along with a faithful, yet explicit English-language translation, on the basis of the terms used in similar contexts at the time (e.g., the term “native,” rather than “indigenous,” is the British colonial equivalent of *indigène*).

⁴ Contemporary sources referred to the medical system they saw as originating in Europe, and as anchored in scientific validation and discovery, as, alternately, “European,” “modern,” and “scientific.” When I seek to echo actor’s emic designations, I also use these terms. In other cases, I use the more neutral term “biomedicine,” which refers to the increasingly close relationships between medicine and biological sciences without making claims as to its geographical origins, epistemological universality, or temporal status. In colonial contexts, the use of this term recognizes that “non-Western” medicine can also be “modern,” while biomedicine can also be “non-Western.”

resistance to change. Its corollary, AMI doctors complained, was that the Vietnamese persisted in trusting “their” medicine. In 1913, the AMI médecin-chef (head doctor) of Ha Giang Province, in Tonkin, the northern part of Vietnam, reported that the sick “would come to [him] only when they have already exhausted the resources of the Chinese pharmacopeia.”⁵ Eighteen years later, the Directeur local de la santé (local director of health) for the Protectorate of Tonkin wrote, “Clientele – [. . .] We treat one tenth of the population, the chronic, inveterate, the most difficult cases, mostly incurables; nine tenths go to the empirics.”⁶

Empirics were practitioners of “Sino-Vietnamese medicine,” whose remedies were seen as a major public health risk, either because they were toxic, improperly handled, or therapeutically ineffective.⁷ Indeed, the risk of poisoning associated with these “dangerous remedies” was probably the most prevalent theme in colonial discourses on therapeutics. In the very first volume of what would become the colony’s main medical journal, the *Bulletin de la Société médico-chirurgicale de l’Indochine* (BSMI; Bulletin of the Medico-Surgical Society of Indochina), established in 1910, Dr. Édouard Sambuc described two cases of fatal poisoning caused by “native medicines” for gonorrhoea that happened at the hospital of Haiphong where he worked. In one case, a twenty-five-year-old patient had “suddenly, without any warning sign, chang[ed] expressions, let out a piercing scream and beg[an having] convulsions, los[t] consciousness, making a croaking sound now and then.” Sambuc concluded: “We must note [. . .] the rapidity of death, the powerlessness of therapeutics in the face of this poisoning.”⁸ The sensationalism in the narration of this tragic

⁵ “Rapport sanitaire annuel de la province de Ha Giang, 1913,” Archives nationales d’outre-mer, Aix-en-Provence, France (hereafter ANOM), Fonds de la Résidence supérieure du Tonkin nouveau fonds (hereafter RST NF) 4014.

⁶ “Direction locale de la santé du Tonkin. Rapport annuel de 1931,” ANOM, RST NF 3683. Although “empiric” is an often vague designation, in colonial contexts it was usually used to characterize a person or practice as devoid of scientific and rational underpinnings. Many colonial doctors believed that local medical practices, “traditional” practices, were based on trial and error rather than cumulative, validated, and shared knowledge. Although based on an extensive pharmacopeia, Vietnamese medicine could, according to some, hardly claim a scientific status given its lack of “rigorous” knowledge of physiology, anatomy, and symptomatology, of specialization and of diagnostic and therapeutic technologies.

⁷ The adjectives “Sino-Vietnamese” and “Sino-Annamese” were used by colonial health authorities to designate the most visible local medical system and to emphasize its Chinese roots. I prefer the term “Vietnamese medicine,” which I use to designate dynamic and hybrid traditions that were identified as specific to Vietnam. However, I keep the term “Sino-Vietnamese” to designate the remedies and pharmacopeia used in Vietnamese medicine at the time as well as medical actors who identified themselves as such.

⁸ Dr. Édouard Sambuc, “Deux cas mortels d’intoxication par des médicaments indigènes employés contre la blennorrhagie,” BSMI 1 (1910): 502–3, 506.

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event was surely meant as counter-propaganda targeting Vietnamese medicine. Yet it also manifested strong colonial anxieties about a wide range of dangerous substances, individuals, and polluted places.⁹ These anxieties are more explicit in the following account of an incident that affected a soldier of the Garde indigène (Native Guard) in Nam Dinh, Tonkin, in 1916:

The unskilled laborer [. . .] Dang-Dinh-Huyen had, in the evening of Tuesday March 14 of this year, during a fit of madness caused by the ingestion of Chinese medicines, ripped apart his clothing, a kaki vest and a kapok jacket, to the point where they are absolutely unusable. Asked about it, Dang-Dinh-Huyen declared the following: having suffered for the last few days from headaches, I decided to go to a seller of Chinese medicines hoping that the medicines that I would get would bring me some relief. I do not know whether the concoction that was sold to me [. . .] did me any good, but what I am sure of, is that it did me lots of harm. Indeed several minutes after absorbing it, I was literally mad, I no longer knew at all what I was doing, thus I had a very unpleasant surprise when, having recovered my sanity, I noted the lamentable state of my belongings.¹⁰

This type of incident was not uncommon – that is, if we take the health authorities at their word. Apparently, a few young soldiers even died because they had put “too much trust” in their empirics. Such statements clearly reveal AMI doctors’ ignorance and contempt of the prevailing models of health and health care among those they sought to convert to the benefits of scientific medicine. They manifest a typical biomedical arrogance toward “the native patient” – viewed as inherently credulous and ignorant, as was indeed also thought of French patients at the time – but also toward any other medical system, considered to be, by definition, irrational, ineffective, even dangerous, and thus de facto made subaltern, if not criminalized outright.¹¹ Yet according to annual reports of the Bureau d’hygiène (Hygiene Office) of the City of Hanoi, the total number of deaths due to poisoning, both accidental and criminal, caused by toxic substances did not exceed five per one thousand in the period 1923–29. This was comparable to the rate of suicide mortality, but ten times less

⁹ David Arnold, *Toxic Histories. Poison and Pollution in Modern India* (Cambridge: Cambridge University Press, 2016).

¹⁰ “Décès survenus parmi les volontaires de l’Annam, 1916,” ANOM, RST NF 896.

¹¹ I define “medical system” as a medical culture – that is, a set of shared conceptual foundations and practices, upheld within one or more social groups: Steven Feierman and John M. Janzen, *The Social Basis of Health and Illness in Africa* (Berkeley: University of California Press, 1992), 163–64. On subaltern therapeutics, see: Projit Mukharji and David Hardiman, ed., *Medical Marginality in South Asia: Situating Subaltern Therapeutics* (Abingdon: Routledge, 2012).

than deaths caused by gastroenteritis and forty times less than deaths caused by bronchial pneumonia.¹²

Such oft-repeated remarks do, however, also indicate that even if the Vietnamese consulted AMI doctors only as “a last resort,” they did indeed consult them. They thus hint at practices of medical pluralism – that is, of combining the use of biomedicine with one or more other medical systems. This suggests that seeking and taking pharmaceuticals was one of the ways in which the Vietnamese grew increasingly familiar with biomedicine. Indeed, there were also occasional complaints in AMI reports that some patients saw public hospitals as mere “free pharmaceutical shop[s]” and the clinician as an “automatic medicines distributor.”¹³ From the interwar period, a few medical professionals also began to note that the Vietnamese seemed to “appreciate more and more,” and thus to request “some” Western medicines, such as Antipyrin, santonin, and arsenobenzols. They did not, however, ponder the meaning and underlying reasons of lay practices of therapeutic selection and self-medication, nor did they wonder how these practices were changing as a result of colonization. The consumption of medicines by the colonized was seen as inherently problematic (if only because it often bypassed doctors), and certainly not a topic of serious reflection.

Dr. Nguyễn Văn Luyện had, it seems, a different view.¹⁴ After graduating as a state-qualified doctor of medicine in France in 1928, Nguyễn Văn Luyện worked for the AMI before setting up a private practice in 1931 in Hanoi, the colonial capital. At that time, he began devoting part of his career to educating his compatriots about the benefits of biomedicine. He founded and edited the monthly serial *Bao an y báo. Revue de vulgarisation médicale* (BAYB; Popular Medical Magazine), which was published from July 1934 to January 1938. He invited BAYB readers to write to him directly and, in response, offered personalized health advice. This “letters to the editor” rubric took up several pages in each issue. On average, about half of the questions asked in these letters were about medicines used in the past, ongoing courses of treatment, or medicines for potential future use. These included, according to a list I compiled, references to nearly 650 different medicines – including 250 (nearly 40 percent) by name. About 350 (over half) of these medicines were *spécialités pharmaceutiques* (pharmaceutical specialties), trademarked

¹² Gouvernement général de l’Indochine, *Annuaire statistique de l’Indochine, 1923–1929* (Hanoi: Imprimerie d’Extrême-Orient [IDEO], 1931), 111, 126.

¹³ Dr. Paucot, “Discussion sur l’emploi du Salvarsan aux colonies,” *Bulletin de la Société de pathologie exotique* (BSPE) 6 (1913): 240.

¹⁴ I have respected Vietnamese diacritics whenever possible – that is, when they were specified in my sources.

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products manufactured by the pharmaceutical industry.¹⁵ Some of these were toxic but highly effective drugs, such as “914,” an arsenobenzol compound used to treat syphilis. Marketed under several brand names, this drug was mentioned fifty-seven times by readers, which averages out to more than once per issue. BAYB readers also evoked cutting-edge products that, in some cases, had arrived in Vietnam only a few months earlier. For example, Folliculine, a synthetic ovarian hormone launched by the French firm Roussel in 1932, was mentioned in early 1934.

The published correspondence between Nguyễn Văn Luyện and his virtual patients contradicts the dominant discourse among AMI doctors. Were I to write a colonial history of medicines based exclusively on an analysis of the letters-to-the-editor section of the BAYB, I would conclude that the Vietnamese consumed medicines profusely, and that pharmaceuticals were widely available, well-trusted, and familiar commodities, and one of the main objectives of therapy-seeking. Letter writers did not, however, consume medicines indiscriminately. They often wondered about a specific product’s toxicity and side effects, or another’s lack of efficacy, seeking out information for selecting the most effective medicines, with the fewest possible risks. This paints a picture that is very far from the figure of the ignorant, resistant patient or of the occasional yet exasperating consumer, as depicted by medical periodicals and AMI reports.

Toward a Colonial and Vietnamese History of Modern Medicines

One way of reconciling these conflicting discourses would be to point out that Vietnam changed between the first years of the AMI (created in 1905) and the time when the BAYB was published. There is value in this statement. Vietnam garnered the lion’s share of attention and resources among the territories that formed the Union indochinoise (Indochinese Union) or French Indochina from 1887 to 1947, placed under the authority of a Gouverneur général (governor general) who represented the French Republic.¹⁶ Here, colonial policies of

¹⁵ Translator’s note: the specificity of national pharmaceutical markets and industries in the nineteenth and early twentieth centuries generated distinctive terminologies. Thus, there is no commonly-used equivalent term in English for *spécialité pharmaceutique* (sometimes approximated as “proprietary drug”). I have opted to use the literal translation throughout this book.

¹⁶ L’Union indochinoise or Indochine française was created as an administrative umbrella for five distinct territories (*pays*): a colony (Cochinchina), administered by a governor, and four protectorates (Tonkin, Annam, Laos, and Cambodia), administered by Résidents supérieurs (superior residents). I generally use the term “colony” more broadly

centralization, economic exploitation and *mise en valeur* – a policy for “improving” the economic potential of colonies developed and popularized by the Minister of Colonies and former Governor General Albert Sarraut in the early 1920s – were applied with the greatest vigor.¹⁷ Some have characterized this colonization of Vietnam as “total”: a “model” totality that joined both colonial enterprises – to exploit and to civilize – at the intersection of which was the project of taking the health of “the natives” in hand.

The drawn-out French conquest and pacification of Indochina in the second half of the nineteenth century was well timed to enlist medicine as a “tool of empire.”¹⁸ This was a time when the cultural authority of biomedicine as modern, expert, and scientific was growing. It became a realm of professionals, to be accredited and protected by the state. As the links between the clinic and the laboratory grew stronger, significant progress was made in the scientific understanding and control of tropical diseases. Bacteriology, usually seen as the paragon of this “new” medicine, was, in the French world, dominated by Pasteur and his acolytes (the “Pastorians”). The synchronicity between the “bacteriological revolution” and the stabilization of colonial rule in Indochina created an opening for the Pastorians to quickly export their science and institutions overseas. Indeed, the Pastorian ambition to master tropical pathological environments was welcomed by a colonial government grappling with high rates of mortality and morbidity. It is no coincidence that the first Institut Pasteur d’outre-mer (Overseas Pasteur Institute) was established in Saigon in 1891, only three years after the Parisian headquarters opened its doors. By the late 1930s, there were four Instituts Pasteur in Indochina and three affiliated laboratories. This dense network of research facilities was unparalleled in other colonial territories.¹⁹

to refer to the three Vietnamese territories, or to Indochina as a whole. I use the term “Vietnamese” to designate the ethnic majority of Vietnam (of Viêt or Kinh origin), which made up 85 percent of its population at the time. Contemporary sources also used this designation interchangeably with that of “Annamese” (*Annamite*), referring to the population of the precolonial kingdom of Annam.

¹⁷ The best overview of the history of French Indochina is Pierre Brocheux and Daniel Hémery, *Indochine. La colonisation ambiguë, 1858–1954* (La Découverte, 2001 [1994]). On *mise en valeur*, see Albert Sarraut, *La mise en valeur des colonies* (Paris: Payot, 1923), and Alice Conklin, *A Mission to Civilize: The Republican Idea of Empire in France and West Africa, 1895–1930* (Stanford: Stanford University Press, 1997).

¹⁸ Daniel Headrick, *Tools of Empire. Technology and European Imperialism in the Nineteenth Century* (New York and Oxford: Oxford University Press, 1981).

¹⁹ On the history of the AMI and the role of the Institut Pasteur in Indochina, see Laurence Monnais-Rousselot, *Médecine et colonisation. L’aventure indochinoise, 1860–1939* (Paris: CNRS Editions, 1999).

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From 1905, the AMI, a public health care system, was the theatre of an ambiguous – to echo the insightful adjective used by Pierre Brocheux and Daniel Hémery to characterize Indochina’s colonization – project to exploit and to modernize, through biomedicine, its agents and techniques. This endeavor was predominantly focused on the collective prevention of infectious diseases, especially those responsible for the greatest burden of morbidity and mortality in the territory. Yet the system also sought to educate the population about the benefits of Western medicine, both directly, through classes and pamphlets on the principles of hygiene, and indirectly, through the provision of free care. As AMI authorities began to take stock of the system’s achievements just after World War I, a process of nativization of the health care system was initiated.²⁰ A growing number of indigenous health care workers were hired by the AMI, including Vietnamese doctors trained at the Hanoi Medical School, which had opened in 1902. During the same period, greater attention was given to mothers and children, as well as to conditions associated with poverty such as tuberculosis and trachoma, and efforts were made to ruralize the provision of medical care. Some statistics, such as the linear rise in the number of outpatient consultations, or the sharp drop in cases of maternal and neonatal tetanus, were encouraging. The interwar period was thus marked by a clear drive to expand both the nature and reach of colonial medicalization, creating new potential points of contact with Vietnamese health practices. By the 1930s, however, the administration was facing a series of crises ranging from the aftermath of the 1929 stock market crash to the radicalization of nationalist movements, as well as demographic pressures in zones of high population density and bitterness arising from the failure of colonial reformism and the abandonment of the policy of *collaboration franco-annamite* (Franco-Vietnamese collaboration).²¹ This placed serious constraints on the expansion – dampening optimism about the achievements – of colonial health programs.

²⁰ Laurence Monnais, “‘Modern Medicine’ in French Colonial Vietnam. From the Importation of a Model to its Nativisation,” in *Development of Modern Medicine in Non-European Countries: Historical Perspectives*, ed. Hormoz Ebrahimnejad (London and New York: Routledge, 2008), 127–59.

²¹ Official name given to colonial policy on indigenous political participation from 1911, collaboration franco-annamite sought to grant representation to the local population through consultative assemblies elected through suffrage by census (i.e., of taxpayers only). However, the policy did not lead to any consistent reforms on the political status of Indochina and lost the support of local elites from the late 1920s: Agathe Larcher, “La voie étroite des réformes coloniales et la collaboration franco-annamite, 1917–1928,” *Revue française d’histoire d’outre-mer* 82, 309 (1995): 397–420.

Given these ongoing constraints, “the passing of time” cannot entirely and convincingly account for the discursive discrepancies concerning the consumption of medicines, as noted previously. It is true that the interwar period was, in Vietnam, one of rapid social change that manifested in a flourishing press, the emergence of new socio-professional categories, dynamic local economies, and even the birth of the first feminist movements.²² However, these changes were almost exclusively limited to urban areas, mainly to the Union’s two largest cities: Hanoi, the colonial capital in the North, and Saigon, the economic capital in the South. This is also where cutting-edge hospitals, scientific laboratories, and retail pharmacies were concentrated. What role might biomedicine, and its medicines, have played in the small provincial cities of Annam,²³ or even in the remote outposts that accounted for the majority of health care facilities that filled the reports submitted to the IGHSP in Hanoi? To what extent did colonization provide access to drugs and to curative, individual, care? There is little indication that AMI doctors dispensed a greater volume of medicines in 1940 than they did in 1905, and it seems unlikely their perspectives changed much. That there is no sub-series on the subject of “medicines” or “pharmaceuticals” in the colonial archives seems, in itself, to reveal the absence of any effective pharmaceutical policy in the colony. These discrepancies must be given a voice rather than muffled. But *how*, using what historiographical, theoretical, or methodological tools, and on the basis of which alternative sources – other than the BAYB, which I discovered by accident when I came upon a (not yet consulted) copy at the National Library of France in Paris?

The first obstacle I encountered as I set out on this long research journey was the lack of historiography on medicines prior to the anti-biotic era – that is, before World War II, particularly in settings other than Europe and North America. This is surprising, given that several studies pointed out, long ago, the importance of the years between the 1870s and the 1940s as a period of long “therapeutic transition” if not of “therapeutic revolution.”²⁴ It has also been known that medicines

²² Van Nguyen-Marshall, Lisa Drummond Welch, and Danièle Bélanger, ed., *The Reinvention of Tradition. Modernity and the Middle Class in Urban Vietnam* (Singapore: Asian Research Institute, 2012).

²³ Annam was much less a target of colonial investment than Tonkin, which was seen as having a greater economic potential. The paucity in health archives for the protectorate, relative to Tonkin, is in itself a sign of this disparity. In addition, it should be noted that the archival reference in this book to the Fonds de la Résidence supérieure d’Annam at the Vietnam National Archives (hereafter VNA) is no longer valid. Although it was accurate at the time I consulted this archival collection, it has since been moved to Hué.

²⁴ On the concept of therapeutic transition, see Harry Marks, *The Progress of Experiment: Science and Therapeutic Reform in the United States, 1900–1990* (Cambridge: Cambridge University Press, 1997), and John Harley Warner, *The Therapeutic Perspective: Medical*

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played a key role, from the turn of the twentieth century, in the transformation and globalization of industrial and commercial practices, and in the emergence of health consumerism.²⁵ A spate of recent work on postwar pharmaceuticals renders obsolete Charles Rosenberg's 1992 observation that historians were ignoring medicines because they saw them as "strange objects."²⁶ Despite this, medicines rarely occupy a central position in current reflections on the coproduction of imperialism and health.

Guillaume Lachenal's book on Lomidine, a contested wonder drug used in sleeping sickness prophylaxis in 1950s sub-Saharan Africa, is a notable exception.²⁷ At most, medicines appear in the margins of studies of imperialism, as a modern technology among others (as is the case for quinine), as part of an array of modern consumer goods that may even be seen as "emancipatory," or as evidence of dynamic practices of medical pluralism and of the reinvention of traditional medicines.²⁸ Therapeutic substances are sometimes evoked to highlight colonial oppression, subjugating the colonized through addiction

Practice, Knowledge and Identity in America, 1820–1885 (Cambridge: Cambridge University Press, 1986). On the idea of a post-World War II therapeutic revolution and its narratives, see Jeremy A. Greene, Flurin Condrau, and Elizabeth Siegel Watkins, ed. *Therapeutic Revolution. Pharmaceutical and Social Change in the Twentieth Century* (Chicago: Chicago University Press, 2016).

²⁵ Nancy Tomes, "Merchants of Health: Medicine and Consumer Culture in the United States, 1900–1940," *The Journal of American History* 88, 2 (2001): 531–38.

²⁶ Charles Rosenberg, *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge: Cambridge University Press, 1992), 10.

²⁷ Guillaume Lachenal, *Le médicament qui devait sauver l'Afrique. Un scandale pharmaceutique aux colonies* (Paris: La Découverte, 2014), translated as *The Lomidine Files. The Untold Story of a Medical Disaster in Colonial Africa* (Baltimore: Johns Hopkins University Press, 2017). See also Nandini Bhattacharya, "Between the Bazaar and the Bench: Making of the Drugs Trade in Colonial India, ca. 1900–1930," *Medical History* 90, 1 (2016): 61–91; Myriam Mertens, "Chemical Compounds in the Congo: Pharmaceuticals and the 'Crossed History' of Public Health in Belgian Africa" (PhD diss., University of Ghent, 2014), and Noémi Tousignant, "Trypanosomes, Toxicity and Resistance: The Politics of Mass Therapy in French Colonial Africa," *Social History of Medicine* 25, 3 (2012): 625–43.

²⁸ On consumerism and drugs, see Sarah Hodges, *Contraception, Colonialism, and Commerce. Birth Control in South India, 1920–1940* (Aldershot: Ashgate, 2008); and Timothy Burke, *Lifebuoy Men, Lux Women. Commodification, Consumption, and Cleanliness in Modern Zimbabwe* (London: Leicester University Press, 1996). On therapeutic pluralism and traditional medicines, see Karen E. Flint, *Healing Traditions: African Medicine, Cultural Exchange, and Competition in South Africa, 1820–1948* (Athens: Ohio University Press, 2008); Kavita Sivaramakrishnan, *Old Potions, New Bottles. Recasting Indigenous Medicine in Colonial Punjab (1850–1945)* (Hyderabad: Orient Longman, 2006); Anne Digby, "Self-Medication and the Trade in Medicine within a Multi-Ethnic Context: A Case Study of South Africa from the Mid-Nineteenth to Mid-Twentieth Centuries," *Social History of Medicine* 1, 3 (2005): 439–57; Waltraud Ernst, ed., *Plural Medicine, Tradition and Modernity, 1800–2000* (London and New York: Routledge, 2002).