this an anomalous event, participating researchers violated the basic protocol for conducting scientific research on Chinese drugs, but it was only because of this violation that they were able to show the antimalarial efficacy of *changshan* as efficiently and quickly as they did. This chapter in the history of Chinese medicine therefore not only dispels the longstanding myth that Chinese medicine is ineffective in treating infectious diseases, but it also sheds light on the intertwined nature of experimentation, laboratory science, and actor-network that turned a research design into a political strategy—a story familiar to critical scholars of science but told with a brand-new cast.

Whereas previous studies have tended to shy away from delving directly into the encounter between Chinese-style and Western-style medicine, these two books represent the most innovative and magisterial treatment to date of the transformation of Chinese medicine in the first half of the twentieth century. They show that although Chinese physicians have struggled with medical hegemony in myriad ways, genuine interests in “epistemological egalitarianism or relativist pluralism”—however volatile in becoming the most obvious end product of history—have nonetheless served as a key catalyst in medicine’s global past.

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Anne Hardy. *Salmonella Infections, Networks of Knowledge, and Public Health in Britain, 1880–1975*. Oxford, Oxford University Press, 2015. ix, 249 pp., \$99.00 (cloth).

KEYWORDS: epidemiology, bacteriology, food poisoning, germ theory

“A large family . . . with a beautiful name but most unpleasant habits.” Such is a forceful description of the bacterial genus, *Salmonella*, the subject of Anne Hardy’s new monograph. The group was confounded in the late nineteenth century by the nebulous monikers enteric fever, typhoid, and summer diarrhea, yet a century later, microbiologists recognized over two thousand and five hundred specific zoonotic serotypes of *Salmonella*, the most virulent being *Salmonella typhi*, the causative organism of typhoid fever. Hardy’s goal—formidable in chronology and scope—is the weaving of three narratives; the modern history of how *Salmonella* became a public health problem, the laboratory research that unraveled the *Salmonella* family of bacteria, and public health attempts to curb food poisoning *Salmonella* outbreaks.

Following her longstanding interest in Victorian public health, and presaged by a series of signpost journal articles on typhoid fever, food poisoning, and veterinary

medicine, Hardy's *Salmonella Infections* is the much-anticipated culmination of a decade's worth of scholarly attention. The result is a masterful account of a previously untold story in the history of public health. Yet, rather than a straightforward "history of disease," Hardy has produced a first-rate piece of historical scholarship that contributes to our understanding of the contested ways in which science was translated into public policy in the post-germ-theory twentieth century. "The *Salmonella* story," Hardy poignantly asserts, "demonstrates how human behaviours operate to create public health problems and to complicate their resolution" (7).

At the heart of the book is a social and institutional history of *Salmonella* science. It begins in 1880, the year that Karl Eberth first identified *S. typhi* in the laboratory, and when the first major epidemiological outbreak investigation of food poisoning was conducted in England. Though very much a story of public health science and practice in the twentieth century, this work demonstrates that an epidemiological approach dominated British attempts to understand food poisoning until the 1930s. Before this time, laboratory-based bacteriology fulfilled a confirmatory role in outbreak investigation, and was a handmaiden to field-based epidemiology. From the 1940s, bacteriology and especially serology and phage-typing, dominated the *Salmonella* landscape. How, when, and why British epidemiology gave way to bacteriology has long been a topic of considerable interest in the history of public health; Hardy's study of *Salmonella* provides not only the definitive example to date of that complex process, but also a litmus test for success in studying other diseases in the first half of the twentieth century.

The book is organized into three thematic sections. Part I, "Nature's Pathways," focuses on the largely epidemiological approach to understanding food poisoning in Britain in the late nineteenth and early twentieth century. Here Hardy unpacks British debates over the healthy carrier problem in typhoid fever (chapter 1), and its spread in shellfish (chapter 2). Chapter 3, "Things with Wings," examines early-twentieth-century research into *Salmonella* infections via flies and duck eggs, and significantly advances the understanding of the sorely neglected topic of "summer diarrhoea." Chapter 4, "Other Animals," both ends part I and signals a key argument running throughout the rest of the book—that *Salmonella* infections that pass from animals to humans through the food chain presented particular scientific problems in Britain, and their control ran against vested economic interests and noninterventionist politics. Unhygienic practices in British slaughterhouses take center stage in this chapter, and Hardy demonstrates the uniquely British fractured and disjointed medical and veterinary public health approaches to understanding food poisoning before the 1940s.

Part II, "Laboratory Pursuits," is the novel core of *Salmonella Infections*. While epidemiologists, Medical Officers of Health, and veterinarians all played important roles in modern *Salmonella* science, those that took center stage for Hardy are the laboratory scientists. In chapters 5–7, "Pursuing Parasites," "Network and Knowledge," and "Names and Places," respectively, Hardy delivers a blow-by-blow account of how the mysteries of the *Salmonella* family were unraveled in laboratories across Britain, Continental Europe, Scandinavia, and North America. The focus here is

overwhelmingly British—even English—and names, dates, and places appear and reappear with sometimes confusing rapidity. Yet, Hardy details the interwar efforts at the Ministry of Health's small pathological laboratory, and after 1930, the Lister Institute in London. The latter institution, and especially the work of W. M. Scott, Philip Bruce White, and Arthur Felix, united with the renowned Fritz Kauffmann, head of the Danish State Serum Institute, to form the most powerful international network of *Salmonella* scientists. The British/Danish coalition relied on serology as the chief means of classifying the *Salmonella* family, and was pitted against a German–American allegiance. After WWII, Hardy concludes, with the emergence in Britain of the Public Health Laboratory Service, a new biochemical approach to salmonellosis challenged the Lister-Kauffmann hegemony, and focused on public health-oriented research.

Part III, "Sites of Infection," brings the book chronologically from after WWII to the 1980s. Chapter 8, "Field and Farm," is particularly lucid in unpacking the role of British veterinary experts in food poisoning, for example, particularly in identifying and attempting to curb bovine and avian salmonellosis in the 1950s and 1960s.

Salmonella Infections is to be commended for tackling such a wide-ranging topic, and doing so in just over two hundred pages. The emergence of food poisoning as a public health problem, Hardy demonstrates, was at once human, animal, and environmental, but she also shows its political and economic effects in the modern world. There are a few slight detractions; chapter 7's rather singular focus on American *Salmonella* research is protracted, and there is a disappointing lack of material on *Salmonella* research across the British Empire. Overall, though, Hardy is deft at moving from local to global, from national to international, and from the sites of knowledge production to their circulation and contestation. These are themes for which historians of medicine have been clamoring of late, and Hardy's work sets the stage for a wealth of future research.

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S. D. Lamb. *Pathologist of the Mind: Adolf Meyer and the Origins of American Psychiatry*. Baltimore, Maryland, Johns Hopkins University Press, 2014. xii, 320 pp., illus., \$44.95.

KEYWORDS: case history, psychotherapy; Henry Phipps Psychiatric Clinic, mental institutions

Pathologist of the Mind recounts the life and times of psychiatrist Adolf Meyer, one of the most influential psychiatrists of the first half of the twentieth century, although