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BOOK REVIEW

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Epidemics and the modern world

Mitchell L. Hammond

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In *Epidemics and the Modern World*, Mitchell L. Hammond, Assistant Professor of History at the University of Victoria and medical history researcher, offers a comprehensive analysis of major epidemics and pandemics in recorded human history. The author goes beyond simple discussion of diseases' etiology and epidemiology to deeply engage with the ways in which human culture and behavior drive infectious disease outbreaks. While much of Hammond's previous work centers on medicine, contagion, and disease in Europe, his expertise in engaging with the social and political economic forces that drive the evolution of epidemics and human society provides a compelling foundation for a book of this type. The overarching goal of the text is to show the myriad ways in which "the forces of modernity are mutually constitutive… diseases have both shaped and been shaped by distinctive aspects of the modern world" (p. 2). Throughout the book, discussions of biological determinants and historical context are successfully interwoven to expertly demonstrate how pathogens have been shaped by the human condition, and vice versa.

The book is organized roughly chronologically, both in general chapter organization and within-chapter discussion of the diseases and primary sociocultural themes. The book appropriately begins with bubonic plague (Chapter 1); followed by smallpox and the development of the inoculation that would eventually lead to the invention of modern-day vaccinations and its eradication (Chapters 2–3); yellow fever, cholera, and tuberculosis (Chapters 4–6); a chapter devoted entirely to an animal disease, rinderpest, the only other disease to be successfully eradicated in nature (Chapter 7); the 1918 influenza pandemic and its tremendous and varied global impact (Chapter 8); the changing disease-scape of malaria (Chapter 9); polio and the rise of the visibility of disability in society (Chapter 10); and the most historically proximate major epidemic, HIV/AIDS (Chapter 11).

Each chapter of the book is dedicated not only to a unique major epidemic in human history, but also to one or more of the primary social conditions of the modern world that have helped shape that epidemic. For example, Chapter 1, "Bubonic Plague and the Modern State" discusses the rise of the Black Death and the ways increasing social complexity and social stratification helped sustain the presence of the pathogen in complex societies. Chapter 5, "Cholera and the Industrial City," is not just about the proximate determinants of cholera, although the etiology of the disease is discussed at appropriate length for an audience unfamiliar with its biological processes. It also tackles the monumental discovery and description of microbes in the 1880s, a virtual cultural and medical reset. It is a complex topic riddled with competition (readers will find Koch's contempt of Pasteur—and vice versa—entertaining and educational, pp. 211–212), politics, and controversy. Chapter 10, "Illness, Disability, and the Struggle for Inclusion," a standout chapter, discusses polio but more broadly addresses how disability is one of the most overlooked social inequalities in health and disease research.

Some diseases are clearly punctuated by a certain period and make for obvious placement in the timeline of human culture and their relationships with that disease. The text is bookended by the Black Death, which occurred in the Medieval period, and HIV/AIDS, which rose to prominence in the late 20th century, but some of these diseases cannot be so easily sequestered into one specific time period. Tuberculosis, for example, has been a constant companion of our species for longer than complex societies have existed. Yet, one of the most nascent and pressing infectious threats at the turn of the 21st century is that of multi- and extensively-drug resistant tuberculosis. Hammond, however, effectively shows in each chapter that many infectious diseases traverse time and space and can be best understood with a holistic, critical perspective of their ultimate determinants and consequences. Specifically regarding tuberculosis (Chapter 6), Hammond writes that it is a "social disease that reflects *persistent inequalities* and hardships within a nation" (p. 263, italics added), for which it was originally "a disease of urban poverty that accompanied growing cities" and has since come "to reflect the fault lines of the global economy" (p. 264) in the 20th and 21st centuries.

The broad temporal depth with which each disease is discussed is also an effective way in which Hammond shows how scientific knowledge builds upon itself through time to make things once unknown or seemingly impossible into some of the most transformative moments in medicine. On Edward Jenner's (1749–1823) pivotal development of the smallpox vaccination technique, Hammond writes: "… it won the rapid acceptance from many, but it also inspired controversial questions that have echoes today: should governments be empowered to enforce an invasive procedure in the name of public health?" (p. 121). In light of the highly politicized nature of the COVID-19 vaccines in 2020–2021, this line is virtually prophetic. Hammond, however, goes on to show how this critical technology laid the groundwork for the future treatment and eradication of rinderpest using tissue culture technology (Chapter 7) to ultimately the wildly successful polio vaccine (Chapter 10).

This book is ideal for both undergraduate- and graduate-level history of medicine or anthropology of epidemics courses. The "Workshops" at the end of each chapter stand out as clear opportunities for students to learn historical archival methods, and they could pique the interest of students who had not previously realized what can be learned from primary documents. This book is structured as an educational textbook, but readers outside of academia seeking a thorough treatment of the major infectious disease epidemics in modern history (and there are sure to be many, given the high applicability of this text to the present moment) will find this book to be accessible, narrative-driven, and full of engaging visuals.

Readers who enjoy medical history and the intricate ways in which pathogens, culture, behavior, politics, and economics push and pull at each other will be happy to find that the field of anthropology, specifically those who study the impacts of disease and culture on population health, also addresses these questions (Armelagos et al., 2005; Singer & Clair, 2003). Much in the same way Hammond illustrates the through lines of major epidemic diseases, anthropologists have begun to make direct connections between ultimate determinants and consequences of the 1918 influenza and COVID-19 pandemics, illustrating parallel and related ways to approach this important and timely topic (van Doren, 2021). Ultimately, *Epidemics and the Modern World* is a masterful treatment of the complex relationship between humans and pathogens from a truly holistic perspective.

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