



J. R. McNeill. *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620-1914.* New Approaches to the Americas Series. Cambridge: Cambridge University Press, 2010. 371 pp. \$90.00 (cloth), ISBN 978-0-521-45286-1; \$24.99 (paper), ISBN 978-0-521-45910-5.

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Mosquitoes, Disease, and Empire in the Greater Caribbean

Mosquito Empires casts the microbiological world of mosquito-borne viruses—namely, yellow fever and malaria—at center stage. For J. R. McNeill, it is the mosquito vectors *Aedes aegypti* (the chief carrier for yellow fever) and *Anopheles* (the primary carrier of malaria) that played invisible but determinative roles in the expansion and contraction of European empires in the Greater Caribbean. This book examines an often neglected topic, the environmental impact of the Atlantic World and how that complex environment allowed for the rise of European empires and Creole nations. McNeill's study follows in the footsteps of other pathbreaking studies in global history, such as those by William H. McNeill, Alfred Crosby, and Philip Curtin, linking the conquest and subjugation of American societies with almost invisible and often misunderstood environmental factors. Until recently, mainstream scholars have tended to view the role of disease and their vectors through narrow case studies within the Caribbean rather than through a wider view of this seemingly microcosmic world in regional or superregional studies. The book is divided into three parts—“Setting the Scene,” “Imperial Mosquitoes,” and “Revolutionary Mosquitoes”—which provide a broad context in exploring the role of disease in the evolving epidemiological environment of the New World.

The first section, “Setting the Scene,” offers an overview between the shifting political fortunes of Eu-

ropean imperialists, war, and the evolving environment in the Caribbean basin. The scope of McNeill's study is reminiscent of Curtin's *The Rise and Fall of the Plantation Complex* (1990), as it recognizes associated dimensions of the plantation economy, while adding to the paradigm the unexpected environmental consequences of sugar culture that resulted from deforestation; livestock importation from Afro-Eurasia; cultivation of cash crops (namely sugar); and migration of immunes who carried yellow fever and malaria and non-immunes who fed mosquito populations, thus triggering periodic epidemics. Nor was the state of European medicine up to the challenge that newly arrived mosquito-borne illnesses brought. As McNeill emphasizes, European doctors possessed few remedies as their adherence to classical notions of illness, such as the humoral theory of disease etiology, or new ideas of racial immunity impaired the discovery of a solution. McNeill draws further inspiration from William H. McNeill's groundbreaking *Plagues and Peoples* (1977), by placing emergent European medical knowledge into the context of the era. As J. R. McNeill demonstrates, the slowness of doctors to adapt their ideas to the emergent epidemic had dire consequences. In time, European doctors adapted to the environment by taking preventative measures, such as stationing troops in highland rather than lowland areas, embracing stricter hygiene requirements, and taking African or Creole “wives” to nurse sick men, without re-

ally understanding the invisible viruses that they battled.

The second section, "Imperial Mosquitoes," examines the evolving ecological environment that McNeill argues was a determinant factor in imperial successes and failures in the Greater Caribbean. This section is heavily influenced by Crosby's book, *The Columbian Exchange* (1973), as it contemplates both the role of mosquito-borne diseases and their impact on human societies as they further determined the balance of empires. Just as Old World pathogens altered the balance of power in the Americas in the wake of Christopher Columbus's first voyage, McNeill contends that yellow fever and malaria had similar effects on European empire builders. While before 1685 the disease environment favored invading European powers (the Dutch seizure of northern Brazil and the English invasion of Jamaica), McNeill suggests that subsequently an increasingly aggressive disease environment that favored yellow fever gave populations born in the Americas an advantage over invading European powers (e.g., the Scottish settlement scheme at Darien in Panama and the French at Korou in Guyana). He argues that by the eighteenth century, Spain increasingly relied on environmental rather than strictly military factors to protect its Caribbean colonies from European rivals; this was proven, for example, both at Cartagena in 1741 and Havana in 1762 where the Spanish strategy was to slow the assault of invaders and to allow disease to finish off their armies.

Perhaps the most intriguing argument within the text is that mosquitoes and mosquito-borne illnesses so transformed the ecological environment that they allowed the rise of independent Creole nations throughout the Americas. In the final section, "Revolutionary Mosquitoes," McNeill contends that yellow fever and malaria were among the factors that ultimately defeated imperial powers and boosted the effectiveness of colonial rebels. In conception, this section is influenced by Curtin's work *Disease and Empire: The Health of European Troops in the Conquest of Africa* (1998), as it links the timing of an event (independence in contrast to colonialism) to

a major historical outcome. McNeill credits with the British defeat at Yorktown Nathaniel Greene's strategy of engaging the redcoats in the malaria-infested Low Country of South Carolina before delivering the crippled army to George Washington's troops awaiting their arrival in Virginia. McNeill concludes that this overlooked strategy was made possible by a context that pitted rebels with immunity to malaria against recently arrived British rivals who had not yet acquired immunity in great numbers. Similarly, McNeill credits the success of the Haitian Revolution—the only successful slave revolution in the Americas—to an aggressive disease environment that protected Creole rebels from the advances of a succession of European rivals (French, British, and Spanish) who sought to repress the rebellion because of its dangerous example to enslaved peoples throughout the Americas. The examples of both revolutions had long-term consequences, inspiring the Bolivarian Revolution in South America and marking the decline of European imperialism and the rise of American dominance in the Western Hemisphere.

Mosquito Empires is a pathbreaking work because of both its conceptualization of broad historical issues and its ability to provide nuanced answers to important historical events. By casting the epidemiological environment in the central position, McNeill demonstrates that the change of the American ecology forever altered the political power in the Americas. *Mosquito Empires* further casts this dynamic within the context of empire building and the construction of the Atlantic World as the author successfully synthesizes current historical understanding by examining the role of disease in the Greater Caribbean and provides a larger comparative analysis that crosses empires, regions, and time. Drawing on seminal books in ecological and global history, McNeill demonstrates that aggressive strands of yellow fever and malaria (and the vectors that carried them) forever altered the course of world history. This work will join the ranks of other seminal works, such as those by Curtin, Crosby, and William H. McNeill.

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