Sanitation, Latrines and Intestinal Parasites in Past Populations ed. by Piers D. Mitchell (review)

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use of context to elucidate the activities of the Lock Hospital. Especially in the later chapters, the London Lock literally disappears for pages at a time (see, e.g., pp. 171–86), while her emphasis on the moral mission of the hospital so overshadows its medical activities that the reader might well be forgiven for forgetting that the London Lock Hospital was a major medical establishment. This is a matter of interpretative balance, and historians will disagree on such matters. But if Ruiz's book offers a good sense of what the London Lock aspired to in the minds of its sponsors and where it fit within the various projects to moralize English society, it is decidedly less successful in establishing how the hospital operated and what it managed to achieve.

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Piers D. Mitchell, ed. *Sanitation, Latrines and Intestinal Parasites in Past Populations.* Burlington, Vt.: Ashgate, 2015. xii + 278 pp. Ill. $124.95 (978-1472-449078).

As Piers Mitchell notes in his introduction to the text, changes in waste management in past societies, as well as the impacts of these technologies on human health, have been relatively understudied within anthropology and history. Mitchell aims to partially remedy this with an edited volume of contributions from an interdisciplinary mix of historians, archaeologists, and paleoparasitologists. The resulting volume is intended to be double-pronged: a diachronic and multiregional investigation of both changes in waste management practices in preindustrial societies and the impacts of these practices on health. Throughout, contributors examine past hygiene through three arenas: evidence for sanitation and waste disposal; technologies, such as sewers, for sanitation; and the diseases, namely intestinal parasites, which are spread by poor sanitation.

The biosocial impacts of economic, social, and technological change are typically assessed through biological data recovered from human skeletal remains, complemented by available historical, archaeological, and/or ethnographic data. Here, Mitchell departs from this long established strategy, arguing that several well documented theoretical issues involved in interpreting health in skeletal remains preclude their use for gauging standards of population health. Instead, in chapter 2, Mitchell briefly surveys the documented epidemiological impacts of a spectrum of hygienic practices, such as hand washing, latrine use, and education on the causes and prevention of gastrointestinal illness in modern populations. Aided by direct, paleoparasitological evidence from different sanitary contexts in the past, contributors—and readers—extrapolate the potential health consequences for past populations of the various sanitary technologies surveyed in the volume.

As Mitchell correctly notes, many parts of the world, particularly Africa, Australasia, and Oceania, have been completely underrepresented in paleo-

parasitological research. This volume advances toward establishing a baseline of knowledge on ancient parasites for these regions, as the chapters encompass a fairly wide geographical range. Of those in the body of the volume, one chapter, by Matthieu Le Bailly and Françoise Bouchet, on the history of the causal pathogen for amoebic dysentery, is global in scope. Beyond this, two chapters focus on the Mediterranean; another compares ancient cities in Italy and England; two focus on England; one covers East Asia, and another Africa and the Middle East; one covers all of Europe; and a lone chapter surveys the New World. In this way, the volume is important given its unprecedented coverage of Africa, East Asia, and the Middle East, the former of which is grievously underrepresented in many aspects of archaeological and anthropological studies of past health. The sole contribution on the New World, however, imperils the volume's promised global approach. Beyond this, the chapters provide even coverage of historical, archaeological, and paleoparasitological evidence, with roughly half focused on paleoparasitological and archaeological evidence. Adauto Araújo and colleagues' chapter on paleoparasitology of the New World is particularly exceptional for its nimble, comprehensive coverage of the history of paleoparasitology and ancient parasite findings from the Americas and their brief but profound discussion of why parasitological evidence matters for accurately understanding health, disease, economic strategies, and migration in the past.

Evidence in this volume, and hopefully future research inspired by it, is relevant to grounding several theoretical frameworks in anthropology and related disciplines, namely public health, particularly epidemiologic transition theory, and, more specifically, the hygiene hypothesis. Ethnographic and epidemiological evidence from modern forager to nonindustrial agricultural societies strongly suggests chronic, endemic infection by many macro- and microorganisms, but often these cases must be used as analogues and the findings tenuously extrapolated back to the past; historical and empirical information on hygiene and its impacts on health in the past is lacking. But this information is critical for creating an informed baseline of what exposure to environmental and pathogenic micro- and macroorganisms, such as intestinal parasites, was like in the past. This information is in turn fundamental to gauging how human exposure has changed with industrialization, a central component of the hygiene hypothesis. As evidence generated from tests of this hypothesis can potentially be directly translated into clinical strategies for preventing and treating a range of health conditions like asthma and inflammatory bowel disease,[1] evidence like that gathered by Mitchell can potentially be used to forge direct, meaningful connections between the health of past and present populations.

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1. Molly Kathleen Zuckerman, Kristin Nicole Harper, Ronald Barrett, and George John Armelagos, "The Evolution of Disease: Anthropological Perspectives on Epidemiologic Transitions," *Global Health Action* 7 (2014): 23303.