

Ann Olga Koloski-Ostrow. *The Archaeology of Sanitation in Roman Italy: Toilets, Sewers, and Water Systems*. Studies in the History of Greece and Rome Series. Chapel Hill: University of North Carolina Press, 2015. Illustrations. 312 pp. \$80.00, cloth, ISBN 978-1-4696-2128-9.

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Ann Olga Koloski-Ostrow's book *The Archaeology of Sanitation in Roman Italy: Toilets, Sewers, and Water Systems* is based on her long-time research on Roman public sanitation facilities. Using a number of solid references, this book provides a new interpretation of Roman sanitation. Though sewage and excrement is an essential part of the connection of man and nature, they are also inappropriate subjects to talk about in public. Even in China (a country with a long history of excrement use), related topics are still mostly limited to agricultural books. From this perspective, this book's value is far beyond common archaeological research and could inspire studies in other fields.

This uncommon research interest, according to the author, comes from her study of Roman urban infrastructure and sanitation, especially Roman baths. Koloski-Ostrow believes that research of Roman toilets is necessary because Rome has the best examples of toilets that have not been thoroughly studied, especially their cultural and technical aspects. So this book is "a thorough consideration of the origin and development of research on toilets, sewers, and water systems and explains how archaeological discoveries at various cities in Roman Italy have yielded new information about sanitation" (p. xix). The author argues that our biases about hygiene could influ-

ence the understanding of Roman history since modern and Roman concepts of hygiene are very different. Using abundant archaeological and literary materials, she found that Roman facilities were set up more for cultural than for hygiene reasons. To some extent, this book challenges common perceptions of Roman sanitation, the meaning of toilets and sewers, and people's attitudes toward filth and privacy in Roman cities.

The author's revisions on Roman Italian sanitation can be summarized into three aspects: the physical situation of Roman toilets, Roman sanitation concepts, and Roman attitudes toward latrines. The first aspect dominates the study of well-preserved archaeological remains of Roman urban latrines. Moving from Pompeii, Herculaneum, Rome, and Ostia to other places in Italy, the author provides an overview of the location, structure, and constitution of public and private latrine remains. By a thorough study of the relics, she raises a bold argument that those constructions, which in modern times were made for improving public health, were actually bringing health threats to urban dwellers. However, she curiously found that though they had incredible water carriage and divergent techniques, which can be undoubtedly proved by their numerous hydraulic projects, the Romans used limited effort to com-

pensate the negative influences of their sewers. The Roman sewer was designed as a “combined sewer” in which the sewage was just “pushed into them and carried along by the flowing water” (p. 83). Therefore the main purpose of the construction of Roman toilets and sewers was clearly not to improve urban public health.

The second aspect focuses on rethinking Roman hygiene concepts. Toilets and sewers have long been regarded as hygiene facilities that played an important role in discharging sewage and wastewater. The author uses relics and documents to prove that in ancient Roman cities, human waste was removed because it could harm traffic or attract wild animals, rather than because it could cause health hazards, and that sewers were constructed for draining stormwater rather than carrying away toilet sewage. After offering an overview of hygiene ideas of different regions in different periods, Koloski-Ostrow concludes that the concept of hygiene varied over time. She reminds us that contemporary ideas about hygiene are not universal, and judging ancient Roman hygiene practices with modern concepts could lead to bias. It is possible that Romans defined hygiene only as the removal of visible dirt, especially when there is no evidence showing that Romans connected sewage and excrement to infectious diseases.

The third aspect highlights Roman cultural perception of toilets and human waste. Koloski-Ostrow makes a bold conclusion that public toilets in Rome were built not for sanitary needs but for the regulation of public behavior. She further found that the inside design and general conditions of Roman toilets implied that the toilets would not help to avoid human contact with excrement and could not meet basic sanitary requirements. At the same time, the Roman idea of public and private is contrary to the modern concept. A Roman public facility was open to the public in some obvious way, but “all individuals, whether categorized as *publicus* or *privatus*, were subject to moral evalu-

ation by the community, and that community had a kind of unspoken power over the individual” (p. 94). The upper class used their own latrines to keep privacy, but the Roman underclass could only share multi-seat public toilets with other people. The public toilet offered the underclass a place of privacy but at the same time regulated the underclass from excreting in public areas, which was utterly offensive in Roman upper-class culture. The toilets and sewers represented a sociocultural value of the ancient Roman world, revealing not only the true reason ancient Roman people built the public infrastructure but also their sanitation concepts and perception of human excretion.

As a scholar who had done research about Chinese urban public lavatory and human waste reuse, I am personally attracted by a question raised in this book: what did Romans think of human waste? Donald Worster thinks human excrement was the first man-made environmental pollutant.[1] Excrement is dangerous and harmful, so a human would prefer to keep a distance from it. Thus using human manure is only a compelling choice probably made under great demographic pressure. However, we are still unsure about the origins of human manure, and ancient people’s use of human manure was considered a characteristic behavior in East Asia. At the same time, people easily forget that human waste’s value could also be seen in other cultures.

Koloski-Ostrow uses texts of Marcus Terentius Varro (116-27 BC) and Lucius Junius Moderatus Columella (4 BC-AD 65) to show that Romans “believed nature admits no true waste and includes everything natural in a spiral of life and death, and the Romans had come to a realization that recycling the bodily waste of humans and animals, an activity they probably learned through trial and error, was a good thing for soil productivity” (p. 89). She suggests that the cesspits were still popular even after public toilets and sewer drains were established in urban areas, partially because

urine was a converted commodity: urine was “commercially exploited ... in agriculture, horticulture, for veterinary uses, and ... in fulling” (p. 91). Furthermore, based on Alex Scobie’s research (which Koloski-Ostrow uses in her book), one resident of ancient Rome could produce fifty grams of excrement per day, which led to a significant amount for the whole population.[2] Since a number of toilets were not connected to sewers, a great amount of human waste was removed by other ways, for example, by storm rain, wild animals, dogs, and people who used it as manure. Ancient Romans used human waste to improve soil productivity, which is coincidentally similar to East Asian recycle farming ideas, suggesting human manure as a fertilizing method might have existed in various regions of the world, shared by ancestors of both the East and West.

To sum up, *The Archaeology of Sanitation in Roman Italy* is a detailed investigation of Roman

toilets and related issues. Based on archaeological facts, it reveals the nature of Roman sanitation and extends the role of Roman toilets. The author emphasizes the importance to analyze ancient life in an unbiased way. As the old saying goes “when in Rome do as the Romans do,” the author suggests researchers put themselves into their study period and “understand Rome as Romans did.” Overall, this book will inspire further studies, such as comparisons of toilets and sanitation concepts of Western and Eastern countries.

Note

[1]. Donald Worster, “The Good Muck: Toward an Excremental History of China,” *RCC Perspectives: Transformations in Environment and Society* 5 (2017): 5.

[2]. Alex Scobie, “Slums, Sanitation, and Mortality in the Roman World,” *Klio* 68 (1986): 399-433.

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