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WATER HISTORIES AND SPATIAL ARCHAEOLOGY

ANCIENT YEMEN AND THE
AMERICAN WEST

MICHAEL J. HARROWER

This book focuses on water management to provide an overview of the ancient history of water, establishing comparisons between ancient Yemen and the American West. The issue of water scarcity is one of the driving forces behind Michael J. Harrower's research and the organization of his book. In his narrative, the fight against water scarcity almost always guided the construction of large-scale irrigation systems and water devices. Harrower brings to the fore a technological, social, cultural and economic analysis of the construction of irrigation systems to shed light on the role of water as an element that shaped topography and political spaces.

The book represents a significant contribution that furthers the conceptual framework set out by Wittfogel in 1957. Since that year, the hydraulic hypothesis has re-

mained one of the primary explanations for the origins of ancient states. One of the founding fathers of water and civilization studies, Karl Wittfogel (1896-1988), spent his life understanding and explaining the political processes that governed the construction of large-scale irrigation systems among ancient civilizations. In his argument, large-scale irrigation systems were essential for populations in arid regions, and the managerial requirements of large-scale irrigation led to administrative bureaucracies and complex social hierarchies. Water is the most malleable of the resources crops require to thrive and is a key preindustrial means of improving agricultural production. In his 1957 publication, he acknowledged that such systems required administrations to create and maintain them, leading to the development of despotic states. While many have revisited this theory, Harrower lends support to Wittfogel, pushing the boundaries thanks to the extensive archaeological research in Southwest Arabia. The chronological scale is ambitious: Harrower examines Yemen systems (for the period 3500 BC-AD 600) and compares water management in the American West (2000 BD – AD 950).

Harrower chooses these two cases to underscore the illuminating similarities and critical differences of ancient agriculture and irrigation methods, including check dams and terraces. Ancient Yemen and the prehistoric American West are two primary irrigation instances among populations at the cusp of sedentary agrarianism. Issues surrounding the beginning of agriculture across the American West mirror those that dominate studies of ancient Yemen. The cases are very different, but this distance is the keystone of the book and produces essential insights. In the introduction, Harrower reminds us of the pivotal issues that frame the study. Prehistoric Yemen has enjoyed less study so far than Mesopotamia. However, the Yemen oases of the second millennium BC were also created in large scale state systems and canals and cisterns are comparable with those of the prehistoric American West, in the author's opinion. In both Yemen and the American case, spatial and seasonal heterogeneity of water are guiding concerns.

Harrower's research relies on landscape methods, drawing on historical studies (especially for the American case), geographic information systems (GIS) and archaeological analyses. Thanks to geospatial evidence, impossible to achieve with survey and excavation alone, Harrower maps the distribution of water management features. He claims to venture into "uncharted territory" and address the lacunae in the field of the decisions behind the planning of ancient water-management sys-

tems. The spatial distribution of irrigation systems and irrigating polities, that is, where people choose to irrigate, can help reveal connections between irrigation and social change. Over the last 25 years, applications of GIS in archaeology have expanded dramatically, and GIS tools for modelling water flow using digital elevation model (DEM) data may offer significant future insights in archaeology.

Another argument that emerges from Harrower's work is the relation between waterworks and political structures. Harrower likewise asks questions about the ideological manipulation around scarcity and the role of anxiety in negotiating water management. The Yemen systems, he points out, were not necessary for food production but an element of state rhetoric.

Harrower wants to understand how the management was socially organized and the managing decisions being political acts. Understanding irrigation's role in the societal trajectories of ancient Southwest Arabia and the prehistorical American West requires attention to various influencing factors, including hydrology, economy and ideology. Harrower provides the example of the Great Ma'rib Dam in ancient Yemen, maintained and rebuilt even as agriculture moved to northern highlands. The importance of waterworks as a political symbol justified the new investments. The politics that rely on waterworks take on a self-perpetuating agency. Water is a revealing theme to examine histories of ancient and modern societies, as water intervenes in a wide variety of economic, social and political dimensions of people's lives.

Water Histories and Spatial Archaeology: Ancient Yemen and the American West is highly recommended both to the G&L reader and to a more varied audience. Harrower's incursions into irrigation systems can provide critical interpretative clues for the devices of other regions, such as the south of the Iberian Peninsula. Harrower offers an innovative perspective on water and civilizations studies. His thoughtful juxtaposition of Ancient Yemen and the prehistoric American West makes this book of interest to anyone curious about the intricacies of the history of ancient agriculture and irrigation methods. Both territories must gain prominence in international historiography; these regions can serve as an informative testing ground to clarify the diversity of irrigations role as an instigator and reflector of social change.