Dora P. Crouch. *Water Management in Ancient Greek Cities*.

Corrine Lathrop Gilb

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Recommended Citation


Unless you are a water and sanitation engineer looking for historical background, why should you read this book? Because you are a specialist in urban and/or architectural history or simply want to know more about why ancient Greek cities were located where they were. Or you are an archaeologist who wants to gather data more systematically about how water systems related to the rest of the site. Or because you want more depth of understanding about how man has related to his natural environment. Or because you are looking for a model of how to do research on urban food supply systems or urban defense systems or any other facet of urban life involving complex organization. In all of these areas, this book breaks new ground.

What if you are a comparative civilizationist? Then you might be interested to find out that houses had bathrooms and streets had sewers in Indus valley cities from the early millennium B.C. onward, and their counterparts in Mesopotamia were not far behind. At the end of the 13th century B.C., Mycenaean citadels were serviced by secret cisterns fed by springs. “In the second millennium B.C., the Minoan civilization on Crete enjoyed running water and flushed latrines of a sophistication quite impressive to their Victorian evacuators” (p. 21). The Achaemenian kings of Urartu (later Armenia) were building underground aqueducts in the 7th century B.C. “Apparently this technology was imported to the Persian Empire in the seventh century and then passed on to the Greeks in the sixth century.” Greek cities passed on water technology to their colonies — hence, to the Romans, who passed it on to their empire. Iberia passed it on to New World colonies. And so forth. Crouch tells us: “We are accustomed to reading plays, poetry, temples and sculpture as evidence of Greek civilization” (p. 340). Looking at cities as containers for water systems teaches us to examine civilization in a new way.

This book is concerned with Greek cities from 8th century to the 3rd century B.C. but there were people in Greece at least 40,000 years ago. In the Neolithic age, roughly 6000 B.C. to after 4000 B.C., the earliest settlements were small but population grew and spread. Then came the Bronze age from roughly 3000
B.C. to around 1200 B.C. When demand grew for metals — and copper and tin had to be imported — settlements were sited on trade routes. In the golden age of Crete, some say ca. 2000 to 1600 or 1550 (dates vary), places had running water and good drainage. During the Mycenaean civilization in Greece from around 1550 B.C. until around 1200 B.C. (again, dates vary), the Mycenaeans built water systems and spread their influence far and wide through trade. Then came the so-called Dark Age, which lasted until the period Crouch covers.

Geography and geology set the parameters of the water problem. Asia Minor's west coast and nearby islands were all checkerboards of mountains and valleys. Inland waterways were almost wholly lacking in Greece, so cities looked to the sea, especially from the mid 8th century onward, which is Crouch's period. Greeks began drifting to Asia Minor in that century. A colony was founded near Naples in Italy before 750 B.C. Other colonies of Greek cities followed; some of these colonies sent out their own colonies. Most of them were agricultural. By 479, at the end of the Persian wars, Hellas covered a huge area from the shores of the Black Sea and western Asia Minor to much of Sicily and southern Italy, Cyrene in Libya, what became Marseilles in France, and a few sites in Spain. Crouch gives us case studies based on detailed examination of 24 cities.

Various considerations went into the siting of cities. Given the paucity of water in Mediterranean summers, and the need for secure supplies in time of siege, no one could deny that water was basic. If a city's population outgrew its water supply, then it had the option either to spin off colonies or to make an expensive investment in technologically advanced systems to bring water from further away. Both were tried. "The basic principles of water supply seems to have been to use as many different sources of water as were available and the least necessary physical effort." (p. 22).

Chapter 7 is entitled "Karst: The Hydrogeological Basis of Civilization." Karst is "an area of limestone terrane — a special geological spelling of the general word 'terrain' — having surface openings, pinnacles, blind alleys, and underground drainage channels" (p. 64). "The shafts and channels of Karst behave as natural pipelines" (p. 72). "Karst serves as an excellent reservoir
Karst phenomena were widely distributed in the Mediterranean areas that were Greek from the 8th to the first centuries B.C. Athens and Corinth were karst-based sites. When Greek cities sent out colonies to establish new cities, they were deliberately looking for karst sites — Syracuse and Akragas (Agregento) in Sicily, for example.

Decisions to bring water from some distance to supplement local springs, wells, and cisterns came after water conservation techniques had done what they could. Because of the hot and semiarid Mediterranean climate, the "ancient Greeks could not afford inefficient and impractical cities" (p. 123). The estimated six percent of water needed for drinking was vital, but water was also needed for bathing, cleaning, and industrial uses. Fountain water was preferred for drinking. Flowing water for fountains supplied by long-distance lines was a municipal responsibility. Crouch writes (p. 109), "We suspect that changes in water resources were major factors in changing economic bases."

Water had a tendency to run off too fast during winter rains. Every bit as much thought was given to drainage as was given to supply. Everyday artifacts utilizing water were ornamented. For example, wellheads were often "decorated with the same strips of ornament that one could find on buildings" (p. 297). Sometimes even laundry tubs were given traditional architectural mouldings.

From the Minoans and Myceneans onward, beauty was an important criterion for the siting of cities. "Fountains added to [their] aesthetic appeal" (p. 284). They were ornamented with sculpture and painting and "were located in or near the agora or at the gateways to the city, within temple precincts, or along the main streets connecting the gates with the agora and the acropolis" (p. 284).

R.E. Wycherly wrote in How the Greeks Built Cities (New York: W.W. Norton, 1962, 1976): "Springs and fountains were objects of public care and indeed veneration; very often they had religious and legendary associations" (p. 200). Crouch gives us details about public fountains in Morgantina, Corinth, Athens, and Delos. She is aware that water was used for ritual purposes, but she does not examine water as symbolism, despite the fact that some of her graduate work was in art history. On the other
hand, she reports with keen interest that running water was used for wiping in Greco-Roman latrines.

Special magistrates were appointed to care for Greek fountains. Crouch is much more interested in the details of water engineering (i.e., management) than in those of water governance.

Crouch began her research in 1970 and soon learned that ancient Greek writers writing 400 years or more after the foundation and initial watering of Greek cities were not good sources for her research. There are problems with dates derived from archaeology, as she details in Chapter 2. The insights of present-day hydraulic engineers are useful, since the nature of water has not changed. There are numerous lacunae in available information, which Crouch points out. Her book is a call for more research, an example of how to write history despite the absence of relevant archives, and one model of how to do interdisciplinary research.

Corinne Lathrop Gilb


Elias J. Bickerman was known during his life as one of the greatest scholars of Judaism in the Hellenistic period. Trained as an ancient historian, Bickerman was able to study Judaism from that insightful position. His provocative work on the Maccabean revolt *The God of the Maccabees* ranks as one of the most seminal monographs in the field this century.¹

The present work represents, in the words of Gerson Cohen's "Foreword," Bickerman's "final statement" on Judaism in much of the Seleucid period. This particular period was Bickerman's specialty: he published major works on the Seleucids from the *Institutions des Seleucids* of 1938² to his chapter on "The Seleucid Period" for the *Cambridge History of Iran*, published in 1983³ after his death. It was only natural that Bickerman, a formidable scholar of Judaism, would contribute much to the history of Judaism in the Seleucid period. Bickerman had begun this work...