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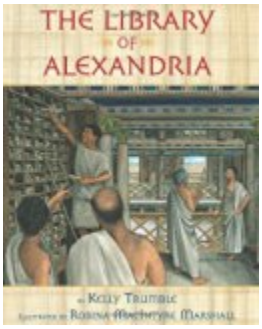
Kelly Trumble. *The Library of Alexandria.* New York: Clarion Books, 2003. 80 pp. $17.00 (cloth), ISBN 978-0-395-75832-8.



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Published on H-AfrTeach (February, 2005)

A City of Scholars

Founded by Alexander the Great, the city of Alexandria was one of the most important cities of the ancient world. Located on the Mediterranean Sea, in the northwest corner of Egypt, the city rose to prominence during the Ptolemaic Dynasty (332-30 B.C.) and its importance continued for centuries.

This excellent book contains nine chapters discussing the origin of the city of Alexandria, by Alexander the Great and his general (and later king of Egypt) Ptolemy I. Ptolemy and his successors were interested in creating a world-class city and one of the ways in which this was accomplished was by attracting a wealth of intellectuals to the city. Perhaps the most important foundation in the city was the Library of Alexandria which, at it peak, housed over a half-million volumes. The author describes the origin of this institution, the collection of volumes, as well as the production and export of papyri. Additionally she notes a competing ancient library, that at Pergamum in Asia Minor, and the invention there of an alternative writing material to papyri, parchment.

The next several chapters discuss important historical figures in various fields who were associated with the city of Alexandria. In the field of Astronomy, we are introduced to Aristarchus whose work focused on identifying the center of the universe (a geocentric model versus a heliocentric one) and estimating sizes of the moon and sun and their distances from the earth. Aristarchus proposed a heliocentric model in which the sun was the center of the universe. This theory, while correct, was not widely accepted since people had trouble accepting that the earth was not the center of the universe. The astronomer Claudius Ptolemy is also discussed. Ptolemy wrote a great work on astronomy known as the Almagest which contains a mathematical model of the universe with charts, table, and astronomical data that allowed astronomers to calculate the position of the sun, moon and planets. This work was based on a geocentric model of the universe, with the earth as the center and all calculations were based on that assumption. It was not until the work of Nicolaus Copernicus in A.D. 1543 that the heliocentric model of the solar system was proposed again and Aristarchus was finally proven right eighteen centuries later.

The study of geography was advanced under the reign of Ptolemy III by a man named Eratosthenes. A consummate scholar, Eratosthenes served as the librarian at the Library of Alexandria and as a royal tutor to the king's son. Eratosthenes created a map of the known world from Gibraltar to India based on reports made by Alexander the Great. It was the most accurate map produced at the time.

Another of the great intellectuals to live in the city of Alexandria was the most famous mathematician of all time, Euclid. He is perhaps best known for his work called the *Elements*, a treatise on mathematics that was so well organized, with its problems and their solutions, that it remained a standard textbook for geometry until the twentieth century. Another famous mathematician, Archimedes, also spent time in the city of Alexandria. Among his many discoveries, he is credited with deter-

mining how to measure an object's volume, which came to him while pondering a problem in the bath. (One of my favorite of all the charming illustrations in this book is the one depicting Archimedes running down the street naked with his servants following after him with a towel. It seems he was so excited with his discovery that he leapt from the bath shouting "Eureka!" or "I've found it!" in Greek, and did not take time to put his clothes back on.)

Finally, the book introduces us to scholars in the field of medicine, including Herophilus of Chalcedon whose work on anatomy discovered that the brain, not the heart, was the center of intelligence. His peers accused him of practicing vivisection, the dissection of living people. While it is not certain that his methods were suspect, later surgeons in Alexandria relied heavily on his discoveries.

The last two chapters of the book cover the decline of the city of Alexandria, due in large part to internal struggles within the Ptolemaic royal house and the increasing power of Rome. The Library of Alexandria had suffered losses during the reign of Cleopatra VII in a fire that was started by the troops of Julius Caesar. The library continued to house scholars, but the focus of their work shifted from science to philosophy and religion. In A.D. 391, the Roman emperor Theodosius, who was a Christian, declared that the temples of Alexandria be destroyed. When the decree was read in the city a mob went wild and destroyed many of the pagan establishments in the city including what remained of the library of Alexandria.

A few minor points can be made and these in no way should detract from this book which ably covers the material it set out to explore. I merely mention these points as additional background for the reader and/or educator.

Shortly after the founding of Alexandria, Egypt was ruled by a dynasty of rulers whose origins were Greco-Macedonian. Egypt at this time had cities that were very cosmopolitan with settlers from throughout the Mediterranean world. By far, the majority of these foreign settlers were Greek, many of whose families had lived in Egypt for several generations. Because of the Greek background of the ruling house, there was definitely an interest in Greek culture and civilization and maintaining its traditions within Egypt. As a result, the city of Alexandria was in many ways very much a Greek city. This book does focus on the scientists, teachers and discoverers who were Greek. It does not, however, mention much about the native Egyptian population, nor interaction between the Greeks in Egypt and the native population. We are told that the Egyptians "were treated as second-class residents under the Greek domination of Egypt" (p. 5). This may well be an over-statement. The Ptolemies were very politically astute and accepted traditional Egyptian religion and other aspects of Egyptian culture–with the exception of learning the ancient Egyptian language and script, which would not happen until Cleopatra VII, who is credited with being the first of the Ptolemaic rulers to learn Egyptian–as a means of satisfying the Egyptians' need for a traditional ruler.

The reader is told that residents of Alexandria could not check books out of the library in Alexandria and the "second-class" Egyptians "probably couldn't have read the Greek books anyway" (p. 5). Undoubtedly the library housed texts in Egyptian as well as many other languages. The real issue may be that even if access to the library was restricted, probably less than 10 percent (and the figure is even more likely less than 5 percent) of the whole population could read neither Egyptian nor Greek.

While it is not the focus of the book, it should be mentioned that interest in science, medicine, and mathematics did not begin with the Greeks in Alexandria. The advances made by those individuals are better known to us, but one should be aware that the native Egyptians did leave us numerous papyri dealing with astronomy, mathematics, and medicine, some dating as early as 1900 B.C. Interestingly, the word chemistry is derived from the word "alchemy" which in turn is the ancient name for Egypt (*Kemet*)

I highly recommend this book. It covers material that is not commonly found in children's books on Egypt and the text is well written and beautifully illustrated. The supplementary materials (maps, glossary, Ptolemaic family tree, and discussion of now largely lost sites in ancient Alexandria) are also useful in understanding the times during which Alexandria flourished.

Citation: Jennifer Wegner. Review of Trumble, Kelly, *The Library of Alexandria*. H-AfrTeach, H-Net Reviews. February, 2005.

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