

A.P. World History: Mayan and Greek Technology

The Maya¹

One of the most amazing cultures of the New World inhabited a region encompassing today's Guatemala, Belize, Honduras and El Salvador, and parts of southern Mexico (the states of Yucatan, Campeche, Quintana Roo, Tabasco and Chiapas). Today this area is occupied by the descendants of the ancient Maya, the vast majority of whom have to some extent preserved their cultural heritage and still speak the Mayan language.

By 5000 BC, the Maya had settled along the Caribbean and Pacific coasts, in fishing communities. By 2000 BC the Maya had also moved inland and adopted agriculture for their subsistence. Maize and beans formed the Maya diet then as today, although many other foodstuffs--manioc, squash, tomatoes, peppers, fruit, and game--were supplements.

Now we know that the Maya began to develop intensive agriculture and sophisticated water management during the Middle Pre Classic (900-300 BC), surely to help support the population explosion of the Late Pre Classic (300 BC-AD 300). During this same period, writing was invented in Mesoamerica, and the Maya began to use it during the Late Pre Classic.

The Maya were the first people of the New World to keep historical records, and even if writing in the New World did not originate among the Maya, they developed and used it extensively. The Maya wrote a mixed script, with ideographic and phonetic elements.

Most of their writing survived on stelae, stone monuments very common in the Maya cities, they recount mostly civil events and record their calendric and astronomical knowledge.

Maya pottery gives testimony of their religion and elaborate mythology. Four Post Classic Maya screenfold manuscripts, called *codices* have survived. They reveal Maya calendric and astronomical calculations, as well as rituals, offerings, and auguries for the year.



The Maya used several calendars simultaneously. One of them called the "long count" is a continuous record of days from a zero date that correlates to Aug. 13, 3114 BC, and is more precise than the Julian calendar revised in Europe in 1582. The Maya were great astronomers and kept track of the solar and lunar years, eclipses and the cycles of visible planets. To carry out their calendric and astronomical calculations they developed a sophisticated mathematical system where units are written with dots and bars are used to represent five units. They discovered and used the zero as well as a vigesimal positioning system, similar to the decimal positioning system we use today.

During the Classic period monumental architecture and stelae with historical records were erected, on these monuments the Maya rulers are depicted as divine kings. The Maya thrived during the Late Classic (AD 550-900),

and art, architecture, writing, commerce and intensive agricultural practices flourished all through the Maya lands. More than 2 million people may have lived in the area, and it is estimated that Tikal, the largest center, had a population of 75,000-100,000. However, the Classic Maya cities did not survive into the 10th century. It seems that the system of rule that had served them well for centuries failed. Probably faced with famine, foreign invasion, chronic warfare, adverse climatic conditions and perhaps disease, the Classic period ended in what is called the Classic Maya collapse. The Maya continued to live in both highlands and lowlands but the period of their greatest splendor was over.

¹ <http://www.mayacalendar.com/>

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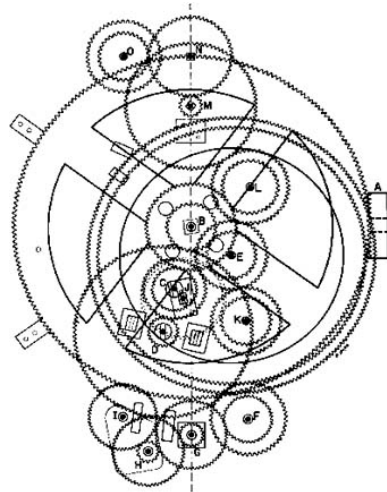
Ancient Computer Amazes Scientists

By THOMAS H. MAUGH II Los Angeles Times

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After a century of study, scientists have unlocked the secrets of a mysterious 2,100-year-old device known as the "Antikythera mechanism," showing it to be a complex and uncannily accurate astronomical computer. The mechanism, recovered in more than 80 highly corroded fragments from a sunken Roman ship, could predict the positions of the sun and planets, show the location of the moon, and even forecast eclipses.

The international team of scientists reported Thursday that the first century B.C. device, the earliest known example of an arrangement of gear wheels, shows a technological sophistication that was not seen again until clockwork mechanisms were introduced in the 14th century. It implies Greek technology was much more advanced in this area than believed, said the team's leader, physicist Mike Edmunds of Cardiff University, United Kingdom. An even bigger question, said science historian Francois Charette of Ludwig-Maximilians University of Munich, Germany, is why the technology disappeared for more than 1,400 years before reappearing in a less advanced form. The device was found in 1901 by sponge divers in 120 feet of water off the Greek island of Antikythera.



For each question be specific – use details from the readings.

1. How would a historian use the information in these two articles to compare / contrast Mayan and Greek culture?
2. In what timeframe in Mediterranean history was the Greek device probably made?
3. What technology in the Greek device makes it considerably different from the Mayan calendar?
4. If you were a historian researching the culture of ancient civilizations, what other kind of information would you need to hypothesize about the need for the detailed astronomical measurements of the Mayan and Greeks?