OTHER VIEWS

MORE LETTERS ONLINE "The Department of Mental Health needs to educate the public, parents, guardians and families of the disabled and elderly and require that all DMH employees attend in-depth workshops on abuse and neglect," writes Carol Crebs of University City. "We are scared for our children's future." Read and comment on this letter and more letters online at **STLtoday.com/letters**.

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CIVILIZATION

The Greeks had a word for it: computer

By Michael B. Cosmopoulos

One spring morning in 1901, a Greek sponge diver off the coast of the small island of Antikythera discovered the remnants of an ancient shipwreck dating to the end of the 2nd century B.C. The excavation that followed — conducted long before the invention of the scuba breathing apparatus, it left one sponge diver dead and two permanently disabled — soon brought to light statues and other artifacts.

Among the latter was a wooden box containing a bunch of metal scraps. These scraps now have the scientific community up and running, as they turned out to have been parts of a complex computing mechanism: the world's first computer.

The "Antikythera Mechanism," as this bronze artifact has come to be known, is made of about 80 fragments, including 37 gear wheels. It is a small device about 13 inches high, 7 inches wide and 3.5 inches thick mounted on a wooden frame. Its surface, covered with marine debris and encrustations when it was found, contains inscriptions and mathematical calculations. Because the encrustations cover many of these inscriptions, only recently has pioneering modern technology been available to read the hidden writings.

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At a highly publicized conference in Athens early this month, an international team of Greek, American and British scientists announced the results of their high-tech analyses. Using high resolution x-ray tomography and imaging technology developed specifically for the study of this artifact, they were able to not only double the number of readable inscriptions, but also to detect hidden machinery and also a sort of a "user's manual."

Michael B. Cosmopoulos

It turns out that the Antikythera mechanism is an ancient mechanical computer that predicted, with surprising accuracy, the position and motion of the sun, the moon and the then-known planets.

The existence of such devices has been known from ancient literature: As early as the 3rd century B.C., the famed Greek mathematician and engineer Archimedes invented a machine that was able to follow the motion of the sun, moon and some planets, as well as to predict solar eclipses. Similar mechanisms are mentioned sporadically in ancient literature, but none ever had been discovered before the Antikythera Mechanism.

It is not the first time we have seen glimpses of the lost inventions and discoveries of the Greeks. In the 6th century B.C., Greek physicists proposed the atomic theory — right down to the "if we break the atom we release an unimaginable force of energy" part.

In the 5th century B.C., Empedocles proposed the evolution of species. In the 2nd century B.C., Hipparchus developed the theory of gravity. In the 1st century C.E., Heron of Alexandria invented the steam engine.

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From thermometers to maps, our lives are filled with ancient Greek inventions. Those that have survived represent only a small fraction of those that have been lost or forgotten through time.

We know this much, however: The civilization of the ancients was far more advanced and high-tech than we realize.

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