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THE DARK SIDE OF THE MOON (THE ORIGIN OF COMPUTER)

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Many people, new to the history of sciences and technologies like asking who has created the first computer. The answer is not trivial and depends on the way we interpret the phrase "first computer". The scope of interpretations covers a large number of early machines and devices such as the electromechanical machine of Zuse, Stibitz and Aiken (which are programmable), the first generation of mass production by Ferranti and UNIVAC, or such early prototypes as Atanasoff-Berry Computer (ABC), Colossus, ENIAC, the Manchester Baby Machine and many others. The meaning of the word "computer" may be considered as "a programmable electronic device that can store, retrieve and process data" (Webster's Dictionary) but it may also include all types of computing devices whether or not programmable, electronic, digital, or capable of storing and retrieving data.

Leaving out or adding some adjectives makes any of the above definitions (ABC, Colossus, ENIAC, and even the Babbage Analitical Engine) a description of a possible candidate for "the first computer".

The technical progress is inseparable of the human existence and creativity and it is only our knowledge (or ignorance), which makes this progress more or less discrete. We'll illustrate this argument (thesis) by the Ancient Greek computing device known *as the Mechanism from Antikhytera*.

This device (now in the Archeological Museum of Athens) was found by divers in the wreck of an ancient ship near the island of Antikhytera in 1900. It represented a calcified fragment of corroded bronze, originally thought to be a piece of broken statuary and was dated 65 BC.

The Mechanism from Antikhytera was identified as an astronomical device and described, reconstructed and contributed by Derek Price in his article "An ancient Greek computer" (Scientific American, v. 201 (1959) pp. 60-67).

This device consisted of a box $16 \times 32 \times 9$ cm in size with dials on the outside and very complex assembly of gear wheels inside. The device input was a crown-wheel, which moved a large, fourspoked driving wheel. This wheel in turn drove two trains of gears, each of which led to the epicyclic turntable. A number of shafts rotated dial pointers such that when the input axle was turned, the pointers all moved at various speeds around their dials. One dial displayed the signs of the zodiac on a fixed scale, and a movable slip ring showed the months of the year. Thus, this dial showed the annual motion of the sun in the zodiac and indirectly the risings and settings of bright stars throughout

the year. The more complex rear dials comprised an upper dial with four slip rings and a lower dial with three slip rings. The lunar phases and moonrise and set times might have been indicated on the lower dial and planetary rising and settings on the upper. Especially important for the reconstruction was the clarification of the structure of the differential turntable, which demonstrated that the Antikhytera mechanism functioned as a portable solar/lunar calendrical analog computer certainly the first known computer (albeit fixed-program) in history. The function of the differential gear was to compute the difference between the sidereal motions of the Sun and the Moon against the backdrop of fixed stars. Derek Price suggested that the Antikhytera device is the earliest example of what we now term "high technology".

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ОБРАТНАТА СТРАНА НА ЛУНАТА (ИЛИ ЗА ПРОИЗХОДА НА КОМПЮТЪРА)

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Представлява ли компютърът творение на XX век или е резултат на хилядолетна еволюция и прогрес? Имали ли са древните гърци компютърни устройства и на какъв принцип са работили те? В доклада се представя и анализира така нареченият Механизъм от Антикитера от първи век преди новата ера, който може да се разглежда като портативен слънчево/лунен календарен аналогов компютър.