



The Antikythera Mechanism as an educational device

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Abstract

The mysteries of the Sky and the Universe fascinate humans worldwide since the beginning of the first civilizations. Indeed, always people tried to explore their environment and explain the physical processes using rational more or less patterns. The result of this human activity is the wealth of contemporary Science and Technology. Now, not only have the people the necessary tools to investigate thoroughly the Nature, but also to rule it by some means.

On the other hand, there is a common belief that scientists perform their research far way from social issues and conditions. Thus, one of the major

concerns of modern scientific community is to involve the layman public in its achievements. For that purpose, scientists are looking forward to a carrier in order to approach the general public and especially young children.

The Antikythera Mechanism, the oldest known sophisticated astronomical device has been successfully used as an attractor of people to Science and Technology.

1. Introduction

The Antikythera Mechanism was salvaged in a 1st century B.C. ancient shipwreck in 1900-2 through

sponge diving operations near the small Greek island of Antikythera. Although the device was well-oxidized, its fragments have many things to explore. The extensive investigation of the mechanism's remnants recently revealed its complicated functions and astronomical knowledge embedded. The instrument is now exhibited in the National Archaeological Museum in Athens.

However, the need of approaching the public by using alternative procedures instead of the traditional ones, unveils once again the interdisciplinary value of this unique ancient item. The Mechanism stands for the perfect link among multiple scientific domains like Science, Mathematics, Astronomy, Philosophy, Geography and even Literature and Linguistics.

Without doubt, having the Antikythera Mechanism as an educational tool, both scientists and teachers could easily capture the interest of their audience and improve the impact of their lectures. The outreach performances related to the Mechanism contain a bunch of interactive and hands-on activities.

2. Outreach potential of the Antikythera Mechanism

The primary role of Antikythera Mechanism was for astronomical observations, as it was designed to compute accurately the position of the Sun and the Moon, its phases and to predict the solar and moon eclipses. A more detailed description of the scientific importance of this device for its era can be found in the paper of Moussas et al., this volume.

It is possible that the unknown brilliant constructor of this instrument used it also as a planetarium and demonstrated the celestial movements to wide audience. Following its heritage, we use replicas of the Mechanism to attract pupils and the layman public into our space activities and promote our projects. Thus, the audience can actively participate in Science and Technology issues as well as approach its frontiers.

Our proposal consists of exhibitions, demonstrations, posters, lectures, publications and simulations of the operation of this device and the Science embedded. In the Table 1 below, a list of our worldwide collaborations concerning the Mechanism is depicted during the past 4 years.

Table 1: The outreach potential of the Antikythera Mechanism.

Country	Number of Participants
Greece	25,640
USA	500,000
Algeria	6,050
Egypt	2,300
France	1,000
Poland	14,350
Slovakia	351
Sweden	10,000

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