

**NOESIS** PARTICIPATES IN THE GREEK CAMPAIGN OF THE MINISTRY OF CULTURE ("MYRIAD VOICES OF WATER") WHICH AIMS TO REVEAL THE IMPORTANCE AND THE VARIOUS DIMENSIONS OF THE VALUE OF WATER IN PEOPLE'S LIVES FROM ANTIQUITY TILL TODAY. NOESIS APPROACHES THE SUBJECT BY PRESENTING ANCIENT GREEK SCIENTISTS WHO PROMOTED SCIENTIFIC KNOWLEDGE AND DEVELOPED TECHNOLOGY THROUGH VARIOUS WATER USES.

IN THIS YEAR'S EVENT, WITH REFERENCE TO THE ANCIENT GREEK ENGINEER CTESIBIUS (285-222 BC) OUR MUSEUM PRESENTS "HYDRAULIS" A GREAT EXAMPLE OF ANCIENT GREEK TECHNOLOGY, WHICH IS EXPLOITING THE PROPERTIES OF WATER AND CAN REVEAL ITS ROLE IN SHAPING MATERIAL AND INTELLECTUAL CULTURE, CONNECTING ART AND TECHNOLOGY.

FOR ANCIENT GREEKS MUSIC WAS A DISCIPLINE THAT EVOLVED ALONG WITH MATHEMATICS AND TECHNOLOGY. HYDRAULIS IS THE RESULT OF THE INTERACTION OF THE SCIENCE OF MUSIC AND TECHNOLOGY. DESIGNED BY CTESIBIUS IN ALEXANDRIA IN THE 3RD CENTURY BC, IT IS THE FIRST KEYBOARD AND POLYPHONIC MUSICAL INSTRUMENT. IT REMAINED IN USE UNTIL THE 9TH CENTURY IN BYZANTIUM AND WAS CONSIDERED BY MANY RESEARCHERS TO BE A PRECURSOR OF THE CHURCH ORGAN. PART OF AN HYDRAULIS FROM THE 1ST CENTURY BC WAS FOUND IN 1992 NEAR DION IN PIERIA, GREECE.

# ΦΩΝΕΣ ΝΕΡΟΥ ΜΥΡΙΑΔΕΣ

## THE FUNCTIONING OF THE HYDRAULIS

THE BASIC PARTS OF THE HYDRAULIS IS AN AIR PUMP, A WATER TANK, A KEYBOARD AND A SET OF PANPIPES OF DIFFERENT LENGTH. THE COMPRESSED AIR INSIDE THE WATER TANK IS GUIDED THROUGH THE PANPIPES KEEPING A STABLE PRESSURE DUE TO WATER. THE KEYS CONTROL THE EXIT OF THE AIR THROUGH THE PIPES, PRODUCING SEPARATE TONES AND CREATING MELODY. THE QUANTITY OF WATER IN THE TANK, INCREASES OR DECREASES THE AIR PRESSURE IN THE PIPES, AND CHANGES THE ACOUSTIC RESULT RESPECTIVELY.

## CTESIBIUS (285-222 BC)

WAS BORN IN ALEXANDRIA, EGYPT. HE IS CONSIDERED AS THE FATHER OF PNEUMATICS, THE SCIENCE THAT STUDIES AIR, AND THE PROPERTIES AND USES OF IT. HE TAUGHT IN THE MUSEUM OF ALEXANDRIA. VITRUVIUS, ATHENAEUS AND PHILO COMMENTED ON HIS WORK AND HIGHLIGHTED HIM AS A PROMINENT ENGINEER NEXT TO ARCHIMEDES.

BEING RICH IN IDEAS, CTESIBIUS MANUFACTURED MACHINES WHICH WERE BASED ON THE PROPERTIES OF FLUIDS. AMONG HIS INVENTIONS THE HIGHLIGHTS ARE THE PUMP, THE HYDRAULIC CLOCK, THE PRESSED AIR ARMS AND HYDRAYLIS, THE INVENTION THAT PLAYED SUBSTANTIAL ROLE IN THE DEVELOPMENT OF MUSIC.



ΚΕΝΤΡΟ  
ΔΙΑΔΟΣΗΣ  
ΕΠΙΣΤΗΜΩΝ  
& ΜΟΥΣΕΙΟ  
ΤΕΧΝΟΛΟΓΙΑΣ

