

## Image Article

### Excavation Archaeological Underwater Wreck of Anticythere

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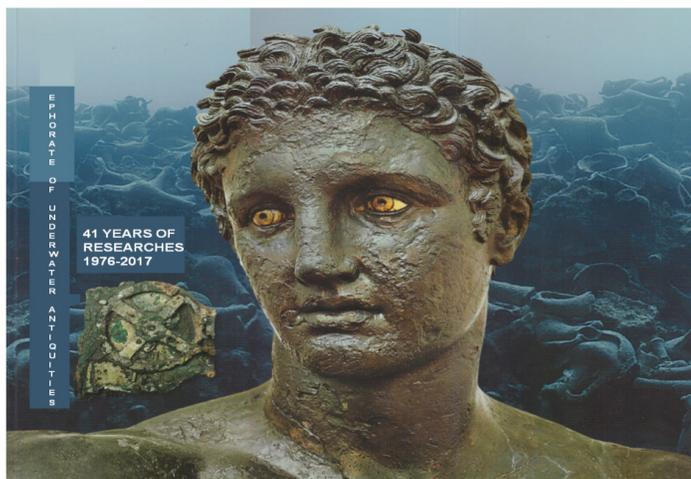
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Figure 1 Cover photograph The study of the wreck, on the northeast coast of Anticythere Island, marks the beginning of underwater archeology worldwide and reveals the elements of a new approach to Greek technology antique.

episodes, the complex structure of the Anticythere mechanism, the first calculating machine of humanity.



**Figure 1:** Underwater archaeological excavations of the wreck of Anticythere.

For more than a century, this wreck has fascinated us: since nineteen hundred (1900), date of its discovery, then in the mid-teens ten years with the first professional research, and finally forty years later with the systematic excavations undertaken to date.

Figure 2 The rise of the cargo, continuation of suspense



**Figure 2:** Recovery of statues (winter 1900-1901).

Figure 3 and the other archaeological discoveries uniquely illustrate aspects of art history, shipping and the art trade; but the most important point is the appropriation of the Greek life style by the rich Romans who are building the new order in the Mediterranean.



Figure 3: The mechanism.

Anticythere Epave returns to the sixteenth of the seventh premier before Jesus Christ, at the time of the development of the maritime marchet intensification of the maritime transport of works of art of the Eastern Mediterranean verse Italy.

The cargo is composed of bronze and marble sculptures, originals or copies inspired from classical and Hellenistic times.

Figure 4 The epistle of Anticythere, a work of three hundred and forty to three hundred trinity (340 to 330) before Christ, the emblematic statue of the Philosopher, dating from two hundred and thirty (230) BC. Christ.

Récupération 1900 -1901



Figure 4 : a) The epistle of Anticythera, 340 - 330 av. J.-C b) Bronze Head of a philosopher, 230 av. AD.

Figure 5 Bronze statuettes from the end of the second century BC. To date, thirty-six trunks of marble statues have been raised from the seabed, all carved into the famous white marble of Paros.

Récupération 1900 -1901



Figure 5: Bronze statuettes, late 2<sup>nd</sup> century BC. AD.

Figure 6 Some of the most important sculptures: marble statues of gods such as Hermes, or Apollo, resting on tripods.

Récupération 1900 -1901

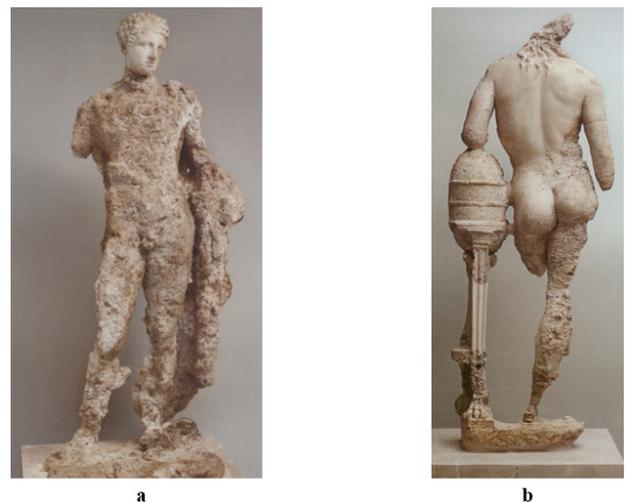


Figure 6: a) Statue of Hermes, beginning of 1 BC J-C b) Statue of Apollo, beginning of the 1<sup>st</sup> century before JC.

Figure 7 of a boy, all of the first century before Jesus Christ.



Figure 7: Statue of a young man, beginning of the 1<sup>st</sup> century. BC. J.-C.

Most of the marble statues have been kept in good condition and this is due to their position at the bottom of the sea. Everything buried in the sand is better preserved, while the exhibits have been eroded by marine organisms. The typical example is the statue of the boy.

Figure 8 Similarly, two thousand and fourteen to two thousand and seventeen (2014 to 2017) expeditions have brought back two spears in solid bronze, which seem to belong to marble or bronze statues, which are still buried in the wreck site. Here you see the Contemplative Athena Acropolis Museum, with a raised spear, as well as pieces of marble statues.



Figure 8: a) Excavations of 2014 - 2017 Bronze Spears b) Acropolis Museum Athena with a spear, approx 460 π.X.

Figure 9 It is a productive juxtaposition between the results of the expeditions from the nineteenth century to the nineteenth hundred and nineteen thousand and one hundred and sixty (1900 to 1901 and 1976) years and those of the recent search, as the bronze of the right hand, Figure 10 of a bronze statue preserved from the

shoulder to the fingers and folds of the bronze clothes Figure 11.



Figure 9: a) Right hand of a marble statue, early 1<sup>st</sup> century. BC. J.-C b) Left hand of a marble statue, early 1<sup>st</sup> century. BC. AD



Figure 10: Front right arm of a bronze statue.



Figure 11: Bronze fragment of the chiton of a statue.

Figure 12 Metallic objects and utensils such as copper cladding sections wooden beds and sofas as well as vases, whole or pieces of copper, lead and tin Figure 13 have been reduced in previous surveys and throughout the duration of recent shipments.

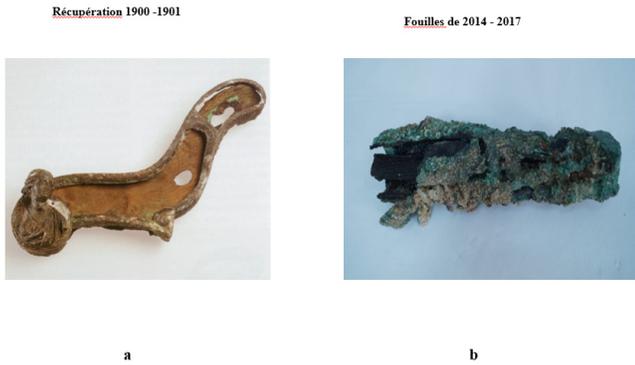


Figure 12: a) Decorative piece of a bed, 150 - 100 BC J.-C b) Bronze foot of a bed of the same period.



Figure 13: a) Bronze vase, find 2nd - 1st century. BC. J.-C b) Part of a bronze vase of the same period.

Figure 14 Also a rectangular plate of colored rosary marble, used as a table cover, with a pinion on the main face for the good support of objects during the journey.



Figure 14: a) Excavations of 2014-2017 b) Part superior of a marble table.

Figure 15 Glassware of exceptional rarity and beauty, in which the best known and most impressive methods of manufacture are represented, is also part of the ship's cargo.

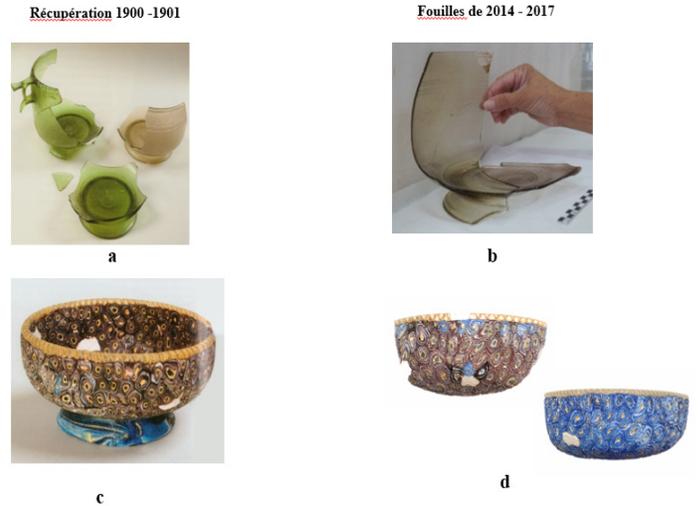


Figure 15: a) Vases (skyphoi) in glass, 1st meet of the 1st. BC. J.-C b) Glass vase of the same period c) Phiales in mosaic 2nd quarter of the 1st. BC. J.-C d) Phiales in mosaic, of the same period.

Figure 16 Gold jewels, such as rings and earrings, testify to the presence of women on board, while the existence of silver skyphoi indicate the holding of luxurious banquets during the course of the journey.



Figure 16: The jewels, 1st s. BC. J.-C.

Figure 17 But the most important group of pottery in number which has been reassembled is that of region, these containers which completed the amphoras for the transport of wine.



**Figure 17:** Lagynoi 1er s. av. J.-C.

Figure 18 Rhodes Transport Amphora, Kos, Ephesus and some of Southern Italy, dating back to the end of the first half of the 1st century BC. They testify to the course of the ship.



**Figure 18:** Amphoras of transport, 1<sup>st</sup> s. BC. J.-C.

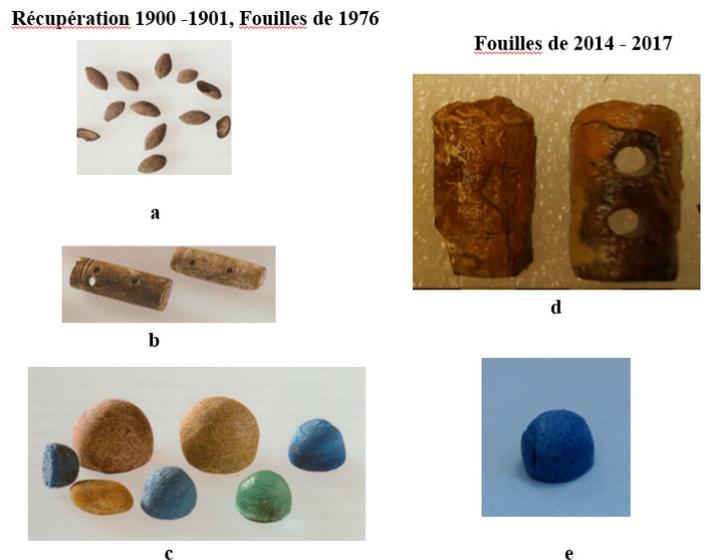
Figure 19 The bronze coins from different parts of the Mediterranean are another element that testifies to the long journey of the ship. Also the existence of cistophoric coins in silver with symbolic sacred rock with lid half-open from which snakes emerge, coins minted in Pergamum and Ephesus, are a monetary treasure that can be dated safely just before eighty (80) before Christ.



**Figure 19:** a) Cistophoric piece 95 - 92 BC J.-C b) Unguentarium 1<sup>st</sup> s. BC. J.-C c) Black varnished dish, 1<sup>st</sup> century BC. J.-C d) Oil lamps mid-1<sup>st</sup> century. BC. J.-C e) Red varnished dish, 1<sup>st</sup> s. BC. J.-C.

Finally, utilitarian containers such as oil lamps, kitchen utensils and black varnished ceramic table olpes and other vases are part of the ship's paraphernalia for lighting, the kitchen, to eat and drink and to transport incense.

Figure 20 The nature and preparation of the food, the drink, how the free time spent on board, are some of the questions that were answered by the search for the wreck of Anticythere. Olives and snails could be part of the daily diet of the crew as they are easily transportable and keep for a long time.



**Figure 20:** a) Olives cores b) Musical instrument same period c) Musical instrument in osler s. BC. J.-C d) Tokens of a game in glass and stone 1<sup>st</sup> century. BC. J.-C e) Tokens of a glass game of the same period.

Amphorae, in addition to wine transport, could have been used to transport and store crew food, such as dried meat and fish, while fishing supplemented their diet.

The discovery of cylindrical bone musical instruments, probably flutes, as well as the discovery of glass pawns belonging to a game, are objects which indicate the occupation of the crew and passengers during leisure hours and rest.

Figure 21 The remains of at least five people, including women, are identified during the search. Furthermore, according to the first results of the (DNA) analyzes, the human bones, which were brought back during the second period of excavations in two thousand and sixteen (2016), seem to belong to a young wife.

Récupération 1900 -1901, Fouilles de 1976

Fouilles de 2014 - 2017



Figure 21: Human bones.

Figure 22 The Anticythere ship is a freighter, perhaps an Olkas of ancient times. Its assumed length is between thirty (30) and forty (40) meters, its width is between ten and fourteen (10 and 14) meters, the maximum depth of the hull is six meters fifty (6.5) and the capacity is between two hundred thirty and three hundred (230 and 300) tones.

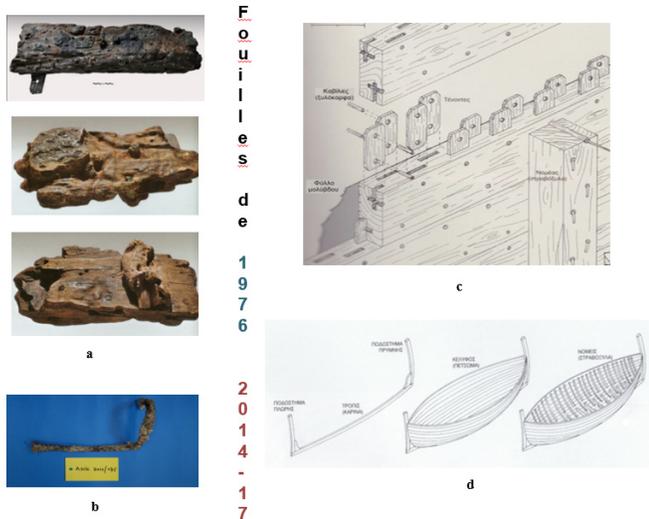


Figure 22: a) Parts of the membranes of the ship, 220 av. J.-C b) Assembly of the “mortise and tenon” edge c) Clouen bronze, 220 BC J.-C d) Construction of a ship with the method “on borden first”.

The technique of manufacture of the vessel, namely the assembly of panels longitudinal by studs (tenons) in recesses and their attachment by wooden dowels and rivets copper inside show the method of construction of the ship. This method is known in shipbuilding as “shell first”, where the hull is built before the chord; it was dominant in the Mediterranean region from the fourth to the first century BC.

Figure 23 The discovery of Corinthian-style tiles, crosspieces and capsules reinforces the theory of existence covered space on the deck of the ship, probably for kitchen installations.

Fouilles de 1976 - 2017



Figure 23: Roof tiles, 1<sup>st</sup> BC. J.-C.

Figure 24 The ship had at least five large wooden anchors with heavy leaded frames, which is proven both by the existence of brackets mounting lead, and by the existence of a torroid object for the disengagement of anchors seabed.

Fouilles de 2014 - 2017



Figure 24: a) Lead pieces of jas from a wooden anchor, 1<sup>st</sup> century BC. J.-C b) Lead Piece to pick the anchor, 1<sup>st</sup> century BC. AD

Figure 25 Another particularly important element for the safety of the navigation ship is the existence of three lead bullets to probe the nature and depth of the seabed, to ensure anchoring safely.

An impressive discovery is a lead object of one hundred (100) kilos, which should probably be used for the defense of the crew, in case of pirate attack.

Fouilles de 2014 - 2017



Figure 25: Lead probe, 1<sup>st</sup> BC. J.-C.

Figure 26 The presence of these sections of lead pipe is explained both as traces of the water drainage system and also as a hydraulic pumping, collection and distribution system. water (the sentences).

Fouilles de 1976



Fouilles de 2014 - 2017

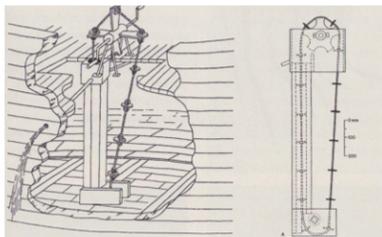


Figure 26: Lead pipes of the ship's bilge pump (1<sup>st</sup> half of 1<sup>st</sup> century BC).

Figure 27 The ship was shipwrecked during the second quarter first century BC and its starting point is likely to be searched

on the island of Delos or further east, in Gulf of Issus, Cilicia. The origin of the sculptures that make up the bulk of the cargo, favors Delos, Pergamum or Ephesus as the most likely production sites.



Figure 27: The Mediterranean in 1<sup>st</sup>. J.-C.

Figure 28 The application of the methods of exploration of the wreck excites our interest, from nineteen hundred (1900) to the present day. The first researchers were the sponge fishermen of Symi, who were passing through Anticythere Island for their fishing. It was during the first expedition that was used the standard diving suit with a cloth garment and a brass helmet.

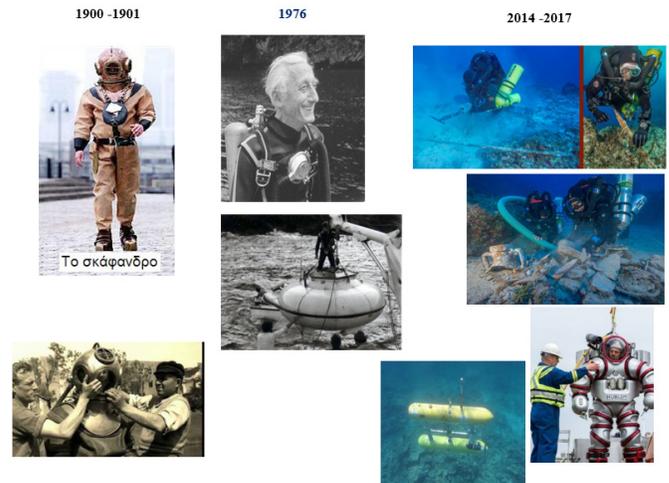


Figure 28: Exosuit.

After seventy-five (75) years, the commander Jacques - Yves Cousteau returns to the site of the wreck, with the participation and under the supervision of the archaeologists of the Hellenic Ministry of Culture. This is where the modern diving technique SCUBA diving equipment was used. The so-called "suction" sand

suction system was used for excavation. It is also used in recent excavations. The presence of the bathyscaphe “Saucer” for the supervision of the work on the bottom was also important.

In two thousand and twelve (2012), the Ephorate (i.e., the Department) of Underwater Antiquities, special service of the Ministry of Culture in Greece charged the promotion and development of the underwater cultural heritage of our country, with the technological support from the Massachusetts Institute of Oceanography “Woods Hole”, organizes a new campaign on Anticythere, in the program entitled “Return to Anticythere”, which is placed under the auspices of the President of the Hellenic Republic, Professor Prokop is Pavlopoulos.

Speedily mention an autonomous underwater vehicle (AUV-Sirius), a remotely operated submarine vehicle (ROV-Seabotics), metal detectors, recyclers (CCR) and Trimix breathing gas. Finally, the seven (7) October two thousand and fourteen (2014) was used for the first time worldwide in an underwater archaeological research the famous Exosuit, scuba diving suit that looks like astronaut suits and allows the user stay dive for several hours to a maximum depth of three hundred (300) meters without the need for decompression.

During the search, the following vessels were used: the minesweeper “Thetis” the Hellenic Navy, the boat Poseidon of Mr. Alexandros Sotiriou, member of the research team, and the yacht “Glaros” of Mr Panos Laskaridis, one of the main sponsors of the research like Hublot, whom I thank for the temporary exhibition discoveries in the historical library of the Laskaridis Foundation. Note that the current exposure will last until the end of March two thousand and eighteen (2018) Figure 29.



**Figure 29:** COSMOTE group

Research is actively supported by Hublot and its Research and Development department, by the COSMOTE Group Sworsdpoint American Foundation Aikaterini Laskaridis Foundation, with the support of which were completed in two thousand and sixteen (2016) the new restoration laboratories of the Ephorate Figure 30.



**Figure 30:** The new restoration laboratories of the Department sponsor run by the “Aikaterini Laskaridi” Foundation.

I also thank Aegean Airlines and the company Costa Navarino, and of course the Municipality of Kythera and its mayor here as well as the inhabitants of Anticythere. In very last, I greet and thank the research team Figure 31.

**Ephorie des Antiquités Sous-Marines - Woods Hole**  
**Oceanographic Institution**

**Direction :** Dr. Angeliki G. Simossi, Directrice de l'Ephorie

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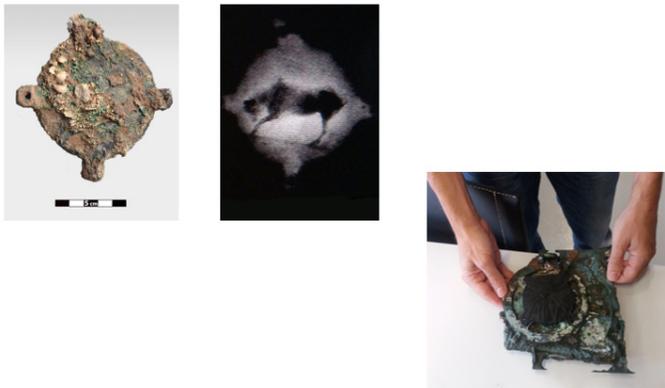
**Figure 31:** Ephoria of Underwater Antiquities - Woods Hole Oceanographic Institution.

The wrecked ship along the Anticythere coast was not a cargo ship (wheat, wine, oil). We could say it was a floating museum. Its importance culminates when it first appears a mechanism that has given rise to many interpretations. We now know that it is the first calculating machine of humanity, built most probably in the second century before the Christian era. The crucial questions about the ancestors and descendants of such mechanic’s challenge historian’s science and technology.

The fact is that such an incredible object can only be the product of evolution many similar devices, none of which have been preserved to this day. It was an important element of Hellenistic civilization, just before Roman rule. This is the only discovery of this type in the history of technology of this time. Previously, Mechanism researchers had written that “We hope nevertheless that archaeological research, terrestrial or underwater, will reveal other examples of this mechanical engineering”.

Figure 32 In the recent research of two thousand and seventeen (2017), we found a disc-shaped object, highly oxidized, with four perforated attachment ears, on which, as shown by X-ray, there is animal relief, probably bull.

Fouilles de 2017



**Figure 32:** Decorative disc in bronze with animal motif (bull?).

With these first observations, it is not impossible that this object belongs to the Mechanism itself or to another similar object.

This object may be a cover dial front of the Mechanism. If this is the case, we are faced with a major global archaeological discovery. But we will know more with further analysis, and during future excavations.

Figure 33 Thank you for your attention.



**Figure 33:** Thank you for your attention.