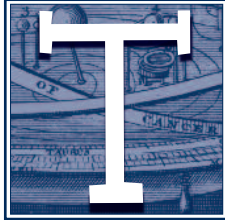


# INTRODUCTION

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Though it is difficult to understand exactly how the Antikythera Mechanism worked or what its place is in the history of mankind, it may also be hard to believe that it even actually existed.

This is, after all, why it has been the object of wild conjecturing ever since it was first presented internationally as a computer in the mid-1970s, when its existence was even attributed to... alien visitors!

Before its serendipitous discovery in 1901 the Antikythera Mechanism was a non-existent object even for scientists and historians. So for centuries we were safe in the assumption that the ancient Greeks were not technologically advanced; that gears first appeared in Italy during the Renaissance; that what the ancient Greeks knew about the motion of celestial bodies was entirely incorrect, etc.

Upon its discovery, ignorance was replaced by mystery. And what a mystery! Not the kind invented by writers, but the deeper mystery that only real life can devise.

The Mechanism was not found in the ruins of an ancient temple or palace. Nor was it found inside a great tomb, buried next to its once mighty owner. It was discovered by accident at the bottom of the sea, where it had remained for over 2,100 years, corroded by sea water and covered in seaweed. It was part of the greatest treasure ever discovered in a shipwreck, amidst some of the finest specimens of ancient Greek art. And it was found by a team of Symiot sponge divers looking for some seafood for their lunch. It was also the sponge divers –and not maritime archaeologists– who retrieved the shipwreck findings in what was the first underwater excavation in history.

Moreover, there were inscriptions on it. In fact, it is the only ancient object that has ever been found to come inscribed with a manual!

Hence we are dealing with a completely unexpected object, an object that runs counter to what we know about ancient technology, while it remains a unique specimen in many of its features. As a result, even the scientific community has found it difficult to put it into perspective and has been slow to absorb its multidimensional significance. Even in Greece, it took the efforts of Professor Theodosis Tassios, who compiled a long list of technological marvels of antiquity, for the scientific community to realise the extensive presence of technology in ancient Greece.

Today, if anyone tries to ‘unravel the mystery’ and decides to probe deeper into the subject, they will soon find themselves faced with findings and conclusions that will confuse them even more: ‘The Mechanism is the predecessor of the gearbox in automobiles.’ ‘The Mechanism was not unique in its time’ – but, had it not been found by accident, no one would even have imagined that such an advanced item could have existed 2,100 years ago. ‘The indications for the motion of the Moon on the Mechanism are subject to Kepler’s second law’ – which was formulated 1,800 years after the Mechanism was built (with Kepler being totally unaware of the Mechanism’s existence)! ‘The Mechanism contains an indication for what we call the Equation of Time’ – several centuries before this term was introduced. ‘The Mechanism is the first mechanical computer’!

Naturally, many prominent scientists of various disciplines have studied and are still studying the mystery, and some have dedicated decades of their life's work to it, often with impressive results.

However, how much of this knowledge has reached its final recipient, Mr Everyman? How much of this knowledge has been absorbed and become part of our lives; or helped us to better understand who our ancestors were, what they were capable of making, and the relative value of what we can make today? How would things be different if that knowledge had not disappeared for about one thousand years?

The Antikythera Mechanism rewrites the history of mechanics, of science, of technology, of the fabric of our lives – and yet there was not a single book with all this knowledge together in one place.

That was how I came up with the idea of writing a book that would answer this need.

The concept was simple.

On the one hand, the book presents the maximum of information and scientific knowledge based on the evidence that research has produced with the help of technological advancements in the last decade, as well as historical evidence – and it all comes straight from the most prominent protagonists of international research regarding the Mechanism.

On the other hand, it presents, for the first time in such a clear and well-documented manner, the connection between the Antikythera Mechanism and the history of horology, as seen by the most eminent historians, engineers and experts in the field of horology, the history of which is now rewritten and establishes the Mechanism as the first known link in a 'chain' that extends to our own era, with the manufacturing of the most impressive and complex astronomical timepieces of our time.

All of the book's scientific and historical knowledge is offered through the answers given by the most distinguished researchers of the field to specific questions in interviews, looking for answers that help us understand what really interests and concerns us all. I think this approach can lead to better results for the intended readership of this book than the standard presentation for academic journals or museum catalogues.

Well, is the Antikythera Mechanism related to the gearbox in cars, to Kepler's second law? What delayed the spread of technological knowledge already acquired by ancient Greeks, creating a gap of a thousand years in history? And, finally, is this the same knowledge that reaches all the way to modern-day wristwatches and other modern devices and applications? Did the ancient Greeks invent the computer?

In the book's novel approach, the most profound and sophisticated scientific research conducted by outstanding scientists is presented in an extensive and creative manner, while the material also reaches out to the book's readers and answers their questions, poses new ones, fills them with strength, pride and inspiration. It even becomes a game, both constructive and instructive – a game played in the classroom or with LEGO bricks.

It is said that the Antikythera Mechanism brings together everything the ancient Greeks knew about astronomy up to the day the device was built. In a similar way, as luck would have it,

*Antikythera Mechanism – The Book* was being printed –after more than two and a half years of preparation– on the very day that the third –and extremely promising– underwater excavation of the shipwreck site was initiated by the Greek Ephorate of Underwater Antiquities in collaboration with Brendan Foley and his team. The book thus recorded all the knowledge gathered up to that point from the processing of the findings of the first two underwater excavations – the one by Symiot sponge divers in 1900-1901 and the one in 1976 by oceanographer Jacques-Yves Cousteau’s team.

In addition, in tune with what is in my opinion the Antikythera Mechanism’s supreme symbolism, *Antikythera Mechanism – The Book* is a paean to Innovation.

Its pages become the point of convergence for many different worlds – for archaeologists, astrophysicists, philosophers, historians, scholars, Horology engineers and experts, business leaders, and even for children...

What distinguishes and links them all is not so much what they have gained from their professional and scientific progress and from the study of the Mechanism, but what they have not lost in the course of their lives. What they have not lost is their most precious possession: it is their ability to innovate, i.e. their ability to dare to be their own selves!

This symbolism of the Antikythera Mechanism sets it apart as a proven tool for sparking children's interest in science and technology, and fuelling their love for innovation.

When I began to write this book, my daughter Sophia wanted to become an archaeologist and a mechanical engineer. Today, at eleven, she wants to become an astrophysicist! As the Mechanism will be puzzling scientists for many generations to come, it will also be inspiring children, encouraging innovative thinking and creative curiosity.

I sincerely hope you will enjoy reading this book.

Constantin Stikas

Inspired by Philip Poniz, who says in his interview that the Antikythera Mechanism is the Greeks’ gift to our modern civilisation, I wish to express my thanks and appreciation to the two Swiss gentlemen, Jean-Claude Biver and Mathias Buttet, for reciprocating the gift, by bringing the Antikythera Mechanism dynamically to the forefront of global interest with their creative work and generous support. My thanks are also especially due to Yanis Bitsakis, who initiated me into the wonderful world of the Mechanism and was the book’s scientific editor and advisor. In addition, the wonderful foreword by Professor Theodosios Tassios is a great honour for me, and for that I thank him warmly.