Antikythera Mechanism - Initial Phase Fleshed Out

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Abstract

Abstract will be done last, and will include something similar to the introduction

Introduction Heading: Founding

Introduction Goes Here - Introduce the device and how it was found in a roman shipwreck - Chronologue a quick tour through its recorded history and lead into Price's work on the device in the 70's - once that is done transtion into the first main section of the body

It was the turn of 20^{th} Century, the date was April 15, 1900: Easter Sunday and day of the full moon. A group of Greek sponge divers had found themselves off the coast of a small island named Antikythera which lies in the Aegean between Crete and mainland Greece. The divers were not used to diving this particular area, having found themselves pushed off course due to a storm which forced them to take anchor. Having the opportunity, the divers chose to check out the sea bed and search for sponges. One of the divers, a man named Elias Stadiatos, would discover beneath them a Roman shipwreck filled with an abundance of lost Greek treasures estimated to have sunk sometime during the 1^{st} Century BCE. The ship is thought to have been on its way from Rhodes towards Rome carrying a mass of looted treasure before misfortune caused the Roman merchant ship to sink. Within its hull, it contained numerous statues, a

Introduce the Mechanism through a story about its founding.

Leading into the work of Price, and then Introduce some of the extrapolations.

collection of amphorae, and dozens of coins. It had been the bronze and marble statues that caught Stadiatos' attention at first, in turn leading to the discovery of the wreck, but they would not be what would make this shipwreck significant. Rather, it would turn out to be a collection of calcified bronze lumps that would become the objects of true importance of the sunken vessel.

Possibly add in mention of Excavation of the shipwreck

After the discovery, and with the help of the Greek archaeologists, all of the the artifacts extracted from the site were sent to the National Museum of Greece in Athens. Originally, the bronze lumps were listed on record as an astrolabe, an old navigational instrument useful in astronomy, and were somewhat disregarded amongst the rest of the artifacts. This all changed in May of 1902 when the largest of these chalky objects broke apart and it was discovered that a complex gear structure existed within it. Whilst it had originally been thought to be an astrolabe, after examination by a naval officer, he stated in 1905 that it was much too complex to be one due to the arrangement of the gears. Due to its complexity and unknown function, this ancient geared device was dubbed the *Antikythera Mechanism* after the place of its founding. In all of known history, nothing similar has ever been found that predates it, making it the worlds oldest known geared device of such complexity, and because of the nature of the internal workings, it has forced us to reexamine our view on the level of technology available to the Greeks circa 100 BCE. Despite these realizations, little to no research was done on the device for decades, and it wasn't until the work of Derek de Solla Price did any real headway begin.

The Price of Ancient Knowledge

Introduce Price - and then cover his research - Lead into work by others such as wright

Describe the work of Price and his advance-ments into the device.

For the first 50 years after it was discovered, the Antikythera Mechanism

remained in the National Museum of Greece shrouded in mystery. No one had yet any real understanding of the device, and yet despite its enigmatic character, little to no research was done on it. That was, until the British professor Derek de Solla Price became interested in the device. In 1951, Derek de Solla Price, a British physicist who was a history of science professor at Yale, became fascinated with the Antikythera Mechanism. He spent 8 years arduously examining the corroded device, analyzing what gears could be seen through the calcified buildup attempting to discern their intended purpose. After all the painstaking work, he had finally developed a theory of the mechanism's design. The purpose, stated Price, of the Antikythera Mechanism was an early analog computer designed to perform astronomical calculations. The exact extent of the calculations was hitherto unknown, and in 1959, Price published an article in *Scientific American*, entitled "An Ancient Greek Computer" in which he states his theory, and that the Antikythera Mechanism is in fact the most complicated artifact known from that time period, and predates previously known technological advancements by 1500 years. It would take almost another twenty years for Price to expand on this theory.

Include Next portion of Price's Work - In his book Gears and Greeks

Constructing the Universe

Mention the Construction and Mention Wright

Revolutionary Ideas

Mention the Function of the Gears - Mention Physics and Differential

Mention coninuation by Research groups and Contentions Raised

Conclusions

Finish and Conclude

References

DRAFT STUFF BELOW

The calculations focused on the solar and lunar cycles including predictions about eclipses.

His fascination led him down an eight year journey in which he researched the device through use of X-Ray imaging techniques to decipher the internal workings of the device.

Since then, we have learned much about it, and many people have proposed plausible explanations for its internal gear train, and its intended functions. It has been scrutinized and examined by a handful of researchers and groups, and work has been done on deciphering its inscriptions and completing the missing pieces. At the head of all of this was the work of Dr. Derek de Solla Price. It was his contributions which spearheaded the effort that has led to our current understanding of the device.

Mention other notable researchers in the field and their continuation of Price's work.

⟵ Mention chronological timeline involving price - and then additionally show how it leads to others' work

Main Body Heading I: Initial Examinations

Main Body Goes Here - Mention Price's work and X-Rays and the current work being doing by the AMRP. Additionally look at the extrapolations which have been done to Prices work and some of the areas which are under scrutiny.

Focus on the initial findings and major work that has been done upto this point by the key researchers in the field

Main Body Heading II: Construction

Main Body Continues Here - Include remarks on the Inscriptions and the shipwreck and proposed ideas relating to its age. Additionally Mention its construction materials, the craftsmanship, and the relative sizes of the gears and the # of gears. State the proposed look of the dials and the spirals. Relate it on a more technical and mechanical level rather than that of a functional

Focus on the Construction of the Device and the Evidence Supporting it.

Main Body Heading III: Function

Main Body Finishes Here - Remark on the meaning of the inscriptions in more detail here than abobve. Include remarks on the metonic and synodic calendars, the calculations and eclipse predictions and its use for the olympiad years and the games - mention the proposed dials for the planets and list the babylonian calendars and zodiac.

Focus on the Functionality of the Device and its purpose

Conclusions/Discussions Heading: Reflections

Conclusion Goes Here - Remark on the differences of opinion and the similarities - Restate some of the introduction but with more finitude, and then additionally finish up with a remark of the extraordinary nature of the device and what it could mean for our understanding of the past.