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A new look at the Antikythera Mechanism

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In this talk I'll sketch the outlines of a new interpretation of the Antikythera Mechanism (II cent. BC). My aim is twofold: 1. To reassess the role of *sphairopoiia* (i.e. construction of spheres) in the development, reception, and transmission of Greek mathematical astronomy. 2. To reconstruct the astronomical theory embedded in the Antikythera Mechanism, following the constraints imposed by the specific purposes of *sphairopoiia* and by the methods of Hellenistic mathematics, as exemplified by the extant works of Euclid, Archimedes, and Apollonius. My conjecture is that the Antikythera Mechanism embedded a *dynamical* and *relational* theory of heavenly motions, with the Sun-Earth system working as a reference-motion for all the others. My general claim is that *sphairopoiia* shaped as much as geometry the theoretical structure of Greek mathematical astronomy, the ground on which the edifice of classical mechanics was built. In a wider philosophical perspective, a thorough study of *sphairopoiia* is expected to provide key insights into the nature and purposes of Greek astronomy, with far-reaching consequences for the long-term history of western science.

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