

The Third Side of the Coin: They Knew It Was Round

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The average person in Hellenic and Roman times knew that our world is round. The philosophic inquiries and dialogs that began with Thales (624-547 BCE), culminated in the works of Aristotle (384 - 321). Later, various hellenistic astronomers made measurements of the size of the Earth and the sizes of and distances to the Sun and Moon. Several schemes for explaining the motions of the planets were invented. Generally, the average person of those times did not believe Earth to be flat any more than the average person of our day believes that we are alone in the galaxy.

Pythagoras was probably the first to assert that Earth is a sphere. The other candidate for originating this insight is Parmenides of Elea. However, later than them, Anaxagoras of Klazomenae said that our world is "cylindrical", i.e., shaped like a modern coin. Democritus agreed. In his books, *On the Heavens*, Aristotle notes the reasons offered by Anaxagoras and Democritus for asserting that Earth is flat. Then he argues against them, and states:

"These conditions will be provided, even though the Earth is spherical, if it is of the requisite size..."

For Aristotle, the Earth was round. So it remained for perhaps 1,000 years. Aristarchus of Samos measured the size and distance of the Moon and Sun. He also placed the Earth in orbit around the sun. Archimedes of Syracuse argued against this on the soundest of principles: parallax. If Earth orbits the sun, then there should be an apparent shift in position of the stars relative to the sun and this had not been observed. Eratosthenes of Cyrene measured the circumference of the Earth by comparing shadows on the first day of Summer. No one argued against his assumption that our Earth is a sphere.

Celestial devices appear on coins from the classical period forward. There are many such examples of stars, astrogali, solar disks, etc., on coins. The earliest coins that have terrestrial globes on them are from Uranopolis ("Sky City") in Macedonia, which was founded on Mt. Athos about 300 BCE by Alexarchos, brother of the king Kassander. Catalogued as BMC 5.1, et seq., (Sear GCV 1474, et seq.), they show Aphrodite Urania seated on a globe.

Klazomenae honored Anaxagoras by putting him on their coins. The BMC Ionia for this town lists three: 102, 103 and 104. (BMC Ionia Claz 104 is Sear GCV 4335.) All show an anonymous young man on the obverse. On the reverse, a man is seated on globe and he holds another globe in his hand. We assume this man to be Anaxagoras. A coin of Roman imperial times (BMC 125) shows Commodus on the obverse. On the reverse, a man stands facing right, naked to the waist, holding a globe. Again, this is probably Anaxagoras.

Struck during the reign of Trajan, a coin from Samos honors Pythagoras (BMC Ionia Samos 237). The reverse shows Pythagoras touching a globe with a wand. This same theme appeared on coins struck for Septimus Severus, Julia Mamaea, Trajan Decius, and Etruscilla. The Severans relied on even more heavily on astrologers than the average person and the assumption is that this caused them to honor Pythagoras as no one had before. Since the globe appears without a deity such as Sol or Jupiter or the emperor, we can assume that these globes represent our planet. And, indeed, unlike Anaxagoras, Pythagoras really did assert that Earth is a sphere.

In an article in *The Celator* for November of 1991, G. Derk Dodson suggested that not all "globes" on Roman coins are representations of the planet. Dodson's thesis is that some of them are "lumina" or halos. These are balls or circles of holy light that deify. Dodson cites many examples of the emperor being handed the symbol of his deity. Another article in *The Celator* asserted that rather than symbolizing the Earth, the globes represent the heavens. These Roman coins seem to have "chains" or "ribbons" girdling the Earth, representations of the Zodiac.

BIBLIOGRAPHY:

- Aristotle, *On the Heavens*. W. K. C. Guthrie, M.A., editor and translator. Loeb Classic Library, Harvard University Press, 1939 and 1971.
- Diels, Herman. *Die Fragmente der Vorsokratiker*. Walther Kranz, editor. Weidmann Press, Dublin and Zurich, 1903 and 1968.
- Heath, Sir Thomas L., *Greek Astronomy*, J. M. Dent & Sons, 1932 and AMS Press, New York, 1969.
- O' Sullivan, Frank. "Numismatic Evidence of Roman Knowledge that Earth is Globe," *World Coin News*, Sidney, Ohio, April 1964. (This article refers to a debate on the subject in the pages of Seaby's *Coin and Medal Bulletin*.)