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FELLOWSHIP
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PROJECT

The Intellectual Context of Greek Cosmology

The project examines the role of cosmological speculation in various spheres of ancient Greek intellectual life. The project consists of four independent but related research topics, which should ultimately form the chapters of a book.

(1) Cosmological knowledge and eudaimonia: the role of physics and cosmology in normative ethics. (2) The epistemological role of three-dimensional reduced-size astronomical models in theory building and the differentiation between philosophical cosmology and mathematical astronomy. (3) Cosmological doctrines and medical texts: the microcosmos-macrocosmos analogy in medical physiology and cosmic physics. (4) The structure of the cosmos and cosmic processes in eschatological texts.

The ultimate objective of the project is to show both the great diversity and the fundamental unity of Greek culture by examining various manifestations of a ubiquitous theme: theories about the place of human beings in the cosmos and our cognitive capacities to penetrate into the order of the cosmos and discover our place in it.

Recommended Reading

Betegh, Gábor. "Le problème des représentations visuelles dans la cosmologie présocratique: pour une histoire de la modélisation." In *Qu'est-ce que la philosophie présocratique?*, edited by André Laks and Claire Louguet, 381-415. Villeneuve d'Ascq: Presses Univ. du Septentrion, 2002.

- "Cosmological Ethics in the *Timaeus* and Early Stoicism." *Oxford Studies in Ancient Philosophy* 24 (2003): 273-302.
-. *The Derveni Papyrus: Cosmology, Theology and Interpretation*. Cambridge, UK: Cambridge University Press, 2004.

Early Greek Astronomical Models

The topic I shall present at the Tuesday colloquium is part of a larger project. In the larger project I examine the broader philosophical and intellectual context of Greek cosmology in a study of different ways of talking about the place of human beings in the world at large and about our cognitive capacities to penetrate into the order of the cosmos. The study covers questions of the role attributed to knowledge about the cosmos in ethical theories, the function of cosmological speculation in medical texts, and the description of the topography of the world in eschatological contexts. I have chosen to present that part of the project that examines the use of astronomical models by early Greek philosophers and scientists, because this topic might connect well with other presentations on images and visualization in science.

I shall discuss some texts containing evidence on the early use of three-dimensional models and try to argue against the prevailing scholarly scepticism about the existence of such models in the pre-Hellenistic age. (For the expression of such scepticism, see e.g. D. Couprie, "The discovery of space: Anaximander's astronomy", in *Anaximander in Context: New Studies in the Origins of Greek Philosophy*, ed. D. L. Couprie, G. Naddaf, R. Hahm, Albany, N.Y., 2003: 167-254 and A.C. Bowen, "La scienza del cielo nel periodo pretolemaico", in *La scienza antica*, vol. 1, Rome, 2001.) I shall argue that it is not the case that the idea to visually represent cosmological theories appeared only subsequently, towards the end of the Classical age, as is usually assumed, but that the production of two- and three-dimensional visual representations was part and parcel of the emergence of Greek cosmological discourse. There is, I shall maintain, an intrinsic connection between the emerging novel type of speculation about the cosmos, on the one hand, and the attempts to represent this structure visually by reductive models and diagrams, on the other. Because of the epistemological and heuristic role of visual representations in cosmology and mathematical astronomy, visual representations were not mere illustrations of an already existing theory, but had a crucial role in theory formation as well.

Time line of the authors discussed (in reverse order):

Diogenes Laertius 3rd century AD
Cicero 106-43 BC
Hipparchus ca. 190-125 BC
Archimedes ca. 287-212 BC
Epicurus 341-270 BC
Callippus born ca. 370 BC
Aristotle 384-322 BC
Eudoxus ca. 390-340 BC
Plato 429-347 BC
Aristophanes ca. 450-385 BC
Gorgias 483-378 BC
Socrates 469-399 BC
Parmenides born ca. 520 BC
Anaximander ca. 610-540 BC
Thales born ca. 630 BC

PUBLICATIONS FROM THE FELLOWS' LIBRARY

Betegh, Gábor (Cambridge [u.a.], 2004)

The Derveni papyrus : cosmology, theology and interpretation

<https://kxp.k10plus.de/DB=9.663/PPNSET?PPN=370931327>

Derveni papyrus <engl.>

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