

***In the light of the controversy concerning the relative strengths of the theories of Anaximander and Anaximenes, how do you assess the achievements of these two philosophers?***

The three philosophers Thales, Anaximander and Anaximenes flourished at the end of the sixth century BCE and the first part of the fifth century. They carried out their philosophical activities in Miletus, a prosperous polis in Anatolia. These facts are important because

1. The merchant citizens of Miletus were inclined to trust their seafaring and commercial skills more than they trusted the gods,
2. A seafaring and trading polis, like Miletus, would require star observations, predictions of the equinoxes and maps.
3. Important citizens of Miletus would have ample opportunities to access the knowledge of Egypt and Babylon.
4. At this time, many Greek cities were looking to lawgivers to prescribe rules for living in the Polis. This might well encourage men of learning to see if similar rules might be found to explain the cosmos, which might be more reliable than the gods.

We know less about Thales than we do about the other two members of the Miletian trio. It does seem that he began the process of finding the fundamental constituent principle underlying everything, the "arche". For him, it was water. He appears to have not written anything. However, Anaximander and Anaximenes left written work, which, although now lost, can be examined through the eyes of later writers who had access to it.

We begin a comparison between Anaximander and Anaximenes by looking at their cosmologies. Both men made star observations, but the special contribution of Anaximander lies in his conception of an earth in the centre of the cosmos unsupported by floating on water or resting on some other element. According to Aristotle, Anaximander's explanation of why the earth stays in the centre and does not fall runs as follows;

"But there are some who say that it (namely, the earth) stays where it is because of equality, such as among the ancients Anaximander. For that which is situated in the center and at equal distances from the extremes, has no inclination whatsoever to move up rather than down or sideways; and since it is impossible to move in opposite directions at the same time, it necessarily stays where it is."

Additionally, Anaximander seems to have held that the celestial bodies move in full circles around the earth, and that instead of the heavens being a dome with sun moon and stars embedded in it, the stars lie nearest to the earth, the sun moves in an orbit behind it, and the moon lies furthest away. Forgetting the wrong order of these bodies, we may note that Anaximander has created a cosmos where "outer space" exists. This cosmos of bodies orbiting around a central earth, and lying at different distances from it is a remarkable feat of speculative astronomy. He cannot have relied on observation to show him this order; it is a purely intellectual construction.

By contrast, Anaximenes cosmology is simpler. The heavens are like a felt cap with earth at the centre. The heavenly bodies are at the edge of the cap, which moves around the flat earth. This is hardly any advance on the Homeric view of a metal star-studded dome above the earth. However, although the cosmology of Anaximander is more striking, we would have to realise that the simple "felt cap" heavens of Anaximenes is closer to the observable facts which could be seen by 5<sup>th</sup> – 6<sup>th</sup> century BCE astronomer. The former's view is speculative, whilst the latter's seems to be more empirically based.

When coming to look at the enquiry into the arche – the primary material from which the cosmos is built, we have the well known fragment concerning Anaximander;

"he said that the material principle of existing things was some nature coming under the heading of apeiron, from which comes into being the heavens and the world in them. And the source of coming-to-be for existing things is that into which destruction also happens, according to necessity. For they pay penalty and retribution to each other for their injustice according to the assessment of time."

***(Simplicius as translated by Kirk & Raven)***

The origin of all things is not one of the usual suspects (air, earth, fire or water) but the apeiron, the boundless, the infinite. Nature is created from it, and is returned back to it. Further, change in the cosmos is regulated by some kind of natural equilibrium, where elements which become too dominant, either numerically or otherwise, are checked, and the balance restored. For Anaximander the arche cannot be a single element, for it would eventually oust and destroy all the others.

This is a bold and ingenious idea. However, it is purely speculative metaphysics; there is no way of collecting evidence to support it, and Anaximander offers no ideas as to the mechanism whereby necessity, penalty and retribution work to maintain a natural balance.

For Anaximenes, the arche is air. The world floats on air, and everything is made from air. To explain the apparent diversity in the world, air can be either more condensed or more rarefied. In its most rarefied state, air becomes fire. Then, as it becomes compacted, it turns into the air we all experience as such, then into wind, cloud, water, and then in its most condensed state, earth, then finally stone.

On the face of it, this does not seem to be any advance on the apeiron of Anaximander; on the contrary, it seems to be more pedestrian, and lack imagination. However, what Anaximenes gives us is an arche which is a definite material, together with a potentially testable theory of how the material changes to create the diversity in the world. He also gives us a possible quantifiable theory of the nature of change, for it may be possible to measure the degree of condensation or rarification of air. It does not matter that Anaximenes may have been wide of the mark in suggesting air, or that he may never have tried to measure the change process. What is important is that he states a theory of the arche and change which gives a role to scientific testing and measurement. This is very unlike the apeiron of Anaximander.

Before concluding this comparison of the two philosophers, it is worth noting that Anaximander has struck a chord with some later philosophical ideas which are not part of the western scientific tradition. Consider this by Nietzsche in the late 19<sup>th</sup> century;

“If the world had a goal, it would have been reached. If there were for it some unintended final state, this also must have been reached. If it were at all capable of a pausing and becoming fixed, if it were capable of “being,” if in the whole course of its becoming it possessed even for a moment this capability of “being,” then again all becoming would long since have come to an end.”

This is written as part of Nietzsche’s theory of perpetual becoming, and is very like the reason used by Anaximander for not choosing any single element as arche. Additionally, Heidegger and some of the existentialists have seen in the apeiron an early theory of the cycle of being, becoming and non-being. It is debateable whether this enhances Anaximander’s reputation, but it is a point worth noting.

So to conclude, Anaximenes seems to have the edge on Anaximander from the viewpoint of empirical science. However, Anaximander has a more speculative approach, producing visionary structures which are bold and compelling but which are not grounded in scientific method.

Graham Hackett