

Pythagoras

According to the tradition, Philosophy has two points of origin: Thales of Miletia and Pythagoras of Samos. This division goes as far back as the accounts provided by Diogenes Laertius, and he uses these two figures as the central division of the ancient Greek schools in his text (*Lives of the Eminent Philosophers*).

We are told more about Pythagoras, about his life, and his character, than about any other pre-Socratic philosopher. The school of thought to which he gave his name lasted for more than a millennium, and a number of texts from later Pythagoreans have survived, specifically Philolaus and Archytas of Tarentum. In spite of these things, Pythagoras himself is the most obscure and perplexing of all the early thinkers.

The following historical information we can say with most certainty is true. Pythagoras was born on the island of Samos around 570 BCE. It is said that he traveled and studied with the priests of Egypt, the thinkers of Babylon, and with the Magi of Persia. He left Samos around 530 BCE to escape the rule of the tyrant Polycrates, and emigrated to Croton in Southern Italy. At Croton, he founded a community of like-minded followers, apparently on a religious/mystical basis, and this community had a substantial impact on the political life of Croton. Some twenty years later, near 510 BCE, there was an uprising in Croton, and many of the Pythagoreans were driven out, many others were killed throughout Southern Italy. Pythagoras, himself, took sanctuary in a temple at Metapontum where he starved to death in 494 BCE.

In spite of this, Pythagoras' initiative continued in Southern Italy. Not soon after this death, Pythagoras' followers split into two groups: the *akousmatikoi* or listeners (those who focused on the religious aspects of Pythagoras' teachings and the spiritual side of his way of living), and the *mathematikoi* or thinkers (those who focused on the philosophical, mathematical, and other scientific aspects of Pythagoras' teachings).

What makes inquiry into Pythagoras' thought difficult is twofold: there was a strong disagreement between these two groups as to who was the rightful and genuine heir to the Master. Pythagoras, it is said, never committed his teachings to writing. Various legends were rapidly collected about his name. Most of what we know about his philosophical teachings come from the later generation of Pythagoreans and two main figures emerge: Philolaus of Croton and Archytas of Tarentum. Philolaus is our main source of the philosophical side of Pythagoreanism. Archytas is an important figure in his own right for two reasons: His association with Plato: Archytas bought Plato out of slavery at Syracuse; He, also, taught Plato the mathematical and philosophical aspects of Pythagoreanism. This connection to Plato later "cross-fertilized" these two schools, and many third century BCE Pythagorean texts reflect a definite impact of Platonism. Pythagoras' followers finally disappear as a coherent, vital school near the fall of Rome in the 5th century of the common era.

So much for the background information on Pythagoras. Let us now turn to his thought. The central aspect to Pythagoras' thought is the insight that number was key to understanding the cosmos. Chaos can be ordered by the imposition of numerical ratios structuring it into form. They reasoned that the entire universe is a harmonic arrangement ordered by, and knowable through, number. The Pythagoreans rejected the Milesian approach of trying to identify some

first material principle in order to understand the order of things, and embraced the study of form. Philolaus claimed that the cosmos was made up of “limiters” and the “unlimited”, that filled together in a “harmonia”. These *harmonia* (literally, “carpenter’s joints”) were the numerical ratios structuring reality. Number, then, is the result of these joinings of limiters and unlimiteds.

One thing we contemporaries must let go of, in order to understand this way of thinking, is our modern conception of numbers as a convention. For the ancients, numbers were real objects: having mass, weight and dimension. If we allow ourselves to think of the formal structure of objects being bonded by numerical ratios, on the model of musical scales, then number not only does not play the role of a first principle in this way of thought, but does account for change in an object. If an object changes in form, this object is being bonded by a different numerical harmony. Change in location of an object is understood in terms of agency, i.e., someone moved the object in question.

We can sum this up in the following way: Starting with the unlimited (*aperion*) the limiters bridle the chaos into a harmonic order. The universe itself is a structured whole understandable through human inquiry by investigations into the elemental make up of objects. Each element is structured by a different *harmonia*: earth is a cube; fire a pyramid; water an isosahedron; air the triangle. The world is not dominated by obscure forces, but structured by the regular and lawful order of number. Hence, “all things which can be known have a number; without this nothing could possibly be thought or known”. Change, then, is explained as a part of the cyclical rotation of the universe understood in terms of a so-called celestial music of the spheres.

Let us now turn to the other aspects of Pythagoras’ thought. For the Pythagoreans, science was subordinated to the goal of living a good life. The theoretical sciences were pursued insofar as to have the proper disposition to the practical sciences. Pythagoras is certainly the first philosopher who taught the doctrine of *metempsychosis* or the doctrine that the soul (the living principle) is constrained to be reincarnated many times in successive bodies of various species in order to remove the taint of evil. Pythagoras argued that the soul is immortal, it pre-exists the bod, and continues existing ex-corporeally. The goal of live, then, is to break the re-birth cycle by means of purging the taint of evil. Afterwhich, the soul can merge with divinity with which it properly belongs. The means of purification of the soul is twofold: through science, here meaning the theoretical sciences - having the proper understanding of the order of the universe, and by living a contemplative life.

Pythagoras coined the term “philosopher” to denote those who had achieved a mastery of this way of living. The initial stage was to listen and be silent to those discussing the scientific doctrines of the school. Having mastered this, they were allowed, having rejected certain foods and other such things, to ask questions about music, arithmetic, and geometry. They, then, were allowed to investigate cosmology and metaphysics. Finally, they were admitted to the leader of the school to learn certain mysteries - none of which were committed to writing - about the fundamental nature of the world, and man’s role in it. In the end, the Pythagorean school emphasized community and stressed that justice was simply a matter of reciprocity (what a man had done, he should suffer in return). One final note: Pythagoras is said to have held the doctrine that all friends were equal and hold all belongings in common. Hence, there was a rejection of private material wealth at the heart of this way of thought that might help to explain the communal nature of the school.