"Nature" and "Water" in the ancient Greek philosophy

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Abstract
This talk is divided into two parts. The first part outlines the "genesis" (creation) of the Aegean region (land of Greece), with a poetic, transcendent and lyrical, as well geoscientific language, based mainly on the poetry of the modern Greek Nobel Price (1979) poet Odysseous Elytis, as well it summaries the very early emergence of the Greek civilization (Aegean, Cycladic, Classic, Hellenistic). The second part of the speech emphases the ancient Greek philosophy of Nature and especially the role of Water in it. "Nature” in a broader sense, is fundamental in the ancient Greek philosophy; it constitutes the creative basis of the philosophical questioning and the roots of Science. Still, it goes beyond the reality perceived by our senses; it is a comprehensive term; what philosophy and science is trying to “see” beyond the surface.

"Our foundations are in the mountains"

The poem «Genesis», an introduction to "AXION ESTI" (is worthy) by the Greek poet Odysseus Elytis (1911-1996), is deeply heretical. It expresses a fundamental experience of (existential) boundaries being drawn, between inner and outer world, a «fundamental distinction», a philosophical logic system. It is extremely difficult to be translated. Its essence and its language are unique.

"When . . . "the sea was born, and I saw and admired, the Aegean Islands"; the thousand of Greek Islands "emerged". My country "has tall mountains shaped like eagles the vines in ranks on the volcanoes' flanks and the houses more white.
. . ." , that is the geological approach of the creation of the Land of Greece:

“My foundations (are) in the mountains
and mountains raise people on their shoulder
and over the memory burns unburned bramble.

Memory of my people to say... (the poet names the Greek mountains, such as
Pindos, Athos etc.)

On this land the emergence of the Greek civilization (Aegean - Cycladic, Minoan, Archaic, Classic, Hellenistic) occurred, that is the roots of the foundation or the foundation of the European - Western Civilization, as the myth of abduction of Europe (Phoenician young lady

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was taken from the head of the Gods, Zeus and transferred in Greece (Island of Crete), for whom the continent Europe was named).

The second part of the speech outlines the ancient Greek philosophy of Nature and especially the role of Water in it.

Gaia (Gaea, Γαία), the ancient Greek goddess personifying the Earth (=Mother Nature) in its role as the beginning of life, is self-existent and unborn, the Big Mother, the Almighty Goddess. Gaia actually personifies the general cosmic frame within life is being evolved, or better to say, Gaia itself constitutes an integral system with life. She is called Big Mother, Mother of all, All-powerful, Supreme Goddess. According to Greek mythology, Gaea and Eros (Love) are the first "creatures" after Chaos. Earth and Eros: what a poetic, racy and substantial expression!

Gaia (variant spelling Gaea) is etymologically a compound word of "Ge, "meaning “Earth” in modern Greek. In English, the root "Ge" still relates to terms such as geology (Ge/o/logos = words or reason about the Earth) geography (Ge/o/graphos = writing about Earth) and displaying an ancient connection to the term Gaea.

Furthermore, Gaia represents a significant, scientific hypothesis (theory) of the last thirty years which views the Earth in its entirety as a hyper- organism. Which are though the facts that geoscientists have nowadays at their disposal in order to adopt a stance towards this conjunction and why do we turn to myths again? From cognitive and psychological view, every myth is catalytic for the human way of thinking, as it simplifies the inexplicit scientific approaches through narration. No matter how many doubts might have been raised concerning the myth, it is still considered to be a primary form of historicity. Carried by the word, it is a quite philosophical and mainly pedagogic way of conveying knowledge; an allegoric attestation.

The fundamentals of Nature, Earth and Universe sciences had been established during the first Classic Greek period of Philosophy (=sciences).

Modern sciences and the embryonic knowledge about Nature and its functions have their roots in the so called pre-Socratic philosophers: Thales, Heraclitus, Anaximander, Xenophanes, Lefkipus and Democritus (6th to 5th centuries BC), as well as later Aristotle, Theophrastus, Epicurus, (4th c. BC) Strabo, Plinius (1st c. AD) and many other pioneers of human thought.

“Nature”, in a broader sense, is fundamental in the ancient Greek philosophy (classical period); it constitutes the creative basis of the philosophical questioning. “Nature is the most dominant ruler of all” and “nature provides everyone with everything”, points out the physician Hippocrates, Father of the Western Medicine. Nature is what we perceive around us “…this vast mass that we call the world”, according to philosopher Plato. Still, it goes beyond the reality perceived by our senses; it is a comprehensive term; it is what philosophy and science is trying to “see” beyond the surface. It is governed by measureless complexity that exceeds the possibilities of human comprehension.

The essence of reality remains the central point of the Greek philosophy’s questioning. “Nature is the substance of natural things…” and “…substance of some beginning and cause…” according to Aristotle. “Nature is self-sufficient”, according to Democritus (4th c BC). Nature, as a multifarious concept and essence, includes another significant dimension, namely: the motion and change; “…nature is the origin of motion…”, and “…an intrinsic mover”, states Aristotle. “The substance
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embraces all changes” according to the Stoics. It is eternal: "...it was and is and ever shall be ever-living fire." According to Heraclitus, it has not been created; it was and is and ever shall be “a world that was not made by any of the gods or men!”, because nobody created it. Euripides calls the substance “immortal nature”. Epicurus was talking about the “...indestructible and imperishable nature of substances...”. Finally, nature is a totality. In all Greek philosophy’s nuances, all natural things and phenomena are conceived as a total, no matter if they are in accordance or in diametrical opposition -even in rivalry- to one another. All beings, facts and phenomena, which govern their relations, are closely tied one to another; they depend on one another and are influenced one by another; they constitute an unbreakable unity, that is today’s definition of System. “Everything is one...”, claimed Heraclitus, who was the first among the natural philosophers to grasp the concepts of Unity and Wholeness. Philosophy in its first steps, which were taken by the Ions, specifically by Thales, hypothesized the fundamental unity of all material things, which lies beyond their apparent disparity. "Nothing exceeds the supreme nature...", claims the contemporary philosopher Kostas Axelos (1924-2010), who keeps up the Greek philosophy. Democritus states that “nature and teaching are similar; for teaching reshapes the man, and in reshaping makes his nature...”. That is to say, teaching (by speech) reshapes the man and alike nature, which constantly reshapes and hence creates a second nature in man. Plato, who has always focused on the man, extends his line of thought and points out that without knowing nature as a whole it is not possible to know the nature of the human soul.

“Everything happens by necessity and the cause of all that comes into being is the ‘whirl’ which is called necessity” says Democritus. While trying to connect to his primary thoughts the issue of “necessity” and “causality”, Democritus put emphasis on an additional factor, which contributes to the changes that happen in nature, namely: the chance. Of course the term “chance” does not mean here lack of cause, but merely lack of expediency: “...even though he seems to use chance in the creation of the world...”. Chance and Necessity are the two factors which drive the phenomena of this world, according to Democritus. “Chance and Necessity,” An Essay on the Natural Philosophy of Modern Biology (1971)” was also the title of the book written by the French biologist and Nobel prize-winner (in Medicine 1965) Jacques L. Monod (1910-1976); a book, which had such an impact on our undergraduate thought.

Democritus and J. Monod, as well as many other contemporary scientists, are talking about a causal chance and necessity which acts without the intervention of any other external power. Aristotle talks also about “reciprocal causality”. That is to say, there is a relation of mutual dependence or influence of cause upon effect. The same does Plato: “nothing can happen without a cause”, who also accepts that whatever happens in nature should necessarily have a cause, while for him, the cause is automatically interpreted into a creator.

The water cycle had been introduced by Xenophanes (6th-5th century BC), as well as by Anaxagoras (5th c. B.C.) and Aristotle (4th c. B.C.) “…The sea is the source of water and of wind. For without the great sea, there would be no wind, nor streams of rivers, nor rainwater from on high, but the great sea is the begetter of clouds, winds and rivers”; that is a laconic, though very clear formulation of the hydrologic cycle. While Thales of Miletus and Democritus believe that water is the cause of Earthquakes. Aristotle quotes in his text “Meteorologica”: “…Democritussays that the whole Earth is water...”. Today, we are talking about the solid crust of the Earth and the solid-semi-fluid mantle, while contemporary calculations refer to such big quantities of water inside the crust that can be compared to the oceans. The stoic philosophers were talking about
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the "water creature". Thales, who acknowledged the significance of water, exalted it to the structural element of the world: "he declared that water is the principle of all things."

As conclusion
We consider the ancient Greek philosophy as the seed of the later philosophic and scientific thought; however, what is amazing is the fact that it also includes some concise conclusions which we reach with the modern sciences. The big, primary and fundamental ideas of Greek philosophy about the perceptibility of nature and the different pervasiveness of knowledge (in Greek "logos") through nature about eternity, mobility, variability, holism as well as the naturalistic view in general keep occupying and puzzling the contemporary thought. The contribution of modern science to the respective problematic is significant and essential. Earth in its entirety is the big piece of nature which is immediate to us and which we will try to approach in the circle of the same questioning about the diachronic and recent scientific conclusions about it.

The study and interpretation of nature was done gradually through the myth, the religious views, the philosophy, the dogmatic unified post-aristotelic “science” and the modern fragmented science, which is classified in branches and specializations. This course included conflicts, ruptures, losses but also considerable profits. The magic of the myth disappeared in the paths of the more rational questioning of philosophy; still, this was a necessary rapture for human thought to be released and go ahead. Philosophy’s holistic view about nature vanished further in the fragmented science of the 19th century, which was divided into basic sciences to study the nature i.e., cosmography, physics, chemistry, geology and biology, while it almost disappeared in the 20th century’s technocratic views about super-specialization.

Aftermath:

Sun of justice, whom we feel
and you, myrtle branch of glory,
do not, I beg of you
do not forget my country! (Elytis)