

THE FOUNDERS OF WESTERN THOUGHT –
THE PRESOCRATICS

BOSTON STUDIES IN THE PHILOSOPHY OF SCIENCE

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THE FOUNDERS OF WESTERN THOUGHT – THE PRESOCRATICS

A Diachronic Parallelism
Between Presocratic Thought and
Philosophy and the Natural Sciences

CONSTANTINE J. VAMVACAS

Translated from the original Greek version
into English by Professor Robert Crist of the
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*To
EVA
and
KATERINA*

*The question was raised long ago, is still and always will be,
and always baffles us – What is Being (to be)?*
Aristotle

May you become yourself, through learning.
Pindar

Preface

There can be little doubt that the Greek tradition of philosophical criticism had its main source in Ionia . . . It thus leads the tradition which created the rational or scientific attitude, and with it our Western civilization, the only civilization, which is based upon science (though, of course, not upon science alone).

Karl Popper, *Back to the Presocratics*

Harvard University physicist and historian of Science, Gerald Holton, coined the term “Ionian Enchantment”, an expression that links the idea back in the 6th century B.C. to the ancient Ionians along the eastern Aegean coast, while capturing its fascination. Approximately within a seventy-five year period (600–525 B.C.) -a split second in the history of humanity- the three Milesian thinkers, Thales, Anaximander and Anaximenes, without plain evidence, but with an unequalled power of critical abstraction and intuition, had achieved a true intellectual revolution; they founded and bequeathed to future generations a new, unprecedented way of theorizing the world; it could be summarized in four statements: beneath the apparent disorder and multiplicity of the cosmos, there exists order, unity and stability; unity derives from the fundamental primary substratum from which the cosmos originated; this, and, consequently, the cosmic reality, is one, and is based not on supernatural, but on physical causes; they are such that man can investigate them rationally. These four statements are neither self-evident nor self-explanatory. The attempt was to orient the mind in a rational, critical spirit, and this attitude would prove decisive and seminal for the entire development of Western thought.

Virtually all of the Presocratic thinkers are from Ionia. Thales started the presocratic period, followed by Anaximander, Anaximenes, Pythagoras (mathematization of nature), Xenophanes (“absolute” and “apparent truth”), Heraclitus (change and “becoming”), Parmenides (change and “being”), Empedocles (four “elements”, two opposite “forces”), Anaxagoras (“mind” and “matter”). The atomists Leucippus and Democritus would round out the great age of the Presocratics. By the mid-fifth century B.C., there had already been a turn in Greek thought from “nature” to “man”. The anthropological view of the cosmos introduced by Socrates was exhaustively explored in the work of Plato and Aristotle. Attic philosophy is, however, not only a new creation; it is also a recapitulation. All the themes that were treated during the Presocratic age are examined anew and ordered within a wider and fuller unity, creating the unparalleled edifice of Platonic and Aristotelian philosophy. The widely accepted assumption that Greek philosophy and science starts with

Socrates is, thus, unfounded. “What would Plato have been, as well as Socrates”, asks Martin Heidegger, “without Parmenides”?

The present book is a *balanced interdisciplinary philosophic-scientific* presentation of the presocratic tradition. Two are its main goals: to make the founding and evolution of Western thought accessible to the reflective man of our day, and to shed greater light also on the scientific dimension of the Presocratics’ work, showing—probably for the first time systematically—its timeless value. The Presocratics were the first to interpret the universe *critically*, through a unique combination of *rational thought, intuition* and *observation*, excluding any intervention of divine and supernatural powers. At the same time they appealed to man’s *conscience*, elevating man to a *free* and *responsible* position. They posed the fundamental questions about “truth”, “being”, “becoming”, laid the foundations for the tradition of *critical*—not dogmatic—investigation, without which science would not exist; and invented ‘mental tools’ for approaching the physical world, concepts which prevail in today’s natural sciences, such as: universality of the physical laws; unity underlying seeming plurality; hidden ultimate reality underlying phenomena; interrelation and interconnection of all beings; man-observer as an inseparable part of the natural world; merging of opposite concepts; shift in emphasis from matter to process; inherent dynamic balance; mathematization of nature; atomic theory; intelligent-design theory; attribution of quality to quantity; symmetry; isotropy; measure; order; evolutionary process and natural selection. Karl R. Popper has described this impetus as the “Presocratic Enlightenment”: “As to the Presocratics, I assert that there is the most perfect possible continuity of thought between their theories and the later developments in physics; whether they are called philosophers, or pre-scientists, or scientists matters very little, I think. . . Few philosophers or scientists are aware of the influence exerted by some of the oldest ideas of Greek philosophy and Greek science upon our most advanced scientific theories: upon classical physics and chemistry, relativity, quantum theory, genetics, and even molecular biology”.

The spirit of the Presocratics is above all *holistic*. Thus, *philosophy* (metaphysics, ethics, psychology, sociology) and *science* (physics, chemistry, cosmology, biology) are two areas that have as yet remained inviolably *joined and unified*. Immediately after the Presocratics, *wholeness* disintegrates. The fragmentation into separate sciences and specializations would become the exclusive context of thinking and investigation of things—a phenomenon that leads, finally, to the perception that this detached state of affairs corresponds to ultimate reality itself. Martin Heidegger summarized the situation in one sentence: “What the word *cosmos* expresses for us today is the unregulated confusion of a technical mechanism of information which arose in the face of unfragmented *nature* and usurped her place, while its functioning remained accessible and controllable only through calculation”.

There is, however, today an increasing keen longing for unified-all-embracing knowledge, as inherited by the Presocratic tradition. For the first time since the Presocratic age, there is an effort in the Western world toward a “reconciliation” and “reunification” of the natural sciences, arts and humanities. Harvard University professor emeritus, Edward O. Wilson, in his visionary book *Consilience: The Unity of Knowledge*, notes: “I had experienced the Ionian Enchantment. That recently

coined expression I borrowed from the physicist and historian Gerald Holton. It means a belief in the unity of the sciences—a conviction far deeper than a mere working proposition that the world is orderly and can be explained by a small number of natural laws. Its roots go back to Thales of Miletus, in Ionia, in the sixth century BC”. Many of the new directions and movements in the last half of the 20th century are in their essence transdisciplinary, leading to corrosion of the boundaries between the disciplines by unifying their subjects. R. Sanders Williams, the medical school dean of Duke University, at the convocation for new graduate and professional students on August 21, 2003, cautions them from becoming isolated in their particular discipline: “essential as this may be, the mastery of specialized knowledge and technique should not be all that defines your experience at the University”. Only fluency across the boundaries will provide a clear view of the world as it really is, of who we are and of why we are here. This longing is wonderfully expressed by one of the most prominent physicists of the 20th century, Werner Heisenberg: “The most significant areas of pure science are those in which there is no longer any concern for applications, in which pure intellect, chiefly, traces the hidden harmonies of the universe. This most inner region, on which science and art can scarcely be distinguished from one another any longer, is perhaps for mankind today the sole place that reveals the truth with utter clarity. . . through which unfolds a glimpse of portions of the universe about which one can speak only in parables”.

All the above views of contemporary scientists revive anew the spirit of the Presocratics. To be sure, a ‘return’ to them is impossible. What is feasible, however, is to *assimilate their thought* in an attempt to *transcend* today’s situation: “What is needed is to learn afresh, to observe, and to discover for ourselves the meaning of wholeness. . . Such insight implies an original and creative act of perception into all aspects of life, mental, and physical. . . Then the whole field of *measure* will come into *harmony*, as fragmentation within it comes to an end. . . When such a harmony prevails, man can then not only have insight into the meaning of *wholeness* but, what is much more significant, he can realize the *truth* of this insight in every phase and aspect of his life”. These words of D. Bohm, a distinguished 20th century physicist and philosopher, best reflect the everlasting spirit of the Presocratics.

Athens, Greece

Constantine J. Vamvacas

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Introduction

What we call intellectual cultivation is first of all the need to rediscover, inherit, and augment that, which created the nobility of the world.

André Malreaux

Paul Valery remarked somewhere that only the person who possesses a passion for the *future* can conceive the substance and value of the *past*. What is the value and meaning of today's thinking man becoming involved with the developments of the Greek spirit? Is it the wonder or is it the respect for the unalloyed clarity of a deep spirit capable of penetrating with a unique combination of *intuitive* and *rational* power the profoundest problems, the solutions to which will thereafter challenge mankind? M. Heidegger observed that the origin of all philosophic inquiries is to be found in the Presocratics. And what of the answers they provided? Did they simply establish the *beginnings* of European rationality? Or were they inspired by a *timeless* critical and logical vision that continues today to cast light on contemporary human issues of freedom, the environment, philosophy, and the natural sciences, together with its most advanced theories regarding symmetry, chaos, force, interaction, basic particles, the creation of the universe, dualism, holism, et al.?

Indeed we are filled with wonder, excitement, respect, a sense of timelessness; at the same time, however, we feel a thirst for self-knowledge, a passion to understand *how our thought itself* took shape, forming our perception of the cosmos and life. We yearn to become acquainted with a mode of thought less empirical than our own and because of that *less biased*. Prior to the first Greek thinkers, neither philosophic schools nor scientific views existed. Setting out from the abstract world of myth and poetry, the Presocratics would create for the first time on European ground those *intellectual foundations* upon which Western thought would thereafter expand. Here precisely lies the complex difficulty of examining the genesis of the Greek spirit. The difficulty is both *objective* (language, texts) and *subjective* -the angle (present or past) from which this approach is attempted.

Within today's crystallized intellectual structures, *language* comprises a comfortable means of interpersonal communication and understanding. In the case of the study of the origins of European thought, however, language and logic cease to be rigid, predetermined intellectual tools and become themselves subject to examination *in relation* to the developmental stages of the Greek thought. Evidently difficulty in comprehending the first Greek thinkers is therefore to be expected, given that not only their *ideas* but also their very *words* are under investigation.

The problem becomes more intense when we turn to the primary sources as they were organized in the memorable work of Hermann Diels. The extant authentic

texts are few. These are the fragments contained in post-Socratic allusions by other authors, especially by Plato, Aristotle, and his pupil Theophrastus, expressed in the light of the problems, criticism, and philosophic systems of these thinkers themselves. The later Testimonia tradition is based to a great extent on the work of Theophrastus and other indirect information. Thus, it is evident that misinterpretations and arbitrary conclusions are likely to arise. Contemporary researchers have cast new light on Presocratic thought, but most of them have been unable to avoid interpretations colored by their own point of view.

Which view is the correct one? Inevitably, every interpretation is to some degree subjective and one-sided. Only the careful interrelation of these views and illumination of concepts from different perspectives can bring about a systematic, spherical (though as yet faint) picture of early ancient thought. For there is a factor which we must not neglect: Then the road of thought was *single* and *unified*. Only later did it diverge into various philosophical and scientific paths that led to today's specialization and thereby to one-sided views of the world. With a certain nostalgia physicist E. Schrödinger was to observe: "I am of the opinion that for this reason the philosophy of the Greeks is so attractive to us today, for nowhere in the world, before or after, did there arise such a progressive and harmonious structure of knowledge and thought, *without* the fatal *fragmentation* which has been at work for centuries and has become unbearable in our time".¹

With awe and great care we will attempt to unearth the development of Presocratic thought, which was at once so many-sided and bold. This was a mode of thinking that, striving to open new horizons, created for the first time philosophic and scientific conceptions -an achievement which would be perceived by many as a true *intellectual revolution*.

"The world in which we live", writes C. Malevitsis, "is a mysterious and wondrous showing forth. This is the dizzying phenomenon of the revelation of being. In the face of this we are so small that we cannot perceive its unlimited significance. Or perhaps we do not as yet possess that *perceptiveness* whereby we will become able to conceive it".² Presocratic thinking offers us precisely this *perceptiveness*.

¹ E. Schrödinger, *Die Natur und die Griechen*, 28.

² C. Malevitsis, *Philosophia kai Thriskeia (Philosophy and Religion)*, 15.

The Juncture

*Mankind's historical pivotal point appears to be situated
around 500 B.C.,
within conceptual developments that unfold between 800 and
200 B.C.
Here is found the deepest juncture of history.
Man as we know him today took shape.
This epoch will be named in short,
The 'Pivotal Period' (Die Achsenzeit).*

Karl Jaspers

The Greek spirit did not spring suddenly into being. There was a slow, gradual development from a-logical, mythological conceptions toward rational thinking, which would constitute the basis of European philosophy, science, and ethics. For centuries the boundary between the *mythological* and the *rational* would remain blurred. The historical moment at which the Greek spirit began to realize that *truth* could be traced by means of *critical thought itself* is the 7th century B.C., This is the decisive, seminal moment for the subsequent intellectual development of humanity. During that same historic epoch, in an inexplicable and enigmatic way, various fundamental developments happened to be taking place in as yet mutually isolated cultures: China (Laotse, Confucius), India (Machavira, Buddha), Israel (the great prophets Jeremiah, Ezekiel), Iran (possibly Zoroaster), and Greece (the Presocratic philosophers, Socrates, Plato, Aristotle). It is the singular historical juncture in the world that K. Jaspers named “the pivotal period of human history”.¹

Whereas these fundamental intellectual developments coincide chronologically and possess the common basic purpose of seeking the essence of the world through thought and contemplation, they spring from *different points of departure* and proceed in different directions: In the immense kingdom of *China* one finds a dominant *practical concern* for proper human relations within a well-governed state. In *India* the *religious longing* of man poses the crucial issue regarding the deeper meaning of life. In *Greece*, conversely, where neither a unified state nor a religious hierarchy exists, “it is through wonder that men now begin and originally began to philosophize”.² It was the *wonder* and *questioning* the Greek felt toward the harmony of nature that led him to posit for the first time the vital question of the *origin*

¹ K. Jaspers, *Vom Ursprung und Ziel der Geschichte*, 14.

² Aristotle, *The Metaphysics*, 982b11.

and the *essence* of the world.³ This was a decisive inquiry that created the rational foundations of Western philosophy and science, also leading, however, to the final *intellectual dividing line* between Europe and the East, with all that this might entail.

W. Nestle was to write in the introduction to his work, *Die Vorsokratiker*: “The very fact that the Greeks turned to philosophy already sets them apart from others. The *way*, however, in which they did so raises them above the other nations of antiquity”.⁴ Here we must take care to observe a fundamental point: indubitably, it was the rational spirit of the Greeks that established the foundation of philosophy and the physical sciences – an event that was decisive in the development of European civilization. To attribute *precedence*, however, to that civilization as opposed to great Eastern cultures like those of China and India constitutes a one-sided conception, exclusively from a European point of view. The Greeks *founded* Western civilization, simultaneously *alienating* it, however, from Eastern cultures. This decisive *polarization* led to the formation of the Western spirit, at the same time depriving it of other human potentialities, which will remain for the Western world undeveloped and unexploited.

In what way did the Greeks philosophize? Why did they philosophize thus and not otherwise? What were the factors that determined the direction of Greek Pre-socratic thought and unquestionably first stamped the European way of thinking philosophically and scientifically? These are crucial questions that must not receive one-sided answers. To comprehend the genesis of Greek Presocratic thought, we must return to the origins and first steps of intellectual development in Greece. The natural environment, social structures, myth, religion, impact from Eastern cultures, and other basic factors contributed to the formation of the personality of the Greek, as manifested in the Homeric epic as well as in the lyric and elegiac poetry of the time, which we will briefly examine below.

Nature

*Greek nature, and probably she alone
finds herself not at the ‘moment’ of Hegelian antithesis,
but at the ‘moment’ of Hegelian synthesis with man.*

Konstantinos Tsatsos

The natural environment, *in conjunction* with the way it is viewed, undoubtedly played a significant role in the formation of the character and destiny of the ancient Greek. The Greek landscape is made up of a continuous series of definite, yet not extreme, contrasts. Extended mountain ranges divide the land, creating numerous small, enclosed valleys and plateaus, as well as innumerable bays and inlets. The

³ Twenty-five centuries later, the now elderly Goethe would write: “The greatest height man can reach is wonder (*das Staunen*)”. (Letter to his friend, Eckermann, 2–18-1829).

⁴ W. Nestle, *Die Vorsokratiker*, 7.

shores of Asia Minor from which civilization set forth, as well as those of Epirus and the gleaming isles of the Aegean, are characterized by a seamless linking of land and sea, under a deep blue, luminous sky. The Greek lives in a supremely mild, delectable climate, bathed by an unparalleled abundance of light. Compared with other countries, “Greece possesses the best and most gentle climate”,⁵ confirms world-traveler Herodotus. The pure light and embroidered beaches that divide the land’s edge from sea’s threshold are factors that decisively influenced the formation of the Greek character. The endless interpenetration and symbiosis between land and sea offered him an archetypal pair of opposites, and the roaring waves on the sea’s surface, in contrast to her mute, invisible, and motionless depths, might well have created in him the first unconscious hint of the antithesis between ‘seeming’ and ‘being,’ ‘becoming’ and ‘being’.

The challenge of survival in a land that is not very fertile would reinforce his virtuosity and inventiveness. The natural world around him was a harmonious and approachable sphere that challenged him toward mastery and understanding. These achievements brought him satisfaction and self-confidence. The vastness of the sea and sky that spread before him evoked wonder, curiosity and the desire for greater discoveries and expansion. The sea would constitute an ideal means of communication with neighboring peoples. This contact would reveal different civilizations, religions, manners and customs, knowledge, and ways of life, and would provide opportunities for comparison, competition, interaction, conflicts, doubts. All this, for the restless and critical spirit of the Greek, would constitute fertile soil for his mental development. “The [Greek] sea”, Odysseus Elytis, Nobel laureate in Literature (1979), observed, “bears no relation to the vast flowing meadow which spreads out before other sea-side countries. This element, which elsewhere divides people, here unites them”.⁶

The Greek *viewed* the spectacle of the surrounding natural cosmos with a sense of religious wonder and questioning. This kind of *theorizing* is unique in the world and would be decisive in the birth and development of Western philosophy and science. To theorize, *theo* [derived from *thea* (spectacle) + *orao* (see; look) > *theoros* (spectator) > *theoria* (viewing; contemplation; consideration)] signifies at once ‘look at’, ‘observe’, ‘perceive’, ‘contemplate’, consider, and later: ‘interpret of facts of a certain category’. R. Bultmann observes significantly: “At the base of this notion of vision is found the special Greek conception of being, of reality, as shaped material. Those things are true which one can savor the texture of, describe their form, their relationships and their structure . . . To view a thing is at the same time a touching of the form which defines the object as an entity”.⁷ The ancient Greek identifies the beautiful – in formal plasticity, in symmetrical lines, in the harmonious whole. This was the ground of his creation of unsurpassable monuments of sculpture and architecture. From the time of Homer, he glowingly described nature that for

⁵ Herodotus, *Historiae*, III, 106.

⁶ O. Elytis, *Anichta Chartia* (*Open Papers*), 601.

⁷ R. Bultmann, *Zur Geschichte der Lichtsymbolik im Altertum*, 17.

him constituted a harmonious, well-ordered (*cosmos*) totality. The Greek gods are visible; they possess a human shape; they move among us, see, and are seen. For the ancient Greek it was a deep expression of reverence to immortalize the gods' human form in sculpture. Referring to this unique way of *theorein* (observing) by the ancient Greek, W. Otto notes: "What is dominant and supreme is not power expressed in action but *being* (das Sein) which is revealed *through form*".⁸

What is the ancient Greek perception of nature? The word *physis* (nature) derives from the root *phy-*, meaning 'birth', 'growth', 'evolution', but also 'essence', 'existence', 'the natural constitution of a person or thing'. Opinion differs as to which meaning is the oldest. Thus, the interest of the ancient Greek in nature turns toward two basic understandings: on the one hand toward the process of *genesis* and *growth* of beings, and on the other hand toward the true *essence* and *constitution* of beings. The last constitutes a clearly *dynamic* Greek view of the universe, which demonstrates how unjust has been the notion in some quarters that Greek thought was static.⁹

The ancient Greek perceived nature as an ordered whole which he would represent in the richly meaningful term *cosmos*, meaning first (Homer) 'ornament', 'decoration', but also suggesting the existing order in the universe and in society as well. Man conceives himself to be an inseparable, organic part of nature. Man is not reduced to being "the dust of the ground"¹⁰ of the Old Testament, fallen through original sin, and distanced from God, from whom he received the terrible pronouncement, "cursed shall be the ground through you".¹¹ On the contrary, the ancient Greek lived and moved amidst nature "overflowing with gods",^{11A22} believing that "the world is most beautiful, being the creation of God".^{11A1(35)} A miracle is not needed to perceive God, since for the ancient Greek nature herself, within which he lives, is divine. This Greek conception of harmonious nature and the human being's inseparable place, as man, within her, will certainly later enable the Greek to dare to inquire into the world, gradually shaking off the 'supernatural' of Greek mythology.

Society

Democracy is better than tyranny.

Periandrus the Corinthian (7th century B.C.)

The twilight of the brilliant Mycenaean civilization (12th century B.C.) was followed by centuries of extensive relocations involving the descent of less advanced Hellenic tribes and the establishment of settlements reaching the islands of the

⁸ W. Otto, *Die Götter Griechenlands*, 10.

⁹ Only three centuries later in the works of Aristotle the original meaning of the word *physis* as *development* will be abandoned, to establish its second meaning as the true essence and form of a thing.

¹⁰ Old Testament, *Genesis*, 2, 7.

¹¹ Old Testament, *Genesis*, 3, 17.

Aegean, the shores of Asia Minor, an -later- the coasts of Sicily and Southern Italy. In the 8th century B.C., these shifts led to the creation of many small 'city-states', civilized communities of an ethnic character with political autonomy. Aristotle was to give the following definition of them: "A community made up of a great number of towns forms the perfect city, which, finally attained the limit of virtually complete sufficiency, and thus while it was created for the sake of life, exists for the good life".¹² The Greek landscape indubitably contributed to the formation of these small autonomous 'cities', because of the configuration of the landscape, which *divides* the Greek land into numerous small plateaus, valleys and gulfs enclosed by mountain ranges, and the Aegean Sea with its countless islands.

The existence of many independent 'city-states' did not prevent the simultaneous creation of a common *Greek* consciousness. The commerce and colonization that brought the Greeks into contact with the neighboring 'barbarians' (the word 'barbarian' meaning peoples of other tongues and races without the derogatory sense it later took on) fostered their awareness of their shared Greek cultural heritage – their common manners and customs, the same gods, social-political structure, and language; the *Greek (Hellenic) language* is characterized by unparalleled lucidity, precision, suppleness, and aesthetic dexterity. The appellation *Hellene* (Greek) would prevail as a mark of this ethnic identity which was expressed and reinforced both in the international political sphere through military alliances, religious affiliations, Amphictyonic Leagues, bi-lateral agreements, guilds, and community federations, and on the cultural level in epic poetry, geometric art, pan-Hellenic athletic meets (e.g. Olympic games) and musical events, and shared centers of worship.

During this period, ca. 800 B.C., the Greeks constructed the Greek alphabet that comprises a significant and historically unaltered contribution of the Greeks to European civilization. The older form of Greek writing was the Mycenaean B Script, which seems to have fallen into oblivion around 1200 B.C. along with the collapse of the Mycenaean culture. During the Geometric period the Greeks created a new Greek alphabet. Using Phoenician writing as a model, they proceeded to a fundamental innovation: for the first time they introduced vowels into the Northern Semitic alphabet (which was made up exclusively of consonants and a few semivowels), thus transforming this script into an elegant *phonetic* alphabet in which each letter represents a specific phoneme sound. Such a simple but ingenious modification is justifiably considered a discovery of universal historic importance. Henceforth all of the wealth and tradition of Western civilization would be inscribed in Greek, or in slightly different forms of the Greek alphabet (Latin, Slavic). The establishment of the Greek alphabet undoubtedly signifies a decisive development for future relationships and deeper communication among the Greeks, contributing at the same time to the founding of a common, pan-Hellenic consciousness.

Nature, religion, community were at first unbreakably linked concepts whereby the same words were used on different planes of thought. Thus, for example, the word *cosmos* that, as we have seen, expressed the harmony of nature, was also used to characterize a government of justice and law. The idea in physics and geometry

¹² Aristotle, *The Politics*, 1252b28.

of *symmetry* and *homogeneity* that will appear in the first Greek cosmological theories is reflected in the ‘city-state’ both structurally and geographically. The laws established by the ancient Greek as the basis of community life will also be sought by him in nature, as he dares *first* to set forth a deterministic physical cosmological system, free of supernatural and divine forces.

During the course of these radical socio-political changes of the 7th and 6th centuries, B.C., the Greek realized that as opposed to Justice, injustice is linked to arbitrary actions, conflict, arrogance, to *hybris* (insolence; wanton violence). This realization led to the formulation of general ethical principles that reflect the spirit of the age as it is also expressed in the relevant aphorisms of the *Seven Wise Men*.

Religion

*For the Greeks nature itself was inherently divine,
since their gods were also not outside or above nature.*

Friedrich W.L. Schelling

The gods of the Greeks are first of all *powers* and secondly *persons*. However, the Olympian gods are not omnipotent. Behind and above them lies *Moirai* (fate), *Eimarmeni* (destiny), a significant, early abstract concept. Religious life belonged to the social life of the city; and irreverence -as would be seen in the tragic example of Socrates- constituted a crime against the *polis* itself. Since society was the guardian of the sacred, the *priesthood* simply comprised a formal authority without the power and influence that it held in other cultures like those of Egypt and India. Consequently, the priesthood did not inhibit or influence the growth of the rational spirit.

The gods were seen as an inseparable part of the natural order in which they participate. Their interventions are neither uncontrolled nor illogical. To Greeks the divine was expressed within the cosmic order; they did not require, nor did they seek, miracles or prophets to infer divinity. Given this view, it is evident that the moment the Greek will attempt to interpret the world *rationally*, his religious feeling toward the Olympian gods will be radically shaken.

There was no dogma and consequently no proselytizing. For the same reason- unlike people of other faiths- they could not conceive the creation of the universe *by* god because they believed that the divine was already a part of the cosmos. This conception would enable the Greek, undistracted by religious assumptions, later to discover exclusively *natural* causes for the beginning of the universe.

This emancipation of the spirit from religion was also unquestionably aided by the fact that *knowledge* was never considered irreverent, for “it cannot be that god is jealous”.¹³ According to the old Testament knowledge comprises original sin: “And the Lord God laid this command upon the man: ‘From every tree in the garden you

¹³ Aristotle, *The Metaphysics*, 983a2.

are free to eat; but from the tree of knowledge of good and evil you must not eat; for the day that you eat of it you shall certainly die".¹⁴ On the contrary, the Greek believed that through *knowledge* "he had a share of the divine attributes".¹⁵

It is evident that with the continual intervention of the gods, the Greek of the Homeric period did not feel independent, and thus he did not consider himself responsible for his actions and feelings. He attributed everything to the gods, and he even lacked the realization that he himself could be the cause of his decisions and feelings. In spite of this, he never felt overwhelmed or humiliated by the gods. He viewed their interventions and actions more with amazement than with awe. Furthermore, as B. Snell observes, "the Greek divinity -in contrast to the Hebrew, the Hindu, and the Chinese- invites man to imitate it. For this reason the Greeks always ran the risk of becoming complacent and arrogant, exceeding human limitations. This vanity, which the Greeks called *hybris*, was inherited by the European mind in spite of its Christianization".¹⁶

Already, however, in the Homeric epics, one can detect in various elements parodying the gods, a weakening of 'faith' in them. The gradual weakening of their trust in the Olympian gods would lead gradually to the laying down of two roads of abstraction: the *rational philosophy* of the Ionians and the *mysticism* of the Orphic teachings, which would answer the profoundest religious needs of the Greeks. This new mystical religion originating in Thrace would extend during the 8th to 6th centuries B.C. to the major areas of Greece, and in spite of initial resistance would finally merge with local religious practices without replacing them. Its content is so radically different from the Greek spirit of the Homeric age that it is justifiably assumed that its provenance was eastern, most likely India.

The mystic tendencies of Orphism aside, we see from the early archaic period forward the inborn tendency of the Greek toward a global natural and social determinism and order. During the Presocratic period Orphism was not to exercise a great influence on the formation of Greek thought. As W.K.C. Guthrie was to observe epigrammatically: "Orphism was too philosophic for the masses, too mythological for the intellectual pride of youthful philosophy. To find a wider response, it had to wait until the distinctive greatness and distinctive limitations of the classical age had broken down".¹⁷

Myth and Epic Poetry

*No other people has demonstrated such a balance
between imagination and reason as did the Greek.*

Wilhelm Nestle

¹⁴ Genesis 2, 16-17.

¹⁵ Plato, *Protagoras*, 322a.

¹⁶ B. Snell, *Die Entdeckung des Geistes*, 55.

¹⁷ W.K.C. Guthrie, *Orpheus and Greek Religion*, 238.

Myth comprises the initial attempt to comprehend reality through images and stories, which, however, conceal the truth. From the moment the question, “What is truth?” will be posed, will begin the stirring effort of logical thought to uncover and reveal the truth encoded in myth. Greek myth inherently contains the seeds of reason because it is characterized by causal relationships. In pre-Homeric Ionia -a center for colonists from various areas of the Greek mainland, who brought with them the mythical traditions of their birthplaces- began the gradual shaping and classification of the diverse legendary material that finally would comprise the great mythical cycles of the *Argonauts*, of *Thebes*, of *Argos*, of *Troy*. In the same systematic manner, the clear structure of the Olympian pantheon would crystallize from the first theogonic and cosmogonic myths.

Already evident within these materials is the inborn tendency of the Greek toward *order*, a tendency that two centuries later would lead the Ionian thinkers to the realization of the first natural philosophy. “No people progressed as did the Greek, entirely on his own initiative and internal necessity, on the road from myth to reason. Nowhere can distinguish so clearly the dialectic of mythical consciousness, which derived from man recognizing himself as the *creator* of the mythical forms that till then had been viewed as a world outside and above himself”.¹⁸ In these words W. Nestle would underline the uniqueness of the Greek spirit.

The main means of the handing down of myth is the heroic epic. Already cultivated from the beginning of the Geometric period (1000 B.C.) as an oral composition, epic poetry achieved its most perfect expression and development in Homer, who from all indications lived during the 8th century, B.C. In the *The Iliad* and *The Odyssey*, the first tendencies toward *demythification* are already clearly drawn. And when comparing the *Iliad* with the later *Odyssey*, we find a shift in the ideal of the hero from that of *somatic* to that of *intellectual* prowess. Homer, however, never exposes this intellectual capacity, in detail.

The impact of the Homeric epic on the cultural development of the Western world was enormous. Although it was primordial, the Homeric perception of man and the world comprised the first step in European thought. The ensuing one would be Hesiod.

Hesiod – The First Cosmogonies

*Every true poet is a prophet and a pioneer.
Hesiod is the herald of lyrical art and Presocratic philosophy.*
Evangelos Roussos

Ascending the narrow road to the left of the small crossing a few kilometers outside Thebes on the way to Delphi, we soon arrive at a charming little village on the deep green slope of Mt. Elikon. It is Askra. Here Hesiod was born around of the end of the 8th century B.C. His life was difficult and laborious. He tended sheep on the mountainside, and here in the midst of nature he conceived his *Theogony*. As he

¹⁸ W. Nestle, *Vom Mythos zum Logos*, 7, 20.

tells us, one moment the nine muses appeared to him: “and gave a scepter to me, a shoot / Of blooming laurel, wonderful to see, / And breathed a sacred voice into my mouth / With which to celebrate the things to come / And things which were before”.¹⁹ He would be the *first* European poet to present his work *eponymously*. In contrast to the Homeric epics, which reflect the aristocratic life of Ionia, his verses are frugal and modest, derived from tough rural life.

The rational thought of Hesiod lies at the opposite pole from the mythic concepts of Homer, though they are very close in time: In his two great didactic works, *Theogony* and *Works and Days*, Hesiod is the first Greek thinker who does not entertain but illuminates. He does not narrate ‘myths’ but communicates ‘truths’. He does not line up divinities but places them in a consistent, complete, ordered system. He poses the question as to the beginning of the world, and he transmutes theogony into cosmogony. He does not extol heroism but highlights diligence and justice as the highest good. Considered by many to be the first Greek philosopher, his mind had a decisive influence on later speculative thought.

Hesiod consciously and emphatically opposes for the first time to the ‘many lies’ of myths the ‘truth’ that the gods entrusted to him through the muses: “we know enough to make up lies / Which are convincing, but we also have / The skill . . . to speak the *truth*”.²⁰ This pronouncement, which comprises a major juncture in the history of thought, marks at once the birth of philosophical and scientific thinking – the threshold of the long road that leads thenceforth to the quest and exploration of verity.

Hesiod’s cosmogony may not have been unique, but certainly it was the one in the Geometric age that was most mature and complete. From the various other theogonies of the so-called ‘theologians’²¹ -Orpheus, Musaius, Akousilaus, Epimenides, Pherekydes- only fragments have survived. Both the authenticity and the chronology of the Orphic theogony are difficult to establish. Perhaps we had best speak simply of a group of parallel versions of the Orphic theogony which, set down long afterward chiefly by neo-platonic writers, express the same general spirit but with many points of difference – for example, in regard to the origin of things.

“First of all (*protista*) *Chaos* came to be, and then broad-bosomed Earth (*Gaia*), . . . and Love (*Eros*), the most beautiful among the immortal gods”.²² In these lines Hesiod begins his *Theogony*. At the same time he answers the two major questions he raises, as to the *beginning* (*protista*) and the *all* (*panton*), and he clarifies in embryonic form four basic concepts which will occupy philosophy and science ever since: regarding ‘time’ (*protista*), ‘space’ (*chaos*), ‘matter’ (*gaia*), and ‘force’ (*eros*).

Hesiod would pose for the first time the question of the beginning of the world in a manner more scientific than theological. Responding to the indirect question of *who* created the world, the Old Testament answers: “In the beginning God created

¹⁹ Hesiod, *Theogony*, 30–32.

²⁰ Hesiod, *Theogony*, 27–28.

²¹ Aristotle, *The Metaphysics*, 983b29, 1000a9, 1075b26.

²² Hesiod, *Theogony*, 116–117, 120.

the heavens and the earth”.²³ Hesiod -and all later presocratic thinkers as well- was not concerned with the *who* of the Creator, but with the *what* that took place. “Chaos was created first of all, and then / Broad-bosomed Earth . . . /and Eros”, Hesiod would write in his *Theogony*. “At the beginning, there was an explosion,” Steven Weinberg was to write in his book, *The First Three Minutes*.²⁴ While the answer of today’s science appears different as regards subject matter, it responds to the very question first posed by Hesiod, referring not to a person-creator but to *what* happened. His response then was *matter* (earth) and *force* (Eros); today the answer continues to be *matter* (free elementary particles) and *force* (weak, strong, electromagnetic and gravitational forces, originally *unified*).

With the same rational approach that he conceived the beginning, he would also grasp the *all*, the Universe, in which he would consistently and systematically place the genealogical tree of the gods, thus becoming the first Greek theologian. His various gods comprise not only objects of worship but also organic parts of cosmic coherence and order. The *all* is conceived as something ordered, consistent, harmonious – an idea later to be expressed in the word *cosmos*.

Hesiod deeply influenced ancient Greek thought. He posed for the first time three fundamental questions – as to ‘truth’, the ‘beginning’, and the ‘coherence of the *cosmos*’. His answers predictably still reside within the mythic realm of personification. Demythification and the transition from *analogy of personal beings* (theology) to the causal *relations between things* (physical sciences) will take place in stages with the maturation of the Greek mind. Nevertheless, the ground-breaking questions he raised for the first time mark a decisive dividing line in the history of philosophical thought and in the beginning of the Greek philosophic quest for ‘truth’ and the unveiling of ‘being’. With Hesiod, the Geometric period closes. “He epitomizes its experience”, E. Roussos was to state epigrammatically; “he summarizes its ideas, and he blazes the trail toward the Archaic period. He transmutes the old and prophesies the new. Every true poet is a prophet and a pioneer. Hesiod is the herald of *lyrical art* and *Presocratic philosophy*”.²⁵

Personality – Lyric Poetry – Art

*The fairest thing in all the world . . . to me
Is the heart’s beloved.
Sappho (ca.600, B.C.)*

On July 4, 1964, on the hill of the Pnyx, just below the Acropolis of Athens, the Japanese physicist Hideki Yukawa, Nobel Prize Laureate in physics, gave a lecture in the conference ‘Athens Meeting 1964’ on ‘Intuition and Abstraction in Scientific

²³ *Genesis* 1, 1.

²⁴ Weinberg, S., *The First Three Minutes*, 2.

²⁵ *Historia tou Hellinikou Ethnous (History of the Greek Nation)*, II, 179.

Thinking'. Yukawa posed the question as to why science achieved its present level, as a result of its foundations in Greece and not in any other land. The Chinese, too, with Laotse and Chuangtse had developed a sound philosophy of nature and life, yet for some reason it did not lead to science. What was the characteristic trait of the Greek mind that constituted the foundation of philosophy and science? The answer, for Hideki Yukawa, was: "The important point would appear to be the *balance* or *cooperation* between *intuition* and *abstraction* . . . Speaking in this way, I can not help tracing the history of science back to Greece. There, not only were intuition and abstraction in complete harmony and balance with each other, but there was also no such thing as the estrangement of science from philosophy, literature and the arts. All these cultural activities were close to the *mind* and *heart* of human beings".²⁶ In the character of the Greeks there existed neither excessive imagination to the detriment of the mind, as most likely in India, nor suppression of the feelings by reason, as probably in China. In accordance with their innate genius, *reason* and *intuition*, *instinct* and *logic*, co-existed in fertile balance. It is precisely this unique harmony which sets them apart from other great peoples. "It was the combination of passion and intellect", B. Russell was to state, "that made them great, while they were great. Neither alone would have transformed the world for all future time as they transformed it".²⁷

During the two centuries following Hesiod, fundamental social and political developments, growth of commerce, encounters with other peoples, and the widening of geographical horizons would lead to a gradual awakening of the personality of the Greek that would be expressed in all facets of life: in freedom of thought, in personal responsibility, in lyric poetry, in the plastic arts, and in human relationships, and in civic life. Perhaps no other people behaved less like a herd or a mass than did the Greek. Already the fact that the Greek political structure -in contrast to the vast governmental establishments of other eastern countries- was the small 'city-state' in which the individual was not nullified by insignificance, suggests how crucial it was for him to operate as an influential social unit. This was also a vital pre-condition for the later establishment of Democracy. In the art works of the great eastern civilizations, the artist remained in the background, anonymous. In Greece, conversely, already Hesiod had found a way to refer to himself in the third person as the creator of the *Theogony*; and the later artists, poets, thinkers, political leaders presented their works under their own name with pride and a high sense of responsibility. In this fertile ground of free thought and intellectual competition, the seeds of philosophy and science would soon bear fruit.

The awakening of the personality of the Greek appears nowhere more clearly than in the early lyric poetry, which developed mainly in the Ionian and Aeolian communities. The *epic* -the nostalgic narrative of the mythical heroic age that belonged definitely to the past- no longer expressed the restless spirit of the Greek who during the 7th and 6th centuries, B.C., was encountering great socio-political

²⁶ H. Yukawa, *Intuition and Abstraction in Scientific Thinking*, 58, 65.

²⁷ B. Russell, *History of Western Philosophy*, 41.

turmoil. Now the Greek was deeply feeling for the first time the need to express his emotions, his thoughts, his personal experiences, his very being. Consequently there was a historical necessity to turn from the literary genre of the *epic* to that of *lyric poetry* and finally to an independence expressed in Attic *tragedy*, reflecting the human journey from dependence upon the gods to emancipation of the personality.

Lyric poetry, like the Homeric epic, presented itself at the outset in a highly perfected form. The *Iambus* (Archilochus, Simonides, Hipponax) satirized, ridiculed, and mercilessly blasted persons and situations, highlighting the nothingness of human existence. The *elegy* (Callinus, Tyrtaeus, Mimnermus) urging resoluteness in both battle and political strife, elevated love within the transience and mutability of human life. The *lyric monody* (Terpandrus, Alcaeus, Sappho) to the musical accompaniment of the lyre sang of pain, friendship, erotic passion, the beauty and delight of life. *Lyric choric* poetry (Alcman, Stesichorus) -celebrative, gnomic, often exhortative- was based on myth and hymns to gods, heroes and living persons. From the latter *tragedy* will later arise.

Through these matchless monuments of the oldest period of lyric poetry the personality of the Greek arose and expressed itself. For the first time there arises a disparity between outward and inward values, between traditional and personal convictions. In Homer, *external* appearance coincides with the *internal* endowments of the man. Now Archilochus derides the imposing officer of noble bearing and prefers the one who is short and bandy-legged, provided his "feet are on the ground and his heart is full".²⁸

The individual develops his own personal subjective values: "The fairest thing in the entire world . . . to me / Is the heart's beloved",²⁹ Sappho would sing. Feeling and sensuous experience take on value. Now, for the first time appears an abstract concept of the *soul* – not as a bodily organ but as the bearer of an inward power, not as an entity that functions only after death, when it deserts the Homeric body, but as a vital vehicle of an esoteric intensity.

"The Greeks", Bruno Snell notes, "developed a counter-awareness. (To glory and might) they opposed the simplicity, frugality, and naturalness which constitute the essential characteristics of the Greek people They remained true to Solon's perception that a super-human power punishes wrong, even though they felt the new obligation to support the right as *their personal concern*. Also, in this regard, they valued prudence and meaning of measure".³⁰ For, as Solon wrote, if these virtues are not present, people "are fain to make ruin of their great city by their thoughtlessness".³¹ In Athens toward the end of the 6th century, B.C., Cleisthenes would establish the foundations of the first democratic political system. The same era saw the extension of Greek colonies along the whole Mediterranean coast as well as

²⁸ Archilochus, 58.

²⁹ Sappho, 5, 3–4.

³⁰ B. Snell, *Die Entdeckung des Geistes*, 213–214.

³¹ Solon, *Elegy*, 3.5.

on the Black Sea, an event which was to affect the later development of European civilization.

The Persian wars deeply marked the Greek character. Around the middle of the 6th century B.C., the Greeks became aware of the impending threat of the Persian empire. This realization would lead to the first rallying of all the Greek peoples and their eventual victorious united struggle against the Persians. The 5th century, B.C., dawned beneath the heavy shadow of Persia's plans for expansion, which foresaw the imposition of a vast empire. United for the first time, the Greeks countered the numerical superiority of the Persians with moral resolve and tactical prowess. They would fight for freedom itself and prove victorious. The victories at Marathon and Salamis assured the continuity and development of Greek culture and European civilization as a whole. The contribution of the Greeks in curbing the Asian thrust determined the future of Europe.

The Persian wars marked not only the later historic direction of the Western world but also the rise of thought and art from the *archaic* to the *classical* period. Heraclitus's statement, "War is father of all things"^{12B53} expresses thus not only a philosophic conviction but also *personal experience*. The founding of democracy and the birth of Attic Tragedy comprise peak manifestations of the self-awareness and self-knowledge developed by the Greeks. The serene smile of the archaic *kouros* was to vanish, the center of gravity of his body was to shift and lend the first *motion*, the first step toward the communal, as expressed in one of the first statues created after the battle of Salamis, 'The Boy of Critias'³² (ca.485, B.C.). At the same moment the center of gravity of Presocratic thought also turned toward the problem of *change* and *motion*. The balance of symmetrical facets in archaic art would give way to dynamic, harmonious *syntheses of opposing forces*, a conception which was to find its most perfect expression in that singular creation of the classical age, the Parthenon. At the same time, Heraclitus would make the unity of all things depend on the *balanced reaction of opposites*. Shortly thereafter, the Athenian Anaxagoras would place 'mind' in front. The same is true in classical -as opposed to archaic- art where the rational and the intellectual prevail. Thus, English art historian A. Ashmole was to observe: "The idea dominates, and one feels that the creation of a work of art has now become a totally conscious intellectual process that is understood and controlled. That is classical art".³³

Foreign Influence

*The gift for abstraction, with its limitless possibilities
and (we must add) its inherent danger,
was the peculiar property of the Greeks.*

W.K.C. Guthrie

³² Acropolis Museum, Athens.

³³ Cited in *Historia tou Hellinikou Ethnous (History of the Greek Nation)*, III.2, 271.