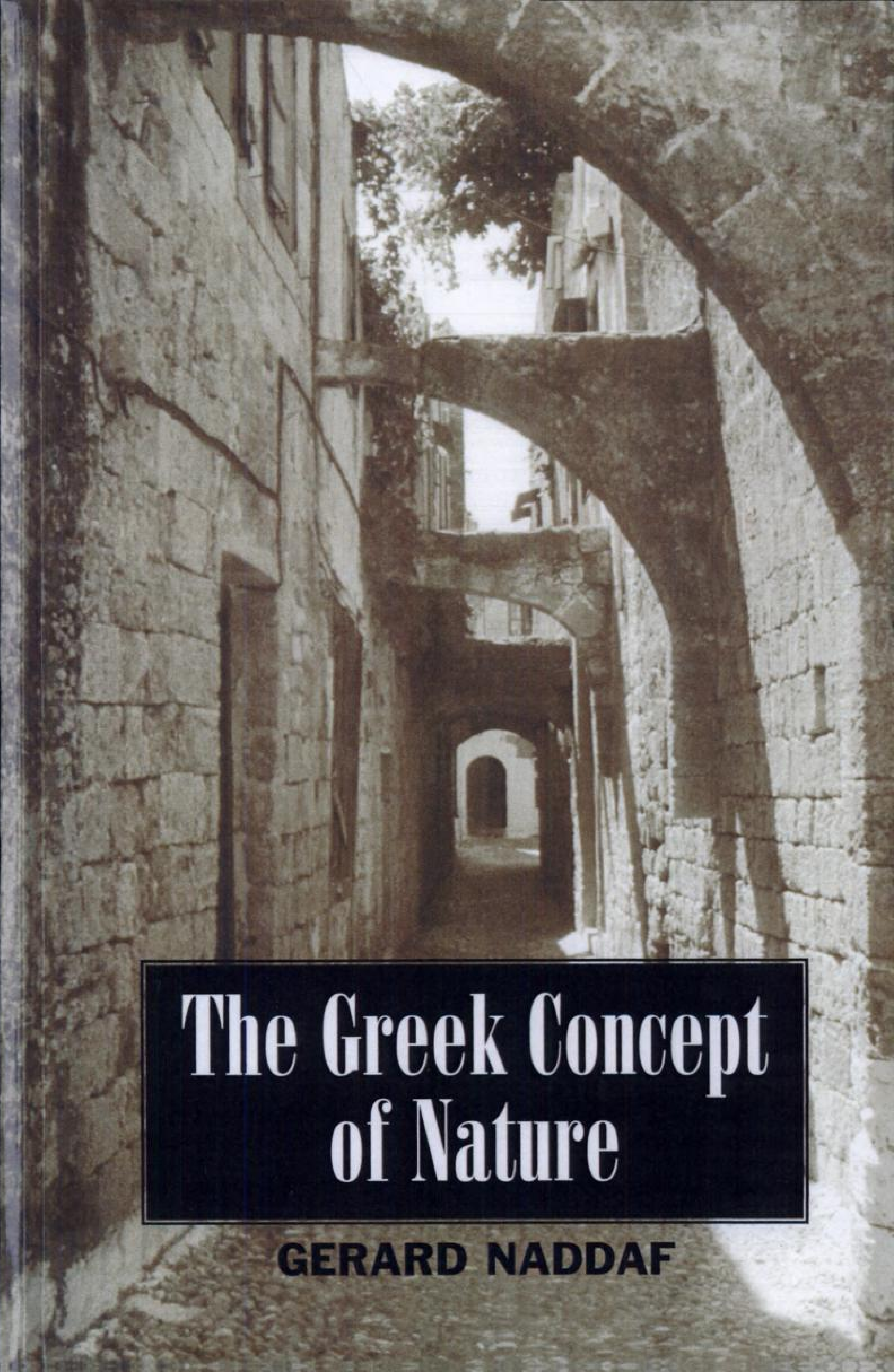

The Greek Concept of Nature

GERARD NADDAF

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Preface

In 1992, I published a book entitled: *L'origine et l'évolution du concept grec de "physis."* It met with a generally favorable reception among reviewers, and over the years, I received encouragement to produce an English edition of the work. It seems that the idea of nature in ancient Greece fascinates scholars in a variety of different fields.

While the present volume, *The Greek Concept of Nature,* retains the germ that initiated the 1992 work, it is not a simple translation of the earlier volume. There has been a considerable development. This is due primarily to further reflection on the subject—albeit also with the engagement with new scholarship. This development with new ideas will be even more evident in the two subsequent volumes: *Plato and the Peri Phuseōs Tradition* and *Living in Conformity with Nature*. The focus of the latter will be Aristotle and the Hellenistic Tradition, which was not initially treated in the 1992 work.

I would like to express my gratitude to Luc Brisson, Pierre Hadot, Robert Hahn, Pierre Pellegrin, Tony Preus, Tom Robinson, and the late Mathias Baltes and Trevor Saunders for their encouragement. I would also like to thank Benoît Castelnérac, Alex Livingston, and Richard Allen for their editorial assistance. And, of course, SUNY Press for their tolerance for my delinquent manuscript.

Translations from the Greek are my own unless otherwise indicated. After some reflection, I decided to employ transliterated Greek throughout, in place of Greek characters. I have transliterated the η and ω by ē and ō. The iota subscripts are indicated at the end of the long vowel, for example: ῳ gives ōi. In order to lighten the text, I have not reproduced the accents. In my view, this makes the work more accessible to an audience that includes readers who are not specialists in the field.

Finally, I would like to thank the Social Sciences and Humanities Research Council of Canada and York University for their generous support.

ABBREVIATIONS

DK	H. Diels and W. Kranz, *Die Fragmente der Vorsokratiker,* 6th ed., Berlin: Weidmann, 1951.
KRS	G. S. Kirk, J. E. Raven, and M. Schofield, *The Presocratic Philosophers,* 2nd ed., Cambridge: Cambridge University Press, 1983.

What follows from these texts is that the pre-Socratics understood by the expression, *historia peri phuseōs,* a true history of the universe, from its origins to the present, and this history certainly included the origin of mankind. However, I argue that the *historia* included more than this. In my view, the *historia* was about how the present order of things was established and thus included the origin and development of human culture and/or society. This is precisely what we find in Plato's detailed description of accounts of the *peri phuseōs* type in book 10 of the *Laws* which is included in these texts. Moreover, this is consistent with the general account and structure of cosmogonical myths. Their aim is also to explain how the present natural *and* social order emerged from beginning to end. This is subject of chapter 2.

In chapter 2, I begin with an analysis of myth and, in particular, a cosmogonic myth. A myth is considered to be a true story that relates *how* something real came into existence. Because myth wants to bring about the truth it proclaims, events that occurred *ab origine* are reenacted in ritual, that is, demonstrative acts that are perceived as having been performed at the beginning of time by gods or ancestors. This is also the case with the cosmogonic myth, providing both an explanation for the present social and natural order and a guarantee the present orders of nature and society will remain as they are. In a cosmogonical myth both cosmic evolution and cosmic order are modeled on and expressed in terms of the socio-political structure or life of the community. From this perspective, the society in which ancient humanity resides is the logical starting point. Thus, in order to explain how the present social order came into being, the cosmogonic myth must necessarily begin with the birth of the world (a cosmogony), then recount the birth of mankind (an anthropogony), and finally relate the birth of society (a sociogony or politogony). For ancient peoples, society comes into existence without a real past in the sense it only reflects the result of a series of events that took place *in illo tempore,* that is, before the "chronological" time of the people who narrate the myth.

I examine an excellent example of such a cosmogonic myth: the great creation epic, the *Enuma Elish*. This myth narrates how the sovereign god Marduk established the present order of things. The *Enuma Elish* begins with a description of the primordial reality (or chaos). It then describes the birth and evolution of the *present* order of things (natural and social), a universe that exhibits law and order. This is the result of a combat between Tiamat and Marduk, or more precisely, between two generations of gods representing disorder and order respectively. Following this, we can easily follow the birth of humankind (and its reason for being) and the type and structure of society in which humans will reside. The *Enuma Elish,* like all cosmogonic myths, which relate how the world was delivered from regression and chaos, was reiterated and re-actualized each year in the capital city during the New Year festival. A series of rites re-actualized the battle which had taken place *in illo tempore* between Marduk (represented by the king) and Tiamat (the Dragon symbolizing the primordial ocean). The victory of god and his cosmogonic work assured once again the regularity of nature's rhythms and the good state of society in its entirety. The ceremony was attended by the social elite who renewed their oath of allegiance to the king, just as the gods swore an oath to Marduk when he was elected king. They would have listened with reverence to the sacred epic, and its recital and reenactment would have persuaded them how an "ideal state" should be organized and why their loyal support should be unequivocal.

Following this, I examine Hesiod's *Theogony* which is another prime example of a cosmogonical myth. The *Theogony,* a hymn in honor of Zeus, explains how the god, after a series of socio-political power struggles, defeats his enemies and dispenses, as the new ruler, privileges and obligations among the immortals, thus establishing and guaranteeing the permanence of the present order of things. I begin, however, with some important preliminary remarks including Hesiod as an historical figure, his relation with the alphabet, and, most important, how his reference to the Lelantine war reinforces the thesis that the *Theogony* is essentially "conservative," since it tends to praise and support the aristocracy—indeed, it gives the aristocracy a mythical justification, since it anchors the institution in a cosmogonical myth. I then analyze the overall structure of the *Theogony* beginning with the cosmogony strictly speaking and show how this myth has the same three part schema that one finds in the *Enuma Elish* creation story. In conjunction with this, I show that Hesiod's *Theogony* explains the origin of the organizational structure and code of values of the gods and by extension, the heroes and nobles of Hesiod's time.

I then show the most notable difference between the cosmogonic myth presented by Hesiod and that of the *Enuma Elish:* the absence of ritual. Indeed, even if Hesiod's *Theogony* offers an explanation of the origin and the evolution of the world and proposes an exemplary socio-political model of "existence" for mankind within the world order established by Zeus, what is striking about Hesiod's account is that, in it, the periodic renewal of the world, humanity, and society is no longer necessary. In fact, the manner in which the cosmogony is represented in Hesiod's *Theogony* strongly suggests that the renewal ritual no longer has a reason for being. A comparison of the roles played by Zeus and by Marduk in their respective cosmogonies clearly demonstrates this. Unlike Marduk, Zeus does not intervene in the natural order of things. He is simply at the origin of a new socio-political order. This may explain why Hesiod's theogonic text unfolds in a perfectly linear and irreversible way. Unlike Marduk, Zeus does not recreate what is already in place: the physical universe as we know it. I attribute this novelty in Hesiod to the collapse of the Mycenean civilization. There is no doubt, however, that Hesiod's *Theogony* would have been performed (and thus ritualized, so to speak) before an audience. Further, there is no doubt that it was addressed to an aristocratic elite and that it was meant to enhance, if anything, their value system: a Homeric and thus a conservative value system at least by the then current standards.

I then turn to the *Works and Days* which presents, in my view, a very different position. While it does contain several traditional myths that convey messages that the social group could have considered as having been transmitted by its ancestors, in many respects it is advocating a new type of social reform, a new type of general *aretē*. Indeed, in the *Works and Days,* Hesiod contests the Homeric conception of *aretē* and offers another in its place. No longer the possession of nobles and heros, the *aretē*-norm now belongs to another class of men. The *panaristos,* the complete man, is the successful farmer, and *aretē* now signifies the qualities that enable a person to prosper and avoid famine.

In the *Works and Days* as in the *Theogony,* the kings are again at center stage; however, the description offered by Hesiod in the former is radically different from the latter. Hesiod directly challenges the kings of Thespies with an astonishing amount of free speech. In the *Works and Days,* the kings are unequivocally characterized as greedy and their verdicts as corrupt. In the *Theogony,* receiving gifts in exchange for delivering judgments is a right of a mediator or king, and Hesiod painted there a rather flattering picture of the custom. In the *Works and Days,* Hesiod is clearly vexed by the system of gifts. He doubts that the verdict or *dikē* will be straight, and he suggests that he has firsthand knowledge of this. In Hesiod's eyes, this system of justice must be replaced at any cost, for it clearly has a legal force. If one considers that the *Works and Days* unequivocally argues that the justice system of the *basileis* must be replaced with a more objective (if not codified) notion of justice (and since it must have been "performed" on a regular basis), it must have had a lasting and subversive effect on subsequent generations. From this perspective, Hesiod is certainly a catalyst for western political paideia; indeed, an advocate and initiator of a new revolutionary way of thinking which will influence political ideals and their corresponding cosmological models.

In chapter 3, I examine the first rational account of the *peri phuseōs* type, that of Anaximander of Miletus (610–546 BCE). In this chapter, I argue that the present order of things for Anaximander comprises not only the physical world strictly speaking but also the socio-political world in which the investigator/author resided. From this perspective, I concur somewhat with W. A. Heidel, for whom the aim of Anaximander's book *Peri phuseōs* was "to sketch the life-history of the cosmos from the moment of its emergence from infinitude to the author's own time." This is precisely what Hesiod is attempting to do in the *Theogony*. He sought to explain how Zeus established the present order of things, natural and social. This is the aim of a cosmogonical myth in general, and Anaximander is clearly attempting to accomplish the same end. This is why he must begin with a cosmogony and then go on to an anthropogony and finally to a politogony. However, his approach, as I attempt to show, is radically different since his explanation is not only naturalistic, but he clearly and distinctly separates all three developments.

I begin my study of Anaximander's *historia* with an analysis of the origin and development of his cosmological model. This necessitates beginning with an analysis of his chronological starting point, that is, *phusis* as *archē,* and why he choose *to apeiron* to qualify this entity. I then examine his cosmogony, noting the similarities and differences with its mythical antecedents. The central idea is that the cosmos grows, like a living being, from a seed or germ. This germ contains the two primary opposites hot and cold. Once the separation of the mutually hostile opposites commences, the natural operation of their reciprocal power accounts for all natural change.

Following this I give a detailed examination of Anaximander's famous cosmological model which places an immobile earth at the *center* of a celestial sphere surrounded by three concentric rings which contain the heavenly bodies. The examination shows that Anaximander conceived his universe or cosmological model according to a mathematical or geometrical plan which reflects a propensity for both *geometrical* equality and symmetry following the series 3. Although this conclusion has been adopted by the vast majority of commentators there is considerable disagreement on the origin and significance of the numbers and consequently about the origin of the cosmological model. I examine the four main hypotheses: (1) the numbers are the result of a sacred or mythical inspiration; (2) the numbers are the result of an astronomical inspiration; (3) the numbers (at least the 3 to 1 ratio) are the result of an architectural or technical inspiration; and (4) the numbers are a result of a political inspiration. I attempt to show that the political hypothesis is the only valid one, but for reasons that had not been hitherto evoked. I argue that the numbers that translate the sizes and distances of the heavenly bodies in relation to the earth correspond in some way or other to the three social groups of which the *polis* of Anaximander's time was composed: the aristocracy, the (new) middle class and the peasantry (or poor). Anaximander's cosmological model reflects what he saw as the only possible way of ridding the *polis* of the political dissention of his time: *isonomia*. In the final analysis, what we have is a sort of reciprocal relation between the microcosm of the city and the macrocosm of the universe.

The explanation that Anaximander gives us of the origin of humanity and of the other living beings (not mentioned by the poets or in mythical accounts) is, as in the case of his cosmology, the first naturalistic explanation in this domain. As one might expect, his explanation is entirely consistent with his cosmological system. Indeed, the same natural processes are at work. Living beings emerge from a sort of primeval moisture or slime which is activated by the heat of the sun after the initial formation of the universe. Based on the testimonia it seems safe to say that Anaximander argued that in the beginning members of the human species were born from a different animal species that was capable of nourishing them until such time as they could support themselves. Moreover, *man* no longer has the temporal and logical priority over *woman* that he possessed in the mythical accounts of the Greeks. Finally, since human beings have a real beginning in time, the origin of humanity and society are no longer represented as coeval; that is, human beings will no longer be seen as coming into existence within the context of a fully functioning society as it was the case in mythical accounts.

The most important obstacle we encounter in coming to terms with Anaximander's view on the origin and evolution of society is, of course, a lack of testimonia. Nonetheless, there is some non-Peripatician doxographical evidence which is not contested by commentators. These attest to Anaximander as a mapmaker and geographer. I show that geography and history are, in fact, inseparable at this point in time. Indeed, according to Strabo they are both closely connected with politics and cosmology and he cites Anaximander on the authority of Eratosthenes as a prime example if not the initiator of this. I argue meanwhile that Anaximander was no armchair philosopher. He formulated his theory through investigation and discovery; he travelled extensively, notably to Egypt via Naucratis. In this regard, I attempt to show that Egypt, or, more precisely, the Nile Delta, was seen as the cradle of civilization and, in certain respects, as the center of the universe. I argue that there is a good deal of circumstantial evidence for this, but the argument must be read as a whole. Some of the evidence will corroborate Martin Bernal's claims regarding the relation between Greece and Egypt, albeit for different reasons. It is all part of what one author has called the Egyptian mirage in ancient Greece.

In chapter 4, I attempt to show that most of the pre-Socratics wrote a work of the *peri phuseōs* type and that their respective *historia* followed the same three part schema that one finds in Anaximander and the cosmogonical myths that preceded him. I examine them in more or less the conventional chronological order: Xenophanes, Pythagoras and the Pythagoreans, Heraclitus, Parmenides, Empedocles, Anaxagoras and the Atomists: Leucippus and Democritus. In each instance, I begin with a synopsis of the historical and political milieu in which the philosopher resided. I attempt to show that each philosopher was an active participant in the social and political milieu in which they resided and often well beyond its confines, contrary to what most contemporary scholars seem to suggest. In conjunction with this, they all seem to have advocated the rule of law and all seem to have been strong pro-

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1

The Meaning of *Peri Phuseōs*

PROLOGUE

There is no doubt the Greek notion of *phusis* (usually translated as nature from the latin *natura*), has been decisive both for the early history of philosophy and for its subsequent development. In fact, it is often said the Greeks discovered "nature." But what did the earliest philosophers actually have in mind when they spoke of *phusis?* There is a great deal of discussion on the subject. In this opening chapter, this question begins with a linguistical analysis of the word, then examines the first (and only) occurrence of the word in Homer, the first use of the term by a pre-Socratic, and finally examines in detail the use of the term in the famous expression (and possible book title), *peri phuseōs*. The aim here is to help us understand not only what the earliest thinkers understood by *phusis,* but also how they conceived nature and why they developed the distinctive cosmologies we are familar with.

The Etymology of *Phusis*

In ancient Greek, an action noun and its result can be derived from every type of verb by means of the suffix *-sis* (Holt 1941, 46). According to Benveniste (1948, 80), the general meaning of words ending in *-sis* is "the abstract notion of the process conceived as an objective realization," that is to say "one expresses by *-sis* the notion as being outside the subject, and in this sense objective and established as accomplished from the fact that it is objective" (1948, 85). In other words, contrary to action nouns ending in *-tus,* when the word ending in *-tus* always refers to the same subject as the verbal form (i.e., *pausethai mnēstuos,* "to cease courting"), nouns ending in *-sis* are in syntactic liaison with transitive/factive or operative verbs (to make, to place, etc.). The verb takes the word ending in *-sis* for its object. Thus, the verb indicates (Benveniste 1948, 82) "the concrete actualization of the notion conceived on the noetic plan as effective and objective" (i.e., *dote brōsin:* to give something to eat; or *zētēsin poieisthai:* to realize an inquiry). As an action noun ending in *-sis,* Benveniste defines *phusis* as the (completed) realization of a becoming—that is to say, the nature [of a thing] as it is realized, with all its properties.[1]

Since the root holds a precise meaning, it logically suffices to find the root of the verb stem, from which the term *phusis* is derived, to discover its precise meaning. *Phusis* is derived from the verb *phuō-phuomai*. In ancient Greek, the *phuō* family has a number of particular characteristics. While it is easier to analyze the formation of the present starting from the Indo-European root **bhū-*, everything happens as if the group *phuō-phuomai* were derived from the root **bhŭ-*. Indeed, the nominal *phusis* as well as the present *phuō-phuomai,* has a short *ŭ,* while the root, **bhū-*bhŭ-*, has a long *ū*. The reason for the supposition that **bhū-* is the original root is because the primary meaning of the ancient root **bhū-* is to grow, to produce, to develop (Chantraine 1968–80, 4:123). Just as in the active transitive, *phuō* has the meaning "to grow, to produce, to bring forth, to beget"[2] and, in the middle passive and intransitive forms of *phuomai,* the meaning "to grow, to spring up, to come into being, to grow on, to attach to." Moreover, Homeric Greek knows no other meanings than "to grow, to produce," (in particular, in the context of vegetation), and in addition, these meanings are the only ones found in a number of other Indo-European languages besides Greek: in Armenian *busanim,* "I grow," *boys,* "plant"; in Albanian *bīin,* "to germinate," *bimë,* "plant;" not to mention the Slavic languages, which have representatives of a *bhū-lo-* meaning "plant." (Burger 1925,1; Chantraine 1968–80, 4:123). Again, although the group composed of the old aorist *ephun* (skr. *abūt*) and the perfect *pephuka* (skr. *babhūva*) evolved and took on the meaning of "becoming"—such that the root could be employed to complete the system of **a, es-*, "to exist, to be"[3]—its etymological meaning of "growth" still persists in Homer.[4]

If one considers that all the compounds of the term *phusis*[5] and its corresponding verb *phuō-phuomai* conserve the primary meaning of "growth, growing" throughout antiquity (and, in particular, in the context of vegetation), then it seems clear the fundamental and etymological meaning of the term *phusis* is that of growth, even if the meaning of the term evolved.[6] It therefore follows from a linguistic analysis of the word that, as an action noun ending in *-sis, phusis* means the whole process of growth of a thing from birth to maturity.

Phusis in the *Odyssey*

In book 10 of the *Odyssey*, the wily hero Odysseus relates the adventures of his wanderings to the Phaeacians, an idealized human community. However, Odysseus' adventures have nothing to do with the heroic antagonists of the *Iliad* but rather with giants, witches, sea-monsters, and the like—supernatural beings which inhabit the world of the irrational and the magical. Odysseus begins his tale by describing how he just barely escaped from the island of the Laestrygonians with his own ship and comrades while the other eleven ships in the fleet were destroyed and their crews killed and devoured by man-eating giants. He then finds himself and his crew on the island of Aeaea, the isle of the fair-tressed goddess Circe, aunt of the infamous enchantress Medea and of the Minotaur, daughter of Helios and Perse and granddaughter of Oceanus, one of the primordial entities in Greek cosmogonical myth.[7] Circe is a witch who turns people into animals—a widely diffused theme in folktales—and this is the initial fate of several of Odysseus' comrades. While on a reconnaissance mission, they arrive at Circe's enchanted palace in a forest. They are invited in and offered a potion mixed with what is described as "baneful drugs" (*pharmaka lugra,* 10.236). They drink the potion and forget their native land. Subsequently, they are struck with a *rhabdos* (10.238) or "magic wand" and turned into swine—although they retain their wits (*nous,* 10.240).

Upon hearing of their disappearance but not yet aware of their fate, Odysseus sets out in pursuit of his companions. While heading up the road, he is stopped by the god Hermes who instructs him in all of Circe's "deadly wiles" (*olophōia dēnea,* 289). The god tells Odysseus what he must do when Circe tries to bewitch him. Hermes gives Odysseus a plant, a *pharmakon esthlon* (10.287; 292) or "effective drug" which will prevent him from being transformed into a pig (10.287–92). The plant is an effective antidote to Circe's *pharmakon lugron*.[8] It stops change and provides protection against Circe's powers (10.287–92). But for the plant to work, Odysseus must in some sense understand its *phusis*. Thus, after drawing the *pharmakon* from the ground and giving it to Odysseus, Hermes proceeds to show/explain/reveal its *phusis* to him: *kai moi phusin autou edeixe* (10. 303). The plant is described as having a black root and a white flower (304). Moreover, it is said to be called *mōlu* or moly by the gods and is hard to dig (305) albeit not for gods for whom all things are possible (306). This is the one and only occurrence of the word *phusis* in the Homeric corpus. Indeed, it is the first occurrence of the term prior to its use by a pre-Socratic philosopher.

At first glance, the term *phusis* seems to be employed synonymously with *eidos, morphē,* or *phuē* (all of which are found in Homer), insofar as the moly plant is identified by its form.[9] It seems Homer could have written *kai moi eidos (morphē; phuē) autou edeixe*. However, that Homer does not employ the terms *eidos, morphē* or *phuē* suggests the possibility that the term *phusis* means something quite different from "form" or "exterior aspect." As already indicated, Emile Benveniste, as part of his analysis of nouns in *-sis,* suggests that in its appearance in Homer *phusis* can be defined as "the (completed) realization of a becoming" and thus as "the nature [of the thing] as it is realized, with all its properties."[10] In other words, while *eidos, morphē* and *phuē* designate the form or the physical constitution of a thing, *phusis* designates the process by which the object becomes what it is.

Many commentators claim Hermes only shows the natural form of the plant to Odysseus and there is no reference to growth or process in this example.[11] However, as Alfred Heubeck correctly notes, "*deiknunai* may mean not only showing something visible, but also giving instruction."[12] It is quite possible, then, that Hermes explains—and must explain—the whole *phusis* of the potent herb *(pharmakon)* to Odysseus in order to save him from Circe's spells. This would mean Hermes reveals both the external (black root,[13] milk white flower, etc.) and internal (that is, hidden) properties of the plant to Odysseus, even though Homer only explicitly refers to the external properties (10.287–92). This notion of hiddenness will be fundamental to Heraclitus' idea of *phusis.*[14] Meanwhile, since the moly plant is characterized as a "divine" plant and thus revealed in "divine" language,[15] there is no reason why Hermes, who possesses such knowledge, would not have explained the divine origin (that is, origin myth) of the plant in order to enable Odysseus to understand how and why it acquired its current powers.[16] After all, the gods generally do things and/or create things for a reason, and the secret is only revealed when the origin of the thing is known.[17] Moreover, this understanding of what Hermes says to Odysseus corresponds with Benveniste's etymological analysis. In order to be able to ward off magic, Odysseus needs more than simple possession of the moly plant when he confronts Circe.[18] To make use of the plant's magical power, it is likely Odysseus must understand why the gods created it, an understanding that requires that he comprehend its *phusis*—that is, the whole process of the growth of the moly plant from beginning to end.[19]

The First Pre-Socratic Occurrence of *Phusis*

Is there a relation between the etymology and the proposed Homeric meaning of the term *phusis* and the way it is used by the pre-Socratics? In my view, there is real semantic continuity here. Consider the first appearance of the term in a pre-Socratic work. Heraclitus states that although men do not or will not understand what his words reveal he will nonetheless engage in "distinguishing each thing according to its nature *(phusis)* and explaining how it is" (*kata phusin diaireōn hekaston kai phazōn hokōs echei,* DK22B1). In this fragment, the fundamental meaning of *phusis*—the nature of a thing as it is realized with all of its properities from beginning to end, or the whole process of growth of a thing from birth to maturity—is not in doubt.

Heraclitus states that to explain or reveal *(phrazein)*[20] the present state of a thing (perhaps to name it correctly!) requires an analysis of the nature *(phusis)* of the thing, that is, an analysis of how it originated and developed.[21] As Kahn notes, "This expression of Heraclitus suggests that, in contemporary prose, the term *phusis* had become specialized to indicate the *essential character* of a thing *as well as* [my italics] the process by which it arose."[22] In sum, to know the real constitution of a thing (what makes it behave and appear as it does) entails a knowledge of the processes that regulate its nature, and these processes are the same processes that were behind the origin of the present order of things.[23] In the final analysis, if Heraclitus wanted to accent the structure of the thing, he could have employed either the word *logos* or the word *kosmos,* that is, "distinguish each thing according to its *logos* or *kosmos*."[24]

Phusis must be understood dynamically as the real constitution of a thing as it is realized from beginning to end with all of its properities. This is the meaning one finds nearly every time the term *phusis* is employed in the writings of the pre-Socratics.[25] It is never employed in the sense of something static, although the accent may be on either the *phusis* as origin, the *phusis* as process, or the *phusis* as result. All three, of course, are comprised in the original meaning of the word *phusis*.

The Comprehensive Meaning of *Phusis*.

Although *phusis* is absent from the writings of early Ionians, that is, the first philosophic writings, it is unanimously accepted today, as it was in antiquity, that the concept of *phusis* was a creation of Ionian science. It was a creation to the extent the word permitted the Ionians to present a new conception of the world in which natural causes were substituted for mythical ones.[26] However, scholars are far from unanimous on what the pre-Socratics, beginning with the early Ionians, really understood by this term in a comprehensive sense, that is, as it must be understood in the expression *historia peri phuseōs*: an investigation into the nature of things. Indeed, some argue that although the early Ionians may be said to have invented the concept of nature *(phusis),* they had no single word for nature, that is, nature as an "all-inclusive system ordered by immanent law."[27] In my view, the early Ionians did indeed have a comprehensive vision of nature and this vision was reflected in the term *phusis*. In fact, a comprehensive vision of nature is not incompatible with the Homeric notion of the word *phusis* although this does not suggest that Homer in any way invented, influenced, or even understood the meaning *phusis* was

Collingwood (1945, 43) can be included as adhering to this interpretation when he writes: "Nature, for them [the Ionian philosophers], never meant the world or the things which go to make up the world, but something inhering in these things which made them behave as they did."

Phusis in the Sense of Primordial Matter *and* Process

The third interpretation is upheld by W. Jaeger (1947, 20).[40] Jaeger finds support for his thesis, at least in part, from the study of two passages of Homer's *Iliad* where it is said Ocean is the genesis of all gods and of all things: *Ōkeanon te, theōn genesin* (*Iliad* 14.201); and *Ōkeanou, hosper genesis pantessi tetuktai* (*Iliad* 14. 246). In these passages, according to Jaeger, *genesis* encompasses the same double meaning as *phusis,* and, as a result, "To say Ocean is the *genesis* of everything is virtually the same as calling it the *phusis* of everything" (Jaeger 1947, 20).

What he understands by this double meaning is, on the one hand, "the process of growth and emergence" and on the other, "that from which they *(ta onta)* have grown, and from which their growth is constantly renewed," in other words, its source or origin.

The interpretation of L. Lachier (1972, 667) blends well with Jaeger's when he writes, "le sens fondamental [of the word phusis] est l'idée d'une existence qui se produit ou du moins se détermine elle-même, en tout ou en partie, sans avoir besoin d'une cause étrangère."[41]

Now both Lachier and Jaeger are correct if *phusis* is understood as a synonym of the verb *phuomai* (to begin to grow) and if we agree with the old adage that it is inconceivable something can come from nothing. In this way, the double meaning is possible. Nevertheless, in the passages of Homer cited above, *genesis* implies a meaning Jaeger seems to have missed, namely, the "result" of this "productive power." Indeed, as Benveniste (1948, 76) correctly notes, Ocean gave birth to all beings, that is, to "a completed, accomplished 'birth'" ("une 'naissance' effective, réalisée"). From this perspective, the word *genesis* would cover the same triple meaning as the word *phusis* in Homer's works.

Jaeger also states *genesis* is a synonym of *phusis*. However, since the term *phusis* is absent from the first philosophical writings, how can it be argued with any certainty that *phusis* is synonymous with *genesis?* The answer is found in Aristotle's *Metaphysics* (1.983b7–984a4), where these same passages of Homer are quoted precisely to explain what certain writers (in particular, Plato) believe—namely, that "by having presented Ocean and Tethys as authors of the world's generation" *(Ōkeanon te gar kai Tēthon epoiēsan tēs geneseōs pateras),* Homer shares Thales' opinion on what constitutes *phusis*. The fact Aristotle does not agree with them is of little importance here. What is important is that certain authors argue that for both Homer and Thales, water is equivalent to the term *phusis* insofar as it is the principle *(archē)* or the first cause *(prōtē aitia)* of all things, and it is this element which generated the completed realities *(onta).*

Phusis in the Sense of Origin, Process, and Result

According to the fourth interpretation, which is that of Heidel, Kahn and Barnes as well as my own,[42] the term *phusis* in the expression *peri phuseōs* or *historia peri phuseōs* comprises three things: (1) the absolute *archē,* that is, the element or cause that is both the primary constituent and the primary generator of all things; (2) the process of growth strictly speaking; and (3) the outcome, product, or result of this process. In brief, it means the whole process of the growth of a thing, from its birth or commencement, to its maturity. More precisely, the term *phusis,* in the expression *peri phuseōs* or *historia peri phuseōs,* refers, at a minimum, to the origin and the growth of the universe from beginning to end. Indeed, the pre-Socratics, with whom this expression originated, were interested (at least initially) in a cosmogony in the literal sense of the word. They were not interested in a description of the universe as it is but in a history of the universe; in an explanation of its origin (*phusis* as absolute *archē*), of the stages of its evolution (*phusis* as process of growth), and finally of its result, the *kosmos* as we know it (*phusis* as the result).

In this regard, it is interesting to note such a cosmogony involves not one, but two departure points: a chronological and a logical. The chronological or temporal starting point is called chaos in the modern sense of the term: to wit, the state of confusion existing before creation. The logical starting point, on the other hand, is the *kosmos* itself, that is, the natural world conceived as a structured whole in which each constituent part has a place. Indeed, people have always sought to know how the present order of things originated from the primordial chaos.[43]

Presently, I would like to examine three series of texts which, in my view, demonstrate (1) this notion of *phusis;* (2) the relation between this notion and the method in vogue with the pre-Socratics; and (3) the relation between the generation of the *kosmos* and the expression *peri phuseōs* or *historia peri phuseōs*.

Several Concrete Examples Illustrating Such a Notion

An example which provides a good illustration of the first notion is found in Hippocratic works which focus on embryology. In order to treat the problem of generation, the author calls upon either empirical research, or analogies, or both. Thus, in the treatise *The Seed,* which forms a whole with the treatise *The Nature of the Child,* the author begins by informing us that the sperm (or seed)[44] comes from the entire body (ch. 1) of each parent (chap. 6–8),[45] after which he describes the evolution of the child's body inside its mother's womb. Chapters 22–27 contain a long digression where the author establishes an analogy between the growth of plants and the growth of embryos such that the womb *(mētra)* is to the embryo *(embruon)* what the earth *(gē)* is to the plant *(phumenon)* that lives in it. He concludes: "if you review what I have said, you will find that from beginning to end *(ex archēs es telos)* the process of growth *(tēn phusin)* in plants and in humans is exactly the same." (trans. I.M. Lonie)

In chapter 29, the author explains that his method is based both on the observation of facts and on analogy

> If you take twenty or more eggs and place them to hatch under two or more fowls, and on each day, starting from the second right up until the day on which the egg is hatched, you take one egg, break it open and examine it, you will find that everything is as I described it—making allowance of course for the degree to which one can compare the growth of a chicken *(ornithos phusin)* to that of a human being *(anthrōpou phusei).*" In sum, "you will find that the growth of the infant *(tēn phusin tou paidiou)* is from the beginning to the end *(mechris es telos)* exactly as I have described it in my discourse.

The meaning of the expressions *ex archēs es telos* and *mechris es telos* are clear. When it comes to enquiring into the *phusis* of something, it is the whole process from beginning to end which is understood. In the case of the embryo, the author is not concerned with "the way it is" but "how did it come into existence" and "of what basic elements is it composed." This explains Aristotle's pertinent remark with respect to his predecessors; to wit: they enquired into "how each being naturally came to exist rather than how it is" *(pōs hekaston gignesthai pephuke mallon hē pōs estin).*[46] Indeed, what counts for Aristotle is not the unformed embryo but the *ousia* or essence of a thing "for the genesis is for the sake of the essence *(ousia),* not the essence *(ousia)* for the sake of the genesis" (*Parts of Animals* 1.640 a 18–19). This is why he criticizes Empedocles directly after this passage because Empedocles argues that the characteristics proper to each animal are the result of accidental events, which occurred during their development. For Empedocles, the essence or form is not in the beginning, as it is for Aristotle. Indeed, for both Hippocratic physicians and pre-Socratic philosophers the process is something real, that is, it has a real history and is defined in relation to its material source. For Aristotle, it is a simple circular process in which the end of a cycle

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> it produces a particular determined effect. It can be combined with the other qualities, but will not be confound with them, because its action is not identical to theirs. And this action of qualities is once again their *dunamis*. The term thus designates both their essence and their proper manner of manifesting themselves. (Souilhé 1919, 36)[60]

Later, when Souilhé terminates the group of Hippocratic treatises, he observes that in the treatises where the influence of cosmological ideas is evident:

> the term *dunamis* designates the characteristic property of bodies, their exterior and sensible appearance, which permits their determination and specification. Thanks to *dunamis,* the mysterious *phusis,* the substantial *eidos* or primordial element, makes itself known by its action. This explains why it was later possible to pass from the known to the unknown, from appearance to reality, and how easy it was to establish a perfect equation between *phusis* and *dunamis*.[61] To state the nature of a thing or its property becomes the same since the two are inseparable and united by a genuine causal link. (Souilhé 1919, 36)

The terms *phusis* and *dunamis* are sometimes almost synonymous, but there is normally a perceptible distinction as illustrated in the following passage from Menon's *Iatrica:*

> Philistion maintains that we are composed of four forms *(ek d'ideōn),* that is to say, of four elements *(ek de stoicheiōn):* fire, air, water, earth. Each of these has its *dunamis* [the quality which characterizes it and makes it known]: fire has the hot, air the cold, water the wet, and earth the dry.

J. Souilhé next demonstrates how the Sophists adopted and transposed this terminology, and finally facilitated its introduction into philosophy. Thus, for Plato, *dunamis* can be defined as the property or the quality, which reveals the nature of a thing. The *dunamis* enables us to give a name to each thing that conforms to its constitution, and to place things in separate groups (Souilhé 1919, 149). Indeed, if the *phusis* designates the substantial foundation of a thing, it is thanks to its *dunamis* that this thing can reveal itself to us. This important relationship will resurface again further on, but now we turn to the third and final series of texts, which should clarify the meaning and scope of the term *phusis* in the expression *historia peri phuseōs*.

The Real Meaning of *Peri Phuseōs*

What follows are five texts, which show that what pre-Socratics understood by the expression *historia peri phuseōs* was a true history of the universe from its origins to the present. This history most certainly includes the origin of mankind. However, I will conjecture with the fifth text that it is probably that the logical starting point was the form of the society in which the philosopher resided. Thus, *historia peri phuseōs* could mean an investigation into the origin and development of the contemporary world (including the society in which the philosopher resided) from beginning to end. Let us examine these texts.

EURIPIDES: FRAGMENT 910 (NAUCK)[62]

The first text is taken from Euripides' famous fragment 910:

> Blessed is he who has devoted his life to scientific research *(tēs historias);* he will neither malign nor harm his fellow citizens, but observing the ageless order of immortal nature, will enquire from what source it was composed and in what way *(all'athanatou kathorōn phuseōs kosmon agērōn, † pē te sunesthē chō pēi chō pōs).* Such men would never take part in shameful deeds.[63]

In this fragment, we see that Euripides holds in high regard a certain type of doctrine or physical philosophy (probably that of Anaxagoras),[64] namely, the study or contemplation of "the ageless order of immortal nature, whence and how it was composed (or constituted)." Admittedly, the expression *peri phuseōs* is absent, but the term *historia,* in conjunction with lines five to seven (the italicized Greek) suggests this expression is to be understood. Meanwhile, several observations are in order. The expression, *kathorōn kosmon agērōn,* indicates that what is observed is the present *kosmos*. That is to say, the world that surrounds the observer, while that of *pē te sunesthē chō pēi chō pōs* (a corruption of *pēi te sunesthē kai hopēi kai hopōs?*) signifies this *kosmos* had a beginning and underwent a process of evolution. In this regard, we note that the verb most frequently associated with the nominal *kosmos* is *sunistēmi,* to compose, to put together (Kahn 1960/1993, 223). Moreover, the adjectives employed to describe *kosmos* and *phusis* are the same as those that appear in Homer's works (in the form of formulas) to describe the gods and their attributes. Thus, in *Odyssey* 5.218, Calypso is said to be *athanatos kai agērōs,* as is the famous aegis of Athena in *Iliad* 2.447.[65] These are also terms that Anaximander appears to have applied to his *archē*.[66]

HIPPOCRATIC TREATISE *ON FLESHES* 1.2

The second text is found in the Hippocratic treatise *Peri sarkōn (On Fleshes),* which the author could very well have entitled *Peri archōn*.[67] This text can clarify what may have been understood in the preceding text. The author strongly states that in order to compose a medical treatise, he will use the common opinions *(koinēisi gnōmēisi)* of his predecessors as the starting point. These common opinions are provided in the form of a cosmogony and anthropogony respectively:

> I need only speak of celestial matters *(peri de tōn meterōn)* for as much as it is necessary to show, with respect to mankind and other living things, how they developed and formed *(hopōs ephu kai egeneto)*, what is soul; what is health and disease; what is good and evil in man, and for what reason he dies.

Next, he keeps his promise in describing his cosmogony as follows: (1) In the beginning, all things were in a state of confusion *(hote etarachthē panta)*; (2) then, the elements from which all things are composed, separated in three stages to form the universe: aether, air, earth; (3) finally, the formation of the parts of the body began, emanating from the putrifactions caused by the heat left in the earth after its initial formation.

This text could not be clearer. It exemplifies without equivocation the common assumption at the time among the *phusiologoi*. According to this assumption, the constitution of all living things is analogous to that of the universe insofar as they originated from the same primordial stuff and are part of the same *kosmos*. There is doxographical evidence for this assumption in *all* of the pre-Socratics beginning with the early Ionians.[68] Moreover, it is obvious the expression *peri tōn meterōn* can be substitued for *peri tēs phuseōs*. I will return to this observation later.

XENOPHON: *MEMORABILIA* 1.1.11–15

The third text is taken from the famous passage in Xenophon's *Memorabilia*, where Socrates, the founder of the teleological method, fails to understand the procedure of the physicists:

> He [Socrates] did not even discourse, as so many others, about the nature of all things *(peri tēs tōn pantōn phuseōs)*, or how, what the physicists call the kosmos, came into existence *(hopōs kosmos ephu)*, or by which necessary causes the heavenly phenomena occur *(tisin anankais hekasta ggnetai tōn ouraniōn)*. Indeed, he showed the folly of those who dealt with such problems. . . . Moreover, in their disturbing research into the nature of all things *(peri tēs tōn pantōn phuseōs)*, some hold that there is only one substance, others that there are an infinite number: some that all things are in perpetual motion, others that nothing can ever be moved at any time: some that all life

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nature and society will remain as they are. This dual aspect of explanation and guarantee is especially characteristic of cosmogonical myths.

A cosmogonical myth is a traditional explanation about how (and why) the world order originated.[2] To the extent that a myth of origin always recounts a "creation"—how an object came to be—strictly speaking, the cosmogonic myth enjoys particular prestige. Since the origin of the world precedes all other origins—the creation of humanity or society presupposes the existence of the world—the cosmogonic myth is the exemplary model for all species of creation (Eliade 1965, 25; Burkert 1992, 125). This does not mean that an origin myth imitates or copies the cosmogonic model, but simply that any "new" situation completes the initial totality, that is, the world. In other words, each subsequent "creation" always implies an antecedent state that, in the final analysis, is the world (Eliade 1963, 52). This is why the origin myths of events as diverse as death, sickness, or a people briefly recall the essential moments of the world's creation. It is as if the power of myths of origin depended on the rudiments of cosmogony (Eliade 1965, 102–103; Burkert 1992, 125).

What interests me in particular here is the aspect of myth that guarantees the present state of things, the world in which a given social group resides, will remain as it is. This is precisely the aim of the mythico-ritual scenario of the periodic renewal of the world.[3] This ritual appears to have had two distinct origins: the cosmogonic scenario of a New Year, on the one hand, and the consecration of the king, on the other. The cosmogonic scenario originates from the idea that the cosmos is menaced with ruin if it is not recreated annually, and the consecration of the king is associated with the harvest, which assures the continuity of the life of the entire community. In the mystical rebirth of the king as the Cosmocrator, the two ideas merge into a single ritual.[4] Since the king had to renew the entire cosmos, and since the renewal par excellence occurred when one inaugurated a new temporal cycle, the ritual consecration of the king was celebrated at New Year's celebrations. The king was perceived as the son and earthly representative of the divinity. As such, he was responsible for the regularity of the rhythms of nature and for the general well-being of society. The king guaranteed the permanence of the universal order advocated by the divinity in the beginning. As Frankfort notes: "The ancients . . . saw man always as part of society, and society as imbedded in nature and dependent upon cosmic forces" (1949, 12) This explains why cosmic evolution and cosmic order are modeled on, and expressed in terms of, the sociopolitical structure or life of the community.[5]

From this perpective, the society in which ancient humanity resides is both the logical starting point and the aspired aim of the New Year festival. Thus, in order to explain how the present social order came into being, the cosmogonic myth must necessarily begin with the birth of the world (a cosmogony), then recount the birth of mankind (an anthropogony), and finally relate the birth of society (a sociogony or politogony). For ancient peoples, society comes into existence without a real past in the sense that it only reflects the result of a series of events that took place *in illo tempore,* before the "chronological" time of the people who narrate the myth. However, if the exemplary prototype of the society in which humanity lives seems to precede the effective origin of humanity, the terrestrial society must chronologically follow its origin. In other words, humanity is created or comes into existence before it can take its place in society. An excellent example of such a cosmogonic myth is the great creation epic, the *Enuma Elish,* which means *When Above,* after the opening words of the poem. This myth narrates how the sovereign god Marduk established the present order of things.[6]

THE *ENUMA ELISH*

The cosmogonic poem *Enuma Elish* begins with a description of the watery chaos that preceded the formation of the universe. Within this aquatic chaos are the primordial entities Tiamat (female) and Apsu (male), who represent sea water and fresh water, respectively. Their initial mixture symbolizes a state of total inactivity. The hierogamy of Tiamat and Apsu leads to the birth of successive generations of gods and with them the formation of the universe.[7] Tiamat and Apsu give birth to the couple Lahmu-Lahamu, who in turn give birth to the couple Anshar-Kishar. Their names signify "totality above" and "totality below,"[8] that is, Sky and Earth. Anu, the sky god with whom the generations of "young" (read anthropomorphic) gods begin, emerges from this couple, and he, in turn, is the father of Nudimmund or Ea, lord of the earth (I.1–15).

In this world of silence, immobility, and darkness, an opposition occurs between the old established divinities and the younger turbulent divinities (I.21–50). The older gods are unhappy. Apsu plots to annihilate the younger gods but Tiamat is appalled by her husband's wicked plan. Apsu persists, but the omniscient Ea (I.60) discovers the plot and with a spell, a word of power, puts Apsu to sleep, steals his crown, and slays him.[9] Ea himself becomes god of the waters (I.69).

It is after this initial victory that Ea and Damkina give birth to Marduk, the real hero of this myth (I.78–84). Indeed, the victory of Ea is of short duration. The forces of chaos succeed in rousing Tiamat, the spouse of Apsu. She awakens with a desire for vengeance, rallies her forces, and creates a number of deadly monsters. She makes Qingu her new spouse, appoints him as supreme leader of their coalition, gives him the Tablet of Destinies—the symbol of supreme power over the universe—and confronts the terrified youth (I.125–62; II.1–49).

Anshar, the oldest and the father of the gods, successively charges Ea and Anu to convince Tiamat and her forces of evil and chaos to listen to their words or those of the assembly (II.60–82). However, Ea and Anu are too frightened and intimidated to confront Tiamat; their respective authority lacks force (II.50–94). Finally Anshar asks Marduk, who agrees to be the champion of the gods (II.95–124; III.1–51). However, unlike his predecessors, the young, formidable Marduk demands the elder gods, who are assembled in council, put all their power into his hands and henceforth recognize him as king over the whole universe (III.58–138; IV.1–34). Indeed, it is only when he receives the mandate of the assembly of the gods and is invested with special powers that his "word" will actually fix fate (II.132; this is repeated on several occasions) and in conjunction with this be able to defeat Tiamat and her coalition. Meanwhile, the gods want to see a demonstration of Marduk's magical power, to prove he can effectively do what he is invested to do. At their request, Marduk causes a constellation to vanish and then to reappear at his spoken command (IV.20–28). He is then invested with the emblem of kingship (sceptre, throne, and staff-of-office) and armed for the upcoming battle.

The battle ensues and Marduk, armed with the awesome weapons of a storm/sky god, kills Tiamat and thus becomes the uncontested sovereign of the universe (IV.60f). After contemplating Tiamat's corpse, Marduk decides to divide the monstrous body in half, "like a dried fish," and create beautiful things from it (IV.135–37). One half of Tiamat becomes the vault of the sky, the other half the earth. In the sky, Marduk sets up Esharra, a replica or counterpart of the *apsu* in which Ea established his palace.[10] Indeed, it was in the depths of the *apsu* "in the chamber of destinies, the hall of designs," that Marduk himself was created (I.79–82; IV.143–45). He then founds a place in the sky for each god of the great triad: Anu, Ellil (or Enlil), and Ea, and gives each a constellation as a celestial image and dwelling place (V.1–2). Next, he organizes the planetary universe and thus the calender (V.3–24) so that each of the gods to whom a place and a mission is assigned will know their respective duties (IV.138–V.47; VI.40–47).[11] After organizing the sky, Marduk fashions the earth, that is, Mesopotamia and its adjoining lands with all their geographical characteristics (V.48–64).[12] It is only after the physical universe is created that Marduk fetches the Tablet of Destinies from Qingu and entrusts it to Anu (V.55–56). Indeed, Marduk alone has the right to the precious talisman since he alone is the source of supreme power.

Following this, Marduk decides to create humanity (VI.1–f) to attend to the material needs of the gods (VI.7–8, 131; VII.27–30). Since the vanquished gods are still awaiting their punishment, Marduk, on the suggestion of his father Ea, assembles the gods and asks them to denounce the one responsible for the war, that is, the one who incited Tiamat to revolt. Qingu, the new

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the present world order. His method consists in presenting both the history of the world and its system of values—unequivocally based on power—under the guise of an immense divine genealogy.

The series of marriages following Zeus' victory make this interpretation all the more plausible. The result of the fourth marriage, the subsequent marriage of Persephone and Hades, means that despite the precariousness of human life, the *nomoi* and the *ēthē* (66) that derive from the first three marriages and that characterize a civilized society, can and must be preserved. They are preserved through a song, which, like Persephone, is a constant reminder of what is essential for the salvation of society. Moreover, if the Muses are born in fifth and last place, it is precisely to conserve (and not to create or recreate) what preceded them. From this perspective, Zeus' wish becomes that of our ancestors. The fact that gods and men were seen as sharing a similar socio-political structure and value system makes this supposition more plausible.

THE ABSENCE OF RITUAL

The most notable difference between the cosmogonic myth presented by Hesiod and that of the *Enuma Elish* resides in the absence of ritual. Indeed, even if Hesiod's *Theogony* offers an explanation of the origin and the evolution of the world and proposes an exemplary socio-political model of existence for mankind within the world order established by Zeus, what is striking about Hesiod's account is that, in it, the periodic renewal of the world, humanity, and society is no longer necessary.

It is often pointed out that the central organizing principle in Hesiod's *Theogony* is a succession myth and this succession myth clearly has a number of eastern parallels.[63] In each instance, the text exalts the power of a god who rules over the entire universe, the order of which is the product of his victory over the forces of disorder. Such is the case with the *Enuma Elish,* which presents a divine character, Marduk, who in many respects resembles the Zeus of Hesiod's *Theogony*. Both texts narrate the birth and battles of a god who is the central character in the text. The principal protagonists, Marduk and Zeus, are chosen as the leaders of their respective coalitions in order to combat and kill a dragon (Tiamat in the first case, Typhoeus in the second) who personifies confusion and disorder. After slaying the monsters, the protagonists are proclaimed as kings of the other gods. Then they proceed to distribute privileges and destinies in the diverse regions of the universe to those who fought at their sides. This is why these creation stories qualifiy as sovereignty myths. But, how can these two texts exhibit such striking analogies and still diverge on something as fundamentally important (at least in appearance) as ritual? It may be due to a historical event of capital importance: the collapse of Mycenaean civilization. Indeed, there is strong evidence the Mycenaean world was somewhat akin to the kingdoms of the Near East to which it was contemporary. Archeological and documentary evidence (derived from the decipherment of the Linear B script) reveal a system of administration and economic organization based on palace and sanctuary. Mycenaean society (and its corresponding pantheon) was, like its Near Eastern counterparts, markedly hierarchical, with kings and nobles at the top, slaves at the bottom, and farmers, craftsmen, and local community rulers in between.[64] At the top of the hierarchical order was the *wanax,* one of the Homeric words for king. *Basileus,* another Homeric (and Hesiodic) word for king is also found, but seems to be used for the chief of any group (Chadwick 1976, 70). Although *wanax,* in most cases, refers to a human ruler, it seems the word was also applied as a divine title (1976, 70–71). Indeed, even if there is no *certain* evidence of a divine kingship, it is rather odd the king would not be perceived as the son and earthly representative (or counterpart) of the divinity.[65] Despite their mortal nature, the Homeric kings certainly saw themselves as having divine parentage. And these kings were responsible, as were their counterparts in the Near Eastern monarchies, for the regularity of nature's rhythms and for the good state of the entire society. Indeed, numerous documents from the royal archives of various Near Eastern centers all attest to the existence of a powerful hierarchical theocratic state with the king-priest perceived as the son of a god at the summit. Moreover, there is strong evidence these texts were intended to be ritualized, that is, chanted and reenacted. Indeed, not only are these texts/poems based on rhythm and cadence, but in every instance we find that the divine hero must combat a primordial dragon or snake on an annual basis.[66] Finally, in every case, there is a correlation between a sovereignity myth and a fertility myth. Thus, both nature and society are subject to the annual renewal ritual.[67]

If the ritual function connected with cosmic renewal is absent in Hesiod, then it is because the Mycenaen civilization that Hesiod unconsciously refers to collapsed abruptly around 1200 BCE.[68] The collapse of this palace-centred, redistributive economic civilization entailed the disappearance of the character of the divine king and the social practices his presence necessitated. It is therefore legitimate to ask whether the disappearance of the cosmic-renewal ritual did not foster the rejection of Justice as it is envisaged by Hesiod in the *Theogony,* that is, life in conformity with the will of Zeus (or of the ancestors). Indeed, on the one hand, ritual enables people to thwart forces of disorder and, on the other hand, to renew the world in which they live. In other words, ritual guarantees that both the natural and social order willed by the demiurge during the creation remains as it is. It is precisely the king, the son and earthly representative of the demiurge, who is responsible for the stability, fecundity, and prosperity of the entire cosmos. This explains his essential function during the renewal ritual.

But there is nothing of the sort in Hesiod's work or in the work of his successors. In fact, the manner in which the cosmogony is represented in Hesiod's *Theogony* strongly suggests that the renewal ritual no longer has a reason for being. A comparison of the roles played by Zeus and by Marduk in their respective cosmogonies clearly demonstrates this. For example, unlike Marduk, Zeus does not intervene in the natural order of things; he is simply at the origin of a new socio-political order.[69] This explains why Hesiod's theogonic text unfolds in a perfectly linear and irreversible way.[70] Unlike Marduk, Zeus does not recreate what is already in place: the physical universe as we know it. Furthermore, contrary to what occurs in the majority of the other cosmogonic texts, the will of Zeus (or that of our ancestors) has no control over what occurs in "human time." Of course, through the intermediary of the Muses, Hesiod is able to return to the "time of the gods" in order to narrate the will of Zeus. Nevertheless, Hesiod does not create (that is, he does not effectively renew) the series of events that took place in the time of the gods (or "mythical time"). Rather, Hesiod is only the guarantor; he is the one who conserves and transmits. But what Hesiod announces can be accepted or dismissed, retained or not retained, by his audience.

Gregory Nagy correctly notes, "the narrative structure of epic, as is the case with myth and mythopoeic thinking in general, frames a value system that sustains and in fact educates a given society" (1982, 43). And while it may be difficult to determine to what degree Hesiod's *Theogony* is his own creation, there is no doubt that it would have been performed (and thus ritualized, so to speak) before an audience. Furthermore, there is no doubt it was addressed to an aristocratic elite and that it was meant to enhance, if anything, their value system: a Homeric and thus a conservative value system at least by the current standards. It is conservative because Hesiod is (or seems to be) advocating a socio-political model in which the so-called *basileis* or kings are the representatives of Zeus here on earth and in which their word is analogous to the word of Zeus, and should be obeyed. Of course it appears that, as long as the kings do not make unfair judgements, Hesiod has no problem with this conservative value system, which, moreover, is said to cover the past, present, and future. However, *Works and Days* presents a very different position.

WORKS AND DAYS AS A SEQUEL TO *THEOGONY*

If oral literature, tradition, and myth are mirrors in which society observes itself and measures its proper stability, then Hesiod's *Works and Days* is a wake-up call.[71] While it contains several traditional myths (including Eastern

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question is taken from Apollodorus' *On the Catalogue of Ships,* and the fact that great chronologist mentions the three Milesians in the following order, Anaximander, Dionysius, and Hecataeus, appears to confirm that it is indeed the "father" of philosophy. The doxography in question clearly indicates that the ancients were divided on how the alphabet originated in Greece: Ephorus (fourth century BCE) argues that the alphabet was invented by the Phoenician Cadmus and introduced to Greece; Herodotus and Aristotle argue that Cadmus was only the transmitter of the Phoenician invention into Greece; Pythodorus and Phillis, for their part, argue that the alphabet predates Cadmus and was imported into Greece by Danaus. Anaximander, Dionysius, and Hecataeus of Miletus all confirm this.[145] A few words are in order here on Danaus and the transmission of the alphabet in the context of ancient Egypt.

There is now consensus that writing appeared in Greece around 750 BCE. The steady stream of inscriptions around or after 750 BCE point to this period for the adoption of the alphabet into Greece.[146] Precisely where the alphabet may have started is still open to debate. According to Herodotus, the Phoenicians who came with Cadmus first introduced the alphabet to Boeotia, Hesiod's homeland (5.57.1–58.2). In fact, he contends that they also settled there. Herodotus is, however, ambiguous on when this occurred. At 2.145, he mentions that the period of Cadmus' grandson, Dionysus, goes back 1,600 years *(hexakosia etea kai chilia)* before his time. This would entail that Cadmus and the Phoenicians introduced the alphabet to Boeotia in the third millenium BCE. However, the approximate period Herodotus notes for the Trojan war in the same passage is close to the current consensus: the 13th century BCE. Meanwhile, Herodotus contends that the Cadmean letters he saw at Thebes in Boeotia were not that different from the Ionian. This would leave us to believe that he was somewhat confused about how and when the transmission of the alphabet occurred.[147] Moreover, while most scholars associate the mythical Cadmus with Phoenicia, there are other traditions that associate Cadmus with Egypt, as in the Egyptianization of the story of Io.[148]

Although Herodotus believed that the Phoenicians introduced writing or *grammata* to Greece, he may have believed that the Phoenicians, in turn, borrowed their writing system from the Egyptians (just as the Greek alphabet, by adding vowels, represented an advance over the Phoenician writing system). At 2.36, he clearly states that the Egyptians believed that their own way of writing from right to left was superior to the Greek manner of writing from left to right and that they have both sacred and common or demotic writing. There is no doubt, of course, that Herodotus believed in the diffusion. Indeed, he believed that a considerable amount of Greek culture, including their religion, was borrowed from the Egyptians (2.49–52). We could legimately assume that this would also be the case for the story of Io; that is, Io is identified with Isis and was thus borrowed from Egypt.

On the other hand, Anaximander (and Hecataeus) argue that it was actually *before* the time of Cadmus that the alphabet was introduced into Greece; and the person who imported *(metakomisai)* it was Danaus (DK12C1.11). There is no doubt here that Danaus is associated with Egypt and its high culture. The fact that Hecataeus affirms that originally Greece was populated by Barbarians led from Phrygia by Pelops and Egypt by Danaus (*FGH* 1, frag. 119) lends credence to the idea that they thought that the alphabet (or *an* alphabet) was introduced many generations before the date we now associate with its introduction. Anaximander may have traced this in his own *Heroology* or *Genealogies*. But on what may Anaximander have based his opinion on an Egyptian origin of the alphabet? Semiticists have no problem calling West Semitic writing "the alphabet" since each alphabetic sign in the repertory stands for a single consonant and thus a phoneme, that is, a class of sounds different enough from others sounds to change the meaning of a word. But if West Semitic writing is an alphabet, can the same be said about ancient Egyptian? According to Alan Gardiner (1961b, 23), the Egyptians very early developed a body of 24 uniconsonantal signs or letters that he also calls an alphabet. In fact, he is convinced that this is the origin of our own alphabet (1961b, 25–26). For the case at hand, it is not important that some linguists and scholars may disagree with Gardiner. The fact is that there is no good reason to believe that Anaximander was not convinced that this was also the case after an Egyptian or someone else brought this to his attention (how could he contest what he could not read). The Egyptians could demonstrate that writing had existed in Egypt before even the Greeks could trace their first ancestors.[149] Moreover, even if Anaximander may not have been aware of the Linear B script, he may very well have been aware of the Cypriote syllabary and thus some form of transition from the introduction of an Egyptian alphabet to his own alphabet. In sum, this does not exclude that Anaximander may still have thought that some individual Greek genius innovated, at a more recent stage, by adding the five vowels to the consonants—thus creating, as Powell (1997, 25) notes, the first technology capable of preserving by mechanical means a facsimilie of the human voice. There is nothing to exclude that he saw Danaus and the Egyptians as the original inventors of the alphabet and yet the Greek alphabet as far superior to its predecessors. The Greeks at this early stage (or at least their intelligentia) were already well aware of the powers of their own alphabet and sought its true inventor. Thus Anaximander's contemporary Stesichorus (ca. 630–555 BCE), in the second book of his *Oresteia*, says that Palamedes invented the alphabet *(heurēkenai ta stoicheia)*, that is, the Greek version of the alphabet.[150] Clearly, Anaximander and his generation see themselves as "writers" heavily influenced, it is true, by oral tradition, but writers just the same.[151]

Herodotus as noted above believed that a great deal of Greek culture and civilization originated in Egypt—a point also noted by Plato in the *Phaedrus*

(274c–d). And the famous statement by Hecataeus of Miletus that Greece was originally populated by barbarians brought from Phrygia by Pelops and from Egypt by Danaus means the same thing. This is the same Danaus whom he believed brought the alphabet with him. Now since the opening remark in his *Genealogies* (*FGH* 1, frag. 1) strongly suggests that he denied the gods any influence in civilization, then Danaus is seen as a historical individual. One function of his genealogies may have thus been to retrace the origin of certain cultural icons with the help of information received from Egyptian sources. In fact, if it is true as Herodotus claims that Hecataeus attempted to trace his family back to a god in the sixteenth generation (2.141), and the Egyptian demonstrated to him that this was patently absurd, then it was clearly the Egyptians who were instrumental in developing his critical approach and in giving him a clearer sense of chronology and history.[152] At any rate, Hecataeus' contemporary Xenophanes believed human civilization was the result of human progress and that this progress was based on inquiry involving travel to various places and discovery through new encounters with people, places, and things (DK21B18).[153] The poem (consisting of some 2,000 verses) that he is purported to have composed about the foundation of Colophon, which was settled before the Trojan War,[154] would have been based on a rational approach to genealogical/chronological research (DK21A1). It is difficult to know if Xenophanes was able to resist the fascination with Egyptian culture, but Colophon was initially settled by Thebans (now an ambigious word), and the son of one of its founders, Mopsus, is purported to have migrated to Egypt.[155] Miletus, for its part, was founded by Neleus, a son of the Athenian king Codrus, in the eleventh century. If Herodotus/Hecataeus understand by generation "thirty years," then clearly Hecataeus is tracing his descendants back to this period (that is, sixteen generations). And given that the population of each district would insist on their autochthonous origin, an origin that they would (or could) trace, at best, a few generations before the Trojan war, it was painfully clear that the Egyptian claim to have a much older civilization was demonstrably true.

Given the information we have concerning Anaximander, it seems to me that he was no less interested in the distant past than Hecataeus. Indeed, Anaximander appears to be the inspiration behind Hecataeus' own account. This seems clear from the testimonia that Hecataeus developed Anaximander's map in more detail. Given that history and geography, as we saw, were closely connected (if not indistinguishable) at the time, then the map clearly had a dual function, a function which was amplified and clarified in the treatise which must have accompanied it. Moreover, given that the aim of an *historia peri phuseōs* is to give a rational explanation of the origin and development of the present order of things from beginning to end and that the present world order included the society (or civilization) in which one resided, then the two

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PHILOSOPHY

THE GREEK CONCEPT OF NATURE

Gerard Naddaf

In *The Greek Concept of Nature,* Gerard Naddaf utilizes historical, mythological, and linguistic perspectives to reconstruct the origin and evolution of the Greek concept of *phusis*. Usually translated as nature, *phusis* has been decisive both for the early history of philosophy and for its subsequent development. However, there is a considerable amount of controversy on what the earliest philosophers—Anaximander, Xenophanes, Pythagoras, Heraclitus, Parmenides, Empedocles, Anaxagoras, Leucippus, and Democritus—actually had in mind when they spoke of *phusis* or nature. Naddaf demonstrates that the fundamental and etymological meaning of the word refers to the whole process of birth to maturity. He argues that the use of *phusis* in the famous expression *Peri phuseos* or *historia peri phuseos* refers to the origin and the growth of the universe from beginning to end. Naddaf's bold and original theory for the genesis of Greek philosophy demonstrates that archaic and mythological schemes were at the origin of the philosophical representations, but also that cosmogony, anthropogony, and politogony were never totally separated in early Greek philosophy.

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GERARD NADDAF is Associate Professor and Chair of Philosophy at York University in Toronto. He is the coauthor (with Dirk L. Couprie and Robert Hahn) of *Anaximander in Context: New Studies in the Origins of Greek Philosophy*, also published by SUNY Press, and the translator and editor of *Plato the Myth Maker* by Luc Brisson.

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