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Aristotle's Testimony in Question: The Beginning of Philosophy and The Theory of Material Monism

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Abstract

When and how philosophy began are such questions that they are equally significant ones as what philosophy is. There is indeed a conventional view regarding the beginning of Western philosophy. The transition from mythos to logos marked with the Milesian school of thought's pioneer Thales at about 7th century BC. The conventional interpretation leads us back to the Aristotelian account on the beginning of philosophy presented in the *Metaphysics*' introductory chapter as a genuine example of the historiography of philosophy. Aristotle's interpretation bases on the material monism thesis regarding this very first philosophers' attempt to explain the nature in a broad sense of the word. Aristotle also binds this beginning to wonder and leisure. Though there is a strong critic against the material monism thesis proposed by Daniel W. Graham in his *Explaining the Cosmos*. Graham offers us an alternative reading of this beginnings' nature in terms of generating substance theory. In this paper, it is thus intended to show that Graham's argument is more tenable than Aristotle's and Graham's account in turn needs to be read along with the theories discussed in R. Hahn and G. Naddaf's distinct works regarding the nature of the very beginning of philosophy. Such a complementary reading thus needs to take social, cultural, technological, i.e., architecture, and political interactions into consideration both within the internal and intercultural contexts back then.

Keywords: Material Monism, Generating Substance Theory, the beginning of philosophy, transition from mythos to logos, Aristotelian historiography of philosophy.

Aristoteles'in Sorgulanan Tanıklığı: Felsefenin Başlangıcı ve Materyal Monizm Kuramı

Özet

Felsefenin ne zaman ve nasıl başladığı soruları felsefesinin ne olduğu sorusuyla eşdeğer öneme sahip sorulardır. Batılı felsefenin başlangıcına ilişkin hali hazırda uzlaşımsal bir görüş vardır. Mitostan logosa geçiş yaklaşık olarak milattan önce yedinci yüzyılda Miletos okulunun öncüsü Thales ile işaretlenmiştir. Uzlaşımsal yorum bizi felsefenin başlangıcı konusunda Aristoteles'in *Metafizik* kitabının felsefe tarihi yazımının özgün bir örneği olarak karşımıza çıkan giriş bölümüne götürür. Aristoteles'in yorumu ilk filozofların, sözcüğün geniş anlamında, doğayı açıklama girişimlerini materyal monizm kuramına dayandırır. Aristoteles ayrıca bu başlangıcı merak ve boş zaman ile ilişkilendirir. Bununla birlikte materyal monizm kuramına karşı Daniel W. Graham *Explaining the Cosmos* yapıtında güçlü bir eleştiri sunar. Graham felsefenin başlangıcına ilişkin üretici töz kuramı bağlamında almaşık bir okuma önerir. Bu çalışmada öncelikle Graham'ın yorumunun Aristoteles'in yorumundan daha savunulabilir olduğunu göstermek amaçlanmıştır. Ancak Graham'ın yorumu da R. Hahn ve G. Naddaf'ın yapıtlarında felsefenin başlangıcına ilişkin ortaya konan tartışmalarla birlikte okunmalıdır. Böylesi bir tamamlayıcı okuma dönemin içsel ve kültürler arası bağlamda toplumsal, kültürel ve teknolojik (burada özellikle mimari) ve siyasal etkileşimlerini hesaba katmaya olanak sunar.

Anahtar kelimeler: Materyal Monizm, Üretici Töz Kuramı, felsefenin başlangıcı, mitostan logosa geçiş, Aristotelesçi felsefe tarihi yazımı.

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Introduction

Aristotle's *Metaphysics* is not only one of the essential works of philosophy, but it also, especially the first book, gives us a genuine example of historiography of philosophy. The primary intention of Aristotle is certainly not a history of philosophy but a critical introductory presentation of the earlier philosophers. Compared to Plato's references that mostly aim at underestimating of the earlier philosophers, Aristotle's quotations of the first philosophers contain meticulous critics of them. However, Aristotle's references sometimes fall short of completeness or accuracy. Therefore, Aristotle's references need to be checked out by appealing to the other sources and extant fragments.

The conventional view about the beginning of philosophy essentially depends on the testimony and the interpretation of Aristotle. In *Metaphysics* Book I, Aristotle sets up a twofold criterion to explain the beginning of philosophy: *leisure* (981^b22) and *wonder* (982^b12). The first criterion consists in seeking for knowledge out of the necessities of life. It is then non-utilitarian. The second underlines the essential characteristic of this knowledge, that is, gradual transition from ignorance to wisdom. Aristotle calls the first philosophers who initiated philosophy *phusikoi*, naturalists, and asserts that Thales was "the founder of this kind of thought" (983^b20). Moreover, in 983^b6-19, Aristotle identifies the naturalists with the doctrine of material monism. In this paper, I shall then pursue a twofold task. First, I take on the critiques regarding Aristotle's assumption of the beginning of philosophy in terms of leisure and wonder and his assertion of Thales as the founder of philosophy. Secondly, I will turn to Aristotle's explanation of Milesian school in terms of the doctrine of material monism in the light of Graham's theory of generating substance. The first argument centers on extending the Aristotelian criteria regarding what initiated philosophy into a more complex features including literacy, politics, especially the polis as an original form of the organization of Greek political community, and technology. This interpretation leads us to asserting Anaximander as the first philosopher. Hahn, in his *Anaximander and the Architects*, argues that behind this beginning, that is, the proto-scientific empirical investigation into nature, there is the influence of the Egyptian architecture (2001, p. 40-1). Following Vernant's theory of *crisis of sovereignty*, Hahn maintains that the articulation of Egyptian architecture by Greek architects closely related to the political conditions back then (2001, p. 226). As to Hahn, falling aristocracy's search for stability resulted in their sponsorship to build monumental temples. Apart from the fact that bolstering the power of aristocracy, this sponsorship unexpectedly gave way to philosophy (2001, p. 44-5). The second argument, Graham's theory of generating substance, puts Aristotle's theory of material monism about the Milesian school into question (2006, p. 20). It is anachronistic to explain the early philosopher's investigation into nature in terms of Aristotelian substance and the doctrine of causality flowing from this. Then, Graham concludes that Milesian

school can be considered as monist so long as monism understood as explanatory, not material (2006, p. 98).

Philosophy as a Self-Reflective Activity

Philosophy is essentially a self-reflective activity. Contrary to the popular conception of philosophy, it does not merely consist of unanswerable questions, but it also brings about genuine answers to those fundamental questions. Besides those crucial questions, philosophers turn their attention toward a special question, namely, *what* philosophy is. This self-reflective characteristic of philosophy underpins the different philosophical traditions and schools that spring from the answers to that special question. It also points out the historical aspect of philosophical reflection. In fact, every age brings on its very own problems before philosophy to deal with. When it comes to philosophy, especially the beginning of it, one needs to be very careful about history, since historiography always make essential revisions regarding new findings. Though one still needs to pay attention to the traps of anachronistic readings. Thus, the historiography of philosophy is not only a business of recording bare facts through the lenses of chronology, but it is indeed a genuinely critical investigation.

Philosophy as a late product of human history requires a developed culture in the broad sense of the word. Nevertheless, concerning the beginning of Western philosophy we are faced with some difficulties. There has been a consensus about *when* and *where* the Western philosophy began, but this consensus has been put into question by some ancient philosophy scholars. The controversy among scholars is partly because of the shortcomings of original texts, partly because of the nature of this beginning. To make sense of the transition from mythological explanation of the world to the rational one leads us back to this peculiar beginning itself. The disputes around this beginning that involves in an intellectual revolution require two more additional questions: *why* and *how* philosophy began in a small city of Minor Asia, in Miletus.

Transition from Mythos to Logos: Leisure and Wonder

What was behind this intellectual revolution that instigated the transition from mythos to logos, that is, from genealogical to the rational explanation of natural phenomenon? The term *logos* comprises a variety of meaning such as "*speech, account, reason, definition, rational faculty, and proportion*" (Peters, 1967, p. 110). Unlike mythological account, rational, that is, de-mythologized and de-personified, explanation reveals itself in the light of observation and experiment appealing to the natural phenomena directly. Aristotle, as aforementioned, takes leisure and wonder as the two distinct motivations that initiated philosophy. Regarding wonder, Aristotle includes the lover of myths since they "*philosophized in order to escape from ignorance, evidently they were pursuing science in order to know, and not for any utilitarian end*" (982^{b}20-22). Then we need to ask what differentiates the

rational explanation of nature from mythical one? Mythological explanation of the world aims at showing how the present order of things is established once and for all and what assures to keep this order away from falling apart. The distinctive characteristics of myths is due to giving reference to supernatural causes leaving aside the temporality and grounded on seeking an atemporal beginning. Mythology, especially cosmogonical and theogonical myths, gives us *how* this order was established by appealing to the genealogy of gods. The first philosophers, called *physicists* by Aristotle, is also considered first *theologians* by following philosophical traditions, especially in the works of Cicero and Augustine. Jaeger holds that this interpretation finds its foundation in Greek sources (1948, p. 8). Jager also emphasizes a significant issue regarding the term physicist. The modern interpretation of the term blurs the meaning of the theological dimension found in the thought of this first philosophers (1948, p. 7). On the other hand, the rational explanation provides us both *what* it is and *why* it is to be in this way with reference to its history, that is, considering its origin, process, and result. Moreover, Naddaf emphasizes that there is a structural resemblance between mythological and rational explanation of nature. Both consist in three parts, namely, "*a cosmogony, an anthropogony, and a politogony*" (2005, p. 2). From this there appears the question of nature according to the pre-Socratics. The concept of nature for the Ionian philosophers as to Naddaf is as follows:

> *[…] must be understood dynamically as the "real constitution" of a thing as it is realized from beginning to end with all of its properties. This in fact is the meaning that one finds nearly every time that the term phusis is employed in the writings of pre-Socratics. 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* (2005, p. 3).

Naddaf asserts that the pre-Socratics' conception of nature comprises this threefold explanation. He then maintains that the pre-Socratic concept of nature reveals itself in this all-inclusive framework. Moreover, he underscores that works written by the pre-Socratics that carry the title of *historia peri phuseos,* determined by this threefold understanding of the comprehensive meaning of the term *phusis* Cornford holds that the early Ionians' conception of physis which is understood as "*the ultimate living stuff out of which the world grew, could be traced back to an age of magic actually older that religion itself*" (1957, p. 124). Bergson also questions the ambiguity of the accounts on the first philosophers, especially on Thales, but he acknowledges that Thales brought a scientific form to the ideas once purely theological (2000, p. 160-161). Thus, for Bergson, the meaning and value of Thales lies essentially in this form. Behind this interpretation there is the idea of hylozoism held by Thales (2000, p. 161). Living and spirited matter is both blurs the division between mythology and philosophy and that of the matter and the

principle of change (Kranz, 1994, p. 28). Thompson sees the foundation of the relation between the meaning and form the thoughts of Thales through a distinct reading based on ideology. For him historical and social conditions which are in fact truly ideological give rise to a new cosmology distinct from mythological understanding of the universe (Thompson, 1988, p. 190).

The rational account on nature can be distinguished from the mythological one by its "*more direct, less symbolic and less anthropomorphic*" way of explanation (Kirk et al, 2006, p. 72). Where did this appealing to natural phenomena by means of observation and experiment come? How did this change, that is, this transition, take place? It is also a crucial question that with whom this transition needs to be identified.

The Question of the Beginning of Philosophy

Let us begin with the last question: With whom did this transition occur? Aristotelian accounts on the beginning of philosophy names, as it is emphasized before, Thales as the founder of the naturalist philosophy. As to the conventional view, Thales is also presented as the initiator of Milesian school. Milesian school consists of three successive thinkers: Thales, Anaximander, and Anaximenes respectively. Thales' life and writings are contentious, because of the lack of information and quasi mythological biographical accounts, and him being named among seven sages (Capelle, 2016, p. 51). Naddaf claims that "*Thales [...], of course, may be considered as the first to abandon mythological formulation, but Anaximander was the first about whom we have concrete evidence. In fact, it is unclear if Thales wrote anything*" (2005, p. 188). On the other hand, contrary to Aristotle's account, some scholars agree with taking Anaximander as the first philosopher (Cherniss, 1951; Kahn, 1994; Hahn, 2001). Moreover, Kahn asserts that the Ionian philosophy is "*one continuous and developing tradition*" regarding "*a common set of problems, principles, and solutions*" on nature (1994, p. 207; p. 210). Kahn also stresses out the essential influence of Anaximander's philosophy of nature on this continuous tradition. Kahn then asserts that "Anaximenes, Xenophanes, and Heraclitus are his disciples in a true sense; their conception of universe differs from him [Anaximander] only in detail" (1994, p. 204). Anaximander was not only the first one who wrote in prose, but he was also the first one who stands in the beginning of a distinctive type of writing common to all early philosopher, that is, *historia peri phuseos* (Naddaf, 2005, p. 63). Anaximander was a protean thinker; his work, *Περί φύσεως*, comprises a variety of subjects such as cosmology, a theory on the origin of humanity, geography, and, if not in a modern sense, a theory of evolution.

However, it is nascent and therefore it keeps the mark of transition, the substitution of mythical way of explanation of nature with a rational account that comprises the proto-scientific method of observation and experiment in the

investigation of natural phenomena finds its genuine beginning in Anaximander. In *Anaximander and the Architects*, Hahn endeavors to deal with questions such as where did this scientific method, or to put it in his word, technique come from, who else did use these techniques? Who was accustomed to write in prose at the time of Anaximander? According to Hahn, not only the empirical research but also Anaximander's articulation of prose writing is influenced by the technique of architects (2001, p. 43). Hahn also maintains that Anaximander's cosmology in which the number three plays a central role derived from architecture. Contrary to Hahn, Naddaf argues that Anaximander's cosmological model in which number three plays a crucial role comes from threefold class division in the polis at the time of Anaximander, namely, *"[…] the aristocracy, the (new) middle class, and peasantry (or poor)*" (2005, p. 7). This argument is consistent with Naddaf's claim that emphasizes the "*reciprocal relation between the microcosm of the city and the macrocosm of the universe*" in the pre-Socratics', especially in Anaximander, investigation into nature (2005, p. 7). Besides, Hahn claims that Greek architecture is influenced by Egyptian architecture, but it is not a simple continuation of it.

Hahn divides the conventional ways of explaining of the origin of philosophy into five hypotheses: (1) Leisure, (2) Intermingling of beliefs, (3) Literacy, (4) Technology, and (5) The polis (2001, p. 20). Hahn's argument, that is, technology as politics, opens a new horizon in addition to these hypotheses. Hahn endeavors to examine the origin of philosophy and its beginning with Anaximander over a social and political background in which the falling aristocracy's search for dealing with the crisis brought architects to the fore. Then architects' techniques influenced the formation of proto-scientific method of observation and experiment and the *mentality* of Anaximander (Hahn, 2001, p. 6; p. 40). Hahn subsumes the Greek architects' techniques that was of great influence on Anaximander's mentality under four characteristics: (1) aerial view – prior to and throughout the construction process, (2) model building, (3) scale-drawings and scale-models, and (4) anathyrosis and emplion (2001, p. 7). Ancient near east mythologies' influence on both Greek mythology and philosophy is emphasized in histories of philosophy, but Hahn takes a step further and seeks for the contributions of Egyptian architect and its Greek adaptation to the origin of philosophy. Then he bounds this influence with the political context of Anaximander's time. Hahn asserts that architects *sponsored* by aristocracy in expecting to recover the political crisis (2001, p 13). Hahn concludes that aristocracy failed in its search for recovery, but Greek philosophy came to the scene as an "*unanticipated consequence of an aristocratic effort to bolster a failing authority*" (2001, p. 44).

Having briefly presented the critical approaches about Aristotle's claim about the beginning and philosophy and the first philosopher, let us then turn to the doctrine of material monism and its critique by Graham. In the *Exploring the Cosmos*, Graham offers us a new theory to reconstruct the early Ionian's conception

of arche (*ἀρχή*) by holding in abeyance the doxographical tradition that springs from the authority of Aristotle's testimony. In doing so, he then challenges the conventional understanding of the early Ionians that based on the theory of material monism (MM hereafter) over twenty-three hundred years. As for Graham, in any case does not MM's account give us "*a philosophically meaningful analysis of Ionian philosophy*," nor is it "*historically accurate*" (2006, p. 105). Graham brings forward Generating Substance Theory (GST hereafter) in terms of *a single principle of explanation* against MM's assertion of *a single substance* and That is "*the notion of a continuing substrate*" (Graham, 2006, p. 105).

Before taking up Graham's interpretation of Anaximander and Anaximenes in the light of GST, let us first turn back to the theory of MM. The theory of MM finds its expression in Aristotle's *Metaphysics* 983^{b} 8-18. Aristotle's account centers on the conception of an originative stuff, a single substance, from which everything arise and resolves into it. It is the source and the element of phenomena and underlying principle of phenomenal changes. This primary stuff does not undergo changes but preserved through changes. This points out the underlying characteristic of the primary stuff and guarantees its ontological primacy.

Since scientific knowledge is cumulative, Aristotle acknowledges various endeavors to reach the truth, though he asserts that the *difficult* part of the inquiry of the truth is to get the whole truth not only the *certain* aspect of it: "*[…] everyone says something true about the nature of things, and while individually we contribute little or nothing to the truth, by the union of all a considerable amount is amassed*" (993^{b} 33-35). From this there arise his critics upon the first philosophers or as he writes *phusikoi* (*φυσικοί*). Aristotle, in *Metaphysics* Book I, defines *the nature of the science* that he scrutinizes ($983^{a}22$). It has to do with the knowledge of the first principles and causes. This definition provides us a twofold criterion in their peculiar interplay: 1) the definition of the science (of being) to distinguish it from other modes of knowledge (*memory*, *experience*, and *art*) and 2) in particular, to analyze and criticize former approaches on the same subject.

Material Monism Theory

The task of the *Metaphysics* Book I is not to give mere historical account of philosophy but to put to test Aristotle's own theory that differs essentially from the theories of his antecedents or in its true sense to point out the weakness or, at least, incomplete, and immature nature of these theories and to put forth the *correctness* of his own method (983^{b} 1-7). Considering the history of philosophy as a "history of problems" set by philosophers and the historiographer of philosophy as a philosopher, as Nicolai Hartmann asserts, *Metaphysics* Book A can be read as a genuine example of a systematic history of philosophy, in a sense, each philosophical work is (Cicovacki, 2014, p. 58). The first philosophers' failure, for Aristotle, is essentially resulted from not to recognize the full framework of causal

relations. They only recognized material and formal cause. In case of Milesians, Aristotle asserts that even though they differ in as to the identification of their principles, they share a common ground concerning their way of explanation of the nature centered on a single material principle.

To sum up, Aristotle holds that Milesians take a material element as "the only principle of all things" (983^{b} 7). Moreover, this *element*, the principle of things, does not come to be or destroyed. Therefore, changes in the phenomenal world are nothing but the modifications of this originative substance. This *substratum*, that is "the first form which all other things come to be, the last into which they resolved" is always conserved (983^{b}10-11). Thales considers water as originative stuff, the ultimate principle of things, his pupil Anaximander takes a different course by treating *apeiron*, the boundless, as the principle of the nature of things, and the last of the Milesian philosophers, Anaximenes, posits that air is "the most primary of the simple bodies" (984^{a}5-6). All these differences regarding the identification of the underlying principle give us the germ of the doctrine of material monism so long as the nature of this underlying principle is understood as a single material substance.

The difficulty that stands before pre-Socratic philosophy scholars is the scarcity of the original writings of the early philosophers. Thus, testimonies become an indispensable part of the study of pre-Socratic philosophy. However, this also causes a significant question, the reliability of testimonies. Despite Aristotle's abundant references to the early philosophers, the reliability of his references has long put into question. Therefore, apart from testimonies depended on Aristotle's account; Graham advances a new theory to reconstruct early Ionians' account of *phusis* with reference to extant fragments. Graham offers us to turn back to these extant fragments to make sense of what the original meaning of arche is for these early philosophers. In doing so, he rejects Aristotle's understanding of the early philosophers in terms of MM by replacing it with a more tenable one, GST.

GST stands in opposition to MM in numerous aspects. Yet the relation between these two rival accounts, as for Graham, cannot be defined in terms of superiority-inferiority, though GST is more defensible than MM. Graham sets up a threefold criterion to indicate the inadequacy of MM: 1) historical appropriateness, 2) philosophical coherence, and 3) dialectical relevance.

Graham argues that it is obvious that Anaximander's and Anaximenes' way of explanation of *phusis* differs essentially from mythical explanation based on the genealogy of gods. It is also clear that their way of explanation of nature cannot solely be understood adequately by means of Aristotelian terminology, that is, the ontological and metaphysical terminology developed later. For Graham, this anachronistic attitude of MM eliminates its historical appropriateness. MM is philosophically incoherent, because "*early Ionians do not offer us the minimum*

theoretical machinery needed for a coherent monistic theory based on a continuing material substratum" (Graham, 2006, p. 63). As to dialectical relevance, MM fails to provide a satisfactory explanation. Graham argues that if early Ionians solved the question "how what-is could come to be?", why, then, Parmenides wrestled the question of being?

Generating Substance Theory

After having briefly stated Graham's critiques of MM, we can take into consideration his GST that claims to be a more defensible theory about early Ionians. Graham asserts that GST offers us a kind of monism, but it is not an *ontological monism* like MM does, but an *explanatory monism.* Graham holds that "*…they clearly are committed to a single explanatory principle: water or the boundless or air or fire. In some sense, they seem to agree, explanation has a single starting point*" (Graham, 2006, p. 98). As far as Anaximander's *apeiron,* the boundless, is concerned, Graham writes that it is "*a source of the world, but not its ground or substratum*" (Graham, 2006, p. 44). Graham's interpretation of the boundless emphasizes its *quasi-biological* character. Naddaf also stresses out that Anaximander's explanation of the qualitative change resembles the method of Hippocratic works in which embryology played a crucial role (2005, p. 22). Naddaf maintains that Anaximander's explanation of qualitative change in terms of *separation off* needs to be understood as "*biological/embryological secrete/secretion rather than a mechanical sense of 'separate/separation'*" (2005, p. 72). Contrary to Aristotle's claim, the boundless "is not the matter for stuffs of our world" (Graham, 2006, p. 33). And then he writes that,

> *First it must secrete some specialized material which then produces the several parts of the world not by a mechanical process but by a quasi-biological process. The boundless is the original matter out of which the world and its component stuffs come to be, but it is not itself the matter of the world, as Aristotle wants to claim* (2006, p. 33).

Graham also holds that Anaximenes treats air as source, but it is not the underlying nature as Aristotle claimed. In considering the function of the original substance this distinction becomes clear and explains why Graham names his interpretation of Milesians as GST. The function of the original substance is "*to generate all substances rather than underlie or support them*" (Graham, 2006, p. 70). According to Graham, it is the generation that MM *rules out.* Anaximenes' account on elemental change explained by a *single process* of rarefaction and condensation shows that he recognizes a mechanism. Nevertheless, rarefaction and condensation, as a single process, is not cyclical but *linear and bidirectional*. Graham asserts that by this way of explanation Anaximenes gives us *a description of elemental change*: "*[…] he tells us the sequence of changes we experience for basic stuffs, […] but he does not tell us why they happen*" (2006, p. 81).

Graham's argument depends on one of the requirements of GST; a search for a historically appropriate explanation. What we need is not a *sophisticated ontology* which early Ionians do not have. What is, then, that this way of explanation tells us is:

> *one stuff changes into another, and that stuff into yet another. But we do not need to posit some unseen substratum that continues through the change. The events that we observe are just the changes that actually occur: one stuff is transformed into another* (2006, p. 80).

Thus, as to Graham, Milesians accounts on *phusis* cannot be reduced to MM's assumption of a single substance from which everything arises and resolves into it. It is obvious that Milesians' way of explanation differs essentially from mythological explanation, yet it has not reached to the level of Aristotelian *technical ontological vocabulary*. This remark, however, does not reduce the revolutionary importance of Milesian school as the originator of western philosophy, but it shows us that we need more adequate models of explanations by appealing to the extant fragments themselves and putting them into context by grasping its background that it come forth. It requires an attempt that holds in abeyance the conventional explanation for the beginning of philosophy and its principles that depends on the authority of Aristotle for us to understand it in its own peculiarity in a more tenable way of explanation.

Conclusion

Graham's claim to interpret the first philosophers' conception of arche leaving aside the Aristotelian addition is tenable. Instead of Aristotelian interpretation of *phusikoi* by means of the doctrine of material monism, approaching the first philosophers in terms of *explanatory monism* provides more reasonable argument. Nevertheless, one must still need to go beyond Graham's doctrine of explanatory monism to provide a more accurate picture of the business of the first philosophers. Kirk, Raven, and Schofield asserted that Aristotelian interpretation of a pre-Socratic philosopher needs to be "confirmed by relevant and well-authenticated extracts from the philosopher himself" (2006, p. 6). This was what Grahams sought for. Nevertheless, it is not enough to get a complete explanation of pre-Socratic philosophy without appealing to interdisciplinary research. What they wrote makes sense when we ask why they wrote on those subjects, that is, what initiated philosophy and philosophical questions and methods as such.

The beginning of philosophy, the transition from mythos to logos, if not out of nothing *or* a miracle as once brought forward, entails more complex explanation. Hahn emphasizes that Burnet, Heath, and Fränkel appealed to Greek miracle to explain the origin of philosophy (2001, p. 18). Then, Hahn's appeal to social, cultural, and political background in general and particularly to architecture and

archeology provides a more plausible argument to grasp the meaning of the transition from genealogical explanation of natural phenomena to rational explanation by means of observation and experience. The transition from mythos to logos, that is, the origin of philosophy, as to Hahn, coincides with the political changes back then. It was also influenced by the adaptation of Egyptian architecture by the Greek architects. Then this articulation gave way to a new empirical method of explanation of nature. Anaximander's philosophy that provides us a cosmology explaining the world geometrically and mathematically points out the essential relation between the architects and naturalists.

Thus, it is now a clear idea that the first philosophers' dealing with the universe, physical and social world cannot be understood properly if one classifies their research solely under the category of material monism. The generative substance theory not only gives us a tenable way to grasp the reality but show us how it is done by those first philosophers as well. Therefore, instead of the theory of material monism, which is in fact a form of materialism, the generative substance theory provides us a coherent theory which is in a sense reminding the modern understanding of matter in terms of physicalism, that is, seeing the matter in close relation to energy through the knowledge of them being mutually transformable (Horner and Westacott, 2000, p. 19).

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