Translated excerpt

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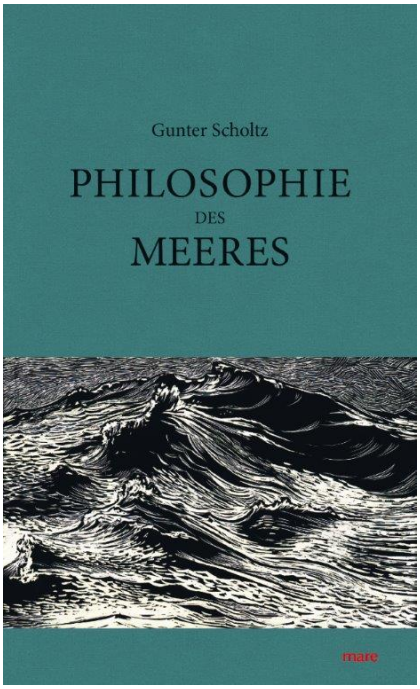
**Gunter Scholtz**
***Philosophy of the Ocean***

Translated by Kevin McAleer



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## Introduction: A Cruise through the Ocean of Philosophy

What I call "ocean philosophy" is not to be understood as some new branch of philosophy to be placed alongside philosophy of the mind, religion, art and so forth – for instance as a subdivision of natural philosophy – but is merely general philosophy preoccupied with the relationship of philosophical thinking to the ocean. This vivid subject has the advantage of fluidifying, as it were, the dry conceptual landscape.

The ocean is hardly some negligible quantity, and its relationship to philosophy has been the topic of recent books.[1] After all, almost three-quarters of the earth is covered in water. But human beings are bipedal land dwellers. For us the ocean is the unknown and dangerous – where the ocean begins is where the land animal's living environment ceases. Hence it is precisely in relation to this alien sphere that humans show who they are. It is solely through use of their inventive abilities that humans can dare to venture into this menacing milieu – through the construction of boats, ships, flippers and other diving apparatus. It is solely as *homo faber* – as a technician and cultural creature – that the human being obtains more precise knowledge of the ocean; and his relationship to the ocean shows the situation of his respective culture, of which philosophy is a part while simultaneously reflecting it.

Everything that humans think, say and write is informed by the perspective of a land dweller. Were humans instead to be sea creatures with gills and fins then they would perceive the world in an entirely different manner, have different thoughts as well as a different philosophy. The answer to the question as to what attitude they might assume toward life on terra firma would perforce lead to a more precise characterization of

these creatures. Presumably their thoughts would be fueled by both fear and curiosity as they contemplated the possibility of empty space and dry land – the possibility of living above and beyond the sea's surface – and in this way exhibit the incontrovertible fact that they are sea animals and only thereby learning what in fact it means to live in water. It is solely through the unaccustomed wet that we know something of the normal dry and vice versa – just as it is only through our experience of night that we possess a concept of day.

If humans wish to know what they are then they must first know what they are *not*. Traditionally they have conceived themselves as non-god and as not merely an animal but a special kind of animal – *zoon logon echon*, in Aristotle's description, an animal that can speak and think and thereby distinguish itself from the other animals. Should one wish to know more about humans then it is useful to learn just *how* they think and speak, for they perform these activities in a variety of ways. The poet conceives and speaks of the ocean differently from the chemist. A particular way of speaking and thinking is philosophy – which is what will be examined in this book – and one of its peculiarities is that even when philosophers think and speak about objects, they are mostly dealing with humans. They have their sights trained on those who can likewise think and speak. In the modern era this is known as "self-reflection." The mind reveals itself in the attitude it assumes toward nature – i.e. toward land and sea.

Like a cruise where the travelers are only permitted to see those cities lying along the coast, this book's journey of the mind must by necessity restrict itself to certain localities. We will be considering only those philosophies where the ocean plays a special role. Much of importance will thus be omitted. But that is perhaps no great disadvantage since visiting the world of philosophy in its entirety would overtax one in similar fashion to the traveler who attempts to see all the great cities of this world in a

single voyage – and even within those select cities there remains a great deal which must go unheeded. On cruises the land excursions hardly allow for enough time to view and understand all the notable sights, and all the philosophies mentioned in this book likewise merit more extensive discussion than permitted by the present framework. Yet cruises can still substantially widen our horizons. They acquaint us with novel phenomena, they afford panoramic views, and they incite us to draw comparisons.

Just as a tour guide endeavors to not only speak of the sights but show them, in this book I too shall make liberal use of citations from the philosophers themselves. Not only will your cicerone be holding forth but the original sources will likewise have their say. The language of philosophy may have a strange ring at times but its alien character has its own charms – like a certain striking architectural style.

While a journey in the mental sphere shares with sightseeing the task of selecting and demarcating things, it also offers an undeniable advantage, for when a tourist ship leaves the harbor it still only exists in the passengers' memory. On an ideational voyage, however, one can at any point turn quickly back around; and one can also undertake a bolder cruise by shuttling between far distant positions, e.g. betaking oneself with ease from ancient philosophy to modern philosophy and back again. This opportunity will sometimes arise because spheres that would seem to be widely removed from one another can in fact be closely connected – or because the character of these spheres is more clearly delineated when contrasted with one another.

Moreover the boundaries between philosophical disciplines are sometimes hard to discern. Those even a bit familiar with the relevant literature, in just scanning this book's table of contents, might well presume that widely diverse areas are being hereby addressed – metaphysics and natural philosophy, ethics and aesthetics, political and

social philosophy, the philosophy of law and history. Whereas during a sea cruise one can be certain as to whether the ship is traveling along an Italian or Greek coast, the various philosophical disciplines are not at all sharply demarcated from one another. In Plato's writings on the state can be found metaphysics, epistemology, ethics, politics, pedagogy, the philosophy of art – and all of these closely linked. This interplay is in the very nature of philosophy, which is a domain of knowledge that looks beyond boundaries and opposes the restrictions entailed in a single area of specialization. It is thus in an age of increasing specialization in the humanities and sciences that philosophy can function as a special discipline for that which is generalized and non-specialist. And it is for this reason that philosophy is unmodern – or perhaps indeed modern for precisely this reason? The world in which we live is divided in various ways – between city and country, between the private and public spheres, between summer and winter, and so forth and so on. But it cannot be segmented into scholarly disciplines such as physics and chemistry, sociology and psychology. It is insofar that philosophy is closer to our daily life than the specialist disciplines are.

The philosopher Hegel compared his discipline with the ocean. In his 1818 inaugural address to commence his professorship at the University of Berlin, he prepared his auditors for the adventure of philosophizing by declaring – presumably to the shock of his students – that the world of philosophy is that of thought and perforce our hearing and seeing must lapse:

*The decision to philosophize is itself a plunge into thought* (thought by its nature a lonely endeavor) – *as into a boundless ocean*; all the bright colors, all supporting points have vanished, all otherwise friendly lights have been extinguished. Only the *single* star shines, the inner star of the mind; it is the *polestar*. But it is natural that the mind in its

solitude *should be affected by a dread, as it were; one knows not yet where its sights are set, what its destination will be.*[2]

But this should create no apprehension or fear in the reader. As a tourist on a cruise there is no need oneself to navigate or even know how to swim – if everything goes according to plan.

## 1. Water as a Fundamental Principle

*Everything Is One*

The cradle of philosophy lay directly on the sea and its basic principle was water. The first man to gain the ascription of "philosopher" in ancient Greece was Thales of Miletus who lived around 600 BC. His native city of Miletus was a center of Greek trade in western Asia Minor, on a spit of land ranging out into a gulf.

Thales left behind no writings and none of the treatments of him in surviving sources can be absolutely verified. The sole thing which is certain and uncontested is that it was in the fourth century BC when Aristotle declared Thales to be the first philosopher to reduce the entire world to a single principle – water. And in a twofold sense. According to Aristotle, Thales felt that water supported dry land like it was a piece of floating wood or a ship, in addition to being the source from which all things sprung and to which they would again return.

It is certainly no accident that philosophical thinking should emerge in a commercial center replete with harbors and manifold contacts with foreigners. Whoever lives in such a city obtains knowledge of other languages and ways of thought, of foreign customs and religions, and it is through one's experience of the diversity of beliefs and forms of knowledge to be found in just such an environment that one no longer takes their inherited mindset for granted. It is difficult to imagine a greater fillip to self-sufficient reflection. If one is hearing all kinds of different stories about the fountainhead of the world then the question arises as to which is the right version and what the truth is. Diversity of opinion is a permanent spur to unsettling our views while

challenging us to employ our own reasoning capacity. And tales of foreign peoples also awaken one's curiosity. It is said that Thales journeyed to Egypt so as to make direct acquaintance with this country of which he had heard so much.

Even if it seems logical that the coastal city of Miletus circa 600 BC should be fertile ground for the emergence of philosophy, Thales' fundamental principle remains somewhat outlandish. Water may be the most important foundation for the existence of life, but it is merely a necessary and not a sufficient condition. That is why it seems farfetched to assert that everything which we perceive – the entire world no less – stems from water. Yet to search for and denote a single principle is the real philosophical aspect here. That is what Aristotle meant and it must be explicated.

Thales' principle is discussed by Aristotle in his most important work, at the core of his entire thought. Aristotle himself called it *First Philosophy*, though he might have also named it *Highest Philosophy*, and it was by way of his students that the book – the first of its kind – received the title *Metaphysics*. It is a work that deals with the fundament of all being and thought and which contains a "science of root causes," as Aristotle puts it. In his discussion of various causes he brings to bear the ideas of a philosopher who had earlier contemplated general principals and causes. Aristotle's outline of the ideas of the earliest philosophers is brief but carries great weight, for it is in explaining the beginnings of philosophy that its essence is simultaneously determined.

According to Aristotle the first philosophers solely had converse with what might be termed substantive principles. These were thought of as that from which everything emerges and to which all things would again return. The principles themselves were regarded as eternal and immutable – only their properties changed. The postulate of

creation and decay is ultimately premised on a certain continuance. But there is no consensus as to the quantity and kind of such principles. Aristotle takes it from here:

"Thales, the originator of such philosophy, sees water as the principle and why he also declared that the earth rested on water; a presupposition which he probably conceived because he saw that nourishment for all things is moist and that warmth itself emerges from damp and exists by virtue of such (but that whence everything emerges is the principle of everything); it was hereby that he likely as not arrived at his presupposition as well as the notion that the seed of all things was of a moist nature but that water is the essence of the moisture principle."[3]

Thales was thereby the first philosopher because he sought the ultimate principle underlying all things – *arche* is the word used by Aristotle and which means "beginning" as well as "principle" or "origin." The term *arche*/principle signifies the truly essent (to employ Heidegger's word) from which everything springs and remains unchangingly itself irrespective of changes in its manner of appearance. Nothing comes from nothing and becomes nothing – everything that lives and exists ultimately owes its being to this fundament and will disintegrate into it once more.

The question as to the world's ultimate underlying reality first emerged when those tales about the deeds of the creationist gods were deemed no longer persuasive. One saw how humans, animals, plants and entire tracts of land emerged and then passed away. What was preserved and thus formed the ultimate basis for all this change? Thales' answer was that the firm and fixed was in fact fluid – namely water. Acquainted as he was with myriad mythical stories on the essence and origins of the world, Thales founded the entire world on a new principle that bore no likeness to human beings themselves and distanced itself from the colorful pantheon of gods which dominated the

popular imagination and public life at the time, while also being based on a single fundament which was not only itself immutable but encompassed all that arose and subsequently passed away.

It is precisely Thales' assertion of a *sole* principle which makes him the actual founder of philosophy, for were one to assert two or more principles then the question would remain as to just how this multiplicity should be conceived, whence these principles issued, and why indeed they should be separate. The search for a single wellspring is focused not only on finding a common denominator in the world's enormous diversity of phenomena and in grasping their interconnectedness – since otherwise they would surpass our comprehension – but this search is also the result of logical and consequential thinking. In fact the entire history of metaphysics testifies to humankind's mental desideratum to found the world's multiplicity on a single principle which embraces all things. Only in this way can one prevent thinking from receding endlessly as it ponders the question of cause-and-effect. When modern theoretical physics strives to discover that one all-encompassing world formula to explain the cosmos, it is then being informed by an urge to trace the world's infinite variety to a single principle and thus establish a certain uniformity.

Yet very early on there were many who raised objections to the notion that Thales had somehow introduced something new into history. In antiquity it was pointed out that the old poets such as Homer had declared the powerful god Oceanus to be the source of all things[4] and therefore it was later held to be inconceivable that Thales would have so early on instigated a break with the myth. Whosoever should have argued for such would necessarily have to overlook the fact that there was no easy transition from Oceanos – that wild temperamental god whose wife was Tethys and with whom he had many children – to water as impersonal and formless primal matter; a considerable leap

was required. And it was precisely this leap which signaled the beginning of philosophy. If the content of the new thought is nevertheless still similar to that mythos then this may be not only a powerful backwash of Homer's story in which Oceanos appeared as the "deep-flowing ruler" and as father of gods[5] but the similarity may also go back to the power of experience – to the Greeks' continuous experience with water and particularly with the ocean.

A further objection to Thales as founder of a new mental position vis-à-vis reality, by Aristotle's account, was the result of Thales still believing in the existence of the gods. The reason for that was presumably the conception "that the universe was mixed with the soul."[6] If one is to give credence to this assertion then the old belief in gods was given a new basis by Thales – no longer was there a mythological but rather a philosophical conjecture that the soul had dominion in the world. For Thales it was perhaps the case that gods and soul were simply two different words for what amounted to the same designation. But the most important thing to follow from this was the water principle. Like almost all of those first natural philosophers, Thales was only familiar with what Aristotle called a "substantive principle"; but this was by no means what we would term "matter." Rather for the first philosophers the substantive principle always encompassed life – it was enlivened and vitalized matter or material life, a concept that was later called hylozoism. That is why Thales judged water to be both more than and different from mere H2O.

In seeking an explanation for water's being singled out as a fundamental principle, Aristotle seized on its indispensability to life itself; if in addition one took hylozoism seriously – the notion of inspirited matter – then this could perhaps also spawn further life. And we should above all not forget that Thales – denizen of a seaport which also lay on a river delta – was ever reminded of the power of the ocean and water in general.

The stormy sea consigned entire coastal areas to oblivion, devouring not only ships but human settlements while generating new promontories and islands; the rivers broke through stone dams, carved out mountain landscapes, washed land into the ocean, and was ceaselessly changing humans' accustomed habitat; the pouring rain transformed stark and inhospitable areas into fertile pasture land. It was manifest and incontestable that water was not only the element which enabled life but it showed itself to be a shaping force capable of changing the entire face of the earth.

Plato elucidated what was so new about Thales through an anecdote that made him – Europe's first philosopher – into a prototype of the abstracted brooder and researcher. In Plato's telling, Thales was observing the stars one night, walking along while gazing up at the heavens, when he stumbled into a well. An impudent Thracian maidservant, who had witnessed his tumble, mocked him by saying that he was so busy looking up into the sky that he didn't know what lay at his very feet.[7] The joke here of course is that the philosopher who declared water to be the world's fundamental principle was tripped up by of all things a well. But Plato wished to accentuate something else entirely. It is through this legend that he is showing us how alien was philosophical thinking in the lives of normal citizens. Solely interested in answering basic theoretical questions, the philosopher distances himself from all things that others give great attention to – making quick money, access to political power, or the neighbor's erotic escapades. This is why, according to Plato, maidservants are better suited for managing daily life than philosophers whose business is entirely different; but laughing townsfolk themselves also live in a kind of well – namely within the dark confines of ignorance.

But one can still not characterize Thales as an unworldly dreamer. All other reports paint an entirely different picture of him as a clever fellow who knew how to solve both theoretical and practical problems. It is said that he was a great mathematician who

formulated the proof that all angles of a semicircular arch are right angles – a proof which to this day is called the *Thales theorem*. He also gave his mathematical talent a practical application by calculating the height of the Egyptian pyramids as judged from the shadows they cast; he contrived a nautical astronomy for determining the points of the compass; he invented an instrument by which one could reckon the distance from land to approaching ships. Furthermore he explained that the Nile flooded its banks through wind that caused the river's water to rise. He prevented a war between the Lydians and Medes by predicting a solar eclipse. According to reports, he advised the Ionic cities to form a tight-knit alliance against the danger posed by the Persians; he accompanied King Croesus on his campaign against Cyrus the Great and enabled his army's progress via river by supervising construction of a canal. His prognostic talents were also implemented in his capacity as a clever economist: Foreseeing a good olive harvest, he thought to make a large profit by leasing all the olive presses so as to show that philosophers could also become rich, if they chose to, but that it was ultimately not a goal worth striving for.[8] And it was precisely due to his mathematical and technical abilities that he numbered among the Seven Sages of antiquity. According to legend it was in fact Thales who emerged as victor from a competition among these sages to determine who was the wisest of the wise.

Howsoever dubious might be the accounts of his achievements, they make two things perfectly clear. In ancient thought the disciplines of philosophy and science were one and the same. Thales was thus no airy-fairy thinker – though he admitted to being a shy and offbeat character[9] – but a shrewd man of the world who was active in public life, namely in economics and politics. And his interest in technical solutions to problems was certainly inspired at least in part by the ocean, for if humans wish to strike out onto the water then they must of necessity mobilize all their powers of reasoning to master

the threats posed by this alien element and in minimizing its dangers. The English historian Arnold J. Toynbee traced all cultural developments back to provocations that elicit creative replies – in his view "challenge" and "response" constituted the binary motor driving human history. Thales' thought can serve as an example of such, for it was a response to challenges thrown up by the sea and transposed the acumen thus acquired to other spheres.

There is no philosopher like Thales – who gained fame through a sole idea, through an idea whose original formulation on his part has not even been passed down to us. But it was through this idea that Thales pulled off two feats at once. He was the first to reduce everything in the world to a sole principle, and he saw this principle in water, which was a condition of life quite evident to all and which would later be increasingly confirmed as the source of life's origin. Goethe was particularly interested in Thales. In "Classical Walpurgis Night" in the second part of his *Faust* tragedy, in the midst of an array of mythological figures such as Sirens, Nereids and Tritons that splash about in the sea, Goethe has Thales put in an appearance and engage in discussion with another ancient philosopher Anaxagoras. When Homunculus makes known his desire to approach the philosophers, Mephistopheles quips: "Well, do it on your own behalf, here. / Where the spirits all find their place, / The Philosopher can show his face. / To please you with his art and favour, / He'll make you a dozen, any flavour."[10] But Thales and Anaxagoras conjure no phantasms in this Walpurgis Night; instead, for Goethe, they represent two parties of geologists who fell into dispute around 1800 – the so-called Neptunists who thought formation of the earth could be traced back to the ocean's impact, and the Plutonists or Vulcanists who attributed the earth's figuration to fire-spewing volcanoes.[11] Goethe's great sympathy for Thales and the Neptunists is more than

evident. Whereas we learn little about the Vulcanist party, the ocean is repeatedly presented as the fountainhead of life, and finally Goethe has the water-thinker Thales enthusiastically cry:

"Hail! Hail! Anew!
How happy I fell, too,
Pierced by the Beautiful and True . . .
All things came from the watery view!
All things are sustained by water!
Ocean, grant us your realm forever.
If you didn't produce the clouds,
No flowing streams would be allowed,
The rivers wouldn't roar and shout,
The streams would never bubble out,
Where would hill, plain, and world be then?
The freshness of life's what you maintain."[12]

The important philosophers of the modern era also expressed due appreciation for Thales and in their respective languages ventured to make people come to an understanding that the core of his thought was great philosophy. This can be briefly illustrated through two examples – namely how Hegel and Nietzsche regarded this progenitor of philosophy, both of them admiring his reduction of things to a single all-pervasive principle.

In his lecture-course on the history of philosophy, Hegel taught his students what "great boldness of mind" was required in not leaving "the richness of existence in the natural world" to merely obtain but "to reduce it to a simple substance that persists as such." It

was in this way, according to Hegel, that Thales brought to light the Reason which was latent in the old Oceanos myth, for this simple substance was only accessible to thought capable of recognizing the general and real in the world's richness. Water for Thales was ultimately not a thing – not some element like another, such as earth, air and fire – and not some object in a higher sphere where one frequently imagined God to dwell. Rather, for Thales, water was his "god of all," the sole and authentic reality, the true essence of all things. It was due to its formlessness that water lent itself to such – its very fluidity was an indicator of life. "Thales' proposition that water is the Absolute or the Principle, as the ancients said, is philosophical; philosophy begins here because it came to men's consciousness that oneness is the essential, the true, the sole being-in-and-for-itself" – that is, the thing which exists through itself alone and requires nothing else. If Goethe was fascinated by the nature of water then Hegel derived from Thales the general notion that *one* principle is the true and perennial reality: "This is philosophical – that oneness is truth."[13]

Hegel's interpretation of Thales – that water is not to be regarded as an object like any other but rather as that general connecting and interpenetrative principle which is factual not only in our perception – would later be confirmed by Friedrich Nietzsche. Nietzsche had hardly another thought in common with Hegel but regarded his thesis as both persuasive and correct – namely that Thales brought philosophy into the world through his fundamental principle albeit one enmeshed in old ideas:

"Greek philosophy seems to begin with a preposterous notion – with the proposition that water is the origin and mother-womb of all things. Is it really necessary to stop here and reflect? Yes, and for three reasons. Firstly because the proposition does enunciate something about the origin of things; secondly because it does so without figure and fable; and thirdly because in it is contained, though only in chrysalis state, the

idea ‘everything is one.’ The first reason leaves Thales still in the company of religious and superstitious people; however, the second takes him out of this company and shows him to be a natural philosopher; but it is by virtue of the third that Thales becomes the first Greek philosopher. In Thales, for the very first time, we have the triumph of scientific man over mythical man and in turn the wise man over the scientific man.”[14]

Were one to arrive at the notion that the first philosopher was the first materialist by dint of his substantive principle, both Hegel and the hyper-critical Nietzsche would beg to differ and offer another interpretation – as the quotation makes clear. The phrase “everything is one” is a principle of pantheism, which identifies the universe with godhead. For Nietzsche this is what constitutes the wisdom of Thales, who conceived the notion by his going beyond sense-perceptual matter – unlike scientists. So Thales was by no means refuted or excelled by modern science, which itself can still learn from him. Thales’ thought is therefore also characterized as pantheism or – owing to soulful interpenetration of the world – as pan-psychism.

If everything stems from water then must that not also hold for human beings? We know nothing of what Thales might have said on this subject. But according to old accounts his friend and pupil Anaximander, also a citizen of Miletus, gave explicit expression to such an idea. His principle was no longer water but *apeiron* – the boundless, the infinite – a principle without a certain materiality, pure fullness of being. His thoughts regarding principles had already detached themselves from all conceptions. But he too saw life as emanating from water – and as a gradual development, through evolution. It was through warmth that water and earth caused fish or similar creatures to emerge and in these humans then developed who later emerged and became independent beings. Naturally this three-stage transition was reflected in the ocean. For Anaximander the sea was only the residue of flooding over

the entire earth; then fire, i.e. the sun, dried up the largest part of the water and boiled out the residue to create the saline ocean.[15]

It is indeed remarkable that right at the beginning of philosophy one should have presupposed that all life began in the sea – thus arriving at a belief that would only much later be corroborated by the highly advanced sciences. And it was in just such a way that land-dwelling humans built a conceptual bridge to this alien element. Howsoever awesome the sea might have appeared, with its dangers and immeasurable vastness, it was through seafaring that intelligent bipeds made the ocean subservient to their needs and through Thales' theory that they even conjoined with it; as the source of all life, the ocean was ultimately also their own source.

***Introduction:* A Cruise through the Ocean of Philosophy**

[1]See Ralf Konersmann, "Die Philosophen und das Meer," *Zeitschrift für Literatur*, vol. 50, 3 (2003), pp. 218-233; Claus-Artur Scheier, "Zwischen Land und Meer. Philosophische Bemerkungen zu einer Kulturgeschichte der See ausgehend von Carl Schmitt," *Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft*, vol. LIV (Braunschweig 2005) pp. 251-263; and Dieter Richter, *Das Meer. Geschichte der ältesten Landschaft* (Berlin 2014).

[2] Georg Wilhelm Friedrich Hegel, "Rede beim Antritt des philosophischen Lehramtes an der Universität Berlin (1818)," *Theorie Werkausgabe*, vol. 1, eds. Eva Moldenhauer and Karl Markus Michel (Frankfurt am Main 1970) p. 416. To make for greater readability, the spelling in this citation and those to follow has been adapted to modern usage.

**1. Water as a Fundamental Principle:** *Everything Is One*

[3] Aristotle, *Metaphysik*, 983 b, translation by Hermann Bonitz. See also Wolfgang Schadewaldt, *Die Anfänge der Philosophie bei den Griechen* (Frankfurt am Main 1978) pp. 213-234.

[4] See Aristotle, *Metaphysik*, 983 b; and Homer, *Iliad*, XXI, ll. 195-197.

[5] See Homer, *Iliad*, XIV, l. 201; and *Odyssey*, X, l. 139.

[6] Wilhelm Capelle (ed.) *Die Vorsokratiker* (Stuttgart 1961), p. 72.

[7] Plato, *Theaitetos*, 174 a. See also Hans Blumenberg, *Das Lachen der Trakerin. Eine Urgeschichte der Theorie* (Frankfurt am Main 1987).

[8] Aristotle, *Politics*, 1259 a.

[9] Diogenes Laertius, *Leben und Meinungen berühmter Philosophen*, translated by Otto Apelt (Hamburg 1967) p. 15.

[10] Johann Wolfgang von Goethe, *Faust: Parts I & II*, translated by A. S. Kline (Poetry In Translation 2003) Part II, ll. 7842-7846.

[11] Helmut Hölder, *Kurze Geschichte der Geologie und Paläontologie* (Berlin et al. 1989) pp. 36 ff.

[12] Goethe, ll. 8432-8443.

[13] G. W. F. Hegel, *Vorlesungen über die Geschichte der Philosophie. Theorie Werkausg.*, vol. 18, pp. 195-209.

[14] Friedrich Nietzsche, *Wissenschaft und Weisheit im Kampfe. Werke in drei Bänden*, ed. Karl Schlechta, vol. 3, pp. 346 f.

[15] Capelle, ibid., pp. 87 f., 80.