

EARLY GREEK PHILOSOPHY

THE following excerpts from existing fragments of the writings of the philosophers of the early Greek period, and the opinions set forth by later philosophers of the activities of the thinkers of early Greece serve to emphasize not only the nature of the speculation in pre-Socratic days, but also the changes such thinking underwent.

The period roughly includes the times between the seventh century B.C. and that of the fifth century B.C. The speculation of these 200 years was characterized in the beginning by thoughts concerning the universe and its origin. Philosophy was in these ages a science which concerned itself with the cosmos as it revealed itself to man by its divisions, sub-divisions and the apparent laws governing its operations. The philosophers, while they show themselves to have been deeply interested in mathematics, nature study and astronomy, show, too, through their writings and the opinions of others concerning them that they were by nature religious and lifted themselves through religious aspirations to the heights of sublimity. Their reasoning, therefore, was colored not always by a cold analysis of fact, but often by the ardent zeal of poetry. Throughout the period of these 200 years there is evidence, as will be gathered by the student through his reading of the excerpts that appear in this division, of a process of development. This development traces its path from the pure cosmology of Thales to the scepticism of Democritus. A superficial study of the period might lead us to consider that the path traveled by the thinkers of the period is one of retrogression. In reality,

however, the pessimism and scepticism of Empedocles and Democritus represent an advance over the poetical approaches made by Thales and the philosophers of the early part of this period. The rank materialism resident in the speculations of the philosophers of the latter part of the early Greek period left man dissatisfied and led him to attempt to rationalize his activities upon an ethical basis. The program outlined by those who would lead mankind from the quagmire of doubt in which he found himself in the fifth century B.C. was one which substituted for the study of the cosmos a study of man himself. The course that was chartered was one that proceeded from the work of the Sophists through the reasonings of Socrates and Plato to the clearly defined thought of the master mind of all pagan time—Aristotle. The progress accomplished through these leaders will be illustrated by the excerpts from their writings which appear under the later Pagan period.

Of the lives of the philosophers of this early Pagan period we know very little. We gather here, however, the little we do know so that the student may gain a slight insight into the life of the man before attempting to analyse his thought through those portions of his writings, if any, which remain and through remarks made concerning him by his contemporaries or philosophers of a period not too remote from his own time of life.

THALES

Thales is the earliest Grecian philosopher of whom we have record. So far as we can ascertain he was of Phoenician descent. In all probability he was born about the year 620 B.C. at Miletus, and throughout life enjoyed the friendship of Croesus and Solon. In fact

Thales is reckoned among the Seven Wise Men of Greece. The year 546 is generally accepted as the year of his death.

FROM THE METAPHYSICS OF ARISTOTLE

Nearly all of the early students of philosophy were of the opinion that first principles in the form of material elements, and only these, are the sources from which all things in the world have originated. Of the number of such first principles there is a wide difference of opinion; but it was the opinion of Thales, the founder of this kind of philosophy, that there is one principle which is antecedent to all other material objects and from which all things else have been derived. This first principle, he says, is water, and according to him the earth rests upon water. He gained this idea, I suppose, because he saw that the nourishment of every thing that grows is moist and that warmth itself, which is a condition of growth, is generated from moisture and persists in it. He gathered this idea also from the fact that germs of all beings are of a moist character and water is an essential of that which is moist. There are those who think that people of the older times had somewhat the same idea in regard to nature, for in the early poems, Okeanos and Tethys were the parents of life and the gods were also pictured as swearing by Styx, the oldest river of which there is record. It is impossible to prove, of course, that ancient peoples believed that water was the first principle; but Thales is said to have regarded it as the first cause.

FROM THE DE COELO OF ARISTOTLE

Some say that the earth rests upon water. The oldest statement of this character is the one ascribed to Thales of Miletus to the effect that it rests upon water, floating in the liquid as a piece of wood or other object might so float.

PASSAGES RELATING TO THALES IN THE DOXOGRAPHISTS

From Theophrastos. Thales of Miletus seems to have lost faith in the gods. He says that the first principle is water and that he has been led to this conclusion by things that appear to sense: for warmth lives in that which is moist. Germs are moist; nutriments are moist; but dead things wither. Now it is natural that a thing should be nourished by that from which it has come, and so accordingly, he assumes that water is the first principle of all things and that the earth rests upon it. Thales is the first to have set on foot the investigation of nature by the Greeks.

From Hippolytos. It is said that Thales of Miletus was the first to undertake the study of physical philosophy. He believed that the beginning and the end of all things is water. To water are due earthquakes, whirlwinds and the movements of the stars. All things are movable when in the fluid state—that is, when they are in keeping with the character of the principle from which they have sprung. This principle is a first principle and has had neither beginning nor end. Thales was the first of the Greeks to devote himself to a study of the stars. On one occasion he was looking at the stars when he fell into a well, whereupon a maid servant laughed at him and said “In his zeal to find that which is in the sky, he does not see what is at his feet”.

ANAXIMANDER

Of Anaximander we know less than we do of Thales. Theophrastos informs us that he was a disciple of Thales and that he had been born at Miletus probably in the year 610 B.C. Beyond these meagre facts there is nothing that remains concerning Anaximander except two sentences from a poetical prose composition of his. These sentences are:

1. Everything must in justice decline into that out of which it arose, for all things in their own order of time will be obliged to render satisfaction and sorrow for injustices committed.
2. The infinite surrounds all things and orders all things.

FROM THE PHYSICS OF ARISTOTLE

Some there are who hold that the underlying substance—the first principle—is a unity which is denser than fire but more rarefied than air. These teach that other material objects are generated by reason of condensation and rarefaction of this first principle. There are those, though, who believe that material objects which are in existence have been derived simply by reason of separation from the original unity, which is atmosphere. It is this which Anaximander says.

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There is no beginning of the infinite, for if it had had beginning it would have had end. It is without beginning and inde-

structible as being a sort of first principle. For it is required that whatever comes into existence should have an end. Wherefore we say there is no first principle of the infinite, but it itself is the first principle of all other things. It is immortal and indestructible as Anaximander and most of the physicists say.

PASSAGES RELATING TO ANAXIMANDER IN THE
DOXOGRAPHISTS

From Theophrastos. Anaximander of Miletus, son of Praxiades, pupil and successor of Thales, is among those who say that the first principle is infinite. This first principle, according to Anaximander, is neither water nor any other one of the things called elements, but something of a different nature from which come the heavens and the worlds in them. From the source out of which things arise, to that, of necessity, do they return when they are destroyed. Anaximander, when he sees the four elements changing to one another does not consider it right to make one of these the underlying substance. He does not think that material things come into being by changes in the nature of the element, but rather by a separation which the eternal motion causes.

From Plutarch. Anaximander says that the infinite is the cause of all generation and destruction. From it the heavens were separated and all the worlds which are infinite in number. He says that the earth is a cylinder in form and its depth is one-third of its breadth. He says, further, that at the beginning of this world something productive of heat and cold was separated from the eternal being and a sort of sphere of this flame surrounded the air about the earth as bark surrounds a tree. This sphere was later broken into parts and thus arose the sun, the moon and the stars. Further, he says that at the beginning man was born from all sorts of animals, since all the rest can quickly get food for themselves, but man alone requires careful feeding for a long time. Such is the teaching of Anaximander.

ANAXIMENES

Anaximenes, if we may depend upon Theophrastos, who is our principal secondary source concerning Anaximenes, was a fellow student of Anaximander's. We know nothing of his life and there remain simply the date of his death, 528 B.C., and one sentence from a treatise written by him, the title of which is unknown. The sentence that remains is:

Exactly as our soul which is air binds us together, so do breath and air surround the world.

FROM PORTION OF ANCIENT GRECIAN WRITING ACCREDITED
BY SOME HISTORIANS TO ANAXIMENES

Air bears closest relationship to an immaterial thing; since the human race is generated in the flow of air, it is necessary to think of such air as infinite and plentiful because it is never exhausted.

FROM THE METEOROLOGY OF ARISTOTLE

Anaximenes maintains that first the earth was wet and that as it dried it broke apart. The breaking up and falling of hills, he says, are responsible for earthquakes. Earthquakes occur in dry seasons and in rainy seasons, too. In dry seasons the earthquake is caused by the drying of the earth itself and its consequent breaking. In wet seasons the earth crumbles because of excessive moisture.

FROM THE METAPHYSICS OF ARISTOTLE

Anaximenes considered air to be the first principle.

PASSAGES RELATING TO ANAXIMENES IN THE
DOXOGRAPHISTS

From Plutarch—According to Anaximenes, we should regard heat and cold as incidental to changes in material things. He says that the condensed state of matter is cold, while its rarefied condition is heat. It is to be expected, says Anaximenes, that men breathe both hot and cold out of their mouths. The breath is cool as it is condensed by the pressure of the lips, but rarefied and warmed owing to the relaxation of the mouth.

From Hippolytos—Anaximenes said that infinite air is the first principle. From it have arisen all things that are and from it will be derived all things that will be. Air becomes evident as a result of cold or heat or motion. In and of itself it is imperceptible, but since it is always in motion it is always evident. Its appearance differs as it becomes more dense or thinner than it characteristically is. When expanded into a thin state it becomes fire. When compressed, it becomes first, cloud; then as compressed further, it changes into water; and finally, in turn, with greater and greater compression, it becomes earth and then stone.

From Cicero—Anaximenes said that air is the first principle of god. It is boundless, infinite and always in motion. Now, if boundless and infinite it must be without definite form. It can not, therefore, be god, since it is necessary that god be not only of definite form but that he be of form of highest possible beauty. Otherwise he would not be god. Air, therefore, can not be the first principle, or god.

XENOPHANES

Xenophanes was born about 570 B.C. at Colophon in Asia Minor. As with many other of the followers of this early Greek period, we are dependent upon Theophrastos for information. It appears that Xenophanes wandered throughout Greece as a minstrel, finally settling at Elea in southern Italy. It is from this city that the Eleatic school which Xenophanes founded took its name. Nothing is known with reference to the time or place of this philosopher's death.

FROM FRAGMENTS OF POETRY ASCRIBED TO XENOPHANES

1. God is one, supreme among gods and man, and unlike mortals in body or in mind.
2. Mortals suppose that the gods are born (as they themselves are) and that they have human bodies and human voices.
3. If cattle or lions had hands and could paint with their hands and produce works of art as men do, they would paint their gods and give them bodies like their own. The gods of horses would be like horses and the gods of cattle would be like cattle.
4. Homer attributed to the gods all things which are disreputable and worthy of blame when done by man.
5. All things that come into being and grow are earth and water. We are all sprung from earth and water and the sea is the source of water.

FROM THE METAPHYSICS OF PLATO

There are those who have expressed the opinion about the All—that it is one in its essential nature,—but they have not expressed this opinion in an orderly manner. Xenophanes, who first taught the unity of all things, did not make anything clear, but looking up into the heavens, he said: “The unity of all things is god”.

PASSAGES RELATING TO XENOPHANES IN THE DOXOGRAPHISTS

From Theophrastos. Xenophanes ascertained that the first principle is one and that *being* is all embracing. It is neither limited nor infinite; it does not move, neither does it remain at rest. This all embracing unity Xenophanes called god. If there were a multiplicity of things, according to Xenophanes, power would have to exist in them all in equal degree, but this condition could

not be as there must necessarily be one all embracing unity which is the most powerful and most excellent of all things. The all embracing unity or god existed from all eternity. If we think of it as having been born from that which preceded it and was like it, then we are merely saying that it was born from itself. If we think of it as having been born from that which was unlike it, then God would have sprung from that which was not being or in other words from nothing. God, therefore, is without beginning and eternal.

From Plutarch. Xenophanes, going his own way and differing from all those who had gone before, did not admit either the birth or destruction of being, but held that the All is everlastingly the same. With regard to the gods, he maintained that there was no rule of one god over another. The gods have need of nothing at all.

From Galen. Xenophanes holds this one doctrine—that all things are one which is God; that this God is unchangeable, immovable and able to reason.

PARMENIDES

Parmenides was born at Elea in all probability in the year 540 B.C. Aristotle informs us that he was a student under Xenophanes but that he was far more brilliant than his master and carried to its logical conclusions the idealism of the Eleatic School. Parmenides was a poet of no mean ability and he is generally regarded as the greatest of all the pre-Socratic philosophers.

FROM FRAGMENTS OF PARMENIDES COLLECTED BY PERON,
LEIPSIG, 1810

1. It is necessary not only to say, but also to think that being is; for it is possible that being is and it is impossible that not-being is. This I urge you to ponder. Those who do not think wander aimlessly and they are borne on deaf and likewise blind, for they consider being and not-being as the same and not the same.
2. Being is without beginning and indestructible; it is universal, immovable and endless. From what did it grow and how? I will not permit thee to say or to think that it came from not-being for it is impossible to think or to say that not-being is. Being is absolutely or it is not. It

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From Hippolytos. Parmenides maintains that the All is one and eternal. Yet he is not free of the opinions of men, for he speaks of fire and earth as essential principles of the All. Birth, he regards as matter, and fire as an immaterial cause of that which exists. The earth will come to an end, but the All is eternal.

From Plutarch. Parmenides, the Eleatic, not only set forth his own opinion, but revealed opposite viewpoints. He declared the All to be eternal and immovable. It is a false opinion to think of things as coming into existence and passing away. If anything were to exist different from being it would have to be not-being, but not-being does not exist. There is nothing but being which had no beginning. The earth took on form by reason of the precipitation of dense air.

MELISSUS

Of Melissus we know little with certainty except that he was a native of Samos and in all probability a pupil of Parmenides. Plutarch informs us that he was the commander of the Samian fleet which repulsed the Athenians in a battle off the coast of Samos in the year 442 B.C. Simplicius in his *Physics* has preserved fragments of the writings of Melissus.

FROM FRAGMENTS OF MELISSUS FOUND IN THE PHYSICS OF SIMPLICIUS

If nothing is how can it be spoken of as if it were something? If anything exists it either came into being at some time or else it always has been in existence. If it came from something else that which it came from must have been different from being, and therefore must have been not-being. It could not, however, have come from not-being, for that which is can not possibly be derived from that which is not. Being, therefore, was not generated; it always has been and it always will be. It has had no beginning; it will not be destroyed and it is infinite. Being, moreover, does not move, for there is nothing else but being and so there is no void through which it can move. All things are one; all things are being.

If being exists it exists as a homogeneous entity. It is one. It is not a body with different parts because the difference of the parts would destroy the unity. It has no thickness, length nor breadth and is bounded by nothing but itself.

Many things seem to become different and change their appearance each time they are seen. It must be that we can not see cor-

rectly for the appearance of their being many different things is incorrect. Things that are real can not change their characters. If appearances are correct then being, which is homogeneous and like nothing but itself, must have perished and non-being taken its place. This, we have said, could not be, so that if a multiplicity of things seems to exist in the world the explanation is that we can not know the truth, for nothing can exist except it be being, which is always the same.

FROM THE PHYSICS OF ARISTOTLE

Melissus is wearisome. He sets no problem, but from one strange thing he grants, everything else follows. The error in the logic of Melissus is evident. It is strange that he should think that simple being never had beginning, but was always the same and that variations only seem to come into existence as though being could not change as a whole and in part without altering its character. If we grant that everything is in unity, why can not that unity move or change? A body of water is a unity, yet it can change in whole or in part and yet remain water. It is necessary that being be considered one as to source but it may appear under different forms.

PASSAGES RELATING TO MELISSUS IN THE DOXOGRAPHERS

From Aetios. Melissus says that the One is universal and that it exists alone, eternal and without limits.

Melissus denies generation and destruction because he thinks that the All is immovable.

Melissus says that our sensations deceive us.

From Epiphanius. Melissus of Samos, son of Ithagenes, claimed that the All is one in kind but that nothing seems to be fixed in nature.

ZENO

Zeno was born at Elea in all probability about 490 B.C. Plato represents him as having been the favorite pupil of Parmenides. He is usually presented as the initiator of dialectics and sophistry. We know nothing further concerning him except the fragments that remain to us of his work "Parmenides" from which we have quoted.

FRAGMENTS FROM "PARMENIDES," A PROSE WORK BY ZENO

1. If there be a multiplicity of things it is necessary that these should be equivalent in number to things which actually

exist. They can not be more nor fewer. If there are just as many as exist then the number of existing things is finite. We know, though, that if there be a multiplicity at all the number must be infinite for between any two things there are always other things, not simply spaces. So the number of things must be infinite.

2. If there is such a thing as space it will have to be in something if it is being at all. All being is something and that which is something must necessarily occupy space since it must be in a space. So space to exist would have to be in space and this space in another space and so on indefinitely. Accordingly, there is no such thing as space.
3. Everything is either in motion or at rest. A moving body, though, at any one moment, if we think of space as existing, must be in a space equal to itself. The arrow which is apparently moving forward is in a space equal to itself at any one time. If, however, it occupies a space equal to itself at any one time it must be at rest in order to occupy it for that moment. All time is, however, but a succession of moments. Therefore, that which is apparently moving forward is at rest every moment of its apparent motion.

FROM THE PHYSICS OF SIMPLICIUS

Zeno, for the sake of exercise, argued both sides of cases. For this reason he is often called "the double tongued".

FROM THE PHYSICS OF ARISTOTLE

It is not difficult to solve Zeno's problem, that if place is anything it will have to be in some other place. There is no reason why the first place should not be in something else, not however, as in that place. Health exists in beings that are warm as a condition; but warmth exists in and of itself as a property of the thing itself.

Zeno's reasoning is fallacious. He says everything is at rest when it is in a space equal to itself, and that a moving body is always at the present moment in a space equal to itself. Therefore a moving body in reality does not move. This reasoning is false. Time is not composed of present moments that are themselves indivisible, nor indeed is anything else so composed. The fallacy of the argument lies in the fact that while he postulates that bodies move forward he thinks of space and time as at rest.

PASSAGES RELATING TO ZENO IN THE DOXOGRAPHISTS

From Plutarch. Zeno, the Eleatic, brought out nothing peculiar to himself, but he started further difficulties concerning the things he mentioned.

From Galen. Zeno is said to have introduced dialectic philosophy.

From Aetios. Zeno says that the One is universal and that it exists alone eternal and unlimited. He says that the elements are gods and that the mixture of them is the world. He denied generation and destruction because he thought that the All is forever unmoved.

HERACLITUS

Heraclitus was born at Ephesus about the year 530 B.C. He is usually called the "Obscure" by reason of his fashion of speaking as if he were an oracle of wisdom. We know nothing further of his life and must rely upon those fragments of his work that remain and upon Plato and Aristotle, who give us an account of his philosophical teachings.

FRAGMENTS OF HERACLITUS

1. Not on my authority, but on that of truth it is the part of wisdom to accept as evident the fact that all things are one.
2. Eyes and ears are bad witnesses, since men themselves in their souls lack understanding.
3. Most men do not really understand those things which they confront every day. Moreover, through schooling they do not learn them, though they think they do. Men know not how to listen nor how to speak.
4. All things are steered through all things by intelligence. This regulation always was, is and ever shall be. It was made by neither gods nor man, but by an ever-living fire kindled according to fixed measure and extinguished according to fixed measure.
All things are exchanged for fire and fire for all things, just as wares are exchanged for gold and gold received for wares.
Fire lives in the death of earth and air lives in the death of fire; water lives in the death of air and earth in the death of water.
5. God is day and night, winter and summer, war and peace. He assumes different forms at different times and each one gives to him the name he pleases.

6. War is father of all and king of all. Some men he makes gods, others free men, and still others slaves.
7. Opposition unites; harmony results from differences. All things take place by reason of strife.
8. The sea is at the same time the purest and the foulest water. For fishes it is drinkable and healthful; for men it is hurtful and thoroughly unfit.
9. Good and bad are one. Physicians who cut, burn and otherwise torment the sick, complain that they never receive adequate compensation. From that which tends to unite and that which tends to separate, from the harmonious and the discordant, arises the One and from the One all things arise.
10. Life and death, waking and sleeping, youth and old age, are the same. The former in each case changes to the latter and the latter changes to the former.
11. Men, being born, wish to live, and living, wish to find rest, or die and they leave children behind them who will live and die.
12. Dogs bark at those they do not know, and as a result of men's incredulity divine things remain unknown.

FROM THE THECÆTETUS OF PLATO

Heraclitus and his whole company would say that everything is in motion and that all is in a state of flux.

FROM THE METAPHYSICS OF ARISTOTLE

According to Heraclitus, all things perceived by the senses are always in a state of flux, and so his supporters maintain that if there is to be a science and a knowledge of anything, it is necessary to assume the existence of other objects in nature in addition to those that are perceived by the senses. For of things in a state of flux there can be no science.

FROM THE PHYSICS OF ARISTOTLE

If we argue that all things that exist are one, then we are restating the position of Heraclitus, for he held that the good and the bad, the good and the not-good, and even man and horse are the same. In reality, therefore, they are not arguing that all things are one, but rather that they are nothing.

PASSAGES RELATING TO HERACLITUS IN THE DOXOGRAPHS

From Theophrastos. The followers of Heraclitus say that men learn truth by the presence in themselves of the opposite quality.

From Diel's Doxographists of Greece. Heraclitus was always charging men with ignorance, but still he pitied them their lives. He was fond of saying that other men knew nothing, but that he himself knew all things and that god is intelligent fire and that all things enter into a common motion and do not stand still.

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Heraclitus says that the first principle of all things is fire. According to him all things arise from fire and end by becoming fire. As fire is quenched all things come into the order of the universe. For first the dense part of it, contracting into itself, becomes earth, then the earth becoming relaxed by fire is rendered water in its nature; then it is sublimated and becomes air, and again the universe and all bodies are consumed by fire in the conflagration. Fire then, is the first principle because all things arise from it, and the final principle because all things are resolved into it.

PYTHAGORAS

Of Pythagoras we know simply that he lived and in all probability was the founder of the brotherhood known as the Pythagoreans. This community is said to have been founded by Pythagoras in Crotona, Italy, where he went from Samos, his native home, in 530 B.C. Of his life we know nothing more.

PASSAGES IN PLATO AND ARISTOTLE REFERRING TO PYTHAGORAS AND THE PYTHAGOREANS

FROM THE PHOEDRUS OF PLATO

The saying that we men are in a sort of prison and that one ought not to loose himself from it nor yet to run away, seems to me something not easy to understand. But this I think at least is well said: that it is the gods who care for us and that we men are one of the possessions of the gods.

FROM THE GEORGIAS OF PLATO

The wise men say that one community includes heaven and earth, gods and men, friendship and order, and temperance and righteousness. Therefore, they call this whole a universe for it is not without order nor yet is there excess. It seems to me that you do not pay attention to these things, though you are wise in regard to them. It has, however, escaped your notice that geometrical equality prevails widely among both gods and men.

FROM THE PHYSICS OF ARISTOTLE

The Pythagoreans consider the first principle as existing by itself and being in itself the infinite in essence. This infinite they found in things perceived by sense, and therefore they held that it, number, is not an abstraction, but the infinite outside the heavens.

FROM THE DE COELE OF ARISTOTLE

The Pythagoreans say that all things are defined by threes; for end, middle and beginning constitute the number of the All and also the number of the triad.

Some think that noise should arise when great bodies are in motion, since sound does arise from bodies which are not so large and do not move so swiftly. It would seem, therefore, that from the sun, moon and stars in so great number and of so great size, moving so swiftly, there must of necessity arise a sound inconceivably great. Assuming these things to be so and that the swiftness of movement has the principle of harmony, they say that the sound of the stars moving on at intervals in a circle becomes musical.

FROM THE METAPHYSICS OF ARISTOTLE

The Pythagoreans believed that many things of which the forms appear different have, in reality, but one form, and thus all things are in reality one.

The Pythagoreans say that there is but one number, the mathematical, but things of sense are not separated from this for they are composed of it. They construct the whole heavens out of numbers, for they assume that the unities have quantity, but how the first unity was so constituted as to have quantity they seem at a loss to say.

The Pythagoreans, because they see many qualities of numbers in bodies perceived by sense, regard objects as numbers; not as separate numbers, but as derived from numbers.

PASSAGES RELATING TO PYTHAGORAS AND THE PYTHAGOREANS
IN THE DOXOGRAPHISTS

From Diel's Doxographists of Greece. Pythagoras held that one of the first principles, the monad, is the good which is the origin of the One and is itself intelligence. But the undefined dyad is a divinity and the bad, surrounding which is a mass of matter. Divine spirits are psychical beings. Pythagoras further asserted that the so-called forms and ideas exist in numbers and their harmonies and in what are called geometrical objects apart from bodies. He asserted that the first causes are immaterial, but that other causes involve a union or contact with material substance.

Pythagoras holds that number moves itself, and he considers number to be the equivalent of intelligence. According to him it appears on superficial examination that the soul consists of two parts; one possessing, the other lacking, reason. According to closer examination, however, we see that it is composed of three parts, for the unreasoning part should be divided into the emotions and the desires.

The successors of Pythagoras say that the body is a mixture of five elements, and they hold that the powers of the soul are of the same number as these. These elements they call intelligence, wisdom, understanding, opinion and sense perception.

The Pythagoreans mingled, in their studies of nature, gastronomy, geometry, music and arithmetic. They asserted that god is a monad. In examining the nature of number with especial care, they said that the universe produces melody and is put together with harmony.

The first principle of numbers is in substance the first monad, which is a male monad, begetting as a father all other numbers. Secondly, the dyad is a female number and the same is called by the arithmeticians, *even*. Thirdly, the triad is a male number. This, the arithmeticians are accustomed to call *odd*. The tetrad is a female number and the same is called *even*. All numbers, then, taken by classes are fours, of which is composed the perfect number, the decad. The series 1, 2, 3, 4 becomes 10 if its own name is kept in its essence by each of the numbers. The 11, the 12 and all other numbers derive from the 10 the first principle of their being. The four parts of the decad, the perfect number, are called number, monad, power and cube. In addition to these parts we can have power of a power, power of a cube and cube of a cube. Thus all numbers from which arise all other beginnings, are in reality 7.

LEUKIPPOS AND DEMOCRITUS

Leukippos and Democritus are usually associated in all considerations of the philosophers of the early Pagan period. In reality we know so little of Leukippos that many believe no such individual ever existed but that the name simply represents a means perhaps adopted by Democritus, the real leader of Atomistic philosophy, to place the opinions of this school before his disciples.

Of Democritus we know that he was born, according to most reliable account, in the year 460 B.C. We

are almost totally dependent upon Aristotle for an understanding of the teachings of Democritus, and from this same source we gather that the leader of the Atomists received instruction from Oriental teachers and that he was regarded by many as a sorcerer.

FROM THE OPINIONS OF THEOPHRASTOS

Leukippos assumed innumerable and ever moving elements which he called atoms. He made their forms infinite in number since there was no reason why they should be of one kind rather than another and because he saw there was unceasing becoming and change in things. He held, further, that "what is" is no more real than "what is not" and that both are like causes of the things that come into being. He maintained that the substance of the atoms was compact and full and he called them "what is," while they moved in the void that he called "what is not," but affirmed to be just as real as "what is."

FROM THE DE GENERATIONE ET CORRUPTIONE OF ARISTOTLE

Leukippos and Democritus have decided about all things practically by the same method and on the same theory, taking as their starting point what naturally comes first. Some of the ancients had held that the real must necessarily be one and immovable. For, said they, empty space is not real and motion would be impossible without empty space supported from matter; nor, further, could reality consist of many things if there were nothing to support things.

Leukippos, however, had a theory which was in harmony with sense perception and yet did not do away with coming into being and passing away, nor motion nor the multiplicity of things. He made this concession to experience while he conceded, on the other hand, to those who invented the One that motion was impossible without the void; that the void was not real and that nothing of what was real was not real. For, said he, that which is strictly speaking real is an absolute plenum, but the plenum is not one. On the contrary, there are an infinite number of them and they are invisible, owing to the smallness of their bulk. They move in the void (for there is a void); and by their coming together they accomplish coming into being, by their separation, passing away.

NOTE:—It would be a hopeless task to try to distinguish the thought of Democritus from that of Leukippos, with which it is generally identified.

EMPEDOCLES

Empedocles was born at Agrigentum, in Sicily, about 490 B.C. According to Aristotle, he died in 430 B.C. Empedocles was a poet as well as a philosopher, and there remain to us about 450 verses of his poetry. His own poems tell of his travels throughout southern Italy and the many honors that were heaped upon him by the people who regarded him as of divine origin.

FROM FRAGMENTS OF THE ORPHIC VERSES OF
EMPEDOCLES

1. Scant means of securing knowledge are scattered among the members of the body. Many are the evils that enter to blunt the edge of studious inquiry. Those things are neither seen nor heard distinctly by men, nor are they comprehended by the mind.
2. Hear first the four roots of all things: Bright Zeus, life-giving Hera (air), and Aidoneus (earth) and Nestis who moistens the activities of men with her tears.
3. A second thing I will tell thee: There is no beginning for anything that is mortal, nor yet any end in death. Men call origination what in reality is but mixture and separation.
4. When light is mingled with air in human form or in form like the races of wild beasts, plants or birds, then men say that these things have come into being. When they have separated, then men say that the evil fate has overtaken them. This is established practice which, in accordance with custom, I myself follow.
5. It is impossible that anything should have come into being from something else which did not exist. Neither is it possible nor comprehensible that men should perish completely.
6. A man of wise mind could not possibly discover that so long as men are in what is called life they share in that which is excellent and in that which is bad. But before they have been formed and after they have been dissolved they are really nothing at all.
7. The elements never cease changing place continually. At one time they are united by Love and at another time they are scattered by the hatred born of Strife. This continues until they are brought together in the unity of the All and

become subject to it. As the one often arises out of the many, and again with the separation of the one the many arises from it, so things are continually coming into being and there is no fixed age for them.

FROM THE GEORGIAS OF PLATO

Perhaps we really now are dead as at one time I heard one of the wise men say. Perhaps the body is our tomb and that that part of the soul in which desires are is open to persuasion and moves upward and downward.

FROM THE PHYSICS OF ARISTOTLE

Empedocles says that things are in motion part of the time and at other times are at rest. They are in motion when Love tends to make one out of many or when Strife tends to make many out of one. In the intervening time they are at rest.

FROM THE DE COELO OF ARISTOTLE

Some there are who say that at one time there is a coming into being and at another time there is a perishing. This, they maintain, always continues to be the case. Among those who take this stand is Empedocles of Agrigentum.

Empedocles seems both to contradict things as they appear and likewise to contradict himself. At one time he says that no one of the elements arises from another and at another time he brings all of nature except Strife together into one and says that each separate thing arises from this one.

PASSAGES RELATING TO EMPEDOCLES IN THE DOXOGRAPHERS

From Diel's Doxographers of Greece. Empedocles, son of Meton, says that there are four elements: fire, air, water and earth. In addition, he says there are two dynamic first principles—Love and Strife. The former tends to unite; the latter to separate. Hear, says Empedocles, the four roots of all things; bright Zeus, life bearing Hera, Aidoneus and Nestis, who moistens the springs of men with her tears. By Zeus he means the seething of the ether; by life-bearing Hera, moist air; by Aidoneus, earth; and by Nestis, he means moist sea and water. The universe, he holds, is one and says its matter consists of the four elements, but that its forms are Strife and Love. The elements he considers gods and their mixture constitutes the universe.

From Theophrastos. Empedocles of Agrigentum tells of four material elements: fire, air, water and earth. All are eternal and all increase and decrease by composition and separation. The four elements are set in motion and moved in turn by Love and Strife. At one time they may be brought together by Love and at another

time they may be separated by Strife. So that in the view of Empedocles there are really six first principles, for he gives active power to Love and Strife. He ranks Love and Strife among the elements for he says "it (the universe) separated so that there were many out of one; fire, water, earth and air, with frightful strife set apart from them and yet balancing them and with Love also among them and their equal in both length and breadth.

ANAXAGORAS

Anaxagoras was born at Clazomenae about 500 B.C. The greater part of his life he spent at Athens, where he enjoyed the friendship of Pericles and Euripides. Because of his friendship for Pericles he was charged with the crime of disrespect for the gods, immediately before the beginning of the Peloponnesian War. He, however, fled to Ionia and settled at Lampsacus, where he died in 430 B.C.

FROM FRAGMENTS OF A BOOK BY ANAXAGORAS

1. When all things were together not even a color was clear and distinct, for the mixture of all things prevented distinctness. The mixture was one of moisture and dry, of the warm and the cold, and of the bright and the dark, and of germs infinite in number.
2. Mind is infinite and self powerful. It is mixed with nothing, but it exists alone of itself by itself. If it were not by itself, but were mixed with anything else it would include parts of all things because each thing includes a portion of everything. Mind is the most rarefied of all things and the purest. It has all knowledge in regard to everything and it also has the greatest power. Mind rules over everything that has life. Mind ruled the rotation of the whole so that it set it in rotation in the beginning. First it began the rotation from a small beginning, then more and more were included in the motion and yet still more will be included. Whatever things were to be and whatever things were, as many as are now, and whatever things should be, all these mind arranged in order. It arranged that order according to which now rotate stars and sun and moon and air and ether. Rotation itself caused the separation and the dense is separated from the rare, the warm from the cold, the bright from the dark and the dry

from the moist and there are many portions of many things, yet nothing is absolutely separated nor distinct, one thing from another, except mind.

3. When mind began to set things in motion there was separation from everything that was in motion, and however much mind set in motion was made distinct. The rotation of the things that were moved and so made distinct caused them to be yet more distinct.
4. Earth is condensed from those things that are separated. Water is separated from the clouds and earth from the water; but mind, as it has always been, is where all other things are. It is in the surrounding mass, in the things that are separated and in the things that are being separated.
5. The Greeks do not rightly use the terms "coming into being," and "perishing." Nothing comes into being, nor yet does anything perish. There is but mixture and separation of things that are. So they (the Greeks) would do right if they were to call the coming into being "mixture" and the perishing "separation".

FROM THE PHOEDO OF PLATO

If things were not separated quickly would the statement of Anaxagoras come true: "All things were together."

I heard a man reading from a book of one Anaxagoras to the effect that it is mind which arranges all things and is the cause of all things. Reading the book I see that the man does not make any use of mind nor does he assign any causes for the arrangement of things, but he treats air and ether and water and other strange things as causes.

FROM THE KRATYLOS OF PLATO

Anaxagoras says that mind exercises absolute power and though mingled with nothing, disposes all things and runs through all.

FROM THE PHYSICS OF ARISTOTLE

Anaxagoras speaks strangely about the permanence of the infinite. He says that the infinite itself establishes itself. According to him nothing else surrounds it so that wherever anything may be it is there in virtue of its origin.

FROM THE DE COELO OF ARISTOTLE

Anaxagoras says that flesh and bone are elements. Air and fire he calls mixtures of these. For each, he believes, is made up of invisible flesh and bone. As there is a peculiar motion of every

material body, and as some motions are simple and some complex, and as the complex motions are those of complex bodies and simple motions those of simple bodies, it is evident that there are simple bodies since there are simple motions. So it is evident what elements are.

FROM THE DE COELO OF ARISTOTLE

Anaxagoras ignores his own word for he says that he has shown genesis and destruction to be the same as change, but like the others he says there are many elements. In fact, Anaxagoras claims that there is an infinite number of elements, for he regards as elements, bone, flesh, marrow and other things of which the part has the same name as the whole.

FROM THE DE ANIMA OF ARISTOTLE

Anaxagoras seems to say that soul and mind are different, but he treats both as one in nature except that he regards mind especially as the first principle of all things, for he says that mind alone of all things is simple and unmixed and pure.

FROM THE METAPHYSICS OF ARISTOTLE

Anaxagoras, who preceded Empedocles in point of age but followed him in his works, says that the first principles are infinite in number. All things that are made of like parts, such as fire and water, he says, arise and perish only by composition and separation. They abide eternally.

PASSAGES RELATING TO ANAXAGORAS IN THE DOXOGRAPHS

From Theophrastos. Anaxagoras says that in the separation of the infinite some things come together. Whatever gold there is in the All becomes gold; whatever earth there is becomes earth; and in like manner everything else, so nothing in reality comes into being, but that something exists simply proves that it existed before. Anaxagoras held that intelligence is the cause of motion and of coming into being. When intelligence caused separation, objects were produced. The mixture of all things is, therefore, but one nature undefined in form and in mind. From this thought of Anaxagoras it seems to follow that he is thinking of two first principles; the nature of the infinite and intelligence.

From Hippolytos. Anaxagoras said that the first principle of All is mind and matter. Mind he regarded as the active first principle, and matter as passive. When all things were together mind entered and scattered them. All things partake of motion when they are moved by mind and things of similar nature come together. Circular motion governs the objects in the air. Heavy things and those that are dense, moist, dark and cold come together and as they solidify form the earth. The opposite of these things, however,

the warm, the bright, the dry and the light, move out beyond the ether. The earth itself is flat in form and keeps its place because of its size and because there is no void. The sea arose from the moisture of the earth and the rivers obtained their substance from the clouds and from water that is in the earth, for the earth is hollow and in all its hollow places there is water.