



1938

Essay Toward a History of the Pre-Socratic Philosophy, with Special Reference to Its Epistemological Doctrines

John Daniel McKian
Loyola University Chicago

Recommended Citation

McKian, John Daniel, "Essay Toward a History of the Pre-Socratic Philosophy, with Special Reference to Its Epistemological Doctrines" (1938). *Master's Theses*. Paper 282.
http://ecommons.luc.edu/luc_theses/282

This Thesis is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Master's Theses by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License](https://creativecommons.org/licenses/by-nc-nd/3.0/).
Copyright © 1938 John Daniel McKian

A. M. D. G.

B. V. M. H.

An Essay toward a History of the pre-Socratic Philosophy,
with special Reference to its Epistemological Doctrines.

A Thesis submitted in partial Fulfillment
of the Requirements for the Degree Master of Arts (Honors)
in Loyola University.

John Daniel McKian,
Spring, 1938

Table of Contents.

Vita Auctoris	1.
Chronological Note	11.
Chapters:	
I. Introductory	1.
Notes	4.
II. The Early Ionians:	
The Milesians	5.
Heraclitus	13.
Notes	24.
III. The Pythagoreans	35.
Notes	41.
IV. The Eleatics:	
Xenophanes	47.
Parmenides	54.
Zeno	68.
Melissus	75.
Notes	81.
V. The Younger Physicists:	
Empedocles	94.
Notes	110.
VI. The Younger Physicists (ii.):	
Anaxagoras	117.
Notes	134.
VII. The Atomists:	
Leucippus and Democritus	142.
Notes	158.
VIII. The Sophists:	
Especially Protagoras and Gorgias	164.
Notes	172.
IX. Some Reflections, on the Pre-Socratic Con- tribution to Metaphysics and Epistemology ...	177.
Notes	182.
Bibliography	184.

Vita Auctoris:

John Daniel McKian was born in Chicago, 26 June, 1916. He received his elementary education at Corpus Christi, Our Lady of Peace, St. Ignatius and St. Philip Neri Grammar Schools, being graduated from the last named in June of 1928. He received his secondary education at Aquinas and Mount Carmel High Schools, being graduated from the latter in June of 1932. Completing his undergraduate work at the College of Arts and Sciences of Loyola University (Chicago), he was awarded the degree Bachelor of Arts, summa cum laude, in June of 1936. Since that time he has worked as Graduate Assistant and Teaching Fellow in Philosophy at Loyola University.

Chronological Note:

(The 1934 Edition of Ritter and Preller, Historia Philosophiae Graecae, gives (pp. 575-7.) an "Index Temporum", from which the following dates are taken.)

Thales: floret a. 585.

Anaximander: natus c. a. 610, obit c. a. 546.

Anaximenes: floret c. a. 546.

Pythagoras: natus c. a. 572, obit c. a. 500.

Xenophanes: natus c. a. 580, obit c. a. 480.

Heraclitus: floret c. a. 504.

Parmenides: floret c. a. 504.

Anaxagoras: natus a. 500, obit a. 428.

Zeno Eleates: floret c. a. 464.

Protagoras: natus a. 480, obit a. 411.

Empedocles: floret c. a. 445.

Melissus Samum contra Periclem defendit a. 441.

Gorgias: natus c. a. 483..., obit c. a. 375.

Democritus: natus c. a. 460, floret c. a. 420.

Socrates: natus a. 469, obit a. 399.

Chapter I: Introductory.

In undertaking this work, advisedly entitled an Essay, it has been our purpose to set forth certain considerations, from a Scholastic point of view, on the subject of the pre-Socratic philosophy, with special reference to its teaching on human knowledge. Naturally, we have not been able to enter as thoroughly as we might like into all the points worthy of attention and discussion in this field, but have sought rather to bring out those features of the early philosophy which bear witness to what Gilson has aptly styled the incurably metaphysical character of the human mind.

This entails a special view of the history of philosophy. For it is possible, and indeed worthwhile, to expend one's labors entirely in the painstaking exposition of every last phase - and even phrase - of each thinker's work. Much has been done along this line and we must assuredly acknowledge a real debt to those scholars who have undertaken it. The task to which we have addressed ourselves is, however, of a rather different kind. Aware of the dangers of reading too much in the endeavors of the ancients, we nevertheless thought that an approach to them which would be especially valuable was to be found in a study of their doctrines in so far as they contributed in some way to the development of the perennial philosophy. In this, after all, lies their deepest meaning for us as thinking men, and it will make for a better understanding of the now wonderfully elaborated systems which, thanks to the genius of Plato and Aristotle, of Augustine, Thomas and Bonaventure, are ours to study at the present time, if we see and appreciate the elements which have entered into them and the manner in which they have been arrived at.

Jacques Maritain, in his Introduction to Philosophy, has eloquently delineated the great tradition of philosophy, noting that one modern writer has called it "the natural philosophy of the human mind, for it develops and brings to perfection what is most deeply and genuinely natural in our intellect alike in its elementary apprehensions and in its native tendency towards truth".¹ In addition to its numerous and indisputable claims to the title of philosophia perennis, it may, he remarks profess to be "abiding and permanent...in the sense that before Aristotle and St. Thomas had given it scientific formulation as a systematic philosophy, it existed from the dawn of humanity in germ and in the pre-philosophic state, as an instinct of the understanding and a natural knowledge of the first principles of reason and ever since its foundation as a system has remained firm and progressive, a powerful and living tradition, while all other philosophies have been born and have died in turn."² Investigating the first recorded philosophic efforts of men in our tradition, then, we may come better to understand the value

of the whole. Now, as we conceive it, the most important note of this perennial philosophy is the high place that it gives to metaphysics and the relationship that this has to a properly humanistic view of life.

For if we grant that man is a rational animal, and if we grasp the true significance of what we are saying,³ we will see that for him to live that life which is specifically his he must exercise his highest powers on their proper object. The highest that he has are his intellect and will and, as St. Thomas has shown, the Good which the latter desires is ultimately the Truth. The object of the intellect, we may say, is found in Being itself, to which the intellect would be conformed and adaequated. Man is accordingly interested, whether he will or no, in Being. With an intellect infinite in its capacity for knowledge, he must come to know Being, not merely under its diverse manifestations, but, as far as he may, as such. He must organise his knowledge, that is, create a science, and that science will be metaphysics.

The point of our present discussion is this, that all men suppose what is called Wisdom to deal with the first causes and the principles of things; so that...the man of experience is thought to be wiser than the possessors of any sense-perception whatsoever, the artist wiser than the men of experience, the master-worker than the mechanic, and the theoretical kinds of knowledge to be more of the nature of wisdom than the productive. Clearly then Wisdom is knowledge about certain principles and causes.⁴

It is doubtful if any man has pointed out more forcibly than Aristotle that the knowledge which the wise man, who would govern things well in view of his properly human destiny, is the knowledge of being itself, a knowledge that is to be had in the light of its causes. Hence, the science which we would obtain is one that investigates the first principles, among which there is numbered the good as final. Such is a truly divine science, and none can claim such distinction on the merely natural level:

For the science which it would be most meet for God to have is a divine science, and so is any science that deals with divine objects; and this science alone has both these qualities; for (1) God is thought to be among the causes of all things, and to be a first principle, and (2) such a science either God alone can have, or God above all others.⁵

Men have accordingly served the cause of wisdom and, in fact, of mankind when they have undertaken to search after the ultimate causes of reality. Their initial efforts may have been somewhat crude, but even when Thales assigns water as the uni-

versal principle we can observe the striving of the human mind, under the impulse of man's desire for the Truth, after the One behind the manifold, the reason for all things. As time passes, those efforts will be better directed as men come to refine their notions and to push their quest at once deeper and higher.

Along with this, such men had to have some sort of attitude, implicit or otherwise, on the relationship which obtains between the human mind and the object known. The attitude is generally bound up closely with the metaphysical views of the given philosopher and must be studied accordingly. At the same time, since, as we are now fortunate in knowing, God is the Supreme Being and the End of the intellectual life, it will be pertinent to our study to note where it is feasible the opinions of the Pre-Socratics on matters divine.

On the whole, we shall find that the age which we are studying was one noteworthy by reason of the many great men who, despite numerous handicaps, tried their best to set up integrated views of reality. Their best efforts, as, for example, the "Being" of Parmenides or the "Nous" of Anaxagoras, insistently pointed the way to and emphasised the need for a metaphysic in the true sense and for a science of knowledge organised accordingly. The progressive forces of the period culminate in the master works of Socrates, Plato, and Aristotle; the errors issued in the anarchism of Sophistry and in the rank materialism of the Atomists.

The field is interesting as well by reason of the parallels which are readily to be found between the ancient errors, intermingled with often splendid contributions to the cause of Truth and its perennial philosophy, and those of more recent times, when the excuse of a too early advent on the philosophic scene could hardly be offered.

...this boasted originality which comes from playing fast and loose with common sense is not really original at all. Philosophical errors are reducible in principle to exaggeration or defect. This is a corollary of the principle that being and truth are convertible. Nothing which is, is essentially false. These two possible errors into which thought may fall, namely, exaggeration and defect, have already been exhausted. They were exhausted in great part before the time of Aristotle, and in their entirety before the birth of Christ. The Greeks had their James and Dr. Schiller in Protagoras; they had their Bradley in Parmenides; they had their M. Bergson and Professor Alexander and the whole School of Becoming in Heraclitus. They had their dynamists and their Atomists. In a word, they saw all philosophy from its highest reaches in Aristotle to its shallows in the Sceptics. All modern aberrations were foreshadowed in the Greeks.⁶

Notes to the First Chapter:

1. Jacques Maritain, An Introduction to Philosophy,
pg. 99.

2. op. cit., pg. 100.

3. "The psychological and anthropological studies of the Western world since the age of Plato and Aristotle have revolved about the proposition, 'Man is a rational animal'. Always, in some form or another, this thesis has been the central point of debate in any and every theory of the nature and destiny of man. There have been those schools of thought (Aristotelianism and Thomism in particular) which have accepted the proposition as stated, and have builded their psychologies around it. Then there have been the materialistic and mechanistic anthropologies which have stressed the element of animality to the exclusion of the other element; and with this principle as the foundation of their constructions, have developed their monistic systems." J. Loftus, "Psychology Today," pg. 164 of The New Scholasticism, XII, 2. We can find such a difference among the Pre-Socratics, often in such a way that the two viewpoints are at conflict in the thought of the same man or the same school.

4. Aristotle, Metaphysica I.i 981b-982a. In view of the familiar nature of Aristotle's works we shall generally refer to them by their titles alone, save, of course, where the possibility of confusion may advise naming the author.

5. op. cit., II 983 a. "Solus (i.e., Deus) quidem habet secundum perfectam comprehensionem. Maxime vero habet, in quantum suo modo etiam ab hominibus habetur, licet ab eis non ut possessio habeatur, sed sicut aliquid ab eo mutuatum." St Thomas, In I Metaph., lect 3, 64.

5. F. Sheen, God and Intelligence in Modern Philosophy,
pg. 146.

Chapter II: The Early Ionians.

The Milesians.

When one begins to study Greek philosophy, one is impressed by the following facts: first, that it originated in the Greek colonies; second, that its subject matter was the origin of the world; third, that it was naturalistic, as opposed to supernaturalistic; fourth, that it was rationalistic rather than mystical.¹

As we know from History, the Ionians of the Hellenic mainland established colonies in and off the coast of what we now know as Asia Minor, and these grew and prospered into great and even cosmopolitan centers of Hellenic culture. Being on the frontier, the colonials were in contact with the men and the ideas of other civilisations. Confronted with a variety of ways of life and constantly meeting with new subjects to invite their reflection and investigation, they were, on the whole, well situated to begin the long quest after the truth that underlies all the diverse phenomena of existence.

Though neither the time nor the milieu can explain the rise of so personal a thing as philosophy, they may have considerable influence on the form it assumes. It is not, therefore, without interest to observe that Miletus, "the pride of Ionia", is just the place where the continuity of prehistoric Aegean civilisation with that of later times is most marked.²

Professor Burnet adds some interesting comments on the Milesian tradition, now borne out by the findings of archaeology, to the effect that the city was founded in the "late Minoan period" and, submitted by easy stages to other influences, passed into the "early Ionian". The great city, we may believe, owed not a little to its heritage from the civilisation of Crete, so distinguished for its achievements in the physical order of life.³ Possessed thus of a significant background in material attainments, the Milesians were associated, moreover, with Egyptians and Asians, especially from Lydia, and had domains which reached to the far shore of the Black Sea.⁴

The times were equally as interesting, for history was very definitely in the making: Chaldaeia and Egypt were succumbing to the Aryan yoke, Croesus the Lydian was threatening Ionia, and, after his spectacular ruin, the Persians were to fall upon that rich maritime; in Hellas itself, political and social change was the order of the day. On almost every side the old was breaking up and giving place to the new. It was all calculated to dis-

-3-

turb men's minds and to stimulate them to search after something permanent, some truths fundamental even to these universal mutations. Men were turning to look for some reasons behind it all, and philosophy was born.⁵

The earliest to make attempts along this line sought first of all an explanation of that reality in which we are situate and thanks to which we derive our natural knowledge. Being the first, they naturally began with the first data, made the external world the subject of their considerations, and did not realise all that the data contained or all that is necessary to account for them. Remaining on this level, they attained only to the material cause of the external world and supposed only accidental changes of things. Since they did not recognise the immaterial nor the special character of mind, they gave a partial and unsatisfactory account,⁶ yet, in so doing, witnessed - as all thinkers must witness - to the exigencies of the human mind when facing reality.

Of the first philosophers, then, most thought the principles ^{which} were of the nature of matter, were the only principles of all things. That of which all things that are consist, the first from which they come to be, the last into which they are resolved (the substance remaining, but changing in its modifications), this they say is the element and this the principle of things, and therefore they think nothing is either generated or destroyed, since this sort of entity is always conserved, as we say Socrates neither comes to be absolutely when he comes to be beautiful or musical, nor ceases to be when he loses these characteristics, because the substratum, Socrates himself remains. Just so, they say, nothing else comes to be or ceases to be; for there must be some entity - either one or more than one - from which all other things come to be, it being conserved.⁷

They looked, in other words, for the material cause of things in the presentations of the senses, based their speculation on the perception of nature, and, accordingly, conceived the universal reality in a material fashion, in some such sensible element as water or air or fire. Even so, they were seeking the One in the many and recognising, however imperfectly, that there must be some one source of all that is. Such endeavor at least marked a definite progress of philosophic enquiry over spontaneous judgments, in that it entailed an implicit preference of the intellectual knowledge to the sensible.

The first figure in the Histories of Philosophy, even as⁸ he is first in the history of philosophy, is Thales of Miletus, son of Examyas.

...after engaging in politics he became a student of nature... He seems by some accounts to have been the first to study astronomy, the

first to predict eclipses of the sun and so fix the solstices... And some...declare that he was the first to maintain the immortality of the soul. He was the first to determine the sun's course from solstice... He was the first to give the last day of the month the name of thirtieth, and the first, some say, to discuss physical problems.⁹

He was a prominent member of the Seven Wise Men and his importance is suggested by the stories which grew up about him, representing him now as an impractical dreamer whose star-gazing tumbled him into a well and again as one whose knowledge made him superior to the ordinary man of practical affairs, as in his famed deal in oil.¹⁰

These stories tell us nothing about Thales himself, but they do bear witness to the impression produced by science and scientific men when they first appeared in a world that was half-inclined to marvel and half-inclined to scoff.

There is, however, another set of traditions about Thales from which something may be learnt. They are not of a popular character, since they attribute to him certain definite scientific achievements.¹¹

This rather remarkable man was of opinion that the earth floats upon the water, that water is the principle of all things, and that all things are full of gods.¹² Since we are not in possession of any writings of his, we are not in a position to determine precisely for what reasons he adopted these views or what his own development of the theory was. The studies of Aristotle and a general consideration of the Ionian school will, however, give us some grounds on which to base our account of the Thales who exercised an historical influence.

The statement that water is the principle of all things may at first seem a little absurd, but it is all the same a very significant pronouncement, because, as the evidence would indicate, Thales reached his conclusion only after some serious speculation and enquiry. Thanks are accordingly due him for his deliberate effort to discover the cause of all things:

Thales, the founder of this type of philosophy, says the principle is water (for which reason he declared that the earth rests on water), getting the notion perhaps from seeing that the nutriment of all things is moist, and that heat itself is generated from the moist and kept alive by it (and that from which they come to be is a principle of all things). He got his notion from this fact, and from the fact that the seeds of all things have a moist nature, and that water is the origin of the nature of moist things.¹³

With Burnet we may well interpret this theory in the light of other Milesian doctrines, and particularly that of Anaximenes. For then $\alpha\eta\rho$ was regarded as a purer form of mist, and $\alpha\lambda\theta\eta\rho$ - the Blue of the Archipelagic Sky and Fire rather than air - was purer still. This fire and that of the celestial bodies were supposedly fed by vapor from the waters - and this would show that evaporation was known. On the other hand, water freezes and, in the eyes of Anaximenes, could freeze extra hard to become earth. Quite likely, then, that Thales would look upon water as the source of air and fire. "That, of course, is a more or less conjectural account; but, if Anaximenes was in any sense his follower, the views of Thales must have been something like this. His greatness, however, would lie in his having asked the question rather than in the particular answer he gave it."¹⁴

Even if we are not certain of the extent to which he elaborated his theory, there are interesting indications that he taught the presence of a soul or of life in all things.¹⁵ Like the later Ionians he quite possibly regarded the primitive matter as animated, as having evolved by powers of its own into the various things of the world, and, perhaps, as a God. Aristotle, as we saw, mentions him as saying that all things are full of gods and that the lodestone, since it moves the iron, has a soul. Certain later commentators, such as Cicero, inferred from this (and perhaps from other indications) that he believed also in a divine mind which, superior to the water, pervades and governs the world that it has fashioned of water. This does not seem warranted, however, on the basis of available evidence and certainly contradicts the traditional honors of Anaxagoras; it would seem that Aristotle was the man to fasten upon any such early strand of truth if he could have seen any trace.¹⁶ Thales "may have believed in the existence of a world-soul, but probably not in the existence of an independent, world-ordering mind: dualism originated later in the history of philosophy."¹⁷ To him, his world-stuff was probably something in which life and movement were naturally inherent and which did not stand in need of government by some external power.

...better still, we might say that just as Greek religion did not for a long time distinguish things from persons or the animate, so Greek philosophy did not at first discriminate between the ideas of matter and motion and force and life and consciousness, but left them all fused together in the as yet unanalysed notion of the Something of which the world was made.¹⁸

Since we do not have a complete account of what Thales thought, we cannot with exactness outline an epistemology which would be specifically his. There are, nonetheless, in his attitude and influence several things of considerable importance to the development of philosophy in general and of the science of knowledge in particular. He left much work to be done, but he had taken the first step.

Never have more pregnant words been spoken, they acted like a ferment on the Greek mind, they were the grain whence grew a tree that has overshadowed the whole earth. At one stroke they substituted a scientific, because a verifiable principle for the confused fancies of mythologising poets.¹⁹

For it is in deed a philosophic enquiry when the pursuit of the ultimate cause, albeit conceived as material, is founded on reasons drawn from that very reality which is under consideration, rather than on a largely fictitious cosmogony. Hence it is that Thales is distinguished in wisdom from his fellow sages in that he was the only one known to history who carried his investigation beyond the bounds of practical needs, and is thus the first in the West in whom there appears something of a disinterested love of knowledge, the first to seek a principle of unity in the world, and the first, therefore, to suggest that things are intelligently produced and, as thus intelligible, can provide proper objects for the reason of man. In directing men's attention to a problem which he could not yet wholly solve he was implicitly recognising that human thought must attain to some unity in the common principle of all things.²⁰

We should not take this as meaning too much, that he was an Aristotle who left less of his works, or even that he explicitly and consciously recognised the intelligible character of reality and of its source. The fact remains, despite these necessary qualifications, that it is significant for so early a figure to try to assign some reason for things; it witnesses to man's natural desire for truth and his natural employment of reason to secure it. "It implied the assumption that things can be understood, that the world is rational. And so Thales, though little he knew it, was the first to drive the thin end of the wedge of mind into the stubborn and intractable mass of matter."²¹ In due course there will come acknowledgement of the distinction between matter and spirit, between things that are and change and the persons which can know them; as yet, the philosopher considered the material world and man as a part of it, addressing his entire conscious effort to a discovery of the stuff it was all made of.

Even this, let us remind ourselves, meant that they had to use their reason and involved their implicit admission of the superiority of that reason over the matter which it can explain. It argues the self-evidence of the intellectual character of our knowledge, dependent though it may be here on abstraction from sense data and subject as it is to misinterpretation when one's introspection is not well grounded and well disciplined. Thales probably did not know of "intellectual knowledge" as such, but he was by nature a rational being, as yet unsophisticated by epistemological doubt, and he acted according to his rational nature. Even the fact that he regarded the material substance of water as the universal principle manifests him putting his

putting his reason to work, for the senses may perceive water in the sea or in the well into which one falls, but they do not perceive water qua cause of things.

...water as the fundamental cause of things, the primitive substance underneath nature's manifold changes, can only be an object of thought, not of sensuous perception. To say that all things are made of water is to say also that these many appearances of nature perceived by the senses proceed from one cause. Multiplicity is traced back to unity; the Many are comprehended in the One.²²

Since it is the whole endeavor of rational man to know things in their causes and to see many in the light of the one, the man who advances in these lines is precisely that man who grows in wisdom.²³ Our own experience and that of mankind in general, as interpreted by those who have so grown, bears testimony to our natural impulse toward the quest definitely initiated by Thales. Of him we may regrettably know but little, yet that little suffices to show him as a lover of wisdom and a valuable witness to the spirit of man with its need and power to conquer the truth. "On putting these scattered notices together, we reach the conception of Thales as a true master of those who know, combining great practical sagacity with a firm grasp of scientific realities, so far as they were then accessible, and an instinctive feeling out after that universality which alone can lift positive science to the supreme heights of synthetic philosophy."²⁴

According to the traditional account, the next outstanding philosopher was Anaximander of Miletus, son of Praxiades, the first inventor of the gnomon, a constructor of clocks, the first cartographer,²⁵ and the author of a book Concerning Nature, still extant in the time of Theophrastus. A man of considerable accomplishments, he addressed himself, like his master Thales, to the problem of finding the principle of all things, but he arrived at an interesting and original conclusion.

For he did not set up water or any such definite substance as the element of the real, but preferred instead the ἀνελευθρον, a boundless something whence it had all arisen and whither it will all return.

Anaximander..., a fellow-citizen and associate of Thales, said that the material cause and first element of things was the Infinite, he being the first to introduce this name of the material cause. He says that it is neither water nor any other of the so-called elements, but a substance different from them which is infinite, from which arise all the heavens and the worlds within them. And into that from which things take

their rise they pass away once more, "as is meet; for they make reparation and satisfaction to one another for their injustice according to the ordering of time", as he says in these somewhat poetical terms.²⁶

For this view he had his reasons, inasmuch as he had been impressed, as so many others were later to be impressed, by the opposites in the world, among which hot and cold, wet and dry were first. Hence it appeared to him that Thales had laid undue emphasis on the wet, at the expense of the dry, and that the presence of the opposites was better conceived as the result of a "separating out" from some undifferentiated thing than as owing to but one element.²⁷ His teachings on the satisfaction and reparation which things make for their injustice may well have reference "to the encroachment of one opposite or element upon another. It is in consequence of this that they are both absorbed once more in their common ground. As that is spatially boundless, it is natural to assume that worlds arise in it elsewhere than with us. Each world is a bubble in the boundless mass."²⁸

Anaximander, thus interpreted, would hold that the boundless is one according to extension, but it is not known with certainty whether he believed it to be a mixture of all the elements, as Ritter takes it, or something material conceived as being yet without determinate quality, as Zeller has it.²⁹ At least, he did regard it as being itself without any ἀρχή, and so without end and incorruptible, in a word, divine. Living and moving itself, such a boundless contains and governs all things.³⁰

It is not to our purpose to undertake the indubitably interesting enquiry into the details of theories proposed here or elsewhere, for we are concerned, in the case of Anaximander as with others, with the manner in which, like Thales, he attempts to give a scientific explanation of reality and, especially, with the progress in thought which his suggestions mark.³¹ "The interest attaching to this notion of the ἀπειρον is... that it marks the first step in the progress, which the Greek mind took with remarkable rapidity, of abstraction from the concrete reality."³² For, in explaining what the senses present of a material world made up of many concrete changing things, he looked to a somewhat different reality, of which the existence, implied in the sensory data (e.g., the series of opposites), is logically necessary if they are to be accounted for.

This boundless principle of all reality is, no doubt, seen as involved in material conditions, yet it can be conceived only by denying of it much that characterises the objects of ordinary experience. "In the Infinite of Anaximander there is the germ of a principle not merely physical but metaphysical; for the infinite, as such, cannot be grasped by the imagination or sensuous thought, but must be apprehended by abstract and pure thought",³³ even if such is not done consciously and explicitly.

Thales had already given one reasoned explanation when he said that water is the cause of things, for this entailed some sort of consideration of the notion of principle and, as we have seen, some deliberate abstraction from sense data. The work of Anaximander evidences that reflection and further study are leading to still more abstract conceptions and to a better exposition of the manner in which things issue from their principles.³⁴ Neither is his thought yet disciplined to the requisite purity and precision nor is his method wholly clear, but he has done better along both lines than his predecessor and has brought to men's attention the power and significance of the negative element in thought. Unfortunately, he failed to grasp that, if the infinite negates that finite which is convertible with the material, it should negate also the material.³⁵

We could hardly maintain that he, any more than Thales, definitely assigned a place in the world to the spiritual or acknowledged the specific character and operation of the intellect. Indeed, his evolutionism would point to a theory that would contradict them, in that he held that man is derived from an animal of another species.³⁶ The internal logic of his system, however, with its unrecognised implications, had germs of development which better prepared minds would later discover and cultivate. At all events, he too bears witness to the ineradicably metaphysical character of human thought.

The next prominent early Ionian brought about a retrogression so far as the question of abstraction is concerned, but made forward steps in describing the manner in which beings have come from their source. This was Anaximenes of Miletus, son of Eurystratus, disciple of Anaximander, and somewhat less the polymath.³⁷ It was something of a step back from the achievements of his master for him to say that the principle of all things is the *ἀήρ*, from which it all comes and whither it all returns; it was, in effect, a return to Thales for him to posit as the world-stuff some definite substance which is an object of direct sense-experience. Still, he had his reasons, since air is necessary to vital activities, as in our own case, and, by analogy to man, he saw the entire world vivified by air.³⁸ "Just as our soul, being air, holds us together, so do breath and air encompass the whole world."³⁹

Air naturally seemed to Anaximenes to be the primary substance, because it stood mid-way between the rarer form, fire, and the denser form, moisture, or mist, so that here again we have the primary opposites, hot and cold, as transformations of the primitive air.⁴⁰

The air is apparently conceived as perpetually moving itself, as identified with our soul, and as being infinite in its extension. It may be that Cicero was right when he observed: "Anaximenes aërem deum esse statuit eumque gigni esseque immensum et semper in motu", for there is no distinction made between god and the world.⁴¹

Even if this is so far retrograde, his description of the process whereby things come from that air is indicative of a greater care in analysis and of a search after more precise knowledge. To say with Anaximander that all things are "separated out" of the original element is to be extremely vague; to say with Anaximenes that they are produced by rarefaction and condensation ⁴² is not to give a perfect answer, but one on which criticism and investigation can more readily bear. Eccrisis might mean a good many things; the other two processes are more familiar to men. It probably carried some unsatisfactory and therefore stimulant significance to his contemporaries when they were told that the original air was rarefied into fire or condensed into wind, clouds, water, earth, stones, and finally all bodies. He adduced an interesting experimental proof, itself an argument of greater care in thought, to the effect that air exhaled in a rarefied condition from the open mouth is warm, whereas air blown out in a condensed state through compressed lips is cold. ⁴³

We have, then, in Anaximenes a representative of the Greek tendency to conceive the world after the analogy of man, in that he did significantly compare man to the world at large, the microcosmos to the macrocosmos. In common with his school, he was a hylozoist, and a reactionary one at that. He is commended to our attention by his discovery of the formula of rarefaction and condensation, which made the early Ionian theory coherent and which is, perhaps, the only way of rendering somewhat intelligible the constitution of all things from one simple substance. For it is simple and hardly difficult of imagination to say that things differ because more or less of the original substance is present. The approach is a quantitative one, that proved quite influential in the ancient world and that is still in some respects maintained, though now with better developed terminology.

Heraclitus.

Also an Ionian was Heraclitus of Ephesus, a man of royal lineage, whom Aristotle mentions with the Milesians, ⁴⁴ and who wrote a book Concerning Nature. With him the definite influence of personality on the history of philosophy may be said to make its appearance. His writings, although preserved in a fragmentary form, are of a distinctive style and well entitle him to his nickname, $\delta \epsilon \kappa \rho \alpha \tau \epsilon \iota \nu \delta \varsigma$.

He was himself aware of his oracular obscurity, for he refers to parallels in the Pytho; "the lord whose is the oracle at Delphoi neither utters nor hides his meaning, but shows it by a sign". ⁴⁵ His veiled mode of expression may render the evaluation of his opinions more difficult, but it does not prevent it. Quite possibly, his manner is like in its kind and causes to that which we find in Thucydides and, as such, might have been present even at a later period as well; at any rate, "the immaturity of prose composition doubtless added to the difficulty which Heraclitus found in expressing himself". ⁴⁶ So too, we find in a man like Herodotus a generally clear and fluent narrative of events,

but a more complicated syntax often renders the discussions in his speeches less easy to understand, and philosophy would present more problems than oratorical argument. Nor should we forget that Heraclitus was trying to express imperfect, yet novel ideas in this undeveloped prose.

He neither analyses his ideas nor takes care to make them acceptable by showing their interrelations. On the contrary, he takes pleasure in forcing them violently together, with a vivid imagination and a sort of passion that animates all his work. Therefore his phrases seem strange at first, but sink deep, penetrate, and take fast hold.⁴⁷

It is worthwhile to remark the strength of his views, for it may help us to appreciate the readiness with which he adopted his radical philosophical opinions. An aristocrat and hereditary Basileus, he did not beat around the bush when he wished to voice his thoughts concerning the Ephesians, who "would do well to end their lives, and leave the city to beardless boys, for that they have driven out Hermodorus the worthiest man among them".⁴⁸ He refused to become a maker of laws because of the bad constitution that the people already had, and he declared that crap-shooting with the temple boys was to be preferred to participation in such a civic life.⁴⁹ For the common herd and their ways he had nothing but contempt: an attitude which may well have influenced him in the search after truth as opposed to mere vulgar opinion.

Despite these feelings which drove him to solitude and so hastened his death, he was profoundly concerned for the general welfare. For, he was possessed of a strong though rather misdirected sense of social solidarity and his harsh judgments were against those who in his eyes stood for a selfish individualism, obstructive of the common good. "Moreover, his assumption of superiority wears a different aspect in the light of the fact that he never regards the knowledge he claims for his own as an exclusive individual possession, but rather, as something common; something that all might share if they would open their minds to it."⁵⁰

Interestingly enough, Descartes was many centuries later also very much concerned with transcending the error which he saw on every side and with arriving at the truth. Finding that his ordinary studies revealed his ignorance to him at every turn, yet sure of his own abilities as compared with those of others, he essayed some measure of correction through experience and then, as he says:

Mais après que j'eus employé quelques années à étudier ainsi dans le livre du monde et à tâcher d'acquérir quelque expérience, je pris un jour résolution d'étudier aussi en moi-même, et d'employer toutes les forces de mon esprit à choisir les chemins

que je devais suivre. Ce qui me réussit beaucoup mieux, ce me semble, que si je ne me fusse jamais éloigné, ni de mon pays, ni de mes livres.⁵¹

Heraclitus, we are told, was no less exceptional a person; as a youth he too said that he knew nothing, but he grew up to know it all. "He was nobody's pupil, but he declared that he enquired of himself, and learned everything from himself."⁵² We might work the parallel out at some length, but it will suffice to note that both of these professedly self-enlightened men were to exercise a considerable and pernicious influence on the development of thought, thanks to systems founded on bases which contradicted self-evident data of experience. Both were, moreover, to have a rather high and important place for their God or logos.

The Greek deserves less of censure, for he came somewhat early and his errors did help to provoke an earlier solution of the problem of knowledge than might otherwise have come. The preceding thinkers, with all their virtues, had not probed deeply enough; naive realists, they were content with rather superficial explanations. But the radicalism of Heraclitus, coming upon the views of his teacher Xenophanes (of whom more in good season), compelled men to seek a better answer, and even those who lapsed into sophistic anarchy were to stimulate Socrates.

These earliest Greek philosophers were naive realists because they gave no thought to the conditions of, or to the limits of knowledge, and because they took for granted that their sense perceptions gave them a true representation of reality. It does not even seem to have occurred to these very early Greek philosophers specified that their cognitive experience was a phenomenon that might have a problem.⁵³

They had not studied the part which the subject who perceives must play in the process of knowledge. For them cognition would consist in a passive mirroring of external realities in the senses and all the realities would be material. They had done some good things, but it remained for Heraclitus to disturb what has well been called the "epistemological innocence of the pre-Socratic philosophers".⁵⁴

Heraclitus, like Descartes again, entertained low opinions of his predecessors and spoke of them in disparaging terms. He feels that Xenophanes may have been justified in passing his strictures on Homer, but that he too is blameworthy, because, like many another noted man, he had failed to put his knowledge to good use. "Much learning does not teach understanding; else it would have taught Hesiod and Pythagoras, or, again, Xenophanes and Hecataeus".⁵⁵ The *ιστορία* of Pythagoras, as in such matters as harmonics and arithmetic, he esteemed a mere knowledge of many things and indeed an imposture, to be rejected with indignation.⁵⁶ No knowledge of many things could ever con-

stitute wisdom, the clear knowledge of one thing. This, he says in oracular fashion, is the Logos, which "is true evermore, yet men are as unable to understand it when they hear it for the first time as before they have heard it at all. For, although all things come to pass in accordance with this λόγος, men seem as if they had no experience of them, when they make trial of words and deeds such as I set forth, dividing each thing according to its kind and showing how it truly is."⁵⁷ His whole work was directed, then, to the expression of a great Logos, which would replace the erroneous opinions everywhere prevailing.

The fragments reveal him as interested in various oppositions which his predecessors had not satisfactorily explained. The Milesians held to the theory of a single world-stuff which some regard as unchanged beneath its diverse manifestations, for it would in time work its way back to its primitive state. The indubitable fact of change would then demand an explanation allowing for it. To be sure, Anaximander had proposed a system that would give some answer when he suggested that the Boundless would give separate the opposites out. This was hardly satisfactory and certainly did not show whether that Boundless would exist as such or not in the opposites. The rarefactions and condensations of the Anaximenean stuff are clearer, but leave considerable room for improvement.

Heraclitus carries the hypothesis of Anaximenes a stage farther. Instead of regarding change as an awkward intruder upon the permanence of one unchanging world-substance, he declares that change is the very nature of the world-substance itself. It is a fundamental fact, which has merely to be accepted and calls for no explanation. Being is in fact a constant process of Becoming: permanence is but the permanence of the fact of change; the unity of the whole is the unity of law, the harmony that binds opposites in one.⁵⁸

The man who would escape from error must appreciate this first lesson of reason: the senses are deceived in attributing permanence to the things of the world, and hence it is that there springs the belief in immobility, the greatest of errors. The truth is that all things are involved in the stream of change, that all things change and that nothing abides.⁵⁹ "You cannot step twice into the same rivers; for fresh waters are ever flowing in upon you."⁶⁰ It is just the same with ourselves, for "we step and do not step into the same rivers; we are and are not".⁶¹

Thus identifying all that is real with change, Heraclitus denounced the many and the sages as well for their added ignorance of the divine and all-pervading fire. "All things," he insisted, "are an exchange for Fire, and Fire for all things, even as wares for gold and gold for wares."⁶² It is, if we look at it from our metaphysical standpoint, the material cause of

things; here the Ephesian is in the full tradition of the physiologists and introduces a suggestion that it may also have efficient characteristics, for there is a force which is coeternal with the fire, and this is Strife or War, "the father of all and the king of all; and some he has made gods and some men, some bond and some free".⁶³

None of those whom he had heard recognised that wisdom is apart from all⁶⁴ nor that many things are one, and that this one is in turn many. "Men do not know how what is at variance agrees with itself. It is an attunement of opposite tensions, like that of the bow and the lyre."⁶⁵ The war of the opposites is thus in reality an attunement and "from this it follows that wisdom is not a knowledge of many things, but the perception of the underlying union of the warring opposites".⁶⁶ He was thus saying far more than he appreciated, inasmuch as "the identity which Heraclitus explains as consisting in difference is just that of the primary substance in all its manifestations."⁶⁷ All the more reason, then, for insisting that fire is the primary substance, since he wanted something of such a nature that it would pass into everything else and that everything else would pass into it. While the fire burns steadily its quantity seems to stay the same and its flame to be a thing, while its substance is always changing; gases pass away and new matter is consumed. If the world is a fire, then we have an explanation for the constant change and exchange of which he speaks.

This world, which is the same for all, no one of gods or men has made; but it was ever, is now, and ever shall be an ever-living Fire, with measures of it kindling and measures going out.⁶⁸

We can see his reasons for choosing so mobile a substance, reasons which may well have included a thought of the vivifying heat of the sun and of that destructive power of fire which can change so many things. For man and the world, accordingly, "the way up and the way down is one and the same".⁶⁹ Part is always going up and part coming down, even as the process of combustion would suggest. What is fed to the fire it returns in everlasting exchange and this constant strife in reality is what constitutes justice: "it is the opposite which is good for us".⁷⁰ Even if men do not have wisdom enough to see it, it remains true that "the hidden attunement is better than the open".⁷¹

Without exploring these theories in detail, we may see that man has likewise originated from the eternal fire, in a somewhat roundabout fashion. "For it is death to souls to become water, and death to water to become earth. But water comes from earth; and from water, soul."⁷² While the body itself occasions some distress to Heraclitus, he conceives the soul of man to be of the nature of fire, preserving some of the divine flame. It is the more perfect according as that fire which it has is the purer, for "the dry soul is the wisest and best".⁷³ Fire, water and earth may enter into the make-up of man, but it is the fire in man, constituted as a microcosm, which is the

conscious part, even as Fire is Wisdom in the macrocosmos. Once the soul has departed, the corpse is worthier of being cast forth than the very dung.⁷⁴

Man is also in a constant flux: the fire becomes water, which turns into earth, but the opposite process keeps on as well and seems to maintain us the same. Heraclitus very likely thought of sleep as produced by the encroachments of the moister portion of the body, as a result of which man's fire burnt low and his self was cut off from the Common Fire. "The waking have one common world, but the sleeping turn aside each into a world of his own."⁷⁵ A soul which has its elements well balanced will revive in the morning, thanks to a replenishing of the fiery portion.⁷⁶

If either the moist or the dry attains to dominance, death ensues. Since "it is a pleasure to become moist",⁷⁷ we must repress tendencies to such a state, for "wantonness needs putting out, even more than a house on fire".⁷⁸ The satisfaction of desire entails the exchange for moisture of the dry fire of the good soul: "It is hard to fight with one's heart's desire. Whatever it wishes to get, it purchases at the cost of soul".⁷⁹ The predominance of fire will also bring about death, but now a better and well rewarded one, for "greater deaths win greater portions",⁸⁰ and "there awaits men when they die such things as they look not for nor dream of... that they rise up and become the wakeful guardians of the quick and the dead".⁸¹ Furthermore, since "mortals are immortals and immortals are mortals, the one living the other's death and dying the other's life," and since all the living and all the dead are constantly changing their places, "the former are shifted and become the latter and the latter in turn are shifted and become the former".⁸² It is in change alone, therefore, that men find rest, since it would be tedious always to serve the same lords and any other form of rest would be dissolution.⁸³

Man must then be careful not to pollute his reason in any way - certainly a piece of good advice, and he should consider that in our present form of life the soul is buried in the body and only at a fiery death will it escape to a real life, which it can enjoy - for a time.

...man also is a worthless thing on the purely bodily side and is hence called the naturally reasonless. Life and soul, and since the latter is still regarded as identical with consciousness and cognition, these also, man acquires only by participation in the all-animating fire, and in its purest appearance, the enveloping. It is this which is alone rational, and the soul partakes of it the more fully the warmer and drier it is, and hence more easily in warm and dry countries. As consistency requires, the soul's entrance into the body is to man a moistening, and hence an extinguishing and dying. The death of the body, on the other hand, is the true return to life of the soul.⁸⁴

In Heraclitus, then, we meet a philosopher who gives some specific consideration to the significance and processes of human knowledge. Since his philosophy is early and rather on the crude side, we might expect difficulties in his epistemology, and we find them. We also find that, where the Milesians in addressing themselves to one problem arrived at conclusions that would exclude intellectual knowledge, Heraclitus, in taking up both cosmology and epistemology, constructed a system which would render such knowledge impossible.

As we have seen, he would have the human soul - and it is well to note the importance which he attaches thereto - a part of the ever-changing nature. It is a spark of the Fire; and a flame, which is being extinguished into gas, needs feeding - from fire; thus man, if he is actually to have reason, must be united to the universal source. "The breath is a physical medium of obtaining this nourishment, and cessation of breath stops activity. A further medium of life, however, is sense-perception, which is the absorption of the outer through the inner fire; and this accounts for the depression of soul activity in sleep."⁸⁵ When we breathe, we take into ourselves some of that universal and vital element of all being, some of that force which produces and sustains all, which constructs and unifies our being, which is our very life. It is as in this way united with the Universal that we have our consciousness: "The eternal and omnipresent wisdom becomes, through the channels of our senses and especially through the eyes, in fragments at least our wisdom."⁸⁶

We do have certain means of striving after the truth, which means we must be careful to use aright, for the widespread ignorance which so perturbed him is due largely to men's taking for the entire truth the superficial view of what experience presents. We should distrust sensible knowledge, since "eyes and ears are bad witnesses to men if they have souls that understand not their language."⁸⁷ If we would be wise, we will not receive the data of the senses as true without further investigation. No matter how many the sense-perceptions may be, they cannot equal the truth, which, since "nature loves to hide",⁸⁸ is underneath the obvious.

Perhaps Heraclitus is thinking of that fault of sense-perception by its self, to wit, a naive realism which, as we saw, would trust all the data of the senses as given and which could never bring us beyond mere surface views: "They do not bring us to understand the underlying principle or law; may, they rather disguise that from us."⁸⁹ Unfortunately, however, he went on to quarrel with the implicit data of the senses, which the reason may recognise, as to the presence of something permanent in reality. It was well for him to urge men to study to find the universal law, but hardly advised to undertake that study in contradiction of its very grounds.

The senses deceive by giving the appearance of fixedness to things not fixed. The reason is the real source of knowledge. By reason man ceases to be a dreaming individual and becomes

a waking universal. It is by participation in the universal reason, the *κοινὸς λόγος*, that we know and do that which is true and right.⁹⁰

Few would wish to deny that he had some good ideas or that he was offering some valuable suggestions. It was high time that men did investigate the true significance of the reality disclosed by the senses. On the other hand, to make such a thorough-going repudiation of the worth of sensible presentations would prevent them from getting any place. The way of genuine progress was to be a middle one, consisting in a correct interpretation of all the data, with the investigator neither superficial nor completely distrustful.

Heraclitus finds pleasure in conceiving everything as contradicting itself... Connected with this continual flux of things is the uncertainty of the senses. For the flux escapes their notice although it is perceived by rational cognition; and it is because what we see is stark and dead, that the eyes and ears are untrustworthy witnesses.⁹¹

It is also very well to stress the importance of the reason, yet, if such advice is to be taken to heart and applied with profit, its processes should be satisfactorily explained. Heraclitus did not do so and, largely as a result, his assaults upon sense knowledge and his theory of the flux prepared the way for Sophistic attacks on all possibility of knowledge or truth.

For want of positive knowledge and of method, science and philosophy alike were ultimately endangered in the confusion to which un-disciplined speculation led the followers of Heraclitus.⁹²

Still, the integration of some of his proposals in a better system could mean a great deal to constructive philosophy, for he was certainly the enemy of mere subjective opinion, having no time for one who would follow his individual persuasions in place of the common law or universal reason which governs all. Despite his imperfections in these respects, he "reaches the grand thought that the consciousness of truth is a consciousness of the universal, and that error consists in the separation of thinking from the divine reason in which it participates."⁹³

The truth concerning the world is for him changeless in a sense, for he sees behind the ever-living Fire a Logos which, behind the flux of things, directs the ceaseless change along the upward and the downward ways. If we turn from a sensory world-view to that of wisdom, reason shows us that "Wisdom is one thing. It is to know the thought by which all things are steered through all things."⁹⁴ Further, there can be no violations of the ordinances of this directing thought: "The sun will not overstep his measures; if he does, the Erinyes, the handmaids of Justice,

will find him out."⁹⁵

The Fire evolves into things by a rational and ordered process; there is a method which the seeker of wisdom might discover by a search for the impulse of the Fire. There is, we must remember, a Logos, to which man should address himself and "which it is the business and the reward of philosophy to discover amid the kaleidoscopic instability of the Flux by which our senses are bewildered and our thinking confused".⁹⁶ Authorities may not be agreed as to the exact meaning of the Logos, but many have seen in it a sort of Eternal Reason and been influenced accordingly. It can also be regarded as something of a natural law, both descriptive and prescriptive, as a wisdom immanent in the world. It seems to fulfill some at least of the attributes that better developed philosophies were to assign to God and it has been said that for Heraclitus the Logos was God: "Ipse ignis coincidit cum Deo, quem Heraclitus sub novo nomine 'λόγος' introducit in philosophiam... Deus est ille ignis purissimus qui omnia penetrat." For our part, and in good company, we are uncertain whether Heraclitus consistently and explicitly made of his Logos a God, but, had he erected a definite theology, he might well have combined the two. That he speaks of the Fire as Zeus, the Deity, or Justice would not of necessity argue that he did so, but it evidences his high esteem for the Fire and the "divine" character that he would assign it.

He is not very clear as to the manner in which we may best adhere to the Logos, but he is most insistent on the presence in the Fire and the Flux of something that corresponds to our desire for knowledge. "The world is a rational world. Its ways can be understood. And this responsive, systematic and intelligible character of things corresponds to thought and reason in man, and is, as it were, the objective and external counterpart of his wisdom and philosophy."⁹⁸ We should look, therefore, for the law of things behind the change and so arrive at some universal knowledge, at a knowledge of the reason for the constant changes and exchanges.

Héraclite se complait si bien à souligner la variabilité et la contradiction intime des objets, que l'affirmation absolue semblerait vraiment n'y plus trouver à quoi se prendre; car il n'est point d'affirmation possible sans une certaine unité objective cohérente et stable. Toutefois, par une sorte d'instinct métaphysique, plutôt que par un raisonnement rigoureux, il restaure tant bien que mal cette unité nécessaire: il la découvre dans la forme même de l'universel devenir et dans l'harmonie de l'universel contraste: véritable Logos divin, immanente aux choses. Le parallélisme réaliste de la pensée et des objets demeure entier, mais les choses et pensées, animées par un même principe actif (le "feu"), sont emportées du même rythme dans le mouvement vertigineux d'un devenir infini.⁹⁹

Heraclitus suggests, of course, that it is thanks to the spark of Fire in our make-up that we are able to know of the change produced from that Fire for what it is and to search it out. "The burning stream of consciousness within us recognises the eternal flux without - recognises it also as reasonable, or rather as more reasonable in proportion to its vastly greater dominion and duration."¹⁰⁰ Man derives his being and his power of knowledge from the source of all; he neither is nor has knowledge save by its virtue. There is in this a germ of great possibilities for the future: being and truth are seen as intimately related, as having one principle and that divine.

Yet, not only were these good points vitiated by the system taken as a whole, but his successors were to seize upon and emphasise the bad points until they had brought about a grave crisis in thought. We say that his system was bad, even though we willingly acknowledge the wonderful powers of his mind and the great advance which he made over the Milesians, for he did reason more abstractly to a more complete system.

But therein he contradicted a fundamental principle of all sound philosophy, namely, that "to have a real change there must be two actually existing termini of the change".¹⁰¹ Change cannot take place without something that changes; there must be a term at which a changeable thing is at or in a given state and a passage to another term at which it is in another state. We need not labor the point here. Let it be enough to note that Heraclitus did not take this fact into account. As for his teaching on the one subject which by its 'changes' along the ways up and down gives rise to all things, "patet per se, doctrinam, ex igni fieri omnia, esse falsam. Affirmatio Lasalle et aliorum, ipsum intellexisse ignem ut quid immateriale, et sic introduxisse conceptum spiritus in philosophiam, sustineri nequit."¹⁰²

The cause of all things, the Fire, is moreover inextricably bound up with them and is as material as they are. It is a good sign for a man to choose something as cause because it is less grossly material and can transform matter, but the Heraclitean explanation is still with reference only to a material cause and assumes the eternal, unproduced character thereof. It is another good sign that in his quest after something which would unify all things he lighted upon a Logos, which some men were to take as an eternal wisdom. Even so, this was still material: the purest fire, but fire all the same.¹⁰³ It is not until we come to Anaxagoras that we have an explicit, though imperfect recognition of the distinct reality of mind and its influence on the production of things.

With everything material and with our knowledge obtaining thanks to a material communion between internal and external fires, it is plain that knowledge as we properly understand it could have no place here. So concerned in deed was Heraclitus for the universal character of change that, as the remains show, he held that contradictory propositions could at once and in the same sense have equal weight. "Perhaps if one had questioned Heraclitus himself...one might have forced him to confess that opposite statements can never be true of the same subjects. But,

as it is, he adopted this opinion without understanding what his statement involves."104

A good, forthright denial of the principle of contradiction, even if one can not very well live up to it, is a good way to destroy any science of knowledge at the start. The developments of such a denial are interesting, for, as St Thomas points out, a man who says that "man exists" and "man does not exist" are at one and the same time true assumes this as a certain affirmation, and that to say this is not so is a denial of the original statement. Now, if affirmation and negation are at once true, it must also be true to deny the affirmation that affirmation and negation are at once true. If any negation is true at once with its opposite affirmation, such must hold with every negation.105 Heraclitus may not have realised all this, but it remains that his teachings, by destroying the fundamental principle of contradiction, were thus fraught with disaster. "Car l'application du premier principe exige, dans l'être, un point fixe: le πάντα ἥεὶ, la pure variabilité est incompatible avec la vérité du premier principe: Héraclite engendre fatalement Protagoras."106

Even if Heraclitus thought of a fixed, recurring order of change which men could affirm (although how they could do so is another question) and did hint at some kind of stability in the constant exchanges, his followers were to find that the principle of change was a "corrosive solvent, too powerful for any vessel to contain".107 His disciples became impossible relativists, impossible to argue with. Once the principle of contradiction was discarded, it was but consistent for Cratylus to confine his expression to a dumb show, since any proposition would no sooner be spoken than it would be false in that ceaseless flux.108

Even so, Heraclitus exhorted men in a moving and noble manner to study after truth, and so deserves credit. It is, however, a little startling to find him also declaring: "Though this Δόγος is true evermore, yet men are as unable to understand it when they hear it for the first time as before they have heard it at all".109 We might think of practice in this line as helpful, but Heraclitus, while avowing that "thought is common to all",110 tells us that even "the most esteemed among them knows but fancies, and holds fast to them, yet of a truth justice shall overtake the artificers of lies and the false witnesses".111 The truth is to be sought, but its discovery is something of a problem and, as we saw, he never quite explained the right process of getting there. Small wonder, then, that men, impressed by his doctrine of change and prone to Sophistic errors, would be discouraged by this and find it hard to avoid scepticism.

As we are now aware, men cannot comprehend the Truth, but can attain to some knowledge concerning it. There may have been an adumbration of this in Heraclitus, but it was not taken as such, and the everlasting quest without satisfaction, however it may commend itself to certain moderns, proved discouraging and even a source of despair.

As a natural corollary of such a philosophy, the senses cannot possibly apprehend truth and so skepticism is the highest pinnacle man's knowledge, as derived from his senses, can attain. Man has, it is true, reason; but it has been granted him evidently for the sport of the eternal Law, since by its use man can never attain the truth of Life, resident in the Law.¹¹²

The fiery death may turn the trick, perhaps. At any event, we find the system of Heraclitus involved from its very start in the gravest contradictions, and at variance with common sense. Man's experience does, after all, reveal to him that he knows of substances; he can by analysis show that, despite the constant changes which things are doubtless undergoing, there is something which abides. Were this not so, change itself, demanding the two termini, would be impossible, for with the sublation of reality the changes of realities must also pass.

Furthermore, to know of all the change in the higher way which Heraclitus demands (if there is to be any hope of truth) that we be able to recognise change as such, which means recognising the termini. If it all were in the ceaseless flux, we could never know of it at all, let alone with the certainty he recommends.

If we add to this the materialism of his doctrine in general and the rather inconsistently present germs of scepticism, we can see that his initial destruction of the principle of contradiction is almost completely vitiating.

On the positive side, there is still his cogency of thought and his vigor in prosecuting such deep questions until he arrived at answers which could not but stimulate reactions. At least, he opposed the superficial and the common place, stressing the universal truth, even though his own system led him to a yet more destructive individualism than the one which he fought. He put the important problems forcibly to the notice of thinking men and did love wisdom.

In the theory of Heraclitus, scientific reflection as the sole true method already so far strengthened itself in the abstract development of his concepts that it set itself over against customary opinion and sense appearance with a rugged self-consciousness.¹¹³

Notes to the Second Chapter:

1. G. Boas, The Major Traditions of European Philosophy, pg. 1.
2. J. Burnet, Greek Philosophy: Part I, pg. 17.
3. Christopher Dawson has given an excellent description of the early civilisations, including that of Crete with its material accomplishments (which he would suggest as marvelous),

in his book, The Age of the Gods. His observations on the relationship between the organisation and attainments of the ancient states, and their religious views deserve notice.

4. Burnet, op.cit. As to the importance of these contacts we should remember that "the Asiatics had not only elaborate systems of theology, but rudiments of a scientific astronomy. The Egyptians not only had a religion which fires the popular imagination even today, but had also the beginnings of geometry, a gift more precious for the subsequent history of the European intellect than any other which the Greeks received from foreign lands." Boas, op.cit., pp. 1-2.

5. Cfr. E. Mitchell, A Study of Greek Philosophy, pg. 7.

6. The early philosophers did their best and could not altogether be expected to provide from the start a sound and integrated scientia rerum per causas, but, if we are to judge their work, we must have a standard. This, as the first chapter brings out, we find, at the instance of reason, in the Metaphysics of Aristotle and St Thomas.

7. Metaphysica I.iii 983b. "Dicit ergo primo, quod plurimi eorum qui primo philosophati sunt de rerum naturis, posuerunt principia omnium esse sola illa, quae reducuntur ad speciem causae materialis. Et ad hoc dicendum accipiebant quattuor conditiones materiae, quae ad rationem principii pertinere videntur. Nam id ex quo res est, principium rei esse videtur: hujusmodi autem est materia; nam ex materia dicimus materiaturum esse, ut ex ferro cultellum. -- Item illud ex quo fit aliquid, cum sit et principium generationis rei, videtur esse causa rei, quia res per generationem procedit in esse. Ex materia autem primo res fit, quia materia rerum factioni praeexistit. Et ex ipsa etiam non per accidens aliquid fit. Nam ex contrario vel privatione aliquid per accidens dicitur fieri, sicut dicimus quod ex nigro sit album. -- Tertio illud videtur esse rerum principium, in quod finaliter omnia per corruptionem resolvuntur. Nam sicut principia sunt prima in generatione, ita sunt ultima in resolutione. Et hoc etiam materiae manifeste contingit. -- Quarto, cum principia oportet manere, id videtur esse principium, quod in generatione et corruptione manet. Materia autem, quam dicebant esse substantiam rei, manet in omni transmutatione; sed passiones mutantur, ut forma, et omnia quae adveniunt super substantiam materiae. Et ex his omnibus concludebant, quod materia est elementum et principium omnium eorum quae sunt.

"...Quando fit aliqua mutatio circa passiones substantia manente, non dicimus aliquid esse generatum vel corruptum simpliciter, sed solum secundum quid... Materia autem, quae est rerum substantia, secundum eos, semper manet. Omnis autem mutatio fit circa aliqua quae adveniunt ei, ut passiones. Et ex hoc concludebant quod nihil generatur vel corrumpitur simpliciter, sed solum secundum quid... Quamvis autem sic convenirent in ponendo causam materialem, tamen differebant in ejus positione quantum ad duo: scilicet quantum ad pluralitatem: quia quidam ponebant unum, quidam plures: et quantum ad speciem, quia quidam ponebant ignem, quidam aquam etc. Similiter ponentium plura, quidam haec, quidam illa principia materialia rebus attribuebant."

St Thomas, In I Metaph., lect. 4, 74-76.

8. "Dicitur autem Thales speculativae philosophiae princeps fuisse, quia inter septem sapientes, qui post theologos poetae fuerunt, ipse solus ad considerandum rerum causas se transtulit, aliis sapientibus circa moralia occupatis." St Thomas op.cit., 77.

9. Diogenes Laertius, Lives of Eminent Philosophers, I. 23-24. (Hereafter, we shall refer to this source by the name of its author.) Interestingly immortality of the soul as a doctrine is ascribed to this first philosopher; even if it is not his, the implied association in people's minds between his profession and such a key doctrine is worth noting.

10. Aristotle speaks of ways of making money, and recommends "the contrivance of Thales the Milesian (which was certainly a gainful one, but as it was his it was attributed to his wisdom, though the method he used was a general one, and would universally succeed), when they reviled him for his poverty, as if the study of philosophy were useless: for they say that he, perceiving by his skill in astrology that there would be great plenty of olives that year, while it was yet winter, having got a little money, he gave earnest for all the oil works that were in Miletus and Chios, which he hired at a low price, there being no one to bid against him; but when the season came for making oil, he all at once let them upon what terms he pleased; and raising a large sum of money by that means, convinced them that it was easy for philosophers to be rich if they chose it, but that that was not what they aimed at; in this manner is Thales said to have shown his wisdom." Politica I.xi 1259a.

As John Marshall has observed, "it is interesting to find that the man who was thus the first philosopher, ... and so became the predecessor of all those votaries of 'other-world' ways of thinking, --whether as academic idealist, or 'budget-doctor of the Stoic fur', or Christian ascetic or what not, whose ways are such a puzzle to the 'hard-headed practical man', was himself one of the shrewdest men of his day, so shrewd that by common consent he was placed foremost in antiquity among the Seven Sages, or seven shrewd men, whose practical wisdom became a world's tradition, enshrined in anecdote and crystallised in proverb." A Short History of Greek Philosophy, pg. 4.

11. Burnet, op.cit., pg. 18. He adds, concerning the stories which treat of Thales and the right triangle, that "What we are told of Thales suggests that he invented some further application of this primitive piece of knowledge, and if so that was the beginning of rational science." (pg. 20.).

Herodotus narrates that, in the course of an encounter between the Medes and Lydians in the sixth year of their war, "during the battle the day was turned to night. Thales of Miletus had foretold this loss of daylight to the Ionians, fixing it within the year in which the change did indeed happen." Again, when Croesus was at a loss as to how he might lead his army across the Halys, "Thales, being in the encampment, made the river, which flowed on the left hand, flow also on the right of the army (by dividing it into two fordable channels)." That he

he was a sagacious statesman is shown by his advice at the Pan-
ionion to the effect that "the Ionians (should) make one common
place of counsel, which should be in Teos, for that was the cen-
ter of Ionia; and that the state of the other cities should be
held to be no other than if they were but townships." Herodotus,
Histories, I.lxxiv, lxxv, clxx.

12. Metaphysica I.iii 983b; de Anima I.v 411a.

13. Metaphysica, loc.cit. "Utebatur tribus signis ad os-
tendendum aquam esse principium essendi rebus: quorum primum est,
quia nutrimentum viventium oportet esse humidum. Ex eodem autem
viventia nutriuntur et sunt; et sic humor videtur esse principium
essendi. -- Secundum signum est, quia cujuslibet rei corporeae,
et maxime viventis, per proprium et naturalem calorem conserva-
tur; calor autem ex humore fieri videtur, cum ipse humor sit
quasi caloris materia; unde ex hoc videtur quod humor sit rebus
principium essendi. -- Tertium signum est, quia vita animalis in
humido consistit. Unde propter desiccationem naturalis humidi,
animal moritur, et per ejus conservationem, animal sustentatur.
Vivere autem viventibus est esse. Unde ex hoc patet quod humor
sit rebus principium essendi. -- Et haec etiam tria signa sein-
vicem consequuntur. Ideo enim animalhumido nutritur, quia calor
naturalis humido sustentatur; et ex his duobus sequitur, quod
vivere animalis sit semper humidum. Id autem ex quo aliquid fit,
id est ex quo aliquid esse consequitur, et principium omnibus hoc
acceptit hanc opinionem quod humor esset omnibus principium.

"Similiter etiam acceptit signum ex rerum generatione,
quia generationes viventium, quae sunt nobilissima in entibus,
fiunt ex seminibus. Semina autem sive spermata omnium viventium
habent humidam naturam. Unde ex hoc apparet, quod humor est gene-
rationis rerum principium. Si autem omnibus praedictis conjunga-
tur quod aqua est humiditatis principium, sequitur quod aqua sit
primum rerum principium." St Thomas, In I Metaph., lect. 4, 80-81.

14. Burnet, op.cit., pg. 21.

15. Diogenes Laertius I. 24.

16. "Ciceronis assertio, quam multi posteriores sequuntur,
Thaletem admisisse Deum diversum ab aqua et ex ea formantem
mundum: Thales dixit, Deum esse mentem, quae ex aqua cuncta fin-
geret" (de Nat.Deor. I.x.), fidem non meretur, cum nimis aperte
sit contra Aristotelem docentem, Ionios non distinxisse causam
efficientem a materiali et Anaxagoram demum primo posuisse divi-
nam mentem uti mundi ordinatorem." I. Schaaf, S.J., Institutiones
Historiae Philosophiae Graecae, pp. 17-8.

17. B. Burt, A Brief History of Greek Philosophy, pg. 2
We would take it as referring to explicit dualism.

18. B. Fuller, History of Greek Philosophy, pg. 86.

19. A. Benn, The Greek Philosophers, vol.1, pg. 8. "His
answer, 'All is water', was the first word of Ionian philosophy.
It had been anticipated even in the Homeric cosmogony, which
spoke of Ocean and Tethys as parents of the gods; but the new
departure consists in saying not what things come from, but what
things are, and in conceiving of the world as all. That in some
sense this great utterance found an echo in contemporary minds
may be reasonably inferred from Pindar's saying more than once,

'water is the best thing in the world', a phrase which otherwise would seem unmeaning. But Pindar is too much tinctured with tradition and legend to have any clear conception of the philosopher's aims. Another saying of Thales is more on a level with Greek feeling, but also carries with a meaning above the reach of ordinary Greek thought - namely, 'all things are full of gods'. If we take the two sayings together, they may be held to anticipate the fine expression of Hippocrates of Cos, that 'all occurrences are equally natural and equally divine'. L. Campbell, Religion in Greek Literature, pp. 164-5.

20. Cfr. J. Ferrier, Lectures on Greek Philosophy & c., pp. 44-5.

21. M. Taylor, Greek Philosophy, pp. 13-4.

22. Mitchell, op.cit. "Because he first makes the attempt to explain natural appearances from their universal ground. He draws back from the world of nature, where he sees only change and multiplicity, and seeks to reduce all things to one simple substance, uncreated and imperishable. This substance he calls water, giving it a physical form, but meaning by it the essence of things, that which is not perceived by the senses, the unity underlying multiplicity. It was a grand affirmation of the human spirit, this affirmation of the One made by Thales in that old Greek world where the very gods had a theogony and were many and changing." op.cit., pg. 11.

23. "Secundum Philos. in princ. Metaph. 'ad sapientem pertinet considerare causam altissimam, per quam certissime de aliis judicatur, et secundum quam omnia ordinari oportet'. Causa autem altissima dupliciter accipi potest: vel simpliciter vel in aliquo genere; ille ergo, qui cognoscit causam altissimam in aliquo genere, et per eam potest de omnibus quae sunt illius generis judicare et ordinare, dicitur esse sapiens in illo genere, ut in medicina vel architectura; secundum illud I ad Cor. 3: Ut sapiens architectus fundamentum posui: ille autem, qui cognoscit causam altissimam simpliciter, quae est Deus, dicitur sapiens simpliciter; in quantum per regulas divinas omnia potest judicare et ordinare." St Thomas, Summa Theologica II-II.xlv.1.

24. Benn, op.cit., pg. 9.

25. Diogenes Laertius II. 1-2.

26. Theophrastus, Physic.Opinion. fr. 2. (In Ritter and Preller (hereafter R.P.), 16; Burnet, Early Greek Philosophy (E.G.P.), pg. 52.).

27. "He did not ascribe the origin of things to any alteration in matter, but said that the oppositions in the substratum, which was a boundless body, were separated out." Simplicius, Phys. p. 150, 20; in Burnet, op.cit., pg. 53. "Further," Aristotle remarks, "there cannot be a single, simple body which is infinite, either, as some hold, one distinct from the elements, which they then derive from it, or without this qualification. For there are some who make this (i.e., a body distinct from the elements) the infinite, and not air or water, in order that the other things may not be destroyed by their infinity. They are in opposition to one another - air is cold, water moist, and fire hot - and therefore, if any one of them were infinite, the rest

would have ceased to be by this time. Accordingly they say that what is infinite is something other than the elements, and from it the elements arise." Physica III.v. 204b (in Burnet, op.cit.)

28. Burnet, op.cit., pp. 22-3.

29. Cfr. Schaaf, op.cit., pg. 19. There he points out that Ritter bases his view on the Aristotelian $\mu\acute{\iota}\gamma\mu\alpha$ from which singular things are said to be separated out by eccrisis or segregation, and cites Zeller (I.5, 204.), and notes that Aristotle distinguished the boundless from any determinate body, while Theophrastus (apud Simplicium, Physic. p. 157) calls it:
 $\phi\acute{\upsilon}\sigma\iota\nu\ \acute{\alpha}\sigma\pi\epsilon\lambda\tau\omicron\nu\ \kappa\alpha\iota\ \kappa\alpha\tau'\ \epsilon\iota\delta\omicron\varsigma\ \kappa\alpha\iota\ \kappa\alpha\tau\grave{\alpha}\ \mu\epsilon\gamma\epsilon\lambda\omicron\varsigma.$

30. Cfr. Aristotle, Physica III.iv 203b.

31 "To Thales water, the all-embracing element, became as such the first cause of all things, the first principle of existence. His successor adopted the same general point of view, but looked out from it with a more penetrating gaze. Beyond water lay something else which he called the Infinite...a storehouse of materials whence the waste of existence could be perpetually made good." Benn, op.cit., I.9.

32. Adamson, op.cit., pg. 15. As a matter of interest, cfr. Windelband, History of Ancient Philosophy, pg. 40.

33. Burt, op.cit., pp. 3-4. The terminology is not unexceptionable, but he makes a good point.

34. "Anaximander conceptum infiniti induxit in philosophiam eoque etiam progressum fecit, quod principium suum abstractivus concepit, quam Thales, et quod, licet confuse, modo quo res fiant ex illo principio, assignat." Schaaf, op.cit., pg. 20.

35. Ferrier, op.cit., pg. 54.

36. This is described as in R.P. 22.

37. Laertius Diogenes II.3 ff.

38. Schaaf, op.cit., pg. 21.

39. Aëtius, Placita I.3,4. In Burnet, op.cit., pg. 73.

40. Taylor, op.cit., pg. 17.

41. Cicero, de Natura Deorum I.x., in Schaaf, op.cit., q.v. We should not take this too strictly, but rather as implied. "Cicero says that Anaximenes regarded air as a god, and adds that it came into being. That cannot be right. Air, as the primary substance is certainly eternal, and it is quite likely that Anaximenes called it 'divine', as Anaximander did the Boundless; but it is certain that he also spoke of gods who came into being and passed away. This is expressly stated by Hippolytos, and also by St. Augustine. These gods are probably to be explained like Anaximander's. Simplicius, indeed, takes another view, but he may have been misled by a Stoic authority." Burnet, op.cit., pg. 78.

42. Cfr. R.P. 25.

43. Schaaf, op.cit., pg. 22.

44. Metaphysica I.iii 984a.

45. Fr. 11. The fragments here quoted are according to Burnet, E.G.P., pp. 132 ff.

46. F. Jevons, History of Greek Literature, pg. 466.

47. Mm. Croiset, Abridged History of Greek Literature, pg. 155.

48. Laertius Diogenes, IX. 2. Cmp. fr. 114 in Burnet, where hanging is specifically advised. Cicero puts it more generally: "universos ait Ephesios morte mulctandos". Tusc. Disp. V. xxvi.
105.

49. Laertius Diogenes, IX. 2-3.

50. M.E.J. Taylor, op. cit., pg. 24.

51. R. Descartes, Discours de la Méthode, I, ad finem.

52. Laertius Diogenes IX. 5. Indeed, Heraclitus thought that he could say: "I have sought for myself". (Fr. 80.).

53. Joseph A. McLaughlin, S.J., The Problem of Knowledge, pg. 10. He goes on to observe: "What a crude state of mind naif realism implies may be seen by reflecting that it is a commonplace of our experience for an object moving away from us to become smaller and smaller until it dwindles to a mere speck on the horizon. If then, as the credulous and unreflecting naif realist imagines, all of our sense perceptions must be taken without question as passive and yet true representations of reality, we should have to believe that any object of visual perception, for instance, diminishes in size as its position relative to us takes on more and more distance.

"...Our senses, it is true, do not err if they are sound and rightly disposed, but not for that reason is the validity or truth value of knowledge infallibly guaranteed, since the cognitive act is something more than the production of sense images or phantasms in a knowing subject inactively receiving them."
op. cit.

54. McLaughlin, op. cit.

55. Laertius Diogenes IX. 1.

56. Fr. 17.

57. Fr. 2

58. Taylor, op. cit., pg. 25.

59. Plato, Cratylus, 402 A. (R.P. 33.)

60. Fr. 41-2.

61. Fr. 81

62. Fr. 22. As Aristotle says, "Heraclitus, again, maintains that 'contrariety is expedient, and that the best agreement arises from things differing, and that all things come into being in the way of the principle of antagonism'." (Ethic. Nicom. VIII. i. 1155b.)

63. Fr. 44

64. Fr. 18

65. Fr. 45

66. Burnet, E.G.P., pg. 143.

67. op. cit., pg. 144

68. Fr. 20.

69. Fr. 69

70. Fr. 46.

71. Fr. 47. For a general summary of his teachings at greater length than is to our interest here, we may refer to Burnet, E.G.P., ch. 3, or Diogenes, IX. 7 ff.

72. Fr. 68.

73. Fr. 76.

74. Fr. 85.

75. Fr. 95.

76. "Man kindles a light for himself in the night-time, when he has died, but is alive. The sleeper, whose vision has been put out, lights up from the dead; he that is awake lights up from the sleeping." Fr. 77.

77. Fr. 72.

78. Fr. 103.

79. Frs. 105-7.

80. Fr. 101.

81. Frs. 122-3.

82. Frs. 67 and 78.

83. "It is a weariness to labor for the same masters and to be ruled by them." Fr. 82. "It rests by changing." Fr. 83. "Even the posset separates if it is not stirred." Fr. 84.

84. J. Erdmann, A History of Philosophy, pg. 51. One author has observed: "The soul is, as it were, a wandering spark shot forth from that universal Fire or universal Reason which encompasses heaven and rules all things, and is maintained only by constant accessions from the source whence it came. It derives no advantage from its union with the body; the birth of man is a misfortune, inasmuch as he is born only to die. It is only when the soul returns again to the primal fire that its true life begins." A. Stoeckl, Handbook of the History of Philosophy, pg. 37.

85. Windelband, op.cit., pg. 37. Cfr. Burnet, E.G.P., sectn. 74 ff.

86. J. Marshall, A Short History of Greek Philosophy, pg. 11

87. Fr. 4.

88. Fr. 10.

89. Adamson, op.cit., pp. 43-4.

90. Burt, op.cit., pp. 22-3.

91. Erdmann, op.cit., pg. 49. Continuing, he says: "Perhaps the preference which he displays for the sense of smell is based on the fact that it perceives volatilisation, and this is most of all dependent on the change of form. Schuster acutely shows that the passages which seem to imply Heraclitus' contempt for the senses may also be differently utilised, especially as to make him appear the champion of the inductive method, in opposition to one-sided deduction." J. Beare has an interesting discussion of the Heraclitean views on the sense of smell, in his Greek Theories of Elementary Cognition, pp. 148 ff.

92. Beare, op.cit., pg. 4.

93. Mitchell, op.cit., pg. 29. Brehier comments: "Heraclitus a eu l'intuition que la sagesse consiste a decouvrir la formule generale, le logos de ce changement." Histoire de la Philosophie, tom. I, 58.

94. Fr. 19.

95. Fr. 29. It is important, after all, to lay stress on the need of living up to laws, and to recognise the purpose therefor, even in an imperfect fashion.

96. Fuller, op.cit., pg. 96. As to the meaning of the "Logos"? Dr Adam has written: "There are few questions appertaining to the history of ancient philosophy which have been more widely and warmly debated than the meaning of the word λόγος in Heraclitus. By the ancients, it was understood to mean reason -- cosmic reason -- universally diffused, present both in nature and in man, not of course one incorporeal entity, but identical with the ever-living, ever-thinking Fire... which constitutes the changeless because ever-changing reality of things: and this λόγος or universal reason was held to be synonymous with God. In other words, if the ancients are to be trusted, the Heraclitean concept of the logos does not really differ from the Stoic, except that on its material side, Logos is in Heraclitus Fire, whereas, according to the strictest Stoic definition, it is aether. The ancient interpretation has been followed by many exponents of Heracliteanism in modern times, such as Bernays, Patin, Teichmueller, and, with certain reservations, Zeller; but others have taken a different view. Thus, for example, Heinze denies that the attribute of intelligence or thought belongs to the Heraclitean Logos: it is merely what he calls 'objective reason' or law, the universal reason manifested in the development of the world, a principle destitute of anything analogous to consciousness or personality: and Professor Burnet, goes so far as to maintain, if I understand him rightly, that the Logos doctrine is entirely Stoic, the world Logos, in the relevant passages of Heraclitus, meaning only 'argument' or 'discourse'...

"It will conduce to clearness if I say at the outset that, as at present advised, I believe the ancients were right in regarding the Heraclitean Logos as virtually identical with the Stoic, although the Stoic theory was of course far more fully developed and elaborated in detail." The Vitality of Platonism, and Other Essays: Essay on "The Logos of Heraclitus", pp. 77-8.

The point⁹⁷ which particularly interests us is, obviously, that it was Heraclitus, interpreted in this way, that influenced the development of philosophy. The precise meaning of his doctrine is an interesting and important question, but in discussing its influence we must also study how men have taken it: adhuc sub iudice lis est.

- 97. Schaaf, op.cit., pg. 26.
- 98. Fuller, op.cit., pp. 130-1.
- 99. J. Maréchal, S. J., Le point de départ de la Méta-physique, I. 42.
- 100. Benn, op.cit.
- 101. J. McCormick, S. J., Scholastic Metaphysics, I. 58.
- 102. Schaaf, op.cit., pg. 28.

103. Yet, there is something to the opinion of W. A. Butler that "of all the physical theorists of his time who looked upon the world as a vital organism, Heraclitus, perhaps, arrived nearly at the purely spiritual conception of its author." Lectures on the History of Ancient Philosophy, I. 312. The opinion seems defensible, if it is taken to mean that none arrived nearer, rather than that he came very near.

104. Aristotle, Metaphysica XI. v 1062 a.

As St Thomas notes, "Ponebat autem Heraclitus duo, scilicet quod affirmatio et negatio sit simul vera. Ex quo sequebatur quod omnis propositio tam affirmativa quam negativa sit vera. - Ite, ponebat quod inter affirmationem et negationem sit aliquod medium. Et sic sequebatur quod contingeret neque affirmationem neque negationem esse veram. Et per consequens omnem propositionem esse falsam." (In XI Metaph. lec. v, 2221).

105. Cfr. St Thomas, op. cit., 2222. After this analysis he notes the views of Aristotle: "Inducit rationem contra hoc, quod ponebatur quod nulla affirmatio sit vera. Si enim nihil contingat verum affirmare, qui autem dicit nullam affirmationem veram esse, aliquid affirmat, hoc scilicet quod verum sit nullam affirmationem esse veram; ergo hoc ipsum falsum erit. Et si aliquid affirmative dictum verum sit, removebitur opinio talium qui contra omnia instant. Et qui ista positione utuntur, auferunt totaliter disputationem; quia si nihil est verum, non potest aliquid concedi ex qua disputatio possit procedere. Et si affirmatio et negatio sint simul vera, non erit significare aliquid per sermonem, ut supra dictus est. Et sic cessabit disputatio". (op. cit., 2223.). Clearly, knowledge as we know it would have no meaning for a consistent Heraclitean.

106. Maréchal, op. cit., pg. 58. This author later on remarks the teaching of St. Thomas in special contrast with the Heraclitean: "St. Thomas, comme il le déclare expressement (S.T.I. lxxxiv.6.), se range donc aux côtés d'Aristote, pour affirmer, contre Démocrite aussi bien que contre Platon, la nécessité d'une collaboration intime du sens et de l'entendement dans toute connaissance intellectuelle.

"Mais l'apport du sens, c'est la multiplicité des choses individuelles et changeantes. Saisie par l'entendement, cette multiplicité s'unifie et s'immobilise. Mes yeux voyaient, côté à côté, Socrate et Callias, et Antisthène, et tant d'autres: mon intelligence les soude, pour ainsi dire, en un concept unique, qui les représente tous et chacun: "L'homme"...Héraclite disait: "La main ne touche pas deux fois l'eau d'un fleuve qui s'écoule"; la sensation, exprimant un objet essentiellement changeant, ne saurait se repeter identique; et pourtant, mon intelligence, immobile sur la rive, contemple sous l'écoulement matériel incessant, sous le flux du temps qui fuit, l'"eau", toujours la même. (S. Th. I.84, art.1).

"Qu'est-ce donc? De la Mobilité l'intelligence fait une permanence: la substance. De la multiplicité des individus, elle fait une unité: l'espèce. Vais-je comme Héraclite, taxer d'illusion cette métamorphose antinomique?...

"Non, continue Saint Thomas, Héraclite a tort, incontestablement: je ne puis sacrifier ainsi la valeur de mon intelligence..." (op. cit., pp. 77-78.).

107. Benn, op. cit., pg. 25.

108. "Its adherents became famous relativists and believed that it was nonsense to speak of objects in the ordinary sense of the word, since what seem like objects change constantly and are no sooner named than they are something else. Each man

has his own perceptions; one man's are as good as another's; and there is no truth binding on all alike. Out of this doctrine and its apparent implications came the theory of one of the most interesting of Greek heresies, the movement known as Sophistry." Boas, op. cit., pg. 17.

109. Fr. 2.

110. Fr. 91 a.

111. Fr. 118.

112. M. McDonald, Progress of Philosophy, pg. 14.

113. Windelband, op. cit., pg. 59.

Chapter III: The Pythagoreans.

As Gilson has brought out so well in his Spirit of Mediaeval Philosophy, it is indeed true that philosophy, by definition an abstract science, is, as realised by men, a way of life, and the highest natural way for a rational animal. In view of their practical interests, we can well believe that the earliest representatives of our philosophical tradition were aware of this, but the full consciousness comes with the Pythagoreans. These men were, as it seems, influenced by the Orphic movement and were in quest of a way of salvation. The science begun at Miletus and paralleled by the learning of neighboring peoples at least tried to bring man to the ultimate realities and to tell him of the world of which he was a member. It was not a very difficult thing to see in what to some degree perfected man's highest powers the desired way. "Pythagoras was himself especially honored for this, and his successors, even to this day, denominating a certain way of life the Pythagorean."¹

Although the master of this school is thus one of the most significant figures in the history of human thought, not very much is known concerning him. A number of Lives have been handed down, "but they were written hundreds of years after the event, and are filled with a tissue of extravagant fancies, and with stories of miracles and wonders worked by Pythagoras."² Legends early attached themselves to his name, so that the actual details of his life (if we may grant that he did live) are obscured. As nearly as we can make out, he must have been born about the first third of the sixth century (B.C.). According to the tradition, he was a native of Samos; if this is true, it would allow for his early contact with the physiologists of Miletus, as he is reported to have been the student of Anaximander, whose theory of planetary rings might well have developed into the Pythagorean astronomy; much of the Pythagorean mathematics might be cited to this same effect.³ Other accounts have him studying also under Pherecydes, who would likely have given him a mystical bent, such as he did have.

In addition, he is said to have undertaken rather extensive travels in the Orient and in Egypt, where he studied the remarkable civilisation and stored-up wisdom of the venerable theocracies.

While still young, so eager was he for knowledge, he left his own country and had himself initiated into all the mysteries and rites not only of Greece but also of foreign countries... He learnt the Egyptian language..., and he also journeyed among the Chaldaeans and Magi. Then while in Crete he went down into the cave of Ida with Epimenides; he also entered the Egyptian sanctuaries, and was told their secret lore concerning the gods.⁴

Thus prepared and broadened, he fared to Crotona, in the South of Italy and, settling there, gathered about him a group of men

interested in his teachings. He did not organise a philosophic school, so much as a society of religious and moral reformers, something not unlike a religious order.

The Pythagorean ethical views were rigorous and ascetic in character. They insisted upon the utmost purity of life in the members of the Order. Abstinence from flesh was insisted upon, although this was apparently a late development. ...They forbade the eating of beans. They wore a garb = peculiar to themselves. The body, they taught, is the prison or tomb of the soul...It was largely a mystical society. The Pythagoreans developed their own ritual, ceremonial and mysteries...They cultivated the arts and crafts, gymnastics, music, medicine and mathematics.⁵

The school, which interested itself for a time and without lasting success in aristocratic government, continued after the death of the master. Its career was long and varied, so much so, in fact, that it is now quite difficult to determine with what views it started and what ones came later. Pythagoras himself attained to considerable fame, because of his learning and wisdom, the fruit, his followers would have it, of his many lives.⁶ Empedocles, who is reported to have been a renegade member of the school, spoke of him in terms of highest praise:

And there was among them a man of rare knowledge, most skilled in all manner of wise works, a man who had won the utmost wealth of wisdom; for whensoever he strained with all his mind, he easily saw everything of all things that are, in ten, ye^a, twenty lifetimes of men.⁷

Of the doctrines which the master or his earlier disciples probably expounded we shall deal with those touching on the constitution of reality and on human knowledge. Their views here were interestingly different from those of the Asian cosmologists, for they did not posit some quite determinate element as the material principle of bodies, something which the senses readily perceive. Rather, being of a mathematical turn of mind, they chose to consider the extension of the bodies which they were endeavoring to explain. Attending, moreover, to mathematical relationships, they built up a somewhat elaborate system, wherein they affirmed numbers, the equal and unequal, and the Limited and Unlimited to be the principles of things.

Now, there is an almost universal tradition to the effect that Pythagoras, in a smith or elsewhere, discovered the harmonic intervals, and was much impressed by the fact that it was possible exactly to represent the harmonic proportions: - 12 : 8 : 6, so that 12 : 6 is the octave, 12 : 8 the fifth, and 8 : 6 the fourth. Interested as he was in the ethical value of music, Pythagoras was brought to reflect that "if musical sounds can be

reduced to numbers, why not everything else? There are many likenesses to number in things, and it may well be that a lucky experiment, like that by which the octave was discovered, will reveal their true numerical value."⁸ Their physiological researches had also convinced the Pythagoreans that health is to be found in a due measure, not yet exactly formulated, so that they felt they were sure of their ground in this matter.

It is really an extraordinary theory, and one which is not easy to understand. If we speak of the numbers only as a measure, it is conceivable that they are something in the way of exemplary causes, somehow represented by the things of this world. Such might be the interpretation put on Aristotle's comment that "the Pythagoreans say that things exist by 'imitation' of numbers, and Plato says they exist by participation (in the Ideas), change the name. But what the participation or imitation Forms could be they left an open question."⁹ If, however, we take these remarks as casting a reflection on the failure of Platonists and Pythagoreans alike to clarify their terminology, we can see that they do not exclude the possibility that the things so imitate the numbers as to be identified with them. Other observations bear out the belief that things are intrinsically constituted by numbers in such a way that they can be simply said to be numbers. In this vein, Aristotle says that Plato differed from the Pythagoreans in that he set the One and the Numbers apart from things, speaking of "his view that the Numbers exist apart from sensible things, while they say that the things themselves are Numbers, and do not place the objects of mathematics between the Forms and sensible things."¹⁰

We are told also of some of the more detailed reasons because of which the Pythagoreans thus regarded numbers. Thanks to their background, the principles of mathematics were grasped as the most evident and so it seemed but logical to look upon them as the first by nature itself. Their esoteric research, furthermore, disclosed to them close resemblances between numbers and the objects of sensible experience, resemblances which seemed more likely and assuredly more important than those between the same things and any of the determinate substances so far proposed as the first cause of reality. For them, accordingly, there was "such and such a combination of numbers being justice, another being soul and reason, another being opportunity - and similarly almost all other things being numerically expressible". This was, as we said, especially to be observed in the modifications of the musical scale.

With things apparently modelled upon the numbers and the numbers in seeming the first in nature, the elements of numbers were taken as the elements of all reality, and the heavens became a great musical scale and a number.¹² Everything comes from number and is to be understood properly in terms of it.

The principle of all things is the monad or unit; arising from this monad the undefined dyad or two serves as material substratum to the monad, which is cause; from the monad and the undefined

dyad spring numbers; from numbers, points; from points, lines; from lines, plane figures; from plane figures, solid figures; from solid figures, sensible bodies, the elements of which are four, fire, water, earth and air; these elements interchange and turn into one another completely, and combine to produce a universe animate, intelligent, spherical with the earth at its centre, the earth itself too being spherical and inhabited round about.¹³

Just how all these events would be accomplished has never been made quite clear. Insofar, of course, as the undefined dyad may be regarded as something potential with reference to the causative activity of the primitive monad, the Pythagoreans are among the first to include in their philosophy some important **suggestion** of the doctrine of matter and form.¹⁴ So far, number acts both formally and materially, and is itself a derivation from one or monad.

These thinkers also consider that number is the principle both as matter for things and as forming their modifications and their permanent states, and hold that the elements of number are the even and the odd, and that of these the latter is limited, and the former unlimited; and that the One proceeds from both of these (for it is both even and odd), and number from the One; and that the whole heaven, as has been said, is numbers.¹⁵

There is one feature of the theory and its supporting reasons which deserves especial notice. Pythagoras had been encouraged in his work because the harmonic proportions enabled him better to know the subject of music. Elsewhere too number served to make things in a way clearer, and it could stand for some aspects of reality and so facilitate our thought concerning them. Number, in other words, appeared to be intimately related to the knowability of things, and so to what makes them important for us. "Now truth is a peculiar innate attribute of Number; it is of the very nature of Number or Harmony to reject deception as inimical and antagonistic. It is its function to rule and regulate, and to teach the hitherto unknown. Hence the conclusion that what is the most fixed and indefectible in our knowledge must also be the unchangeable essence of things in themselves."¹⁶ It is a notion which needs a good deal of analysis and development, but a suggestion all the same which will bear fruit in the philosophy of Plato and thereafter be perfected by Aristotle and Thomas.

As Aristotle at least understood the Pythagorean teaching, the soul and intellect of man were likewise numbers, and so would be rather difficult nicely to distinguish from other things, which

are, after all, numbers too. Some members of the school had views even less proper touching on the soul, and Aristotle likens them to the materialists of an atomic cast: "Quidam enim eorum affirmabant animam non esse nisi ramenta, quae in aëre inveniuntur, alii autem eam esse id, quod ista movet. Et addebant hanc praecise esse rationem, cur motu constanti agitentur, etsi nullius adsit ventus."¹⁷ Certain of the later Pythagoreans appear to have carried the notion of harmony over into their psychology, and to have regarded the soul as a harmony, or, more strictly, an attunement of the body. Although it is comparatively easy to trace the mathematical and medical origins of such a theory, it was probably not entertained by the early followers of the master, who was so strongly persuaded of the endurance of the soul after death - whereas this "attunement could not outlast the body:

When the soul is in a manner strung and held together by the elements of hot and cold, wet and dry, then the soul is the harmony or due proportionate admixture of them. But if so, whenever the strings of the body are unduly loosened or overstrained through disease or other injury, then the soul, though most divine, like other harmonies of music or of works of art, of course perishes at once; although the material remains of the body may last for a considerable time, until they are either decayed or burnt.¹⁸

No, such a theory cannot very well have been that of a man whose keen feelings about the survival of the soul led him to recognise in the yelps of a beaten dog the voice of a departed friend. This doctrine of transmigration he quite probably picked up from the Orphic cults, and reenforced it with elements borrowed from the Egyptians. "It was on this that the doctrine of Reminiscence, which plays so great a part in Plato's Meno and Phaedo, was based."²⁰ Such is certainly in accord with the statement of Empedocles that his master was wise with the wisdom of a score of lives.

The theory of palingenesis, sometimes, as Burnet aptly points out, mistakenly referred to as that of 'metempsychosis', is not a notably logical one. For, it would have it that the same soul can come back as another sage or as a neighbor's watch-dog; accordingly, it contradicts the notion - a very sound one - that things are constituted by their forms. All this would, moreover, seem to cast some reflection on the veracity of the numbers, since they make us such variable essences.

Sed en absurdum, quod accidit et huic theoriae et plurimis, quae de anima habentur; conjungunt enim simpliciter animam cum corpore eamque in ipso collocant, quin ullo modo ulterius explicent, quam ob rem hoc fiat et quales dispositiones

in corpore talis unio subaudiat. Et tamen omnino necessarium videtur esse factum hoc explicare; nam haec praecise animae et corporis communio edicit, ut unum agat, alterum patiatur, ut unum moveatur, alterum moveat, cum nulla ex hisce relationibus mutuis existat inter quascumque res. Illi autem describere conantur tantummodo, qualisnam sit animae natura; de corpore eam recepturo, nihil ulterius determinant ac si fieri posset, ut, quemadmodum mythi Pythagorici narrant, quaevis anima in quodvis corpus ingrediatur; cuius theoriae falsitas iam exinde elucet, quod evidenter unumquodque corpus habet speciem atque formam sibi propriam.²¹

From the Pythagorean standpoint, the soul is at present imprisoned in the body, for reasons which are not altogether clear;²² this same thought will make its appearance in Plato, who is no more definite as to the original reason for the soul's being united with the body. It is, however, important to remark that such a theory means that the true abode of the soul, ill though it may be conceived, is elsewhere. Western thought was never afterwards wholly to lose this conception of the soul as being here on a journey through an alien country to a far better fatherland.

As for subjects properly divine, we have no direct evidence as to the views of the early Pythagoreans. Connected as he was with the Orphics, Pythagoras would unquestionably have been interested in religion, although his scheme of things, as so far revealed, does not leave much place for the gods. At Delos, he made it his custom to offer sacrifice only upon the oldest altar, the Altar of Horns, and then to Apollo the Father, the Giver of Life, without fire or the shedding of blood. This might suggest a definite interest in a return to the purest available religious traditions.²³ His later followers espoused a variety of opinions on this matter.

On the whole, then, we can see that Pythagoras succeeded in considering reality after a fashion more explicitly abstract than that of the early Ionians; for he put the proper-sensibles aside and chose to consider only extension and the mathematical properties of physical things. This is not quite rising to the level of the immaterial, for, as St Thomas has pointed out, "species autem mathematicae possunt abstrahi per intellectum a materia sensibili, non solum individuali, sed etiam communi; non tamen a materia intelligibili communi, sed solum individuali: ...materia vero intelligibilis dicitur substantia, secundum quod subjacet quantitati."²⁴ Yet, for as much as the subject of mathematics is in this way the further removed from the concrete, material individual than is water or aether in general, it is true that Pythagoras marks a forward step. Since mathematical realities do not in fact exist outside the thinking mind, he was at least driving at the necessary correlation between mind and reality, being and truth. Unfortunately, he never quite suc-

ceeding in formulating a distinct notion of the spiritual, for his numbers, when he comes to deal with the real order, are represented as things extended. His school did not attain to the supersensible, but it did point the way thither.

The Pythagoreans treat of principles and elements stranger than those of the physical philosophers...; yet their discussions and investigations are all about nature; for they generate the heavens, and with regard to their parts and attributes and functions they observe the phenomena, and use up the principles and causes in explaining these, which implies that they agree with the others, the physical philosophers, that the real is just all that which is perceptible and contained by the so-called 'heavens'. But the causes and the principles which they mention are...sufficient to act as steps even up to the higher realms of reality, and are more suited to these than to theories about nature.²⁵

They were thus enabled to exercise a considerable, and often beneficial influence on the development of philosophy as well as of the lesser sciences. This we may see in the case of Plato, whose own teachings are often the expansions and rectifications, accomplished by his genius, of what the Pythagoreans had earlier hinted.

In some respects, their most important work was their insistence that philosophy is a life, that the man who would live as he should must cultivate his highest faculties, according to an ordered plan, and must through discipline and study direct his whole self to the end of Truth. Even before Plato, they saw the need for a properly constituted society, if men are to live the good life, conceived in these terms. Their attempts at Crotona may well be interpreted as an early endeavor on the part of those who love the truth to set up the social framework necessary for life in accordance with their principles - principles which bear on the complete man. Interestingly, it was not a democratic organisation which they sought to establish.

Finally, we owe them the very title of philosopher itself, expressive at once of the modesty which should pertain to such a one and of his belief that here he is not yet wise.

Pythagoras noluit se sapientem profiteri,
sed sapientiae amatorem.²⁶

Notes to Chapter Three:

1. Republic X.iii 600. "This way of regarding philosophy is henceforward characteristic of the best Greek thought. Aristotle is as much influenced by it as any one, as we may see

from the Tenth Book of his Ethics, and as we should see still more clearly if we possessed his ΠΡΟΤΡΕΚΤΙΚΟΣ in its entirety. There was a danger that this attitude should degenerate into mere quietism and 'otherworldliness', a danger Plato saw and tried to avert. It was he that insisted on philosophers taking their turn to descend once more into the cave to help their former fellow-prisoners." Burnet, Early Greek Philosophy, pg. 83.

2. W. Stace, A Critical History of Greek Philosophy,

pg. 31.

3. Cfr. Burnet, Greek Philosophy: Part I, pg. 39. Moreover, the "importance of the infinite (Τὸ ἄπειρον) in the Pythagorean cosmology suggests the Milesian influence, and the identification of the infinite with 'air' by at least some Pythagoreans points to a connexion with the doctrines of Anaximenes. The way in which the Pythagorean geometry developed also bears witness to its descent from that of Milesos." op.cit., pp. 39-40.

4. Diogenes Laertius VIII.2-3.

5. Stace, op.cit., pp. 32-3.

6. This rather interesting point of view has something of a parallel in the teachings of Roger Bacon: "Voici donc comment Bacon se représente l'histoire de la philosophie. Elle a été révélée d'abord à Adam et aux patriarches, et si nous savons bien interpréter les Écritures nous verrons qu'elle se retrouve tout entière, quoique sous une forme imagée et colorée, sous leur sens littéral. Les philosophes païens, les poètes de l'antiquité et les Sybilles sont tous postérieurs aux philosophes vrais et fidèles qui furent les descendants de Seth et de Noé. Dieu leur a donné de vivre six cent ans parce qu'il ne leur fallait pas moins de temps pour achever la philosophie, et spécialement l'astronomie. Dieu leur a donc tout révélé et leur a accordé une longue vie pour leur permettre de compléter la philosophie au moyen des expériences... Mais ensuite la malice des hommes et leurs abus de toutes sortes devinrent tels que Dieu obscurcit leur coeur et que l'usage de la philosophie tomba en désuétude. C'est l'époque... de Prométhée, de Mercure..., d'Esculape, d'Apollon et d'autres qui se faisaient adorer comme des dieux à cause de leur science. Il faut en venir au temps de Salomon pour assister à une sorte de renaissance et voir la philosophie retrouver sa perfection première. Après Salomon l'étude de la sagesse disparaît de nouveau à cause des péchés des hommes jusqu'à ce que Thalès la reprenne et que ses successeurs la développent de nouveau... Les philosophes grecs sont donc les disciples et les successeurs des hébreux; ils ont retrouvé la révélation faite par Dieu aux prophètes et aux patriarches, révélation qui n'aurait pas eu lieu si la philosophie n'avait été conforme à la loi sacrée." E. Gilson, La philosophie au moyen age, pp. 210-1. The Friar's suggestion deserves study.

7. Empedocles, fr. 129. (Found in Burnet, Early Greek Philosophy, pg. 224.). "Timæus in the ninth book of his Histories says that Empedocles himself mentions Pythagoras in these lines (that is, the first portion of those which we have cited in the text)... Others say that it is to Parmenides that he is here referring. Diogenes Laertius IX. 54.

8. Burnet, op.cit., pg. 107. "Gaudentius quidam, de musica scribens, Pythagoram dicit huius rei invenisse primordia ex malleorum sonitu et cordarum extensione percussa." Cassiodori Senatoris Institutiones, II. v, pg. 142, ll.13-5. Zeller finds that "the fundamental doctrine of the Pythagoreans is the proposition that the nature of things is number. There can be no doubt that the Pythagoreans were led to this surprising statement by their musical studies which served ethical ends... They recognised indeed that the pitch of tones depends on the length of the strings on musical instruments and that musical harmony is determined by definite mathematical proportions. The recognition of this fact led him to the principle which was not contained in matter itself, but was supersensual." Outlines of the History of Greek Philosophy, pg. 35. We take up toward the end of our own study the ways in which their principle might be regarded as supersensuous.

9. Metaphysica I.vi 987b.

10. op.cit.

11. op. cit., v 985b. "But one can easily imagine that once the idea of Number became associated with that of the knowable in things, a wide field of detailed development and experiment, so to speak, in the arcana of nature, seemed to be opened. Every arithmetical or geometrical theorem became in this view another window giving light into the secret heart of things. Number became a kind of God, a revealer, and the philosophy of number a kind of religion or mystery. And this is why the second grade of disciples were called Mathematicians." J. Marshall, Short History of Greek Philosophy, pp. 25-6.

12. Having pointed out the number of studies for which a knowledge of Arithmetic is necessary, Cassiodorus the Senator further remarks: "Propterea hinc fons et mater arithmetica reperitur, quam disciplinam Pythagoras sic laudasse monstratur, ut omnia sub numero et mensura a Deo creata fuisse memoraret, dicens alia in motu, alia in statu ita esse formata, ut tamen nulla eorum praeter ista quae dicta sunt substantiam percepissent; credo, trahens hoc initium, ut multi philosophorum fecerunt, ab illa sententia prophetali, quae dicit omnia Deum mensura, numero et pondere disposuisse." op.cit., II.iiii, pg. 132, l. 21 to pg. 133, l. 7. Father Schaaf remarks that Pythagoras was undoubtedly correct in looking upon the universe as a most beautifully ordered work, as a true cosmos, but he read it in the wrong way. "Verum quoque et semper magis est probatum vigere ordinem multis in rebus secundum fixam numerorum proportionem (cogita praeter fixa tempora motuum siderum de legibus combinationis chimicae, de numero undarum in sono, luce, electricitate etc.). 'Omnia secundum mensuram, numerum, pondus ordinasti' (Sap. 11, 21.).' Falso vero ex eo quod res mundanae secundum numeros sunt ordinatae, Pythagoraei concluderunt eas cum numeris identificari. Proprietatem rei eius essentiam fecerunt. Et si ipsorum doctrina etiam sic intelligeretur, quod numeri non abstracte sumuntur, sed prout extensionem corporum et eorum superficies et lineas significant (numeri numerati), esset tamen falsum in extensione sola qua tali, corporum extensionem con-

sistere. Tendentia plurium recentiorum, differentias omnes quantitativas corporum in mere quantitativas resolvere, (solum atomi extensae et motus) iam sese manifestat apud Pythagoraeos." Institutiones Historiae Philosophiae Graecae, pp. 38-9. As Msgr. Sheen suggested (cfr. Chap. I, not. 5.), there is not very much that is new under the "scientific" sun.

13. Diogenes Laertius VIII. 25. The summary as given is based upon the Successions of Philosophers, written by Alexander Polyhistor. Mr. Hicks, the editor of our text of Diogenes Laertius, commends the biographer for taking his material from a Hellenistic writer of the First Century before Christ, rather than from some of the numerous and imaginative Neo-Pythagoreans who intervened. Vol. II, pp. 340-1, Loeb Classics Edition of The Lives.

14. This point is discussed at some length by B. Fuller (History of Greek Philosophy, pp. 114 et seq.), who makes out rather a good case for the Pythagorean adumbration of the later hylomorphism.

15. Metaphysica I.v 986a. Cfr. St Thomas In I Metaph. lect. viii, 124 ff.

16. Stoeckl, Handbook of the History of Philosophy, pp. 47-8. Ferrier points out that if we say the substance of things is what is true for some and is to be apprehended by man's particular faculty, we shall come to regard something material as being that substance. On the other hand, if we say it is in something that is true for all, then something less material, perhaps like number, is found to be it. "Number is this, because number is the truth of the universal for all intelligence, matter and its qualities are not the essence of the universe, not the ultimately and absolutely real, because they are not the truth for all, but only the truth for some intelligence, that is, for intelligence constituted with sense like ours." Lectures on Greek Philosophy etc., pp. 64-5.

17. de Anima I.ii 404a. "The soul of man, he says, is divided into three parts, intelligence, reason and passion... Reason is immortal, all else mortal... The faculties of the soul are winds, for they as well as the soul are invisible, just as the aether is invisible. The veins, arteries, and sinews are the bonds of the soul. But when it is strong and settled down into itself, reasonings and deeds become its bonds. When cast out upon the earth, it wanders in the air like the body." Diogenes Laertius VIII. 30-1. "Sense generally, and sight in particular, is a certain unusually hot vapor." op.cit., 29. A proper grasp of mind and spirit as such is still to be attained.

18. As Socrates says, "Simmias (whose words we have cited in the text) has reason on his side". Phaedo 86. Cfr. Burnet, op.cit., pp. 276 et seq. as to the various teachings of the later Pythagoreans.

19. Xenophanes, fr. 7. (in Burnet, op. cit., pg. 118.).

20. Burnet, Greek Philosophy: Part I, pg. 43. "I am confident," Socrates tells Cebes, "that there truly is such a thing as living again, and that the living spring from the dead,

and that the souls of the dead are in existence, and that the good souls have a better portion than the evil. -- Bebes added: Your favorite doctrine, Socrates, that knowledge is simply remembrance, if true, necessarily implies a previous time in which we have learned that which we now recollect. But this would be impossible, unless our soul had been in some place before existing in the form of man; here, then, is another proof of the soul's immortality." Phaedo 72-3.

21. de Anima I.iii 407b. "Ex quo convenit eis illud quod in fabulis Pythagoricis habetur, quod quaelibet anima in in quodlibet corpus ingrediatur, puta si casu contingat in corpus elephantis intrare animam muscae. Quamvis hoc non possit esse, cum unumquodque corporum, et maxime animalium, habeat propriam formam et propriam speciem, et proprium movens et proprium motum, et multum differat corpus vermis a corpore culicis. Hoc tamen dicentes, scilicet quod quaelibet anima quodlibet corpus ingreditur, dicunt simile, ac si quis dicat artem textrinum ingredi in fistulas, et aerariam in telariam. Et tamen si ipsis artibus inesset natura ingrediendi corpora, seu organa ex seipsis, non quaelibet in quodlibet ingrederetur, sed fistulativa ingrederetur in fistulas, non in lyras, cytharativa autem in cytharas, et non in fistulas: eodem igitur modo si animae cuilibet sit corpus, unaquaque anima non quodlibet corpus ingreditur, immo ipsa anima idoneum format sibi corpus, et non assumit paratum. Sic ergo Plato et alii philosophi loquentes tantum de animae natura, insufficienter dixerunt, non determinantes quod sit corpus conveniens cuilibet animae, et qualiter et quale existens uniatur sibi." St. Thomas, In I de Anima, lect. viii, 131. Cfr. Stoeckl, op.cit., pg. 51.

22. "He was the first, they say, to declare that the soul, bound now in this creature, thus goes on a round ordained of necessity." Diogenes Laertius VIII. xiv. We are not told who or what it is that does the ordaining or how he or it accomplishes the binding.

23. Cfr. Diogenes Laertius VIII. xiii.

24. Summa Theologica I.lxxxv.1. ad 2um. "The objects of mathematics are not substances in a higher degree than bodies are, and...they are not prior to sensibles in being, but only in definition, and...they cannot exist somewhere apart. But since it is not possible for them to exist in sensibles either, it is plain that they either do not exist at all, or exist in a special sense, and therefore do not 'exist' without qualification." Metaphysica XIII.ii 1077b. Aristotle goes into this at some length, Meta. II.ii 998a.

25. Aristotle, op.cit., I.viii 989b-990a. "The Pythagoreans," Bundy observes, "...identifies reality with that which could be perceived by the senses." "The Theory of Imagination in Classical and Mediaeval Thought", pp. 196-7. Univ. of Ill. Studies in Lang. and Liter., XII.ii-iii.

26. St Augustine, de Civitate Dei viii. 2. As Gilson very fittingly remarks in another context: "The philosopher cannot be separated from the man and we shall know the man only insofar as we know what idea he had of the form of life which

was in his eyes the highest form." The Philosophy of St Bonaventure, pg. 40. The history of the term philosopher is interesting and may not be thus traceable directly to Pythagoras. What interests us is that, thanks partly at least to his influence, the attitude of philosophy as discipline and a life is from now on to be remarked in those who have made genuine contributions to the history of the mind.

Chapter IV: The Eleatic Philosophers.

Though it cannot, strictly speaking, be said that the school of Elea founded metaphysics, since it failed to keep a firm grasp of the truth, it must receive the credit of having raised Greek Thought to the metaphysical level and attained the necessary degree of abstraction.¹

Xenophanes.

With the widely travelled Xenophanes of Colophon there begins the so-called Eleatic School, which was to take a stand the very opposite of that defended by Heraclitus of Ephesus, a new stand which, both in itself and by reason of this opposition, was powerfully to influence the development of philosophy.

The life of Xenophanes covered a long span, and, while he could speak of Pythagoras as one in the past,² Heraclitus was in turn to speak of him as of one whom much learning had not brought to understanding.³ According to Theophrastus, he had been the disciple of Anaximander the Milesian,⁴ and Sotion has recorded that he was a contemporary of that early physiologist.⁵

Apparently driven from Ionia by the Medic irruptions, he visited many different parts of the Hellenic world and must in this way have had a widely diversified experience in the course of seven decades.⁶ It is not altogether certain that he ever happened upon Elea in the course of his wanderings. At any rate, if he was still engaged in his travels at the age of ninety-two, he can hardly have settled there.⁷ No matter where his journeys took him, he appears to have kept up the usage of his native land, by composing and reciting at dinner parties in elegiac and satiric vein. As we have noticed, it was by now customary for a thinker to write a book Concerning Nature, but the available evidence does not show with clarity whether he followed the fashion or not. "It is more probable that Xenophanes expressed such scientific opinions as he had incidentally in his satires."⁸

The great questions of human life seem to have interested him quite a little, and he was really concerned with attaining to a correct idea of the divine. The sentiments of the poets in this respect he found unsatisfactory and reprehensible, for "Homer and Hesiod have ascribed to the gods all things that are a shame and disgrace among mortals, stealings and adulteries and deceivings of one another."⁹ His objections along this line manifest for one thing the independence which rational speculation was now assuming in relation to the ancient myths; such speculation was itself fortified by a sound tradition reaching back to Thales. "Chez lui se précise une idée..., l'incompati-

bilité de la raison humaine, mûrie par la science et par l'expérience, avec les images traditionnelles du mythe."¹⁰

As it seems, Xenophanes was also the first to advance the One when he wished to make an explanation of the universe. It is quite possible that he was influenced in the beginning by the unbounded which his master, Anaximander, had proposed as the universal principle. Such an idea might well have made a special appeal to a man who was so profoundly concerned with the purity of being:

Instead, however, of attempting to supplement and perfect this conception by uniting it with its opposite, the Finite, as the Pythagoreans had done, he lifted it above all opposition and held (more or less unconsciously perhaps) the real infinite to be not existent in or for anything other than itself, but existent in and for itself.¹¹

The doctrine of Xenophanes is not always easy to make out; indeed, he does not appear to have grasped the complete significance of the One, or the way in which it is all things. Aristotle has stated that, whereas Parmenides considered the One as such in definition and accordingly as limited, and whereas Melissus maintained it to be such in matter and accordingly unlimited, the man who initiated this way of thinking was none too explicit.¹²

The One, which the world is, he moreover identified with the God, whose being he has been so careful to preserve from poetic misconceptions. It may be that "mortals deem that the gods are begotten as they are, and have clothes like theirs, and voice and form",¹³ but the truth of the matter is that what is divine is quite different from the mortal things of our experience, and is repugnant to the anthropomorphic crudities prevalent in popular and literary fancy. For there is "one god, the greatest among gods and men, neither in form like unto mortals nor in thought".¹⁴ It is an interesting viewpoint and a sign of hope for the future that this man, whose reason was being emancipated from idolatry, should thus insist upon the special character and the universality of the divine being.

Of course, inasmuch as this one god sees, thinks and hears all over (admittedly a rather crude way of putting it, which tends to bear out the contention of Aristotle that the god was the material world), it follows that "without toil he swayeth all things by the thought of his mind".¹⁵ This god would be somewhat of a sentient being, therefore, and would particularly be marked by his greatness of thought; in view of Xenophanes' inconsistent expressions, just what this implied is not altogether plain. It might be taken to mean that the universe depends in an important way upon an intelligence of some sort; such is not by any means explicit, but it may have furnished some food for profitable thought, and may adumbrate the work of Anaxagoras.

If we would want to regard him as being the first monotheist, we would have to be careful to understand the sense in which he might merit that title. It is easy to see wherein his stress on a divine unity and a divine dominance by "thought" would hold promise for the future, but the fact remains that Aristotle, the indefatigable searcher after evidences of metaphysics, to whom the notion of one living God and its traces meant so much, "While warmly acknowledging the anticipations of Anaxagoras", "nowhere speaks of Xenophanes. The latter might be called a pantheist, were it not that Pantheism belongs to a much later stage of speculation."¹⁶

He was a monotheist insofar as he disliked the idea of many gods in the traditional acceptation and as he spoke of one god, which he seems to have understood as being the universe. Whatever influence his thought or language may have exercised on the development of monotheism in the sense of the metaphysic of the Schools, he was not properly a representative of the tradition.

Of this god, the world, he tells us that it is true "he abideth ever in the self-same place, moving not at all; not doth it befit him to go about now hither now thither".¹⁷ This entailed the admission by Xenophanes of the unchangeable character of the world. It has been suggested that "world and God to Xenophanes are identical, and all the single things of perception lose themselves in that one, unchanging, universal essence".¹⁸ There may be a case for this in logic, but it does not seem that this philosopher consistently maintained such a view in all its strictness. He did argue the immutability of his god and accordingly of the universe, but in other places he will speak of the parts of the universe as being subjected to change. Probably under the influence of the Milesian physics, he says: "All things are earth and water that come into being and grow";¹⁹ indeed, he becomes more specific in stating that "all things come from the earth and in earth all things end".²⁰

From these indications it may be gathered that he believed in the unchangeableness of the universe taken as a whole, while allowing for the co-existence of changing parts. Just how this would obtain in his system is not now evident and it is possible that Xenophanes did not recognise the incompatibility of his universal principle with the individual changes. Or, it might be that the later shifts of Empedocles and Anaxagoras to reconcile the Eleatic being with change are reflections of this primitive monism.²¹

Consensus videatur esse, quod Xenophanes docuerit quidem, totum universum esse immutabile, quatenus semper fuerit et sic non sit factum, simul tamen cum immobilitate hoc sensu intellecta nondum rigorosam docuisse immutabilitatem partium universi.²²

What with his references to water and earth and comings

into being and passings out thereof, he can hardly have made an open denial of the sensible world itself. At the same time, however, his eloquent emphasis on that one being, which is at once God and the world, does not leave to the world of our ordinary experience any reality in itself, for all such is properly the One's. Even if he were not fully aware of this, he was to have followers who would work out the logic of his system.

Xenophanes did speak of various phenomena as "all of them that are visible for mortals to behold",²³; as it seems, therefore, "in the science of Physics, Xenophanes advocates empirical knowledge, which, however, he holds to be merely opinion and to be unworthy of entire confidence".²⁴ Indeed there is apparent in several of the fragments a certain disposition to doubt of man's powers of attaining the truth. This is somewhat surprising, for, despite his own emphasis on the one, he was not willing to be certain even as to his own opinions. The situation is a difficult one: he has constructed a system which, in the final analysis, leaves no room for the data of ordinary experience and makes a large place for the thinking One, and yet he says: "Let these be taken as fancies something like the truth".²⁵

Maintaining, then, that the mass of things will fall short of our powers, he was not disturbed to hear Empedocles avow that it was impossible to discover a wise man. "Naturally," he replied, "for it takes a wise man to recognise a wise man",²⁶ and there are none who could be found or who could find them. He quite definitely excludes the possibility that there could be a man who might attain to wisdom; even if someone should somehow happen upon the truth, he would be unable to recognise it:

There never was nor will be a man who has certain knowledge about the gods and about all the things I speak of. Even if he should chance to say the complete truth, yet he himself knows not that it is so. But all may have their fancy.²⁷

His doctrine thus presents rather a confusing picture. At one time, he will discuss the generation of things out of earth and water, and their corruption into earth once more, and at another he will defend the immutable unity of nature, and finally he declares that man should remain content with whatever strikes his fancy. Very probably he was sincere and doing his best to be helpful, as his religious spirit would suggest, but it is at best difficult to reconcile his various opinions. Coming as early as he did in the search after the one behind the many, he was so impressed by phases of both that he could not effect their integration, although he leaned to the side of unity.

All of these are more or less intelligible if we assume that the distinction between real existence (the One) and apparent or unreal existence

(the Many) was approached, however vaguely, by Xenophanes. But all this leaves in the dark what exactly is to be understood²⁸ by the 'One God', the 'One Real Existence'.

The explanation has been advanced that Xenophanes maintained that the sensible world, far from enjoying any reality in itself, had its reality only in and for the mind of man. This would appear somewhat credible, in view of the fact that he allowed for fancies; if accepted, it leaves him logically, if not avowedly a subjectivist. For, granting him such a point of view, it would follow that "this (sensible) form of existence has no existence in and for itself, no existence irrespective of the mind and the senses of man, no existence at all resembling that which must be conceded to the One, the permanent and the real; but an existence in all respects the opposite of this, and therefore an existence in all respects unreal and untrue".²⁹

Such an exposition may be carrying the system out a little farther than Xenophanes himself did, but it is important to note that it is susceptible of this interpretation, that it is in contradiction with the facts of experience, and that at the same time it hesitates to affirm our possession of wisdom, the knowledge of the One. We may well believe that the failure of Xenophanes to come to a decisive answer to the questions that he raised with respect to the One and the many prepared the way for the sceptical attitude which was soon to develop and to play a considerable part in the history of philosophy.

All his knowledge enabled him only to know how little he knew... And it was the cry of despair which escaped from Xenophanes, the cry that nothing can be certainly known, which first called men's attention to the nothingness of knowledge, as knowledge was then conceived.³⁰

In some ways, of course, it was a good thing to have so sincere a lover of the truth jolt the Hellenes out of their complacency in the usually accepted and usually faulty ways of striving after that desired object.

Even though we may also have to admit the rather unhealthy tendencies of his doubt and the bad influence which it was to exercise, we should not be led into thinking that he was himself what we know as a sceptic.³¹ At least, his was not a systematic (sic) skepticism, for he was probably too earnest to hold that all things were entirely beyond the hope of man's reach through knowledge. One passage may support an extreme interpretation, but it is also possible and, perhaps, preferable to read in it the expression of discouragement or even of bafflement; unable to be certain as to the absolute value of the knowledge which he had acquired, he felt that he could but try his best and consider his opinions or fancies as likely.

Such an attitude may be all too easy to pervert, but it hardly constitutes the formal scepticism of which we have later examples. It does not grow out of a direct study of the nature of the mind and the sources of knowledge, but rather develops as a result of the perplexities which confront the early philosopher, who is constantly finding new aspects of the truth and cannot as yet harmonise them. With Xenophanes, his many travels, his reading of the erroneous poets, his studies under Anaximander (whom Anaximenes so soon corrected), his contact with other philosophic influences, and his widespread associations with all sorts of men and schools would have brought him up against many sides of truth which he could not with his limited resources organise in a balanced whole.

Whenever he obtained, or thought he obtained, a glimpse of her (i.e., Truth's) celestial countenance, he proclaimed his discovery, however it might contradict what he had before announced. (It (his noble, rather touching kind of scepticism) was the combat of contradictory opinions in his mind, rather than disdain of knowledge. His faith was steady, his opinions vacillating. He had a profound conviction of the existence of an eternal, all-wise, infinite Being; but this belief he was unable to reduce to a consistent formula.)³³

He wanted very much for knowledge to mean something to him, but he could not see how he might bring this to pass. Nonetheless, he put forth valiant efforts and offered suggestions which were to stimulate others to find the answer and, by so doing, to dispel the doubt which he had also occasioned.

Further, with his rigorous insistence on the One Being and on its special characteristics, he did much to bring men to a consideration of the comparative unreality of the changing things whereby they are surrounded and to seek only the Unchanging One. It was unfortunate that in this he tended to deny any reality to the world of our every-day experience and value to our proper knowledge.³⁴

Thus, he achieved a place in history as the founder, at least in spirit, of a new philosophic school, which, under the name of the Eleatics, was to uphold the immutability and unity of the world. As Aristotle could see, he was confused in his discussion of that unity and was far from satisfactory in his handling of the question of immutability.

Universum enim non est simpliciter unum
ens, unitate nempe numerica, quod ceteroquin
nec Xenophanes iam asseruit, sed est solum unum
per accidens, compositum ex pluribus entibus re
distinctis, in quibus viget unitas ordinis,
originis, finis. Et alia assertio, totum uni-

versum esse immutabile, quatenus non potuisset produci, etiam non est accurata, cum distinctio universi a deo et possibilitas creationis non in considerationem adducantur, quae omissio facilius intelligi potest, cum isti duo conceptus tunc temporis in philosophia nondum haberentur. 35

Apart from his traces of pantheism, he is often excellent in his assaults upon the crude polytheism of his times and in professing the unity, supremacy, perfections and immutability of his God: "One God, the greatest among gods and men, neither in form like unto mortals nor in thought... He sees all over, thinks all over, and hears all over... But without toil he swayeth all things by the thought of his mind... And he abideth ever in the self-same place, moving not at all." 36
There is still a long way to go, but men have at least been told to look upon God as a most exalted being, whose perfections are always His and who, let us again mark the suggestion, governs by his thought.

Unitatem dei strenue defendit et sic polytheismum impugnat... Splendida sunt plura capita ejus de Deo... Et praeclara etiam est ulterior probatio pro unitate dei desumpta ex perfectione divina. His pro doctrinis meretur sinceram gratiam philosophiae christianae, quae omnes illas fundamentales veritates in suum thesaurum recepit. 37

Up to the time of Xenophanes and Heraclitus, the Hellenic philosophers had been interested in accounting for the cosmic process and in discovering that one reality in terms of which their whole schemes would take on meaning. So it was with Thales and his water, Anaximander and his Infinite, Anaximenes and his air. But now, there is observable a tendency to stress the one and subordinate the other, to hold to process or principle and let the other go by. Hence, Xenophanes has said that there is indeed one permanent being and that change is difficult - Parmenides will say it is impossible - to bring into harmony with this postulate; on the other hand, Heraclitus declared that the ceaseless change of the world process is the One. Both theories are contradictory, not only mutually, but of the fundamental facts of experience, which reveal the One as implicit in the Many for the reason of the existence of which it is necessary.

The more difficult their reconciliation appeared, the more conceivable is it that the young science, at whose command there was as yet no wealth of mediating data, should fall upon the expedient of thinking out each motif by itself without regard for the other. 38

The way was to be along, hard one before such a 'reconciliated solution' was reached, and knowledge was to be called seriously into question during the interval. Yet Xenophanes as well as Heraclitus made his contribution to the good work, and stirred others with a richer background and a greater talent to its further prosecution. We may say of him that "he is mainly significant on the one hand as exemplifying the growth and extension of the habit of critical reflection, and on the other because of the emphasis he laid on the unity of existence". After all, whatever doubts he may have entertained at times, he had a deep faith in man's power when rightly orientated towards the gods and left one word of hope, saying that "the gods have not revealed all things to men from the beginning, but by seeking they find in time what is better".⁴⁰

Parmenides.

The doctrine of Monism in Greek philosophy is to be found more fully developed in Parmenides of Elea, who, if we may credit one tradition, was the disciple of Xenophanes the wanderer.⁴¹ In view of the fact that the older man did spend so much of his time in travelling about the Hellenic world, we cannot be altogether certain as to the nature or extent of any influence of his,⁴² but there is evidence that Parmenides was in his early life associated with the Pythagoreans, who won him to a life of studies from a career in politics, and, moreover, that he later turned away from their school to cultivate the philosophy now forever bound up with his name. It may well be that he entered upon this last course at the instance of Xenophanes,⁴³ whose views were to find many an echo in the work of the younger man.

Xenophanes, said Aristotle, looked into broad heavens and asserted that unity is God. His younger contemporary, Parmenides of Elea, envisaged the same doctrine, not with the eyes of a religious reformer and ethical poet, but of one who deals with a distinctly metaphysical conception.⁴⁴

As his search under various auspices after an acceptable philosophy would argue, he was quite interested in discovering the means of arrival at the truth and in calling them to the attention of his fellows. When he had found an answer to his liking, he set it forth in a poem, entitled, according to the fashion, Concerning Nature. Therein he depicts truth as indicating to him the two paths of knowledge which are open to men. One of these will bring those who choose to follow it to the knowledge of the truth; the other leads to the knowledge - if such it can be called - of the opinions of men. He accordingly proceeds to deal first with 'metaphysics' and

after that takes up a cosmology of the realm of appearances, at the start of which he warns the reader: "Here shall I close my trustworthy speech and thought about the truth. Henceforward learn the beliefs of mortals, giving ear to the deceptive ordering of my words".⁴⁵ At least, there was something which could in some sense be regarded as trustworthy.

For it is his contention that the Truth is to be found in the knowledge that being is, and that not-being, far from existing, cannot even be conceived. This is the account which Truth itself makes to him.

Come now, I will tell thee - and do thou hearken to my saying and carry it away - the only two ways of search that can be thought of. The first, namely, that it is, and that it is impossible for it not to be, is the way of belief, for truth is its companion. The other, namely, that it is not, and that it must needs not be, -- that, I tell thee, is a path that none can learn of at all. For thou canst not know what is not -- that is impossible, nor utter it; for it is the same thing that can be thought and that can be.⁴⁶

That which he insists upon is a profound and stimulant Truth, and his approach marks an advance over Xenophanes by reason of its definite and original character as well as by the fact that it is founded upon the concept of being. Where the older philosopher had made some important suggestions, the Eleatic came to conceive being itself in an abstract manner and to assign, by a dialectical reference made a priori, the attributes of being so conceived to things themselves.⁴⁷

If men hold such beliefs as he proposed, they can hardly escape the conclusion that being is the concept of being, that these make but one. It will accordingly make but little difference at which aspect they begin their enquiries in the pursuit of truth: "It is all one to me where I begin; for I shall come back again there".⁴⁸ The students will always come to the same conclusion, inasmuch as "now it is, all at once, a continuous one".⁴⁹ Parmenides is very definite on this point and on several occasions repeats his belief that thought and the one being are the same.

The thing that can be thought and that for the sake of which the thought exists is the same; for you cannot find thought without something that is, as to which it is uttered. And there is not, and never shall be, anything besides what is, since fate has chained it so as to be whole and immovable. Wherefore all these things are but names which mortals have given, believing them to be true -- coming

into being and passing away, being and not-being, change of place and alteration of bright colors.⁵⁰

In this brief compass we can find most of what was significant in his teachings, whether of great value for the development of a metaphysic or what was to prove all but ruinous to philosophy.

It was, first of all, a good thing that a philosopher should at last lay such forcible stress on the intimate relation which obtains between thought and being, and upon their ultimate union. Parmenides, in fact, had formulated the notion of being, and he was intoxicated by it. With him, philosophers come to recognise that the proper object of their studies is being itself.

The experience was too intoxicating and at first swept men away, leading them, as in the case of Parmenides, to deny in its holy name all that contradicted the Being. It was a sound attitude in many ways, but danger lay in the fact that men were as yet so dazzled by the brilliance of that idea that they were unable to conceive it perfectly. Hence, their profound respect for being was to induce them to deny the existence of beings, and so to contradict the primary data of experience.

Truth belongs entirely to thought. As being alone is thinkable, so also that alone which is thinkable and is thought is Being. The senses do not bring us truth. They only deceive us, and it is precisely this deception of the senses which seduces men into the belief in, and the graceful tricks of speech about the multiplicity and the changes of things.⁵¹

The first advocates of 'being' were moreover involved in unfortunate misconceptions as to the real nature of that being which would fulfill the definitions that they sought to apply to all that is. Their unchanging One may seem to be like God, but in the Parmenidean system taken as a whole it appears as material and limited.⁵² It is chained to its condition of stability by fate, which in this way banishes the deceits of change.

Moreover, it is immutable in the bonds of mighty chains, without beginning and without end; since coming into being and passing away have been driven afar, and true belief has cast them away. It is the same, and it rests in the self-same place, abiding in itself. And thus it remaineth constant in its place, for hard necessity keeps it in the bonds of limit that holds it fast on every

side. Wherefore it is not permitted to what is to be infinite; for it is in need of nothing; while, if it were infinite, it would stand in need of everything.⁵³

These views on the subject may seem strange to us and not free of contradictions, but to Parmenides it appeared that, since the perfection of existence is indeed here found always in a limited measure, the Being must also be limited. To the Greek mind in general measure and proportion, the imposition of seemingly limit was requisite to genuine perfection. Parmenides involved himself in some difficulties by speaking of Being as without beginning or end, which may refer to its spherical shape. Again, that which is is held fast by the hard necessity of -- what?, for there is nothing but that which is and nothing could thus institute itself in being. Very likely his trouble lay in a materialism which prevented him from seeing that form, the perfective element in this order, is not restricted as such, while it is the perfection of matter to be limited by the form. At the same time, the matter contracts the form without thereby enhancing its intrinsic value.

On the terms of Parmenides, there is no room for anything beside his Being. Since nothing simply is not, It could not derive thence, nor on the other hand could it come from something, inasmuch as It is Itself all. On the same terms, it cannot be either more or less, for that would entail the change which the believer will reject at the start. In a continuous and indivisible world-plenum, there will be as much here as there is there. If It is regarded as thus complete, It will not move, for it has no place in which to move.⁵⁴ Since, then, It has no call for indefinite extension in a space in a space that he has ruled out, its finite and everywhere equal being will assume a spherical shape.⁵⁵

Since, then, it has a furthest limit, it is complete on every side, like the mass of a rounded sphere, equally poised from the center in every direction; for it cannot be greater or smaller in one place than in another. For there is no nothing that could keep it from reaching out equally, nor can aught that is be more here and less there than what is, since it is all inviolable. For the point from which it is equal in every direction tends equally to the limits.⁵⁶

Much like Spinoza, Parmenides held, in effect, that the concept of being is univocal and argued from this to the unicity of being and substance alike. Taking as his principle that bare statement, that being is one, and noting that there is nothing beside being, he contended that it was impossible for being to be diversified, whether by itself or by something else. In the Thomistic interpretation, his line of reasoning might be ex-

pressed in a syllogism like the following:

A thing that is simple cannot be diversified by itself, but only by something other than itself. Now being as such is simple; and what is not being is nothing. Therefore, being cannot be diversified, and so there is only one being.⁵⁷

Inasmuch as the modes by which differences might be introduced are thus all extrinsic to that simple being which is all, they are nothing and avail nothing.

A reply on the basis of our principles is fairly clear to see, and all the more appropriate since the difficulties which such a monist viewpoint provoked helped to bring it forth. Being, as we are now aware, is analogous, and possessed only of the unity of proportion.⁵⁸ This obtains as in the case of such a word as "Know", which may stand for sense perception in relation to the sensible object or for intellectual perception in relation to the intelligible object. The proper method of procedure, therefore, is to speak of being analogice.

Hujus autem praedicationis duplex est modus. Unus quo aliquid praedicatur de duobus per respectum ad aliquod tertium, sicut ens de qualitate et quantitate per respectum ad substantiam. Alius modus est quo aliquid praedicatur de duobus per respectum unius ad alterum, sicut ens de substantia et quantitate. In primo autem modo praedicationis oportet esse aliquid prius duobus, sicut substantia ad quantitatem et qualitatem; in secundo autem non, sed necesse est unum esse prius altero.⁵⁹

Parmenides came a little too early to appreciate the fact that being, even as such, will contain actually and implicitly the several modes of its diversification. We may predicate Being with analogous meanings not only of God, the Pure Act, Who is Being, par excellence, but also of potency and act, and of those being which are composite of the potential and the actual. We can escape the monism of Parmenides if we see being thus as analogous rather than as univocal, and it was their inability to appreciate this point that caused the failure of the Eleatics:

In hoc decipiebantur, quia utebantur ente quasi una ratione et una natura sicut natura est alicujus generis; hoc enim est impossibile. Ens enim non est genus, sed multipliciter dicitur de diversis. Et ideo in primo Physicorum dicitur quod haec est falsa, -ens est unum; non enim habet unam naturam sicut unum genus vel una species.⁶⁰

Obsessed as he was with the notion of being, Parmenides was quick to utilise its first principles of identity and of contradiction in behalf of the One. As he saw it, Being cannot come from being, for that which becomes does not yet exist, whereas the being simply is.⁶¹ Neither can it come from that which does not exist: *ex nihilo nihil fit*. "The limitation, diversity and multiplicity in beings cannot evidently be explained by being itself, nor by a principle foreign to it, for apart from being, there is only non-being, and non-being is nothingness. There is only one existing substance, and a second substance is absolutely impossible of realisation."⁶² If we read the principle of contradiction in this way: "It is impossible for a thing to be and not to be at the same time", if we take being to mean only that which is being in act or which is altogether act, we can not well fail to agree with the Eleatics. In such a case, only that which enjoys actual existence would be, and the gulf between it and simple non-being could never be bridged.

Even if we confine our attention to sensible movement, it is plain that such motion, even if it be only accidental, supposes passivity in the movable object. Now, this passivity will in turn presuppose the pure potency of prime matter.⁶³

*Unde eam qui negat, negare debet in corporibus omnem passivitatem, et considerare, ut Parmenides, omne ens corporeum, velut totum actum, in sua essentia. Tunc, iuxta illud dilemma, nulla mutatio intrinseca est possibilis. Simili modo demonstratur impossibilitas multiplicationis corporum. Ergo ens corporeum est unum tantum et omnino immobile. Possuntne dari maiora absurda?*⁶⁴

We need not enter here too deeply into the ontology underlying our view. The answer of the Schools is well known, and so far conclusive. It was first clearly advanced by Aristotle, whose solution consisted fundamentally in discriminating between act and potency.⁶⁵

It is impossible that a thing may be capable of being and not be, and capable of not being and yet be, and similarly with the other kinds of predicate... And a thing is capable of doing something if there will be nothing impossible in its having the actuality of that of which it is said to have the capacity...; if it is capable of being moved or moving, or of being or coming to be, or of not being or not coming to be.⁶⁶

Following these lines of thought, we may readily account for becoming, inasmuch as something comes to be from that which is

in potency to actual existence; the potential is not simply nothing, nor does it yet enjoy the fulness of being. Hence, it is neither repugnant to existence, as nothing is, nor yet does it entail the difficulties which the supposition that things come from the actual, as seen in many early systems, would bring on.

On the same grounds we can, without doing violence to being, allow for the multiplicity of beings. If he had done nothing else than to force the solution of this question, Parmenides would have won a certain place in the history of philosophy. For, with Aristotle and St Thomas, we may now see that when something comes from potency to be in act, there is still a real potency underlying the act received; the form will be received and limited by the matter so long as it abides there. "This ^{same} numerically one form is no longer susceptible of participation, although a form in every respect like it can be produced in other matter of this kind." ⁶⁷ As St Thomas puts it:

Formae, quae sunt receptibiles in materia, individuuntur per materiam, quae non potest esse in alio, cum sit primum objectum substans: forma vero, quantum est de se, nisi aliquid aliud impediatur, recipi potest a pluribus. ⁶⁸

Now that a metaphysic of sorts had appeared upon the scene, philosophic attention was henceforward to be directed to the study of being itself and its first principles. It is significant, therefore, that the pioneering Parmenides should have laid such emphasis on being as that unity which all should seek, on thought as the means to the same unity, and on the principle of contradiction. With Heraclitus openly flaunting that principle, Parmenides was rendering men a genuine service by his repeated insistence on its value and on the need to observe it at all times.

His respect for it, true enough, was a little unbalanced, precisely because he had not formulated it correctly. Since the time of Aristotle, the representatives of the perennial tradition have seen clearly enough that it should read, in full, as follows: "It is impossible for a thing to be and not to be at the same time and in the same respect. Coming as early as he did, Parmenides left out that important latter portion, and spoke of being and non-being in terms of actually existing being as opposed to nothing at all. The recognition of potency, of that which has the capacity for existence, as being in some respect resolved that difficulty. Without working injury to the inviolable sanctity of being, the Peripatetic was able to bring the principle of contradiction into harmony with our sense experience of beings. We are as fervently in favor of the principles of contradiction and identity as was Parmenides himself, but we are fortunate in having a better understanding of them, in terms of analogous being.

En vertu du caractère essentiellement et

d'emblée analogue de l'objet suruniversel sur lequel il porte, l'axiome d'identité est en même temps l'axiome des irréductibles diversités de l'être; si chaque être est ce qu'il est, il n'est pas ce que sont les autres. C'est ce que ne voient pas les philosophes qui, à la suite de Parménide, demandent à ce principe de tout ramener à l'un absolu.⁶⁹

As Maritain is careful to point out, this principle of identity acts rather as the guardian of that multiplicity whereof we are all aware. This it does precisely because it maintains the identity of each being. If our reason, while explaining things in the light of the first principles, must turn to the One Being, it does so because the nature of the things themselves requires that such be done if they are to be explained. "Et s'il (l'axiome d'identité) oblige l'intelligence à affirmer l'Un transcendant, c'est que cette multiplicité l'exige elle-même pour sauver son existence."⁷⁰

The remainder of our critique of Parmenides may now be seen with clarity and ease. He presented men with the choice between being and non-being, which he declared to be mutually exclusive and with no middle ground. Since there is no non-being left to contaminate the One, indivisible and immutable being, our thought, which conceives the truth of this being, is, thanks to the all-pervading unity, the same with the being. Even though our sense-presentations may seem to break down that unity, all such is but illusion and the subject of that opinion which we were taught to eschew from the first.

The truth about what is can only be reached by thinking, and anything that contradicts the results of thought must be untrue. The world as it seems to us in our everyday experience does contradict the results of thought. It tells us that what is changes, while thought tells us that what is cannot change. The ordinary world, then, is unreal: we cannot know anything about it; for all that can be known is simply what can be thought out as to the nature of what is.⁷¹

Our thought must be one with the being, for only that one is, and all else is not-being. "There is not even opposed to it a thinking reason to which it would stand in the relation of object; for that which thinks and that which is thought are one, Being is Reason, and thought has being for its attribute."⁷² It is certainly monist in approach.

Truth itself leaves its hearer in no doubt as to the need there is for abandoning the way of opinion and the senses.

But do thou restrain thy thought from this way of enquiry, nor let habit by its much experi-

ence force thee to cast upon this way a wandering eye or sounding ear or tongue; but judge by argument the much disputed proof uttered by me. There is only one way left that can be spoken of.⁷³

Where Heraclitus had objected to the sensible illusion of a permanent being, which should be taken only as the constantly changing Fire, with its measures kindling and going out in a regular manner, Parmenides was exercised at the sensible reports of becoming and would allow only the One.⁷⁴ In spite of their different motives, they were at one in attacking the foundations of all human knowledge. We may regret the error of Parmenides all the more because he had caught a glimpse of being, and did not know what to make of it. Instead of constructing a proper metaphysic, he plunged into a materialist monism which was all the worse because he did have some of the truth with which to attract men into following him against the dictates of nature itself.

We should not conclude rashly that Parmenides, when he denied reality to the world of ordinary experience and when he declared that the real abides always by itself, unattainable for the senses, was actuated by what might now be called idealist motives. If anything, the case is rather the contrary, for his expressions, many of which we have seen, would show that for him the real is the material, conceived in a more abstract manner than before, but material all the same.⁷⁵

Despite his high regard for the value of thought, he never reached a proper knowledge of the intelligence as such. How, indeed, would that have been possible, if everything was a material unity? The Eleatics did well to speak as they did of thought, but the full import of their words was, to all appearances, lost upon them, and they remained on a plane of material monism. They were probably not materialists, in the later sense of being avowed enemies of the spiritual, but they were nonetheless caught in the logic of their systems (a point which was to become very important in the hands of Zeno, this logic), which could have no place for the intelligence properly speaking.

Dans l'objet, ils sacrifient la multiplieité; leur métaphysique est un monisme de l'"être"; dans le sujet connaissant, ils dénie toute valeur objective au sens, faculté du multiple: leur épistémologie est un réalisme de l'intelligence pure. Ou plutôt...les Éléates ne possèdent point encore une notion parfaitement définie de l'intelligence pure; si l'intelligence est pour eux la faculté de l'"être", l'"être" représente, à leurs yeux, le "plein", c'est-à-dire une réalité astreinte à remplir l'espace. Leur être, unité abstraite des choses extérieures,

demeure immanent à celles-ci et prisonnier des conditions générales de la quantité.⁷⁶

When men are told, even in rather a crude fashion, that all thinking will produce a thought identical with its being, inasmuch as there is nothing outside of it, they are bound to ponder the problems which such a statement creates, and there is a greater likelihood of their coming earlier to a correct solution.

Now, Xenophanes had said that the divine world thought all over; Heraclitus looked upon the reason as a spark of the ever-living Fire, a spark which could "recognise" its source; "Parmenides moves on the same lines as his predecessors, but goes a step beyond them. According to him, mind and its object are not merely akin; they are the same."⁷⁷ For, if thought, which is the way to truth, discovers that it is undifferentiated, then the world and reason must be completely assimilated.

In our present explanations of knowledge, we of course maintain that knowledge consists in the union of the knower with the known, of the intellect with the intelligible object, thanks to the information of the intellect by the same form which, in the ontological order, actuates the thing and is now received intentionally, in another mode of being.⁷⁸ There is, then, a vein of wonderful truth in this Parmenidean theory as to the union between thought and being, but he carries it too far and destroys all possibility of distinction between the thinking subject and the known object: all is one.

Au début l'esprit s'y porte d'un effort trop massif. Sous prétexte qu'entre l'être et la pensée vraie il n'y a pas d'écart, il va affirmer tout uniment une identité absolue entre l'être et la pensée. C'est ce que disait Parménide, l'antique et vénérable père des métaphysiciens: "La pensée, et ce dont il y a pensée, c'est tout un..." Saintes et damnables paroles, pleines de sagesse et de folie. Ce que je pense quand je dis vrai, c'est la chose même, ou tout au moins une sorte de décalque qui coïncide de toutes manières avec la chose, et toutes les conditions de l'une sont les conditions de l'autre.⁷⁹

As it turned out, men were not willing to go all the way with Parmenides. When man knows, there must be some sort of union between the knower and what he knows, but it did not seem altogether necessary that this should make the soul absolutely and in every respect to be identical with what it knows: - that a man in knowing a tree should become a tree simply and entirely.

On the other hand, it was seen, if there were produced no identity at all between the knower and the object, then man

would through knowledge arrive merely at some resemblance of being, rather than at being itself. This would provoke further questions as to the reality of a resemblance effected in this way, and so on.

Thus, it would not do simply to reject the theory of Parmenides, for such a course would in the long run entail difficulties as embarrassing as those which were caused by the failure of the Eleatic to grasp his principles aright. What had to be done was for philosophers to take his principles and to refine them with care, to retain the identity of thought and being in the act of knowledge, while allowing a distinction of some sort to obtain between them, "de façon à discerner certaines conditions propres à l'une et certaines conditions propres à l'autre, et à distinguer dans ma pensée ce qui est des choses mêmes et ce qui est de ma manière de connaître."⁸⁰

In fine, the distinction to be made is between things themselves and their modes of existence. It has accordingly been found that a thing has an ontological mode of existence, in itself as a physical object, and an "intentional" mode of existence, in the knower. The form of the object is received in the senses and as a result of its existence in this intentional manner there is formed the phantasm, from which the acting intellect abstracts the form, and renders it immaterial and, as such, intelligible; precisely insofar as it is intelligible it exists as the form of the possible intellect.

Similitudo rei visibilis est, secundum quam visus videt; et similitudo rei intellectae, quae est species intelligibilis, est forma secundum quam intellectus intelligit... Secundum doctrinam Aristotelis (lib. 3 de Anima tex. 38.) qui dicit, quod lapis non est in anima, sequetur, quod anima per species intelligibiles cognoscat res quae sunt extra animam.⁸¹

For, as St Thomas is fond of pointing out when he treats of the intellect, "proprium ejus est cognoscere formam, in materia quidem corporali existentem, non tamen prout est in tali materia".⁸² The form of the being is released from material conditions by the acting intellect and can thus be the form of an intellect. It is the form which makes a thing to be what it is; accordingly, the thing itself comes to be identical with the intellect which has its form also, enjoying through abstraction this other, intentional mode of existence. This is in addition to its physical mode, which knowledge as such does not affect, for in knowing we receive the form of another as that other's.

This is an important point. When the form of the object known comes to have this immaterial existence in the knower, it does not enter with the knower into the relation which obtains between the form of a composite substance and its subject matter. Rather it is freed from the material precisely in respect of those conditions which matter imposes on it when they are joined to constitute a being in the concrete, condi-

ditions which confine the form while it perfects the matter and makes with it a tertium quid. If we see this, we can appreciate and purify the Parmenidean teaching on the unity of being and thought: Knowledge obtains through a real existence of the form, and so of the being, in the knower, but not a physical existence.⁸³ Once we recognise this disjunction of thought and being, a disjunction which is necessary as a concomitant of truly intellectual knowledge, and once we have rightly defined the identity in question, the difficulties of Eleatic monism are largely dispelled. We have taken the principle of Parmenides himself, namely, that "the thing that can be thought, and that for the sake of which the thought exists are the same",⁸⁴ and made of it a genuinely metaphysical principle.

Leur accord ne doit pas non plus être imaginé sur le modèle beaucoup trop grossier d'un décalque matériel: entre l'être et la pensée, il y a à la fois, je ne fais que l'entrevoir au terme de cette étude, identité beaucoup plus profonde et diversité plus marquée. La chose prise en tant qu'elle existe dans l'esprit souffre des conditions qu'elle n'a pas en tant qu'elle existe en elle-même. Mais au point précis où porte purement le connaître, il n'y a nulle diversité entre la connaissance et la chose, entre la pensée et l'être; si bien que le connaissant et le connu, sans que l'être propre de l'un se mêle en rien à l'être propre de l'autre, sont un et le même sous le rapport précis de l'acte de connaître.⁸⁵

It may have taken some time to work this line of thought out, but the Eleatic principle has been made a vital part of all metaphysics.

From all this, as well as from other parts of his doctrine into which we have no call to enter here,⁸⁶ we may see that Parmenides was a man of great intellectual powers. Having laid down his suppositions and followed out their consequents as he could determine them, he drew his deductions to the unique character of the absolutely immutable being. Whatever we may lay to his fault, we cannot accuse him of lacking intellectual courage, for unlike some others he was willing to accept the conclusions which he saw involved in his system. It was too bad that his talents carried him so deep into error, but at the least he stood boldly for the supremacy of being and its identity with thought: men could not soon forget that.

To put it briefly, his system, with all its stimulating features, amounts to a construction of the universe a priori from the principle, conceived in too narrow a sense, that the being is and not-being is not; too narrow, for it was taken to mean that everything which actually exists is being, and only such is being.

Est monismus suo modo mere dialecticus, nobis occurrens hic statim initio philosophiae Graecae. Ex abstracto conceptu entis desumuntur, fere omnia argumenta. Quid philosopho nostro curae est, quod suae conclusiones sint in aperta pugna cum experientia? Cognitio sensitiva externa et conscientia, nobis referentes clare pluralitatem et mutabilitatem rerum ceder debent eius ratiociniis. Non est ratio supponendi, ipsum non fuisse convictum de veritate proprii systematis.⁸⁷

Much of his language would assume a more philosophically acceptable meaning if it were applied to God, Who is indeed all Being par excellence, abiding, immutable, the very Truth.⁸⁸ Parmenides at least prepared men for thought on the existence and nature, as well as the need, of such a being.

His influence, as our later chapters will bring out, was quite considerable, both for the good and for the bad. We shall find the Atomists, for example, applying his concept of the immutable being to their intrinsically unchangeable atoms, while Plato will call him a great man and Aristotle will speak of him in generous terms:

It is just that we should be grateful, not only to those with whose views we may agree, but also to those who have expressed more superficial views; for these also have contributed something, by developing before us the powers of thought.⁸⁹

The philosophy of Monism was definitely set on its way. What was best in Parmenides was to be corrected and reintegrated by Plato and Aristotle; his errors have lived on in various schools of materialism and pantheism.

The philosophy of Parmenides was of great significance for posterity. The fundamental metaphysical opposition of being and becoming, as Heraclitus expounded it, led to the compromise systems of the 5th cent., of Empedocles, Anaxagoras, and the Atomists, who with Parmenides all denied to their basic substance an absolute becoming and passing away, but recognised in agreement with Heraclitus a relative changeableness, a combination and separation of these substances in individual things.

Furthermore, this extreme monist with this violent division of the human intellect into two opposing organs one of which is assigned a supremacy at the expense of the other, with his untanable rejection of the world of sense in favor of an abstract being only ap-

prehended by thought, paved the way for the metaphysical dualism which found its most complete expression in the Platonic theory of ideas.⁹⁰

Zeno of Elea.

With the philosophy of Monism now formulated by Parmenides, there was need for his school to undertake its propagation and defence. The most prominent figure in this work was Zeno of Elea, by report the adopted son of the master, but at least "all through a pupil of Parmenides and his bosom friend.. He was a truly noble character, both a philosopher and as politician; at all events, his extant books are brimful of intellect."⁹¹ He appears to have been a most faithful disciple and to have received the doctrine of the unity and unchangeableness of the universe without question.⁹² His approach, however, was somewhat different.

For, where his master had tried to offer direct proof of those fundamental truths of unity and immutability by arguing from the principle that the same notion of being should apply to all things univocally, the younger man sought confirmation for these teachings in an indirect manner.⁹³

As we can well imagine, the Eleatic monism provoked a number of objections as well as the charges that it involved its adherents in a series of contradictions. Zeno felt that the proof positive was already on hand, but that it would be call to the attention of these followers of the way of opinion the contradictions and antinomies which a teaching of plurality and change in things must entail. In the words which Plato has put in his mouth:

In reality, this writing is a sort of reinforcement for the argument of Parmenides against those who try to turn it into ridicule on the ground that, if reality is one, the argument becomes involved in many absurdities and contradictions. This writing argues against those who uphold a Many, and gives them back as good and better than they gave; its aim is to show that their assumption of multiplicity will be involved in still more absurdities than the assumption of unity, if it is sufficiently worked out.⁹⁴

If he was directing his arguments against those who believed in things as a many, it is likely that he had the Pythagoreans in mind. His book of defence is said to have been the work of his youth,⁹⁵ which would seem to indicate that it was written in his native Italy, where the Pythagoreans were the most likely philosophical group, if not the only one, to have indulged in considerable criticism of such a kind at that time.⁹⁶

Zeller holds, indeed, that it was merely the popular form of the belief that things are many that Zeno set himself to confute; but it is surely not true that ordinary people believe things to be a many in the sense required. Plato tells us that the premisses of Zeno's arguments were the beliefs of adversaries of Parmenides, and the postulate from which all his contradictions are derived is the view that space, and therefore body, is made up of a number of discrete units, which is just the Pythagorean doctrine.⁹⁷

This interpretation is borne out also by observations made by Simplicius.⁹⁸

Zeno thus preferred to impart the truth by means of dialectic rather than in the accustomed manner of direct exposition. Such a course of action, which he followed out rather well, may justify the report that "Aristotle says that Zeno was the inventor of dialectic, as Empedocles was of rhetoric".⁹⁹ If we may agree with Burnet when he says that dialectic "is just the art of arguing, not from true premisses, but from premisses admitted by the other side,"¹⁰⁰ we can readily see his claim to such a distinction. For it was his procedure to take as basis of discussion and argument some fundamental principle of the opponent school, such as plurality, place or motion, and to draw contradictory conclusions from it.

Leaving the realm of pure science, then, he betook himself to the ground of his adversaries, of the people who in one way or another followed along the way of opinion, and turned upon them a negative dialectic, so that he might retort upon their heads the reproaches of self-contradiction which they had cast at the Eleatics. It is necessary for us to keep his purpose clearly before our minds if we are properly to evaluate his contribution to the development of philosophy, for his significance is of a different sort than that of his master. The older man was content to insist upon the Truth; Zeno sought to show by means of a new technique how other schools were wrong. The best defense lies in a vigorous offensive.

The proof consists in showing that on the supposition of the reality of plurality one and the same thing would be definite, and yet indefinite and rests on the fact that all plurality is a definite thing, i.e. number, and yet contains an infinity, i.e. of fractions.¹⁰¹

We shall here content ourselves with a rather brief resumé of these arguments and of the answers which one may make to them on the basis of the metaphysic of the schools.

First of all, there are the proofs which he advanced against the plurality of bodies, and, indirectly therefore, on

behalf of the unity of the universe. It is his contention that if there were several bodies, these would have to be at once infinitely great and infinitely small, but such a conclusion is so repugnant to reason that men will be driven to accept the existence of the One alone. He argues that if the bodies are once divided into several, each of them can be divided still further and will at last be made up of unities. Since what is extended can still be divided and, accordingly, is not the ultimate unity, the proper unity of the extended thing would then have to be something unextended. Now the unextended is without magnitude. "Ergo etiam quaelibet multitudo unitatum inextensarum nequit totum corpus facere revera extensum et consequenter hoc esset infinite parvum vel potius sine omni vera extensione." 10

So much for the "inconvenient conclusion" of infinite smallness.

Taking up the other "inconvenient conclusion", he maintains that several bodies or extended beings clearly ought to have extension. Each body can be divided into infinite and extended parts: these parts must be extended, else they could not make up an extended body when in the whole, but the extension of infinite parts to each other will constitute an infinite magnitude. Hence, each body would, while necessarily of an infinite smallness, be possessed also of an infinite greatness.

Having first shown that "if what is had not magnitude, it would not exist at all", he proceeds: "But, if it is, then each one must necessarily have some magnitude and thickness, and must be at a certain distance from another: for it also will have magnitude and there will be a successor to it. It is the same to say this once and to say it always: for no such part will be the last nor out of relation to another. So, if there is a plurality, they must be both large and small. So small as to have no magnitude, so large as to be infinite." 103

Furthermore, if there were these several bodies, they would at once have to be finite in number and infinite in their multitude; as Simplicius remarks, there is no need for us to labor this point, since, in proving that plurality must entail this contradiction, Zeno himself states briefly:

"If things are a plurality, they must be just as many as they are, and neither more nor less. But if they are just as many as they are, they will be finite in number. If things are a plurality, they will be infinite in number. For there will always be things between any of them, and again between these yet others. And so, things are infinite in number." 104

His next argument was directed against the Pythagorean doctrine concerning space, which was an endeavor to distinguish

space from the body which occupies it. For, "if we insist that body must be in space, then we must go on to ask what space itself is in. This is areinforcement of the Parmenidean denial of the void."¹⁰⁵ We can see where the contention that all must be in something and accordingly have something beyond it would militate against the Eleatic One. Simplicius, again, narrates the positing by Zeno of this argument: "If topos exists, in what will it be? For every existent is in something; but what is in something is in a topos. Topos will therefore be in a topos, and so on ad infinitum: therefore topos does not exist."¹⁰⁶

Finally, it is reported that Zeno argued with Protagoras the Sophist, to this effect: if there are several grains of millet falling, one of them ought to make a noise and ought not: Ought not, because if it falls alone, nothing is heard and it makes no noise; ought, because many grains together could not otherwise make a noise.¹⁰⁷

We can without difficulty imagine what the effect of these arguments would probably be on his contemporaries, most of whom were unfamiliar with dialectic. Thus handicapped, and without any sound philosophic basis, they were ill prepared to analyse the arguments or to frame a suitable reply. Certainly, they could not through the use of any existing system find the means for an answer. Zeno was then of real service in showing such attempts at philosophy up for their defects.

The answer which we can now essay to make is due largely to the efforts of Aristotle, whose work was evidently stimulated by the problems which men like Zeno thought up.¹⁰⁸ As to the first objections, we should note that the really ultimate parts out of which a body is compounded are neither extended nor unextended, forasmuch as ultimate parts of this sort being no longer divisible do not exist.

Quare partes, in quas de facto dividitur corpus, semper sunt extensae, ita tamen ut ulterius adhuc dividi possint et ut cum maiore numero partium earum extensio fiat semper minor. Sic plura corpora finitae extensionis, in indefinitum divisibilia, sunt possibilia.¹⁰⁹

As to his second series of arguments, the number of parts which can be obtained thanks to the actual division of each of those several bodies will always be finite, and never infinite, although, as we just saw, the actual division might conceivably be prolonged indefinitely. There are, then, no grounds for saying that there can be serious talk of an actually infinite multitude of bodies which could be found in every divisible body.

The argument as to space, in turn, confuses real with possible space. If we accept the Aristotelian definition of it as "the first and unmoved limit of the enclosing as against the enclosed",¹¹⁰ we find that such surfaces will be in the proper body as in a subject, and not just "in space". This body may in its turn be likewise fixed, but if we think, as Aristotle thought,

of the number of existing bodies as finite, there will be no need for an indefinite procession here.¹¹¹

The argument about the millet seeds is rather less ingenious than the others, for it is founded on the obvious failure to consider the limits of sense perception, as in the case of the ear on which any excess or defect of sound will be lost.

Therefore Zeno's argument is not true, that there is no part of a grain of millet that does not make a sound: for there is no reason why any such part should not in any length of time fail to move the air that the whole bushel moves in falling.¹¹²

Sooner or later, every student of philosophy will come up against his famous objections to motion; these are real tributes to his dialectical skill and a harsh accusation as well of the short-comings of the contemporary philosophy.

The first is the so-called dichotomy, wherein he contends that, if a body is to cover a certain distance, it must first traverse the half thereof, but before it traverses the half of the whole given distance it must get across half of the half, and even before half of this half of a half, etc. "If then these halves are infinite in number, because it is always possible to halve any given length, and if it is thus impossible to traverse an infinite number of positions in a finite time -- this Zeno assumed as self-evident --- every magnitude has an infinite number of subdivisions, and therefore it is impossible to traverse any magnitude in a finite time."¹¹³ Aristotle, as we might have suspected, does not accept this assumption of Zeno's, that the crossing of an infinite number of positions or the making of an infinite number of contacts one by one in a finite time was impossible.

When he gives his answer, we are able to see another service of the Eleatic philosophy. Parmenides had enunciated a doctrine which was to oblige men to study the analogy of being; Zeno was now propounding difficulties which were to drive later thinkers to study the infinite and the various senses thereof, and to distinguish what is actually infinite from what is potentially so. This is clear in the reply which Aristotle makes to the dichotomy:

For there are two senses in which length and time and, generally, any continuum are called infinite, namely in respect of divisibility or of extension. So while it is impossible to make an infinite number of contacts in a finite time where the infinite is a quantitative infinite, yet it is possible where the infinite is an infinite in respect of division; for the time itself is also infinite in this respect.¹¹⁴

If we understand time as being also infinite in its potency to division, we can see that it is possible to traverse an infinite number of such positions in a time like this and also to make an infinite number of contacts.

Then, we have the famous argument about Achilles and the tortoise, wherein he tells us that the hero, speedy as he is, can never overtake the tortoise whom he is pursuing. By the time he gets to a given spot A, the brute will have reached a spot B, and by the time he does get up to B, his quarry will have passed ahead to C, and so on.

And so, during every period of time in which the pursuer is covering the distance which the pursued moving at its lower relative speed has already advanced, the pursued advances a yet further distance; for even though this distance decreases with each step, yet, since the pursued is also definitely in motion, it does advance some positive distance. 115

Inasmuch as distances will diminish in a given proportion ad infinitum thanks to the assumed infinite divisibility of any magnitude, it follows that Achilles fleet-of-foot is never going to catch up with the tortoise. In its essence, this argument is the same as the dichotomy, differing in that the successively given lengths are not divided into halves.

For in both, by dividing the distance in a given way, we conclude that the goal is not reached; only in the Achilles a dramatic effect is produced by saying that not even the swiftest will be successful in his pursuit of the slowest - and so the solution of it must be the same. 116

Thirdly, Zeno would hold that arrow flying through the air is at rest, if, indeed, all must be either moving or at rest. Since an object "in flight" will always occupy a space equal to itself, and since whatever does occupy such a space cannot be in motion, the flying arrow is at rest. 117 This again rests on an assumption, namely, that time is composed of instants, but the assumption is unwarranted and the argument is accordingly false.

For if, he says, everything is either at rest or in motion, but nothing is in motion when it occupies a space equal to itself, and what is in flight is always at any given instant occupying a space equal to itself, then the flying arrow is motionless. But this is false, for the time is not composed of indivisible instants any more than any other magnitude, is composed of indivisible. 118

Finally, he says that it is necessary to traverse equal distances at an equal velocity in the same time. Yet a moving body will pass by a second body moving at the same velocity in a contrary direction twice as quickly as when this second body is at rest. In such a case, the laws of motion are at variance with the seeming facts.¹¹⁹ Zeno would like to maintain that it is unnecessary for his adversaries to admit that half a given time is equal to its double, i. e., the whole time. Once again, he has fallen prey to a fallacy, in taking for granted "that a body takes an equal time to pass with equal velocity a body of equal size at rest, an assumption which is false".¹²⁰ There is little need to labor the point, for the solution is plain to see: the conditions which he names are precisely the ones which would allow the quicker passing.

Until Aristotle proposed the integrated philosophy which could allow for the resolution of such arguments, men were confronted with real difficulties through this dialectic of an aggressive monism. It was not, in fact, long before the proofs which Zeno had earnestly advanced in support of the Truth he saw, were employed in a sceptical fashion, as a means of assailing the foundations of certitude. The dialectic of the two centuries that followed, on the bad features of which so much has been said, may well be regarded as owing its method and even its spirit - for dialectic merely tied up the opponents - to Zeno's work. That was his technique, after all, to confute his adversaries by showing that their opinions contained inherent absurdities and contradictions. Indeed, he "treated of natural philosophy in the same manner as Parmenides did, but had also perfected himself in an art of his own for refuting and silencing opponents in argument; as Timon of Phlius describes it -

'Also the two-edged tongue of mighty Zeno, who,¹²¹
Say what one would, could argue it untrue.'"

It was a dangerous art and one not very hard to pervert from the service of the "Truth" to the advantage of the dialectician. For, there was no necessary tendency after truth at all: the whole point was to show that the position upheld by one's opponent, whatever it might be, was wrong; after that was done, there need be no further affirmative work, but one could just keep on tearing apart whatever had been devised as an explanation of things. "The business of the questioner," as Aristotle observed, "is so to develop the argument as to make the answerer utter the most extravagant paradoxes that necessarily follow because of his position: while that of the answerer is to make it appear that it is not he who is responsible for the absurdity or paradox, but only his position."²²

Plato traced the root of eristic and its dangers to the School of Elea. He was, as we know, very much alive to the perils of argument merely for the sake of argument, of a blind partisanship the only concern of which is to persuade the listener, no matter what the merits of the question at issue.¹²³ When Socrates

is faced with death, he takes the time, as Plato pictures him, to denounce such dialecticians:

When a simple man who has no skill in dialectics believes an argument to be true which he afterwards imagines to be false, whether really false or not, and then another and another, he has no longer any faith left, and great disputers, as you know, come to think that at last they have grown to be the wisest of mankind; for they alone perceive the utter unsoundness and instability of all arguments, or indeed, of all things.¹²⁴

It is a strange conclusion to a Monist dialectic. Plato was, moreover, distrustful of any who followed the men of Elea, with whom, as he brings out in his Sophist, he associates the beginnings of this eristic art. There, "Socrates is afraid that a pupil of Zeno will prove 'a very devil in logic-chopping' far above the level of the present company, until Theodorus reassures him by the information that the new-comer is more reasonable to deal with than the enthusiasts for controversy. Plato thus definitely connects the rise of eristic with the antinomies of Zeno."¹²⁵ The latter may have been well-intentioned, but he displayed a dangerous weapon for unscrupulous use, and the dangers of the situation were only augmented by the fact that he employed it himself on behalf of a philosophy which was at variance with common sense.

Nonetheless, we should acknowledge his remarkable talents and the clarity with which he was able to perceive and to propose such important problems dealing with the nature of the continuum - whether is it permanent or successive? -with the manner in which its parts are found in it, with the multitude of parts which can be brought about by division, with the character of the infinite.

By the method in which he pursued the end he gave a lasting impulse, not only to the development of dialectic, but also to the discussion of the problems inherent in the ideas of space, time and motion. The fallacies of his proof and in particular the fundamental error, the confusion of the infinite divisibility of space and time with infinite dividedness, he certainly did not notice himself.¹²⁶

With Zeno, the opposition between the Eleatic Monism and the general belief of mankind that there are many bodies subject to change reported by experience was brought to a head. For he did not content himself with maintaining the falsity of the common view, but denounced it as impossible and contradictory. Certainly, in so doing, he entangled the Pythagoreans and

the other imperfect philosophers of the times in difficulties from which their own faulty systems could not extricate them. He rendered these unacceptable to thinking men. At the same time, his own vigorous attacks upon the data of common sense tended to repel people from the Monism which he advocated.

For some, the result of this intellectual turmoil was to be scepticism, but others saw the need for probing more deeply into these questions, for penetrating beyond the material level on which philosophers had so far remained in their endeavors to discover the truth. No solution arrived at on this plane was able to withstand careful study and criticism. This circumstance suggested the unique character and power of the mind, which could not accept the material as sufficient to meet its demands for the reasons of things. Zeno had provoked the clash between the Monists and the physicists. Lighting up the defects of each in this way, he manifested the need for a true metaphysic: such had to be found or men would be lost. The issue, at last, was being made clear. 127

Melissus of Samos:

The Monist tradition found another able representative in Melissus of Samos, whose origin would suggest that "it is possible that he was originally a member of the Ionic school, and we shall see that certain features of his doctrine tend to bear out this view".¹²⁸ It is, at any rate, clear that he came under Eleatic influences and was in association with some of the physicists, for "he was a pupil of Parmenides. Moreover he came into relations with Heraclitus..."¹²⁹

Where his fellow disciple, Zeno, had sought to support the teachings of their master, Parmenides, by the indirect means on which we have just commented, Melissus seems to have preferred a more direct approach when it came to proving their common doctrina, from which he departed in one respect. For, that which is, and its complete opposition to that which is not, were equally impressive to his mind:

If nothing is, what can be said of it as of something real? What was ever, and ever shall be. For, if it had come into being, it needs must have been nothing before it came into being. Now, if it were nothing, in no wise could anything have arisen out of nothing.¹³⁰

This is the by now familiar teaching, with its basis in the Parmenidean restriction of reality to that which actually exists. Melissus, however, had a new way of expressing his belief in the eternal character of this being, and in putting his reasons for such a belief.

For, he argues, "if it had come into being, it would have

had a beginning (for it would have begun to come into being at some time or other) and an end (for it would have ceased to come into being at some time or other)".¹³¹ Thus far, he is following the more or less customary Eleatic paths. His next step, on the other hand, was apparently inspired by some of the dialectical influences then abroad, and was later to bring the shap criticism of Aristotle upon his head.

Having contended that that which begins to be has a beginning and an end, he went on to to convert this universal affirmative proposition into a universal negative one: "If it neither began nor ended, an ever was and ever shall be, it has no beginning or end".¹³² It was a rather questionable piece of logic, evidence of what the new art might do without the proper discipline. It would, of course, be going a little too far to say that it was on this turn alone that he founded his belief in the eternity of the world, inasmuch as his whole system would have tended to that conclusion.¹³³

Whether he made serious use of such a line of thought or not, he seems to have differed from his master more seriously in maintaining the spatial infinity of the being. He would agree, as we have seen, that it is temporally infinite, but he was unable to see why it should be considered as limited with regard to space, since that could be brought about only through limitation imposed upon it by empty space. Here, at least, his logic was proceeding consistently upon the Eleatic premisses: for, if the being is the finite sphere, there can be nothing outside of it, yet Parmenides had been most eloquent in his insistence upon the impossibility of nothing. Now, as Melissus saw it, a finite sphere is encompassed by infinite emptiness: "Nor is anything empty. For what is empty is nothing. What is nothing cannot be."¹³⁴

This denial of the void is orthodox enough, and he was indeed loyal to the internal exigencies of the system when he worked on the basis of this denial to the conclusion that "just as it ever is, so it must ever be infinite in magnitude".¹³⁵ If the Being is in this way infinite, it will be necessary for men to reject the assumption of a multiplicity in things and to believe rather in the Truth of the One. "If it were not one, it would be bounded by something else",¹³⁶ for it cannot be surrounded by the utterly non-existent nothing, and, if this is true, then the two which might bind each other are ipso facto finite: "For if it is (infinite), it must be one; for if it were two, it could not be infinite; for then they would be bounded by one another".¹³⁷

It is clear, therefore, that such a being will be a plenum, one and homogeneous, a continuum which is everywhere like unto itself. It will be free from all change and from all possibility of change. There will be no occasion for it to move, and it will be perfectly full at every point:

So then it is eternal and infinite and one and all alike. And it cannot perish nor become greater, nor does it suffer pain nor grief. For

if any of these things happened to it, it would no longer be one. For if it is altered, then the real must needs not be all alike, but what was before must pass away, and what was not must come into being...

Further, it is not possible either that its order should be changed; for the order which it had before does not perish, nor does that which was not come into being...

Nor does it move; for it has nowhere to betake itself to, but is full. For if there were aught empty, it would betake itself to the empty. But, since there is naught empty, it has nowhere to betake itself to.¹³⁸

His treatment of this subject shows his opposition to the Ionians, who, in one way or another, denied the perfectly homogeneous character of that which is real, and admitted the possibility of some sort of change. All of this is out of the question, if one accepts the unity of the Being and its eternity. Change, the generation and corruption of being, is not to be reconciled with the eternal. In like fashion, he rejects any changes in order, for these too would entail that becoming and passing away which must be excluded: "Since nothing is either added to it or passes away or is altered, how can any real thing have had its order changed?"¹³⁹ Hence, he finds also wanting in truth the opinion of Anaximander, who "did not ascribe the origin of things to any alteration in matter, but said that oppositions in the substratum, which was a boundless body, were separated out".¹⁴⁰

As for his emphatic repudiation of the possibility that the Being might have feelings of sorrow or of pain - since "a thing in pain could not all be"¹⁴¹, this may have reference to the teachings of Anaxagoras, to whom, as we shall see shortly, he was antipathetic on other grounds as well. If he went this far, he was certainly obliged to take the next step, of disputing the method of Anaximenes for the production of things: "for it is not possible for what is rare to be as full as what is dense, but what is rare is at once emptier than what is dense".¹⁴²

Even though Melissus denied change and motion, Baeumker has declared that he allowed for motion in pleno, basing his interpretation on some remarks of Simplicius. Burnet, however, is of opinion that the passage in question forms "part of Simplicius' own argument, against Alexander, and have nothing to do with Melissos at all",¹⁴³ and notes that Zeller came around to the same point of view.

His discussion of the impossibility of a plurality of things brings Melissus to deny the veracity of our sensible knowledge, which always reports reality as being made up of many changing beings. For, he maintains, things very often appear to be changed from their previous manifestation, and this could not be the case, if they were really made up in the way the sense reported the first, now changed manifestation.

If things are...all that men say they really are, -- if that is so, and if we see and hear aright, each one of these must be such as we first decided, and they cannot be changed or altered, but each must be just as it is. But, as it is, we say that we see and hear and understand aright, and yet we believe that what is warm becomes cold; ...that what is living dies, and that all things are born from what lives not; and that all these things are changed, and that what they were and what they are now are in no way alike... Now these things do not agree with one another... It is clear, then, that we did not see aright after all, nor are we right in believing that all these things are many.¹⁴⁴

Multiplicity, then, is but an illusion of the senses, which deceive us anyhow with the semblance of becomings, and it cannot stand up under analysis. This was an inevitable result of the Eleatic system, with its various errors mingled with glimpses of the truth. It was a very dangerous combination, this combination of a skillful dialectic that aimed at destroying whatever the opponent held with a positive philosophy which contradicted the first date of knowledge. What men had to do was, with Aristotle, to distinguish matter and form, to allow in this way for a rational explanation of change and the conservation of an abiding subject of the changing reality as well as of an abiding object of intellectual knowledge -- the form. In some respects, to be sure, it remained for the Christian philosophy, with its proper grasp of the significance of being and the radically contingent characters of all things here together with their intrinsic dependence on God the Being, to perfect the genuine metaphysics.

As for Melissus, his line of reasoning about the senses may well be directed at Anaxagoras, who said that "from the weakness of our senses we are not able to judge the truth"¹⁴⁵; he meant thereby that they disclose only the dominant portions in things and not the portions of all things in each. Perception did not support his account, and he accordingly took refuge in assailing its "imperfection and weakness". Of course, differing portions of reality would not fit in with the homogeneous Being. At any rate, if the senses are no longer to be received as the criteria of the real, there is no way left for us logically to reject the Eleatic monism; if things do constitute a plurality:

They would not change if they were real, but each thing would be just what we believed it to be; for nothing is stronger than true reality. But if it has changed, what has passed away, and what was not has come into being. So then, if there were many things, they would have to just of the same nature of the One.¹⁴⁶

Pluralism can be consistent, therefore, only in some kind of an atomic theory, which looks to a reality made up of physically indivisible and extended atoms, the common substance of which signifies that all differences observable in things are to be explained on the basis of atomic dispositions. It may with justice be said of Melissus that "his greatness consisted in this, that not only was he the real systematiser of Eleaticism, but he was also able to see, before the pluralists themselves saw it, the only way in which the theory that things are a many could be worked out consistently."¹⁴⁷

Although he may have been more thoroughgoing in his adherence to the monist logic, he was in other ways inferior to his master. The unity of the older philosopher was in some respects an ideal unity, but that of his pupil was quite material:

Parmenides seems to fasten on that which is one in definition, Melissus on that which is one in matter, for which reason the former says that it is limited, the latter that it is unlimited.¹⁴⁸

He did not follow his master in this important subject, although he may not have explicitly contradicted him. At any event, he did not restrict himself to a consideration of the abstract concept of being or to an application of that concept to the universe itself. Rather, as we have seen, he considered things more concretely and made the non-being of his master's teaching the same as the void: "Parmenidis non ens identificans cum vacuo et vacui existentiam negans"¹⁴⁹. The master was at least nearer to a metaphysical conception of reality than was his pupil, who stayed on a more material plane.

Parménide, du moins, affirme les droits de l'unité; mieux encore, il la cherche où elle réside vraiment, c'est-à-dire, dans l'essence intelligible, *κατὰ τὸν λόγον*, et non pas, comme Mélissus, dans l'indéterminé matériel, *κατὰ τὸν ὄραν*.¹⁵⁰

His identification of that which is not with the vacuum and his further conclusion as to the limitless extension of the world raised the difficult questions which have to do with the possibility of a vacuum and of local motion therein, as well as with the extension, bounded or unbounded, of this world.¹⁵¹

What probably interests us the most in these Eleatics as related to that development which we are now studying is the way in which their writings lead up to and necessitate the establishment of a proper metaphysic. The world of merely sensible things is denounced as unreal -- and there is, after all, a good deal of truth to this, once it is understood correctly. This denunciation and the corresponding failure of the Eleatics to get anywhere with their exaggerated insistence on the Being served alike to direct men's attention toward the truth of the matter,

to that incomparable primacy which The Being does enjoy, to the abstract notion of being-in-general which we can apply analogously to all that is, to the derived and changing reality the sensible world which is best understood in terms of the Peripatetic explanation and which, too, must be seen in its proper place in the hierarchy of being. Even though the Eleatics may not have appreciated the fact, we may say that with them "thought frees itself...from the bondage imposed upon it by the senses, denies the finite world, and affirms its own infinity".¹⁵²

It was becoming impossible to solve the questions which Eleatics and others had raised, on the basis of a physic or a cosmology alone. Men were asking now about the existence of natural bodies, their changes and their multiplicity. In those lesser sciences, such are presupposed as facts altogether sure and evident; they are examined in themselves in the first philosophy.

Propterea omnes illae solutiones, quae, ut pantheismus, idealismus, monismus, phaenomenalismus atque scepticismus, illa negant aut de eis dubitant, non sunt in cosmologia...exponendae et improbandae, Eorum enim negationes vel dubitationes non difficultatibus vel argumentis ex proprio hujus quaestionis (de primis principiis corporum) objecto exortis innituntur, sed difficultatibus et praejudiciis metaphysicis circa objectivum cognitionis valorem et circa naturam entis in genere. Radix ergo omnium horum errorum est totaliter extra cosmologiae objectum.¹⁵³

To call in question such things as these men did was to pass beyond the field of natural things. So it is that St Thomas says of Parmenides and Melissus: "Non naturaliter de natura locuti sunt".¹⁵⁴ They dragged in metaphysical questions and created a definite need for men to address themselves thereto in a metaphysical manner. Aristotle demonstrates, in the first book of his Physica, that the errors of such men as Parmenides and Melissus are not to be confounded by natural science. In the first place, those thinkers denied the very formal object of any cosmology, and it is only metaphysics, the science of being as such, which investigates its own formal object in such a way. Further, no science could be required to advance reasons against opinions which are manifestly false and improbable:

Ridiculum est quod aliquis tentet demonstrare quod natura sit, cum manifestum sit secundum sensum, quod multa sunt a natura quae habent principium sui motus in se... Natura autem esse est per se, notum in quantum naturalia sunt manifesta sensui. Sed quid sit uniuscuiusque rei natura vel quod principium motus, hoc non est manifestum.¹⁵⁵

For, it should be at the base of all our thought that we accept the existence and multiplicity of things, which are presented to us with such evidence that none can in practice deny them, and which are duly discussed, in so far as they are subject to discussion, in metaphysics. Aristotle points out further that no science should be required to attempt the solution of sophistries which are clearly deficient in their very material or their form.

Non omnes rationes sunt solvendae in aliqua scientia, sed solum illae quae concludunt aliquod falsum ex principiis illius scientiae; quaecumque vero non concludunt ex principiis scientiae, sed ex contrariis principiorum non solvuntur in illa scientia.¹⁵⁶

It is plain that these ancient assaults upon the value of our sensible knowledge, as well as upon all that contradicted the absolute univocity of being, could not be taken up so long as the discussion remained on the plane of natural science. One had to look higher, to the science of being itself.

Quia praedicti philosophi loquebantur de rebus naturalibus, licet non inducerent defectus, id est dubitationes, naturales, utile est ad propositum disputare de hujusmodi opinionibus; quia etsi non sit scientiae naturalis disputare contra hujusmodi opiniones pertinet tamen ad philosophiam primam.¹⁵⁷

Notes to the Fourth Chapter:

1. Jacques Maritain, An Introduction to Philosophy, pg. 60. We shall suggest the qualifications of this praise in the course of the chapter.
2. This is the credible interpretation which Burnet puts upon the 7th fragment of this writer, Early Greek Philosophy, pp. 114, 118.
3. Fr. 16 of Heraclitus, sec. Burnet.
4. Diogenes Laertius IX. 21. Ritter-Preller, Diels and Burnet take this, which occurs in a passage dealing with Parmenides and his master, in this way.
5. Diogenes Laertius IX. 18.
6. "There are by this time three-score years and seven that have tossed my careworn soul up and down the land of Hellas; and there were then five-and-twenty years from my birth, if we can say aught truly about these matters." Fr. 8. -- As the last clause indicates, he was on the cautious side.
7. Cfr. Burnet, op. cit., pg. 115.
8. op. cit., pg. 116.
9. Fr. 11. Again, "they have uttered many lawless deeds

of the gods, stealings and adulteries and deceivings of one another". Fr. 12. Both occur in Sext. math; the first (in the text) is from IX. 193, and the second from I. 289. (R.P.99.).

10. Bréhier, Histoire de la Philosophie, I. 61.

11. Burt, Brief History of Greek Philosophy, pg. 11.

12. Aristotle, Metaphysica, I. v. 986b. St. Thomas comments as follows: "Xenophanes vero qui fuit primus inter dicentes omnia esse unum, unde etiam Parmenides fuit ejus discipulus, non explanavit qua ratione diceret omnia esse unum, nec sumendo rationem aliquam ex parte materiae, nec ex parte formae. Et sic de neutra natura scilicet neque de materia neque de forma visus est "tangere hos" id est pertingere et adaequare eos irrationalitate dicendi; sed respiciens ad totum caelum dixit esse ipsum unum Deum. Antiqui enim dicebant ipsum mundum esse Deum. Unde videns omnes partes mundi in hoc esse similes, quia corporeae sunt, judicavit de eis quasi omnia essent unum. Et sicut praedicti posuerunt unitatem entium per considerationem eorum quae pertinent ad formam vel ad materiam, ita iste respiciens ad ipsum compositum." (In I Metaphys., lect. ix, ad 986 b.). The suggestion that his unity was reached by considering the composite is unquestionably a most interesting one; certainly he created a system which rendered more difficult than ever exclusive reference to material causes, for to insist upon unity must sooner or later lead men away from that which is the principle of multiplicity and change. On the other hand, there was the influence of Heraclitus to make sure that they were not led too far away from the facts of experience.

13. Fr. 14

14. Fr. 23.

15. Frs. 24 & 25. Diogenes Laertius testifies to the rationality of the god: "The substance of God is spherical, in no way resembling man. He is all eye and all ear, but does not breathe; he is the totality of mind and thought, and is eternal. Xenophanes was the first to maintain that everything which comes into being is doomed to perish, and that the soul is breath." (IX. 19.). That changeless one and the perishableness of all else are hardly compatible.

16. Benn, The Greek Philosophers, I. 16.

17. Fr. 26. Cfr. also R.P. 1)6 f.

18. Windelband, History of Ancient Philosophy, pg. 49.

19. Fr. 29.

20. On the subject of the earth, Xenophanes declared that: "This limit of the earth is seen at our feet in contact with the air; below it reaches down without a limit." Fr. 28.

Following out this thought, A.W. Benn writes: "For himself, Xenophanes, like Anaximander, believed in the infinite source of existence; but, unlike his Milesian predecessor, he identified this one and eternal element with the visible earth, which he supposed to stretch downward beneath our feet without end". (Early Greek Philosophy, og. 27.).

21. "However, Xenophanes himself does not seem to have been conscious of the chasm he left between his metaphysical principle

and the plurality and changeableness of individual things." Windelband, op.cit., pg. 50.

22. Schaaf, Institutiones Historiae Philosophiae Graecae, ph. 46. Further on (pg. 49.), he notes: "Cum identificet Deum cum universo, cuius partium certe admittit adhuc mutationem, Dei immutabilitatem stricte intelligere nequit, sed unice asserere videntur, Deum coincidentem cum toto universo non sese movere de loco in locum".

23. Fr. 36.

24. Stoeckl, Handbook of the History of Philosophy, pg.53.

25. Fr. 35.

26. Diogenes Laertius, IX. 20.

27. Fr. 34.

28. Adamson, The Development of Greek Philosophy, pp.31-2.

He goes on to remark that, inasmuch as Xenophanes reached no satisfactory solution of this problem, it was necessary to wait for Parmenides to give the monist answer. (ibid.).

29. Ferrier, Lectures on Greek Philosophy, etc. pp. 87-8.

30. Lewes, History of Philosophy, I. 43. As we have suggested, the work of Heraclitus is important also in this regard. What we must understand is that the two schools with their different views jointly provided the stimulus to thought.

Mr. Lewes observes, in this connection, that "up to the time of Xenophanes philosophy was unsuspectingly dogmatical; it never afterwards recovered that simple position. He it was who began to doubt, and to confess the incompetence of reason to solve doubts and compass the exalted aims of philosophy. Yet the doubt was moral rather than psychological." He develops this thought in his History, pg. 47. §.

31. "Etsi vero in his dictis (frs. 34 ff.) sceptica quaedam animi dispositio sese manifestet, tamen scepticis adnumerare Xenophanem non licet, ut aliqui fecerunt." Schaaf, op.cit., pg.50.

32. Certainly it was an experienced man of the world who advised that "our contacts with tyrants should be as few, or else as pleasant, as possible". Diogenes Laertius, IX.20.

33. Lewes, op.cit., pp. 47-8.

34. "Finally, we may say of Xenophanes that he seems to have approximated more nearly than had yet been done to the realisation of what may be called a double consciousness; a rational consciousness, on the one hand, cognisant of the permanent One, as the real and true in itself; and a sensible consciousness, on the other hand, cognisant of the changeable many, as negative existence, as unreal and untrue in itself and as possessing, in comparison with the genuine and absolute reality of the unchangeable one, only a spurious and relative reality." Ferrier, op.cit. pg. 88. It is to be remarked how there is a growing tendency to follow reason rather than merely accept the superficial presentations of the senses. The same was seen with Heraclitus; in both cases, the way of reason is conceived as too radically different from common sense, but the exaggeration and the rectification which it demands will help to a better understanding of the issues at stake and so to an earlier construction of a science of knowledge.

35. Schaaf, op. cit., pp. 50-1.

36. Frs. 23-6.

37. Schaaf, op. cit., pg. 51. He proceeds to point out that: "Difficultas vero vel potius impossibilitas, quomodo ens a se existens alia ex parte esse quid extensum et mutabile, a Xenophane nondum sentitur, praesertim quia conceptum rei spiritualis non iam habet. Indicando rationem, cur ens unum existens non potuerit esse factum, quia nempe tunc imsum antea nihil fuerat, id autem quod non est neque fieri, neque efficere, neque rursus ex eo fieri quidquam potest", dedit occasionem successoribus suis, inquirendi intimius, quonam sensu et cur ex nihilo nihil fieri possit." (op. cit., pp. 51-2.).

38. Windelband, op. cit., pg. 51.

39. M.E.J. Taylor, Greek Philosophy, pg. 22.

40. Fr. 18.

41. "Parmenides, a native of Elea, son of Pyres, was a pupil of Xenophanes (Theophrastus in his Epitome, makes him a pupil of Anaximander). Parmenides, however, though he was instructed by Xenophanes, was no follower of his. According to Sotion, he also associated with Ameinias the Pythagorean... This Ameinias he was more inclined to follow... Moreover it was Ameinias and not Xenophanes who led him to adopt the peaceful life of a student." Diogenes Laertius, IX.21. Aristotle, Metaphysics I.5. 986 b, also notes the tradition that he was a pupil of Xenophanes.

42. Burnet, E.G.P., pp. 170-1, discusses this point at some length, observing that "we must not overlook the remark of Sotion preserved by Diogenes".

43. "Heraclitus' deliberate antithesis is Parmenides of Elea (c.540-470), a man of noble and rich family, who gave his native city an excellent constitution, but was persuaded by the Pythagorean Ameinias, whom he honored and revered even after his death, to exchange an active political life for one of philosophic retirement. If we find in him certain astronomical knowledge such as the identity of the morning and evening star and the illumination of the moon by the sun and apparently also the spherical shape of the earth, this he owed to his relations with the Pythagoreans. Later he attached himself to Xenophanes."

Zeller, Outlines of the History of Greek Philosophy, pg. 149.

44. Wright, Short History of Greek Literature, pg. 147.

45. Fr. 8 (R.P. 121). The fragments are found in Burnet, E.G.P., pp. 172 ff. Turner, among others, epitomises the poem (History of Philosophy, pg. 47.).

46. Frs. 4-5.

47. This thought is developed nicely by Schaaf (op. cit., pp. 53 f.).

48. Fr. 3.

49. Fr. 8. (R.P. 117.).

50. Fr. 8. (R.P. 119.).

51. Stoeckl, op. cit., pg. 54.

52. Discussing the identity of being with God, Father Schaaf points out that "quamvis Parmenides in fragmentis conservatis explicite non dicar, universum coincidere cum Deo, sequitur tamen ex eo, quod praeter unum universum aliud ens non admittit..."

Suspiciatur Zeller (I, 531), Parmenidem forte ideo universum non voluisse appellare directe deum, quia deus concipi solet, saltem aliquo modo, ut auctor et motor universi, universum autem a se et plane immobile, sub nullo respectu ad alio dependere potest. Illi enti unico certe etiam cognitio convenit, cum homo cognovirnd vum illio diy ifrnyificatus; nullibi tamen in versibus conservatis Parmenides perfectionem cognitionis entis divini effert, uti Xenophanes tam pulchris verbis fecerat." (op.cit. 57-8.).

53. Fr. 8. (R.P. 118.). Cfr. Burnet, Greek Philosophy: Part I, pg. 68.

54. According to Plato, Theaetetus 180 E 3, it was the belief of Parmenides that "all things were one, and that the one remains at rest with itself, having no place in which to move". Such appears to have been the view of the Eleatic Melissus, at any rate, if we may credit the passage in Simplicius, Phys. 111, 19 (R.P. 145.).

55. John Burnet thus summarises these teachings of Parmenides: "What is, is a finite, spherical, motionless corporeal plenum, and there is nothing beyond it. The appearances of multiplicity and motion, empty space and time, are illusions. We see from this that the primary substance of which the early cosmologists were in search has now become a sort of 'thing in itself'. It never quite lost this character again. What appears later as the elements of Empedocles, the so-called 'homoeomeries' of Anaxagoras and the atoms of Leukippos and Demokritos, is just the Parmenidean 'being'. Parmenides is not, as some have said, the 'father of idealism'; on the contrary, all materialism depends on his view of reality." (op.cit., pg. 182.).

56. Fr. 8. (R.P. 120.).

57. As given in Garrigou-Lagrange, God: His Existence and Nature, II. 23. Father Schaaf calls our attention to the fact that "imprimis permiscet unitatem logicam et realem. Ex eo, quod nobis omnes res repraesentamus sub uno conceptu entis (subjective et objective uno) hincque conceptum objective sumptum de omnibus praedicamus, minime sequitur, ut Parmenides deducit, omnia entia extra mentem esse unum ens et quidem numeric unum. Intellectus enim noster habens vim abstrahendi et sic relinquendi id, in quo plures res inter se differunt, potest unico conceptu repraesentare id, in quo conveniunt: haec unitas rerum in nostra repraesentatione habet tunc fundamentum quidem in ipsis rebus (earum similitudinem), formaliter autem in rebus non inest, id quod Aristoteles exemplo: 'etsi album, quod de pluribus rebus praedicamus, significat unum, tamen plura sunt alba non unum'... Falso ergo deducit Parmenides, omnia esse unum ens." (op.cit., pp. 60-1.).

58. This matter is taken up at length by Petrus Parente, who in his article "Quid Re Valeat Humana de Deo Cognitio secundum S. Thomam" (Acta Pontificiae Academiae Romanae St. Thomae, Nova Series, Vol. II, 1935; pp. 7 - 31) discusses the Thomistic teachings on analogy, with ample references, and notes various of the interpretations which have been put upon it.

59. ST. Thomas, De.Potentia Dei. vii.7. Following much

the same line of thought in the Summa Theologica (I. iv.3.), he says that the effects of God are to His likeness as their cause "secundum aliqualem analogiam, sicut ens est commune omnibus."

60. St. Thomas, In I Metaph., lect. ix, 139. Father Schaaf succinctly points out that Parmenides "non attendit ad varias significationes entis. Ex eo, quod ens de omnibus praedicamus, non sequitur, ut iterum supponit Parmenides, illa omnia entia habere eandem naturam, quippe cum ens, ubi pote conceptus transcendentalis, etiam in differentiis contineatur, quae etsi sic sint ens, tamen in natura possunt esse valde inter se diversa... Falso ergo deducit, omnia debere esse $\acute{\alpha}\mu\omicron\lambda\alpha$." (op. cit., pg. 61.).

The matter of the concept of being, together with the various issues involved, is discussed in McCormick, Scholastic Metaphysics, Pt. I, ch. 2.

61. Cfr. fr. 8.

62. Garrigou-Lagrange, op. cit., II. 549.

63. "Aristotle) criticised both the Eleatics, who looked upon reality as all actual unchangeable, and Heraclitus, who stressed change as the only reality. He took the middle course, holding reality to be not entirely actual, but partly also potential, and continually passing from the potential to the actual. He admitted real being and real change, and it was to explain both permanence and change in reality that he formulated his doctrine of causes. The potential cannot make itself actual; therefore the influence of the efficient cause is needed to reduce potentiality to act... For the efficient cause to act and bring about change, there must be in the things of nature potentiality for such change; and this potentiality is his material cause, to which corresponds the formal cause or the actuality which fulfills this potentiality." "Material substances are... composed of two intrinsic principles; the material principle, which is the same in all, and which is called Prime Matter; and the determining principle, which is proper to each, and which is called the Substantial Form." "Material substance is in potency, not only with regard to further accidental perfections, but also with regard to other substantial perfections... The constituent of the material substance that corresponds to its potentiality is called Materia Prima." McCormick, op. cit., I. 16506, 178, 18).

64. Anicetus Fernandez-Alonso, O.P., "De Primis Intrinsecis Corporum Naturalium Principiis", pg. 293. Apud Acta Secundi Congressus Thomistici Internationalis, 1936; pp. 284-96.

65. "Motion is 'the actualisation of that which is potentially, as such'... Motion in general is the actualising of the potential. This it is part of the nature of movement that the potential has not yet completely lost its potentiality and become actual... In each moment of activity, potentiality is completely cancelled and transformed in Actuality; in movement the transformation is not complete until the movement is over... Movement cannot be classified simpliciter either as potentiality or as activity. It is actualisation, but one which implies its own incompleteness and the continued presence of potentiality.

"The elements involved in change are - that which produces

movement, that which is moved, the time in which it is moved, that from which and that into which it is moved." Ross, Aristotle, pp. 81-2.

66. Metaphysics IX.4. 1047 a. Here he deals with being in potency, but a moment later takes up being in act and says of this word "quod ponitur ad significandum endelechiam et perfectionem, scilicet formam, et alia hujusmodi, sicut sunt quaecumque operationes, veniunt maxime ex motibus quantum ad originem vocabuli. Cum enim nomina sunt signa intelligibilium conceptionum, illis primo imponimus nomina. quae primo intelligimus, licet sint posteriora secundum ordinem naturae. Inter alios autem actus, maxime est nobis notus et apparens motus, qui sensibilibus a nobis videntur." St. Thomas, In IX Metaphys., lect.iii, 1805. The soundly philosophic passage is especially interesting because of its stress on the role of the sensible and of motion in the foundation of our knowledge.

67. Garrigou-Lagrange, op.cit., II. 551

68. S.Th. I. 111. 2 ad 3.

69. Maritain, Les degrés du savior, pg. 427.

70. Maritain, op. cit.

71. Taylor, op. cit., pp. 29-30.

72. Erdmann, History of Philosophy, I. 41.

73. Fr. 1.

74. "Heraclitus and Parmenides both distrusted the evidence of the senses and sought to correct it through thought, but in precisely opposite ways. For Heraclitus, the senses give an illusion of permanent being and he recognised the ever-changing substance of fire behind it. Parmenides saw however the deception of the senses in the apparent becoming and passing away, and recognised the unchangeable being behind it...However misguided the attempt to make a pure logician out of the metaphysician Parmenides, nevertheless the Eleatic seized upon the weak points in the Heraclitus doctrines - the want of a basis which explains why the universal fire changes into other forms...Thus he arrived with Xenophanes at the conclusion of complete immutability of being and further his logical rejection of the world of sense which corresponds to its ethical repudiation in the Orphic-Pythagorean circles...It was not without justification that Plato and Aristotle called the Eleatics the "interruptors of the course of the world"... and "the unnatural scientists" (Theaetetus 181 A. Aristotle in Sextus Empiricus, Adv. Math. X. 46.). Zeller, op. cit., pp. 50-1.

75. M.E.J.Taylor, invites us to essay the following: "Take the world as we know it: conceive it as a spherical in form: subtract from it all its variety of quality: the remainder is reality is conceived by Parmenides, and the few bald statements that can be made about such a 'reality' are the sum total of truth." op.cit.

76. Marechal, Lepoint de départ de la métaphysique, I. 44.

77. Benn, Early Greek Philosophers, pg. 53.

78. The act of intellection or intellectualising means that as soon as the senses perceive a reality distinct from the mind, the higher faculty, the intellect, conceives, or forms a

concept of it. This, in turn, means that the intellect, penetrating the material data presented to our consciousness by the senses, apprehends, or understands, on account of its power of abstraction, the essence, or that which in the material data is the thing that makes it what it is. Now, we are not only aware of some reality distinct from us as the subject thinking, but we are said to know, to apprehend the nature of the reality presented to us. The reality which, before we had our cognitional experience, had only an ontological existence as far as we were concerned, now as an ideal - a representational existence in our mind, and in this way we are said to apprehend or to know the object, even to become one with it. 'Cognoscendo, anima quodammodo fit omnia'." McLaughlin, The Problem of Knowledge, pg. 18.

79. Maritain, Réflexions sur l'intelligence, pg. 13.

80. Maritain, op. cit. pg. 17.

81. S.Th. I. lxxxv. 2.

82. S.Th. I. lxxxv. 1. "L'image étant présente à la conscience, l'intellect agissant fait apparaître spontanément l'aspect intelligible: il dématérialise, il abstrait, il fait surgir les notes essentielles de 'ce qu' est' la chose en elle-même, non dans son individualité matérielle mais dans sa nature spécifique." de Bruyne, S. Thomas d'Aquin, pg. 237.

83. "Voilà ce que signifie le terme d'existence immatérielle et rien d'autre; aussi doit-on prendre garde que ce terme prête à méprise, par excès or par défaut; par excès, car l'objet d'une connaissance sensible conserve, excepté au sens précis qui vient d'être dit, les conditions formelles qui résultent de la matérialité; bien que communicable, la forme sensible existant dans la connaissance demeure la forme d'un objet matériel, individuel et pourvu d'une position spatiale; par défaut, car dans le monde des esprits il ya encore lieu de distinguer l'existence physique de la chose en elle-même et son existence, dans la connaissance; aussi doit-on préférer le terme d'existence intentionnelle, créé par l'aristotélisme latin pour exprimer une pensée d'Aristote." Simon, Introduction à l'ontologie du connaître, pg. 17.

84. Fr. 8. (R.P. 119.).

85. Maritain, op. cit., pp. 23-4. He directs our attention to the teachings of Aristotle: "actus objecti sensibilis et actus facultatis sensitivae sunt realiter unus actus et tantummodo conceptus eorum sunt diversi". De Anima III. 2, 426 a 15.

86. Cfr. Burnet, op. cit., pp. 177 ff., for a complete account.

87. Schaaf, op. cit., pg. 63.

88. For in god we have Being and Truth Itself: "Veritas invenitur in intellectu, secundum quod apprehendit rem, ut est, et in re, secundum quod habet esse conformabile intellectui. Hoc autem maxime invenitur in Deo. Nam esse suum non solum est conforme suo intellectui, sed etiam est ipsum suum intelligere: et suum intelligere est mensura, et causa omnis alterius esse, et omnis alterius intellectus: et ipse est suum esse, et intelligere. Unde sequitur, quod non solum in ipso sit veritas, sed quod ipse sit ipsa summa, et prima veritas." S. Th. I xvi 5. The

The truth obscurely hinted at in Parmenides here finds the light, and it is glorious.

89. Schaaf, op. cit., pg. 64, takes the statement of Aristotle as referring to Parmenides in particular.

90. Zeller, op. cit., pp. 51-2. Burnet is of opinion that "all materialism depends on his view of reality" (op. cit., pg. 182.), while Fulton Sheen, declares that "he reduced the real to the rational, being to mind, the concrete to the abstract, and the transcendence of God into the immanence of the spirit. The modern followers of Parmenides are the Italian idealists" (God and Intelligence, pg. 154). (He adduces quotations from Gentile's Teoria generale dello spirito.) It would be necessary, of course, to take Dr. Sheen's terms in a special sense.

91. Diogenes Laertius, IX. 25-6.

92. H.B.P. Lee, in his Zeno of Elea, pp. 8-9, comes to three conclusions with regard to our philosopher, of which the first (on p.8) is that "we have every reason to suppose that in his general views Zeno was an orthodox Eleatic".

93. "But he developed a particular type of argument whose object was to show that hypotheses other than the Parmenidean 'what is, is one' lead to self-contradictory results. His object was to discredit the pluralists. We should not therefore, for instance, expect to find that he held any particular views about the nature of motion, but simply that he tried, as an orthodox Eleatic, to show that the whole idea of motion is self-contradictory and absurd." Lee, conclusion 2, op. cit., pp. 8-9. B.A.G. Fuller gives a very colorful picture of "the dire need...to re-array all the forces of logic for a final onslaught on the philosophic countenance increasingly given to the things which are 'but names which mortals have given, believing them to be true - coming into being and passing away, being and not being, change of place, and alteration'," citing "the more brilliantly marked mathematical and scientific characteristics" of a recrudescent Pythagoreanism with its dangerous dualism and its disruptive space, the elements- of Empedocles, the molecules of Anaxagoras, and the continued teaching of a vacuum as especial signs of peril (History of Greek Philosophy, pg. 161.).

94. Plato, Parmenides 128 c.

95. Cfr. Plato, op. cit.

96. "There is some reason to suppose that the Pythagoreans in particular were the object of his attacks - as indeed they had been of Parmenides' before him." Lee, conclusion 3, op. cit. pg. 9. Cfr. #91, supra.

97. Burnet, E.G.P., pg. 314. In the fourth note, he says: "Empedokles has been suggested. He was about the same age as Zeno indeed, and he seems to criticise Parmenides (frs. 2 & 4.), but the arguments of Zeno have no special applicability to his theories. Anaxagoras is still less likely." Yet their opinions were at least symptomatic of the opposition.

98. "And they say that Zeno said that, if anyone would explain to him what the one is, he would be able to speak about existent things. He raised the difficulty, it seems, because

each particular sensible object is called many both categorically and by division, but the point he supposed to be nothing at all. For what does not increase a thing when added to it, nor decrease it when subtracted from it, he thought has no existence."

"Zeno's argument in this passage seems to be different from the one in his book to which Plato refers in the Parmenides. For there, arguing in support of Parmenides' monism from the opposite point of view, he shows there is no plurality: but here, as Eudemus says, he both does away with the one (for he speaks of the point as the one), and allows the existence of plurality. However Alexander thinks that here too Eudemus is referring to Zeno as doing away with plurality. He says: "As Eudemus records, Zeno the friend of Parmenides tried to show that it is not possible for there to be plurality because there is no "one" among existing things, and plurality is a collection of units." (Simpli-
sius, Physics, 97. 13; 99.7. Found in Lee, op. cit., sections 5 & 6.)

Remarking that "the polemic of Zeno is clearly directed in the first instance against a certain view of the unit", Burnet finds the commentary of Alexander (given above) quite satisfactory in its explanation of this passage on the 'one', for "here we have a clear reference to the Pythagorean view that everything may be reduced to a sum of units, which is what Zeno denied." (E.G.P., pg. 315.)

99. Diogenes Laertius, IX. 25.

100. Burnet, op. cit., pg. 314.

101. Erdmann, History of Philosophy, I. 45.

102. Schaaf, op. cit., pg. 66. As Simplicius puts it, Physics, 139.5: "In his book, in which many arguments are put forward, he shows in each that a man who says that there is a plurality is stating something self-contradictory. One of these arguments is that in which he shows that, if there is a plurality, things are both large and small, so large as to be infinite in magnitude, so small as to have no magnitude at all. And in this argument he shows that what has neither magnitude nor thickness nor mass does not exist at all. For, he argues, if it were added to something else, it would not increase its size; for a null magnitude is incapable, when added, of yielding an increase in magnitude. And thus it follows that what was added was nothing. But if, when it is subtracted from another thing, that thing is no less; and again, if, when it is added to another thing, that thing does not increase, it is evident that both what was added and what was subtracted were nothing." (Lee, op. cit., 9.)

103. Simplicius, Physics, 130. 34. (Lee, op. cit., 10.)

104. Simplicius, Physics, 140.27. (Lee, op. cit., 11.)

105. Burnet, op. cit., pg. 317.

106. Simplicius, Physics, 562.1, ad 210b23. (Lee, op. cit., 15.)

Lee ~~reads~~ the Greek topos by place, Burnet (op. cit., pg. 317). takes it as space, as does Zeller (op. cit., pg. 52).

107. Stated in Simplicius, Physics, 1108.18. (Lee, op. cit., 38.)

108. "Ipsi Aristoteli, qui cum subtilitate Zenonis felicissime univit profunditatem, sobrietatem, bonum sensum communem,

quique judicavit, 'imbecillis esse ingenii, propter difficultates relinquere veritatem cognitam', debemus claras et quantum difficultas rei patitur, sufficientes solutiones argumentorum. Zenonis Continuum, sic explicat, non est actu divisum et sic actu divisum et sic actu multitudinem partium non continet; nam continua sunt ea, quorum extrema sunt unum et sic actu limites in interno non habent. Divisible vero est continuum non in partes multitudinis actu infinitae, sed in partes semper adhuc divisibiles." Schaaf, op. cit., pg. 69. Indeed we may agree that "argumenta Zenonis magnam famam habuerunt, sed etiam haud parvam utilitatem, ad elucidandum conceptum continui; nec eorum vim potest quis eludere nisi doctrinae peripateticae adhaereat." Geny, Brevis Conspectus Historiae Philosophiae, pg. 43.

109. Schaaf, op. cit., pg. 70.

110. Physica IV.4 212a.

111. "Particular space," writes Turner (History of Philosophy, pg.144.) in expounding the Aristotelian physic, "is, therefore, coterminous with extended body, and space in general is coterminous with the limits of the world. Space is actually finite, yet potentially infinite, inasmuch as extension is capable of indefinite increase."

112. Aristotle, Physica VII.v 250 a.

113. Simplicius, 1013.4, ad 239b10, (Lee, op. cit., 20.).

114. Aristotle, op. cit., VI.ii. 233 a 21.

115. Simplicius, op. cit., 1013.31 (Lee, op. cit., 27.).

116. Aristotle, op. cit., VI.ix.239 b 18. "Parsequens non attinget fugiens, si semper vellet sistere in illis punctis, unde fugiens ante erat profectum; quod si motu continuo celeriore, quam habet fugiens, se movebit, illud obtinebit." Schaff, op. cit., pg.71.

117. "The flying missile occupies a space equal to itself at each instant, and so during the whole time of its flight: what occupies a space equal to itself at an instant is not in motion, since nothing is in motion at an instant: but what is not in motion is at rest, since everything is either in motion or at rest: therefore the flying missile, while it is in flight, is at rest during the whole time of its flight." Simplicius, 1011. 19. (Lee, op. cit., 31.).

118. Aristotle, op. cit., VI. ix. 239 b 30.

119. This is set forth at great length by Simplicius, op. cit., 1016.9 - 1019.9. (Lee, op. cit., 36.). Of Zeno it is observed that "in his proof he assumes as admitted that bodies moving with an equal velocity and of equal size move an equal distance in equal times, and further that of such bodies, if one moves half as far as the other, then the motion of the first will occupy half the time of that of the second." On this basis, he therefore argues that "if there is motion, of two bodies of equal size and moving with equal velocities, one will move twice as far as the other, and not the same distance, in the same time. This of course an absurd conclusion, but so also is the conclusion that follows upon this that the time they take, which is equal and the same, is at once both double and half."

120. Aristotle, op. cit., VI. ix 239 b 33.

121. Plutarch, Pericles, iv. 3.

122. Topica, VIII. iv 159 a.

123. In the face of death, Socrates declared that "the partisan, to whom in the circumstances he somewhat likens himself, "when he is engaged in a dispute, cares nothing about the rights of the question, but is anxious only to convince his hearers of his own assertions." (Phaedo 91 a.).

124. Phaedo 90 c.

125. Taylor, Varia Socratica, pg. 92: as quoted by Lee (op. cit., pg. 118.).

126. Zeller, op. cit., pg. 53. "Non habemus rationem, dubitandi, ipsum non fuisse convictum de veritate proprii systematis et hoc sensu sophistic sane non est adnumerandus. Ipsius tamen subtilitates gratissimam dederunt occasionem sophistic, omnia, etiam ~~existentiam~~ corporum, in dubium vocandi." Schaaf, op. cit. pg. 73.

127. "Zeno closes the second great line of independent enquiry opened by Anaximander, and continued by Pythagoras, Zeno-phanes, and Parmenides, which we may characterise as the Mathematical. Its opposition to the Physical or Empirical enquiry was radical and constant. But up to the coming of Zeno these two systems had been developed almost in parallel lines, so little influence did they exert upon each other. The two systems clashed together on the arrival of Zeno at Athens. The result of the conflict was the creation of a new method, - Dialectics. This method influenced the Sophists and the Sceptics. It also influenced all succeeding schools, and may be said to have constituted one great peculiarity of Socrates and Plato." Lewes, History of Philosophy, I. 65.

128. Burnet, op. cit., pg. 321

129. Diogenes Laertius, IX. 24.

130. Frs. 1a & 1. The fragments may be found in Burnet, op.

131. Fr. 2.

132. Fr. 2. The criticisms of Aristotle are included in R.P. (143 a.).

133. "His whole conception of reality made it necessary for him to regard it as eternal. It would be more serious if Aristotle were right in believing as he seems to have done, that Melissos inferred that what is must be infinite in space, because it had neither beginning nor end in time. (Cfr. de Sophist. Elench. 168b39). As, however, we have the fragment which Aristotle interprets in this way (fr.2), we are quite entitled to understand it for ourselves, and I cannot see anything to justify Aristotle's assumption that the expression 'without limit' means without limit in space.

"Melissos did indeed differ from Parmenides in holding that reality was spatically as well as temporally infinite; but he gave an excellent reason for this belief, and had no need to support it by such an extraordinary argument." Burnet, op. cit., pg. 325.

134. Fr. 7, n.4. Cfr. Aristotle, de Generatione et Corruptione, I. viii 325 a.

135. Fr. 3.

136. Fr. 5

137. Fr. 6.

138. Fr. 7, nn. 1, 2, 5.

139. Fr. 7, n. 2.

140. Simplicius, Physics, 150. 20. (Burnet, op. cit., pg. 32.)

141. Fr. 7, n. 3. "It is clear that Anaxagoras made considerable use of pain (Πόνος), and it is possible that his doctrine, summed up in the words ἀεὶ πᾶσι τὰ ὅσα (Arist. Eth. Nic. H. 15, 1154 b 7.) had a wider application than appears from his remains." Burnet, op. cit., pg. 326, note 2.

142. Fr. 7, n. 6.

143. op. cit., pg. 327, and notes 1 & 2.

144. Fr. 8. "Il insiste avec beaucoup de force sur l'insuffisance de la connaissance sensible; si, en effet, nous affirmons avec vérité qu'une chose est chaude, il faudra taxer d'erreur la sensation qui nous montre une chose chaude devenant froide, c'est-à-dire les observations sur lesquelles se fondait l'image du changement dans la physique ionienne." Bréhier, op. cit., pg. 67.

145. Anaxagoras, fr. 21.

146. Melissus, fr. 8.

147. Burnet, op. cit., pp. 328-9.

148. Aristotle, Metaphysics, I.v. 986 b. It is said in fr. 9 that "if it is one, it cannot have body; for, if it had body, it would have parts and would no longer be one." Burnet argues that the one spoken of here is not the Eleatic whole of reality, but the point as a spatial unit. "To maintain it in the first sense, the Eleatics were obliged to disprove it in the second; and so it sometimes seemed as if they were speaking of their own 'one' when they really meant the other." (op. cit., pg. 328.). We have already treated of much this same point in connection with Zeno.

149. Schaaf, op. cit., pg. 80. "Sed Melissus considerabat ens ex parte materiae. Argumentabatur enim unitatem entis, ex eo quod ens non generatur ex aliquo priori, quod proprie pertinet ad materiam quae est ingenita. Arguebat enim sic: Quod est generatum habet principium; ens non est generatum, ergo non habet principium. Quod autem caret principio, et fine caret; ergo est infinitum. Et si est infinitum, est immobile: quia infinitum non habet extra se quo moveatur. - Quod autem ens non generatur, probat sic. Quia si generatur, aut generatur ex ente, aut ex non ente; atqui nec ex non ente, quia non ens est nihil, et ex nihilo nihil fit. Nec ente; quia sic aliquid esset antequam fieret; ergo nullo modo generatur. - In qua quidem ratione patet quod tetigit ens ex parte materiae; quia non generari ex aliquo prius existent materiae est. Et quia finitum pertinet ad formam, infinitum vero ad materiam. Melissus qui considerabat ens ex parte materiae, dixit esse unum ens infinitum." St. Thomas, In I Metaph., lect. 9, 140.

150. Maréchal, op. cit., pp. 58-9.

151. "Quid, quod plures post ipsum etiam possibilitatem vacui negarunt; uti Cartesius (etsi propter aliam rationem, identificando nempe extensionem, competentem etiam vacuo, cum corpore et quod recentius Balnes ex.gr. repetit, duo corpora, inter quae esset vacuum, debere sese tangere, cum vacuum nihil sit. Attamen vacuum existere non posse, sophisticè probatur a Parmenide, ut rationem afferente, ipsi, utpote nihilo repugnare existentiam. Sane uti ens positivum existere nequit; quid autem prohibet, quominus existat uti entis extensi negatio, cum possibilitate, quod inter duo corpora, inter quae est vacuum, ponatur corpus determinatae extensionis? Quare iure communius admittitur possibilitas vacui extra mundum nec non inter corpora, quamvis alia sit quaestio de absoluta possibilitate, alia de existentia vacui. Problema vero de extensione illimitata universi, sive quoad meram possibilitatem sive quoad existentiam, ex tempore Melissi philosophos vexavit et adhuc vexat." Schaff, op. cit., pp. 81-2.

152. Mitchell, A Study of Greek Philosophy, pg. 19. This is all right, provided that we take the denial of the finite world in the right sense, that is, by comparison with the reality. In summary we may note: "In the development of the Eleatic philosophy Xenophanes, with his critical tendency of mind and theological interests, appears as the predecessor of Parmenides. The latter formulated the profound but rigid central dogma of the school. Zeno and Melissus were protagonists, who with the new art of their dialectic defended the conquests of the school against the attacks of adversaries, but not without danger of falling into the snare of mere polemics and thereby paving the way, much against their will, for the scepticism of the sophists which was eventually superseded by the Platonic-Aristotelian logic." Zeller, op. cit., pg. 54.

153. Fernandez-Alonzo, op. cit., pg. 286

154.. In I Physic., lect. 3, 1.

155. In I Physic, lect. 1, 8.

156. In I Physic., lect. 1, 7.

157. In I Physic., lect. 1, 8.

Chapter V: The Younger Physicists.

The early Ionian physicists were more or less content to regard reality as some kind of a unity, without entering into all the implications of such a doctrine. The criticisms offered by the Eleatics, however, showed the Hellenic world that, if the One, as usually conceived, really is, it cannot assume different forms, inasmuch as change would involve the admission of that which is not. Hence, the sense presentations of a changing manifold of things were held to be delusory,¹ and no thinker before the time of Aristotle was able to vindicate the data of common sense. Men sought instead to mediate between the Being and experience, to modify the pure monism in favor of a more adaptable reality, which would still be all it should be.

And so we find that from this time onwards all the thinkers in whose hands philosophy made progress abandoned the monistic hypothesis. Those who still held by it adopted a critical attitude, and confined themselves to a defence of the theory of Parmenides against the new views. Others taught the doctrine of Herakleitos in an exaggerated form; some continued to expound the systems of the early Milesians; but the leading men are all pluralists. The corporealist hypothesis had proved unable to bear the weight of a monistic structure.²

Among the newer pluralists we early find the outstanding figure of Empedocles of Agrigentum, a man of an illustrious family, who, by one account, was the disciple of the Pythagoreans and, by another, the pupil of Parmenides.³ He was by a common tradition a man of notable parts, possessed of great erudition and gifted with a noble eloquence. Aristotle speaks of him as being the inventor of rhetoric, a man "of Homer's school and powerful in diction, being great in metaphors and in the use of all other poetical devices",⁴ while Satyrus mentions him as being "also a physician and an excellent orator",⁵ who numbered Gorgias among his students.

Indeed, Satyrus tells us that Gorgias was present when his master trafficked in magic, and Empedocles himself laid claim to great powers over the forces of nature.⁶ He participated in politics and travelled widely, setting forth his teachings and reciting his verses throughout the western portion of the Hellenic world. By his own account, he was received with divine honors wherever he fared: such, for example, was the burden of his message to those rather astoundingly virtuous folk who dwelt in the great town that looks down upon the yellow rock of Agrigentum:

I go about among you as an immortal god, no mortal now, honored among all as is meet, crowned with fillets and flowery garlands. Straightway, whenever I enter with these in my train, both men and women into the flourishing towns, is reverence done me; they go after me in countless throngs, asking of me what is the way to gain; some desiring oracles, while some, who for many a weary day, have been pierced by the grievous pangs of all manner of sickness, beg to hear from me the word of healing.⁷

As Burnet has pointed out, he was something more than a mere scientist or even a statesman; there was much that would remind one even of the "medicine man" about him. He was an exponent of the new impulses in Greek religious life which the mysteries stood for, and was interested in means of deliverance from the wheel of birth -- means which he came to see in purity of life and abstinence. Thus, it was his advice to "abstain wholly from laurel leaves",⁸ while, echoing Pythagoras, he vehemently warned the "wretches, utter wretches" to "keep your hands from beans".⁹ Speaking more generally, and perhaps less to the initiates, he counselled men that they should "fast from wickedness";¹⁰ there is a note of lamentation over some fault of his in this regard, for he says "Ah, woe is that the pitiless day of death did not destroy me ere ever I wrought evil deeds of devouring with my lips".¹¹ For, he was one of those daemons banished for having followed after strife, "(who) must wander thrice ten thousand seasons from the abodes of the blessed, being born throughout the time in all manners of mortal forms, changing one toilsome path of life for another... One of these I now am, an exile, a wanderer from the gods, for that I put my trust in insensate strife."¹²

After all this, we may well feel like asking with him: "Why do I harp on these things, as if it were any great matter that I should surpass mortal, perishable men?"¹³ but the fact remains that his quasi-mystical outlook and his blending of rational enquiry with a faith in a somehow higher message both served to make his teaching different in tone and to lend it an appeal which brought philosophy closer to the lives of his hearers. Indeed, it has been remarked:

The personality of Empedocles resembles that of Faust, and is only to be understood if we recognise in his character the combination of a passion for scientific enquiry with a nonetheless passionate striving to raise himself above nature. With him it was not merely a question of knowledge of nature, but of mastery over nature. His purpose was to discover what forces govern the natural world and to subject them to the service of his fellow men.¹⁴

With Empedocles, the element of faith makes a definite entrance upon the scene of Greek thought. The term is not to be taken in too strict a sense, but it does serve to illustrate the condition of mind which he required of his followers. For his doctrine, like so many others of the time (in claims, at least), is above the mass of opinions wherewith the ordinary man may be satisfied. Yet, this doctrine is presented on high authority and, however beyond the common view, must be carefully attended to. Indeed, "it is all too much the way of low minds to disbelieve their betters. Do thou learn as the sure testimonies of my Muse bid thee, when my words have been divided in thy heart."¹⁵ He conceives himself as the bearer of a higher message, one which men ought to receive on such great authority, since it means so much to them. There is perhaps a faint adumbration of the later scholastic teaching as to the influence of the will on the intellect in matters of faith. St Thomas puts it clearly and with precision:

Et sic etiam movemur ad credendum dictis, in quantum nobis repromittitur praemium aeternae vitae: et hoc praemio movetur voluntas ad assentiendum his quae dicuntur, quamvis intellectus non moveatur per aliquid intellectum.¹⁶

Even Empedocles re-enforced his teaching at the promptings of his Muse by happy promises:

Blessed is the man who has gained the riches of divine wisdom; wretched he who has a dim opinion of the gods in his heart.¹⁷

Moreover, if he is to preach his doctrine, he must do his work subject to guidance and only after he has been purified by the higher powers:

But, O ye gods, turn aside from my tongue the madness of those men. Hallow my lips and make a pure stream flow from them! And thee, much-wooded, white-armed Virgin Muse, do I beseech that I may hear what is lawful for the children of a day!

When the doctrine is presented in the proper way after the requisite purifications, the disciple who would receive it and make it indeed his own must be sure that his own mind is pure and good. If he has thus taken it to himself and made it his own, he may well expect great benefit therefrom, especially as regards the enrichment of his inner life, of that which really counts in him. The theme of a reward held out to those who believe now becomes very clear. The Empedoclean teaching is a faith, which must be received as such and which, interestingly, entails results not only in the order of knowledge, but in the

order of man's moral life as well:

For if, supported on thy steadfast mind, thou wilt contemplate these things with good intent and faultless care, then shalt thou have all these things in abundance throughout thy life, and thou shalt gain many others from them. For these things grow of themselves into thy heart, where is each man's true nature. But if thou strivest after things of another kind, as it is the way with men that ten thousand sorry matters blunt their careful thoughts, soon will these things desert thee when the time comes round; for they long to return once more to their own kind; for know that all things have wisdom and a share of thought.¹⁹

That rather anti-climactic last clause gives us the key to the whole story of Empedocles. A great man, he had rather a sound but imperfect view of the value of faith, imperfect the more so in that he was unable to propose the right things in which men should believe. After his inspiring build-up, that touch of animism, though perhaps to be expected, shows that philosophy is not quite matured as yet,

The content of his teaching, even if our hopes must be disappointed, is by no means without interest or value. We have some of it from a poem which he wrote Concerning Nature and from another one on Purifications, which respectively emphasised physics and psychology.

He appears at the outset to indulge in some criticism of Parmenides and of his exaggerated claims as to the great Truth of his Monism, saying that "each is convinced of that alone which he had chanced upon as he is hurried every way, and idly boasts he has found the whole".²⁰ This attitude leaves him very cold, and he reproaches the Eleatics for their rejection of sense knowledge. As he sees it, men should not set up theories which will from their start contradict the experience of reality, but should rather try to understand things as they show themselves: "Go to now, consider with all thy powers in what way each thing is clear".²¹ He will not take a stand, however, which is altogether opposed to that of Parmenides, preferring to try for an explanation of all things that will at once escape the destructive criticism of the Eleatics and be in accord with common sense.

It is often said that this system was an attempt to mediate between Parmenides and Herakleitos.²² It is not easy, however, to find any trace of Herakleitean doctrine in it, and it would be truer to say that it aimed at mediating between Eleaticism and the senses.²³

Empedocles did not leave himself open to the then damaging charge that he admitted change as ordinarily understood, that is, as the coming into being of something which was not actually there before. He was willing to interpret ordinary experience in the light of a monist rejection of true change. Accordingly, he declares that they are "fools -- for they have not far-reaching thoughts -- who deem that what before was not, comes into being, or that aught can perish and be utterly destroyed".²⁴ It is out of the question for anything to come from that which in no way is, and out of the question also for that which is to pass out of existence. That which is is eternal, "wherever one may keep putting it".²⁵ The divine reality is "bound up in the close covering of Harmony, spherical and round, rejoicing in his circular solitude...equal on every side and quite without end".²⁶ Like the Eleatics, he can not recognise any void in the Being: "In the All there is naught empty, Whence then could aught come to increase it?"²⁷

Now his thought takes a new turn, for if he is to reconcile this with experience he must find some sort of motion. Any such motion could not be on the part of the spherical Being itself, but it might be within that spherical Being. This would not be possible, if the part which is displaced were replaced at once (as would be necessary) and by something of the very same kind. Motion like that would be no better than rest. But he could not see the need for admitting a perfectly homogeneous character of the spherical Being. It might be just to insist upon the reality of that which is, but one ought not to take that which is in too narrow a sense. Rather, one should investigate the nature of this abiding reality with a greater care.

Even if it is ill advised to contradict the senses outright, it is still impossible for us to regard the innumerable forms of beings, which they manifest, as the ultimate reality. We must remember:

There is no substance of any of all the things that perish, nor any cessation of them for baneful death. They are only a mingling and interchange of what has been mingled. Substance is but a name given to these things by men.²⁸

The man of faith in the higher teaching should see that there is a small number of such ultimate forms of the being, and that to each of these there may be applied the truth concerning that which is. Further, these will by their mingling and interchange, as already suggested, constitute the reality which we know.

In fine, what he advanced was a theory of elements, that are indestructible and unchangeable, yet that go to make up the 'changing' things of our experience. Thus, he hopes to save both the abiding character in the spherical being of these elements together and the presentations of our senses as to what goes on within the Being.

Corpora omnia viventia et non viventia sunt composita ex quibusdam corporibus elementaribus, quae sunt plane immutabilia secundum qualitatem, localiter tamen se movent et resoluta in partes minores se uniunt ad invicem vel sese solvunt. Fieri novarum rerum stat in eo quod illa elementa in se immutabilia alio modo coeant ad unum faciendum (hominem, brutum etc.), interire vero in eo, quod eadem elementa sese iterum dissolvant (in morte hominis, bruti); mutatio autem tunc accidit, quando quaedam solum elementa accedunt ad unum iam praexistens vel ab eo recedunt. Sic locum habet solum eorundem elementorum immutabilium alia unio vel segregatio; nomen vero generationis et corruptionis retineri potest cum communi modo loquendi, dummodo non intelligatur ortus vel interitus novae realitatis.²⁹

The elements are familiar to everyone: fire, air, earth, and water, "the four roots of all things...uncreated",³⁰ which he first proposes under the fanciful names, respectively, of Zeus, Hera, Aidoneus, and Nestis. As these were the ultimate constituents of the real, all that he had ascribed to the eternal, changeless being now applied properly to them. "For these, he says, always remain and do not come to be, except that they come to be more or fewer, being aggregated into one and segregated out of one".³¹

From these elements all things have come, whether they have been in the past, or presently enjoy the existence produced by the minglings, or are yet to be brought forth. "For these," he reminds us, "are these alone; but, running through one another, they take different shapes - so much does mixture change them."³² It is just as with works of art, which the painters produce by taking the pigments and mixing them in the right measures, more here and less there, so as to be able with their help to construct shapes that will be like to all things. It is most necessary that men should receive this teaching as to the foundations of reality and that they should not yield to temptations to look beyond, for other sources of what is: this in deed is the tale which the gods endorse.

So let not the error prevail over thy mind, that there is any other source of all the perishable creatures that appear in countless numbers. Know this for sure, for thou has heard the tale from a goddess.³³

Now, as to the source of motion, which Heraclitus had once posited in his ever-living fire, Empedocles had recourse to two moving forces which by their influence effect the mingling and the disgregation of these four elements. His reality

was a spheric mixture rather than a completely homogeneous mass, but there was, as he insisted, nothing outside it to start it moving. Hence, he was obliged to look to the existence of a force which he called Strife or Hate; which appears to have been a familiar part of the Orphic cosmogony.

But he could not very well stop with this, for the effect of such a motive force would be to separate all the elements out entirely, after which nothing could happen. There had, then, to be another force, which would tend to unite the elements once more; this he called Love or Harmony. In this way, the story of reality is a two-fold one:

At one time it grew to be one only out of many; at another, it divided up to be many instead of one. There is a double becoming of perishable things and a double passing away. The coming together of all things brings one generation into being and destroys it; the other grows up and is scattered as things become divided. And these things never cease continually changing places, at one time all uniting in one through Love, at another each borne in different directions by the repulsion of Strife. Thus, as far as it is their nature to grow into one out of many, and to become many once more when the one is parted asunder, so far they come into being and their life abides not. But, inasmuch as they never cease changing their places continually, so far they are ever immovable as they go around the circle of existence.³⁴

This Love should be studied with the mind, for it is the same as that which is to be found in the bodies of men, and it is important in that "it is she that makes them have thoughts of love and work the works of peace".³⁵

Despite the high-sounding names of these all-moving forces, it is clear from his description that they are not incorporeal. The philosophic mind had not yet reached the stage where it would insist that the changeless source of change must be altogether free of the potential and, a fortiori, of the material. These forces may be active, and it may be a good sign that he looks to something not quite like the ordinary things of direct sense experience for the source of motion, but they are still material. For, is it not true that "this (contest between love and strife) is manifest in the mass of mortal limbs"³⁶

This way of considering the sources of motion was sure to provoke Aristotle, to whom it seemed rather contradictory to identify, even by implication, the efficient and material causes, the agent and that which is acted upon.

Empedocles has a paradoxical view; for he

identifies the good with love, but this is a principle both as mover (for it brings things together) and as matter (for it is part of the mixture). Now even if it happens that the same thing is a principle both as matter and as mover, still the being, at least, of the two is not the same. In which respect, then, is love a principle? It is paradoxical also that strife should be imperishable: the nature of his 'evil' is just strife.³⁷

It is certainly significant that Empedocles should afford the grounds for such a criticism. Like many men of sound instincts, he was anxious to solve the difficulties created by the extreme views of his predecessors. Although he tried his best, his system was from the start thus involved in contradictions, because of his inability to rise above the merely physical level, to attain the plane on which alone the metaphysical problems now at issue could be discussed.

The details of his rather interesting description of the manner in which all things come to be from the original mixture as operated on by those two forces does not directly concern us here. We may note, however, that in his view of the matter, plants and animals arise from the earth by a gradual process. Aristotle takes issue with his theory as to the growth of plants upwards and downwards because of the opposite natural movements of the earth and the fire which they contain.³⁸ Their growth is a moment in the separation of the elements under the influence of strife, when some of the fires that are still beneath the earth meet, as they tend upwards, with some earth that is still moist, and, under the influence now of love, they form a plant.

As for the animals, their parts first of all rise up separately, at a time when "on it (the earth) many heads sprung up without necks and arms and wandered bereft of shoulders. Eyes strayed up and down in want of foreheads."³⁹ This would take place in the first stage of history, when love was on the increase; and, later, it put these scattered members together.⁴⁰ As a result of these unions, there came about all possible combinations, many of which were monstrous:

As divinity was mingled still further with divinity, these things joined together as each might chance, and many other things besides them continually arose, Shambling creatures with countless hands.⁴¹

Such activity seems to be devoid of purpose and, at least, difficult to reconcile with an intelligible origin of the universe. It does not become any clearer when we gather that those forms which were somehow fitted to survive kept on being, while the others perished. In terms of what would they be fitted?

In the third stage, when strife is gaining the upper hand, we have "whole-natured forms..., having a portion both of water and fire. These did the fire, desirous of reaching its like, send up, showing neither the charming form of the limbs, nor yet the voice and parts that are proper to men."⁴² In the fourth, or present stage, we have the sexes and the species determined and production by generation. It has all worked out just as if it were planned.

We may suppose that all things have fallen out accidentally just as they would have done if they had been produced for some end. Certain things have been preserved because they had spontaneously acquired a fitting structure, while those which were not so put together have perished, as Empedocles speaks of the oxen with human faces.⁴³

It is unquestionably an interesting description, and all the more such because of this early appearance of the very "modern" notion of the survival of the fittest. Still, it entails a number of difficulties, in addition to the ones which have already been pointed out. For the question of knowledge could not receive any satisfactory answer from such a scheme. It was well, of course, that Empedocles did not explicitly regard all bodies as living and organic, but he failed clearly to discriminate between those which lived and those which did not, for both of them came from the elements by natural motions. Further, there was no distinction properly made between the several orders of the living.

Claram tamen distinctionem mundi anorganici ab organico et regnorum viventium inter se nondum facit. Sic plantis etiam cognitionem et dolorem attribuit... Insuper putans... etiam cognitionem intellectualem esse actionem mere materialem elementorum speciali modo unitorum, censet intellectionem inveniri, ubicumque apta mixtio elementorum locum habeat.⁴⁴

Now, of motion in general, Empedocles had said that the elements, which alone have the being, "running through one another, ... become now this, now that, and like things evermore".⁴⁵ There obtains a symmetry of pores, which is the true explanation of the attraction which each exercises upon its like. Small parts of each body, or effluvia (effluxes), are separated off, and these may enter into the pores of other bodies. The more the pores of a given body are conformable to such effluvia, the more easily can the effluvia enter into it and begin the work of modification. This is the point, for instance, of the discussion which Socrates has with Meno:

Soc: Do not he (Gorgias) and Empedocles say that there are certain effluences of existence?

Men: Certainly.

Soc: And passages into which and through which these effluences pass?

Men: Exactly.

Soc: And some of the effluences fit into the passages, and some of them are too small or too large?

Men: True. 46

The particles and pores of the same element are nicely adapted one to another; as a result, fire can be penetrated only by fire, water by water, and so on.⁴⁷

This conception of the manner in which things may act upon each other was to be of great help to him in the formulation of his theory of knowledge. If he failed to make sufficient distinction between the various orders of life, we might well expect that his account would be imperfect and somewhat materialistic. It is valuable all the same in that it represents an effort to work the fact of knowledge into a more nearly complete system of philosophy.

Before this time, Xenophanes, as we saw, proposed that there is a god who sees and thinks all over. In a vein not altogether dissimilar, Empedocles avowed that man had to attend to the important matters whereof he spoke, for any distraction would allow such things to desert them, "for they look to return once more to their own kind; for know that all things have wisdom and a share of thought".⁴⁸ In us, it is the elements mingled together which produce, or rather, undergo the cognitional experience: "for out of these are all things formed and fitted together, and by these do men think and feel pleasure and pain".⁴⁹

The mixture which is most apt for the production of knowledge is to be found in the blood and especially in the heart, wherefore we may say that the seat of knowledge is in the blood about the heart, "dwelling in the sea of blood that runs in opposite directions, where chiefly is what men call thought; for the blood round the heart is the thought of men".⁵⁰ He had reasons for his choice of this well-mingled blood, for it is a most important factor in life, "and for this reason we think chiefly in our blood, for in it of all parts of the body all the elements of the body are the most completely mingled".⁵¹

The Empedoclean psychology has probably received most attention because of the theory of perception which it includes. Just as everything is attracted by its like, so is it the principle of knowledge that like is known by like. "'For by earth,' he says,

we see earth, by water water,
By ether godlike ether, by fire wasting fire,⁵²
Love by love, and strife by gloomy strife."

The several elementary bodies, then, are known to us through the corresponding elements which are mingled in our bodies and our blood. So too, we come to those two forces of love and hate, that rule the universe, through the presence of kindred forces in our selves. This sensitivity, if we may use the term, of the elements or forces within us to the corresponding elements or forces outside obtains because of the similarity of their pores. Thus, whereas particles of the earth would fit in nicely with each other, bits of earth which intruded into the spaces between drops of water would be in the probable position of the familiar round peg in a square hole.

As he has had occasion to point out before, "effluences flow from all things that have come into being",⁵³ and these will, of course, come into contact with human bodies. Striking upon the body, they will enter the organ of sense which has the pores adapted to accommodate them, whereafter they will be picked up by the similar element within. In some instances it seems that they may unite themselves with certain effluxes that proceed from the organs themselves.

Empedokles speaks in the same way of all the senses, and says that perception is due to the "effluences" fitting into the passages of each sense. And that is why one cannot judge the objects of another; for the passages of some of them are too wide and those of others too narrow for the sensible object, so that the latter can either hold their course right through without touching or cannot enter at all.⁵⁴

Turning to the several senses themselves, we find that smell is due to respiration, for the breath will draw in the particles that will fit into the pores. In this process, the mouth, the lungs and the pores of the skin are to operate alternately, for smelling is incidental to that portion of the process in which the mouth and lungs serve as agents:

Empedocles holds that the sense of odour is introduced with and by the respiration actuated from the lungs; that accordingly, when the respiratory process is labored, at such times, owing to its roughness, we do not perceive smells when we inhale, as happens with persons suffering from catarrhs.⁵⁵

Objectively, then, the odors are effluences which emanate from the odoriferous bodies; this we may see in the case of the scents which a hound will track, "with its nostrils tracking out the fragments of the beast's limbs, and the breath from their feet that they leave in the soft grass".⁵⁶

As for hearing, it seems that it is produced by sound without, when the air moved as by the voice comes to sound within the ear, for the air-wave will strike the cartilage found inside the ear, and this will then oscillate like a gong that has been struck. "For the sense of hearing is a sort of bell sounding inside the ear, which he calls a 'fleshy sprout'. When the air is set in motion it strikes upon the solid parts and produces a sound."⁵⁷ Here, the effluences seem to be air, or particles of air. The explanation is interesting enough, but its materialistic coloring opens the way to grave difficulties. Even though hearing is said to be due to sounds within the ear, such a theory of a sound like a gong inside does not make it evident how we come to hear.

For suppose that we hear the outer sounds by means of this gong; by what do we hear the gong itself, when it rings? For this -- the very point of the whole enquiry -- is neglected by him. 58

The theory of vision, which was later on to please Plato and to find a place in the Timaeus, supposed that the eye is made up of the four elements, with fire at its heart, a layer of water next, and both of these enclosed by air and earth. He likens the eye to a lantern, for just as the flame of the lantern is protected from gusts of wind by a sheet of horn, so too the central fire of the eye is shielded from the surrounding water by a delicate membrane, the pores of which are exceeding fine.⁵⁹ The water cannot penetrate this, but the fire can find its way out, or, for that matter, its way in. The emanations from the objects can thus make their way into the eye and, according as they proceed from bright objects or from dark ones, they may enter in and pass through the corresponding pores of fire (for the bright) or water (for the dark). Since like is known by like, we will know the effluences of the fire, or the white, by the internal fire, of the water, or the black, by the internal water, and so on. The predominance of any one element would naturally affect the disposition of our sight, so that it is better to have the elements balanced: "the best tempered and the most excellent vision is one composed of both in equal proportions".⁶⁰

As it appears from the statements of Empedocles himself and from certain remarks of Aristotle and Theophrastus, there was involved in his theory of vision a two-fold emanation. First, the inner fire contributed much to sight, which it brought about by visual rays flowing outwards from it; secondly, the effluences from the object had their part to play. Although Empedocles quite possibly did not fully harmonise these two factors, they may be regarded as complementary portions of the same theory. It has been suggested that if we think of the inner rays as going only so far as to meet the effluences from the object, we will find the views better understandable and have an indication of the similarity here between Plato and Empedocles.⁶¹

He does not appear to have paid much attention to touch or taste, and, in the case of these senses, we can only recur to his general doctrine that sensation is brought about through adaptation to the pores. The effluences, as Theophrastus points out, may be helpful where the other senses are concerned, but they create special difficulties when we come to these last two.⁶²

How...are we to conceive sensible distinctions of taste or touch as made by means of emanation..? How are we to discriminate "the rough" or "the smooth" by its fitting into "the pores"?... The primary condition of the proper exercise of each and every sense-organ is found to consist in a fact of touch -- the due contact between the "emanation" and the inner surface of the pore; yet of the sense of touching he has propounded no special theory. No idea of the sensory function of the nerves existed till long after Empedocles; and the seeming "immediacy" of touch was, perhaps, what debarred it in his opinion from being easily explained in detail by the theory of ἀπορροαί, which operate at a distance and through a medium. The difficulty felt in applying his general theory to touching was of course felt also in reference to the kindred sense of tasting.⁶³

His various theories are, thus, interesting and provocative, but so involved with materialism that from the start we cannot hope to find them organised in a sound psychology. The principle that like is known by like is an extremely valuable one, but Empedocles put it on no very high plane; for him, sense perception was something that took place when the sense-organ is supplied with its proper object and its pores are symmetric with the effluences. "But nevertheless...there is in this nothing peculiarly characteristic of sensation. Such agreement between ἀπορροαί and the pores of objects is the universal condition of the interaction of material bodies."⁶⁴ There is nothing in such an account which could serve to distinguish the animate properly from the inanimate. All bodies work on one another; if the theory as proposed is taken, there is no reason for denying perception to any substances which blend together.

As for the element of likeness, we are said to perceive things thanks to the fact that our body and even our soul are made up of the same elements. So long as one continues to think in terms of a material likeness, this explanation is scarcely better than a physics.

He showed, indeed, or tried to show in what the various kinds of sense perception agree,

but not that which at the same time distinguishes them from physical processes. Rather he implicitly denied that there is any such fundamental distinction. Perception is for him only interpenetration -- a material conception.^{64a}

He had been of real service in obliging men to think over the character of sensation, for after this time it was difficult for any one who wished to propose a rounded scheme of philosophy to overlook this problem. Thinkers will hereafter fall roughly into two camps, the one of those who deny, explicitly or otherwise, the existence of any real difference between physical interaction and sense-perception, and the other of those who would maintain that there is some difference.

Empedocles, as we have seen, was greatly interested in reconciling that which is with the testimony of the senses, both of which he thought should be taken rather broadly by the man of faith. Yet, the failures of his predecessors and his own not altogether satisfactory explanation may well have prompted him to indulge at times some measure of doubt as to the real worth of our means to knowledge. For, man's powers, being diffused through his corporeal parts, are straitened and numerous troubles break in upon them, and dull the edge of their diligent thoughts. The individual, then, is mistakenly convinced that he has found the truth, but he is lost soon enough.

They behold but a brief span of life that is no life, and, doomed to swift death, are borne up and fly off like smoke. Each is convinced of that alone which he had chanced upon as he is hurried every way, and idly boasts he has found the whole. So hardly can these things be seen by the eyes or heard by the ears of men, so hardly grasped by their mind! Howbeit, thou, since thou hast found thy way hither, shalt learn no more than mortal mind hath power.⁶⁵

It is a well directed reproach of the Parmenideans, who would claim to have discovered an all which flagrantly contradicted experience, but, on the whole, his remarks do not seem to offer much hope of man's arriving at the truth. Of course, he does seem at other times to be strongly persuaded that he can give the answers, declaring:

Friends, I know indeed that truth is in the words I shall utter, but it is hard for men, and jealous are they of the assault of belief on their souls.⁶⁶

He is, further, persuaded that "blessed is the man who has gained

the riches of divine wisdom".⁶⁷ This beatitude is to be obtained through believing in the doctrine which he proposes, professedly on the authority of the Muse. Apart from the obvious difficulty entailed in the acceptance of his person at his own evaluation, the teaching which he expounds as the divine wisdom has distressing inadequacies.

He advises us, also, to consider as carefully as we can -- for, being men, we shall learn no more than our mortal power may avail -- the manner in which things are clear. This is to be done by the faculty which has been given (or has happened) to man for this operation: "Do not withhold thy confidence in any of thy other bodily parts by which there is an opening for understanding, but consider everything in the way it is clear."⁶⁸ As Father Schaaf has justly pointed out:

Quantum ad cognitionem objective spectatam, nempe ejus objectivum valorem, clarum est, Empedoclem debuisse coarctare veracitatem sensuum, quippe cum ipsi referant ortum et interitum rerum, qui tamen locum non habent. "sensuum fidem declina, reputa vero, quale quodque clare (i. e., per rationem) apparet." Inde insistit, rationi prae sensibus fidendum.⁶⁹

After all he has said about the disadvantages of a naive trust in the senses, the Empedoclean view is one that we might expect, and rather commendable in that he tries to interpret Being in such a way as to save part of the data of experience.

But what is this "reason" in his eyes? So far as we may give an answer to this question, it does not appear very different from sense perception and, accordingly, not very different from activity of a purely material sort. Indeed, we are told that his account of perception is in the final analysis the same as his explanation of thought and ignorance. "Thought arises from what is like and ignorance from what is unlike, thus implying that thought is the same, or nearly the same, as perception."⁷⁰ After all, the blood in the neighborhood of the heart is the very thought of men, since the elements are most completely intermingled in it.⁷¹

His doctrine on knowledge of like by like comes down to this, that we know a thing by means of itself in its physical existence, which the arrangement of the elements confers upon it: "For out of these are all things formed and fitted together, and by these do men think and feel pleasure and pain".⁷² It was a good idea, this saying that knowledge obtains thanks to the presence of the known object in the knowing subject, but Empedocles came a little too early to see how this should be taken.

He still explained everything in terms of matter, even though so metaphysical were many of the problems discussed that the need became more pressing than ever for some man explicitly to transcend physics and to interpret being in the light of its proper science. Thus, Empedocles divined that knowledge must

consist in a union of some sort between the knower and the known, but, as he had treated of everything else on material terms, so too he was here obliged to speak of a physical union, very like that which takes place between any material substances, "for thus have all things thought by fortune's will... And inasmuch as the rarest things came together in their fall."⁷³

To rectify this teaching required an altogether new study and appreciation of the nature of knowledge, as well as of the constitution of that material reality which we in deed know. It demanded the explicit recognition of the fact that our properly intellectual knowledge is of the universal, and that it can never be explained merely on the basis of a material penetration of the individual object. It demanded, in other words, some such reconstruction of philosophy as Aristotle, following after Plato, was to accomplish in large part: a hylomorphic theory as to the make-up of things, which means that the form, which makes the thing to be what it is, is an imprisoned idea, one that our intellect, as experience will bear witness, withdraws from the individuating conditions of the matter; with this the form now of the intellect, there obtains the requisite union of subject and object.

To hold, on the other hand, that the object known is in the soul according to its physical mode is either to identify that soul in a pantheistic fashion with all things or else to conceive that there are just modifications of the soul itself. Either course offers ruin.

Elles (choses, chez le connaissant) n'y sont pas avec leur propre être de nature, ce qui mettrait dans l'âme, comme le voulait Empédocle et les vieux Ioniens, la matière des pierres et des arbres, et de tout le spectacle qu'elle voit: elles n'y sont pas avec l'être de nature de l'âme elle-même, ce qui supposerait, ou bien que l'âme est déjà toutes choses par son essence -- et c'est confondre l'âme avec Dieu -- ou bien que les choses ne sont pas dans l'âme par leur similitude, mais qu'il n'y a dans l'âme que des modifications d'elle-même, et c'est détruire la connaissance.⁷⁴

Thus, we can see that Empedocles was a man of notable talents, proposing as he did an ingenious theory of reconciliation between the dialectically impregnable of the Eleatic Being of those days and the apparent plurality of things. Not quite free of hylozoism, he descried in part the need for an efficient cause. Other thinkers made but little use of their causes, and even "Empedocles, though he uses the causes to a greater extent... neither does so sufficiently, nor attains consistency in their use,"⁷⁵ since his Love is at once material and efficient cause. His doctrine of change, though better developed, is still at variance with common sense.

Regarding the cause of movement and the question whether we must posit one or two, he must be thought to have spoken neither correctly nor altogether plausibly. And in general, change of quality is necessarily done away with for those who speak thus. 76

What he had said could, however, and in fact did stir men to deeper investigation. Material things were moved somehow by forces that were described in terms that would suggest some difference; even this made his theory more consistent, and it could be seen that according as one withdrew the more from a merely physical plane the better could one explain reality. Despite all the imperfections of his teachings, Love could not be divested of every spiritual aspect; even looking toward it implied that what holds with man's rational and voluntary nature is, as a matter of fact, the highest reality to be found in this order. Another step would mean that men should bring in the mind, imperfectly at first, but preparing the way for a truly intellectual conception of reality.

When the universe had been thus humanised and the very affections of the human nature attributed to its attractive and repulsive forces, it is evident that philosophy had but one step further to take in order to reach the completion of the analogy. The world was not merely to be endowed with organisation and with active principles of desire, but still more with the regulating energy of an intellect. That by some such progressive course as this Anaxagoras was led to his conception of the Supreme Intelligence, I cannot think but highly probable. 77

Notes to the Fifth Chapter:

1. "The Eleatics, as Ritter remarks, believed that they recognised and could demonstrate that the truth of all things is one and unchangeable; perceiving, however, that human thought is constrained to follow the appearance of things, and to apprehend the changeable and the many, they were forced to confess that we are unable fully to comprehend the divine truth in its reality, although we may rightly apprehend a few general principles. Nevertheless, to suppose, in conformity with human thought, that there is actually both a plurality and a change, would be but a delusion of the senses." Such is the summary Lewes makes of the Eleatic teaching on these topics; History of Philosophy, I. 51-2.

2. Burnet, Early Greek Philosophy, pg. 197.

3. Diogenes Laertius VIII. 54 ff. Schaaf, for one believes that Parmenides was the man: Institutiones Historiae Philosophiae Graecae, pg. 86.

4. Diogenes Laertius VIII. 57.

5. Op. cit., 58.

6. op.cit., 59: "And thou shalt learn all the drugs that are a defence to ward off ills and old age, since for thee alone shall I accomplish all this. Thou shalt arrest the violence of the unwearied winds that arise and sweep the earth, laying waste the cornfields with their blasts; and again, if thou so wilt, thou shalt call back winds in requital. Thou shalt make after the dark rain a seasonable drought for men, and again after the summer drought thou shalt cause tree-nourishing streams to pour from the sky. Thou shalt bring back from Hades a dead man's strength."

7. Fr. 112. The fragments are found in Burnet, op.cit. pp. 204. ff.

8. Fr. 140.

9. Fr. 141.

10. Fr. 144.

11. Fr. 139.

12. Fr. 115.

13. Fr. 113.

14. Zeller, Outlines of the History of Greek Philosophy, pp. 54.5.

15. Fr. 5.

16. de Veritate xiv. 1 c.

17. Fr. 132.

18. Fr. 4.

19. Fr. 110.

20. Fr. 2.

21. Fr. 4.

22. Thus: Empedocles' explanation of nature represents an attempt to find a compromise between Heraclitus and Parmenides, between eternal change and eternal invariability." Zeller, op.cit., pg. 55.

23. Burnet, op.cit., pg. 227.

24. Frs. 11-12.

25. ibid.

26. Frs. 27-8. This is very like the account of the Eleatic Being, given by Parmenides, according to Simplicius, Phys. 145, 23 D. (R. P. 118.).

27. Fr. 14.

28. Fr. 8.

29. Schaaf, op. cit., pp. 88-9.

30. Frs. 6-7.

31. Metaphysica, I. 3. 984 a.

32. Fr. 21, n. 3.

33. Fr. 23.

34. Fr. 17, n. 1. "For all of these - ~~sun~~, earth, sky and sea - are at one with all their parts that are cast far and wide from them in mortal things. And even so all these that are more adapted for mixture are like to one another and united in love by Aphrodite. Those things, again, that differ most in

origin, mixture and the forms imprinted on each, are most hostile, being altogether unaccustomed to unite and very sorry by the bidding of Strife, since it hath wrought their birth." Fr. 22.

35. Fr. 17, n. 2.

36. Fr. 20.

37. Metaphysica XII. x. 1075 b. As St. Thomas remarks, "licet autem contingat esse principium idem sicut materia et sicut movens, non tamen secundum eandem rationem. Potest enim ignis esse movens secundum formam et materiale principium secundum materiam: non autem secundum idem: Quia movens, in quantum hujusmodi, est in actu, materia autem, in quantum hujusmodi, est in potentia... Aliud autem inconveniens... est quod posuit litem esse primum principium incorruptibile. Quae quidem secundum ipsum videntur esse ipsa natura mali: malum autem secundum recte opinantes non ponitur principium esse, sed solum bonum." In XII Metaph., lect. 12, 2646-7.

38. "Quare Empedocles omino erravit, dum asseruit incrementum in plantis ideo accidere, quia ex una quidem parte earum radices aguntur deorsum - dorsum enim fertur ex natura sua terra! - ex altera autem parte, quia mittuntur rami sursum * sursum enim fertur ignis. - Nec enim ipsas voces "sursum" et "deorsum" bene intelligit;... non eandem habent significationem pro omnibus singulis rebus, quam habent pro universo; contra, quod in animalibus est caput, hoc in plantis sunt radices - saltem si organorum diversitas ex operationibus judicanda est. Praeterea quidnam est, quod simul teneat ignem et terram, quae in contrarias feruntur partes? Sane dispergentur, nisi existat, quod eorum motus contrarios impediatur; quod si tale re vera existit, certe hoc ipsum animam atque causam incrementi et nutritionis constituet." de Anima II. iv. 415b - 416a.

39. Fr. 57. Indeed, "solitary limbs wandered seeking for union." Fr. 58.

40. "Empedocles dixit: 'En quomodo capita miltorum animalium cervice carentia pullularunt', quae deinde Amicitia cum reliquis corporis partibus coniunxit." de Anima III. vi. 430a.

41. Frs. 59 and 60. In a particularly famous passage, he speaks as follows: "Many creatures with faces and breasts looking in different directions were born; some, offspring of oxen with faces of men, while others, again arose as offspring of men with the heads of oxen, and creatures in whom the nature of women and men were mingled, furnished with sterile parts." Fr. 61.

42. Fr. 62.

43. Physica II. viii 198b.

44. Schaaf, op. cit., pp. 100-1

45. Fr. 17 n. 3.

46. Meno 76 C-D. Cfr. de Generat. et Corrupt. I. viii.

47. "There is an exact adaptation between the particles and the pores of the same element, so that fire, for example, is only penetrable by fire, and water by water. By this theory, much more than by his ambitious cosmology, Empedocles showed himself an original and progressive thinker, in harmony, like

Zeno, with the minutely analytical tendencies of his age, and contributing far more than Zeno to the subsequent development of Greek philosophy." A.W.Benn, Early Greek Philosophy, pg.63.

48. Fr. 100.

49. Fr. 107. "Even knowledge is explained by Empedocles as the result of mixture...Thought also depends, for its character, on the character of the mixture of elements. Quickness and acuteness of perception and thought result from mixtures different from those from which their opposites result." B.C.

Burt, A Brief History of Greek Philosophy, pp. 25-6.

50. Fr. 105. As to the Empedoclean teaching on the soul, there is of course the testimony of Aristotle: "Ita Empedocles, qui hinc quidem animam ex omnibus componit elementis, illinc autem asserit unumquodque eorum esse animam." De Anima I. ii. 404b. Various commentators tend to accept this view; for example, we find John Marshall stating that "the soul, or life-principle in Man Empedocles regarded as an ordered composite of all the elements or principles of the life in nature, and in this kinship of the elements in man and the elements in nature he found a rationale of our powers of perception... He..., as Aristotle observes, drew no radical distinction between sense-apprehension and thought." (Short History of Greek Philosophy, pg. 71.). In a similar vein, Stoeckl wrote that The human soul, like other things, is a mixture of the four elements, with Love and Hate as moving forces. For as like alone knows like, it follows that the soul, which knows all the elements, must contain its own being the "raducal principles" of all things - the four elements - otherwise, not resembling them in nature, it could possess no knowledge of them". (Handbook of the History Philosophy, pg. 40.).

From this much it is clear that the spiritual soul, as we understand it, could have no place in the scheme of Empedocles; what we regard as the operations of the soul, as sensing, understanding, and willing, were for the ancient Greek merely material actions of elementary bodies linked in a special way. "Inde anima," notes Father Schaaf (op.cit., pg.101.), "ut substantia diversa a corpore ab eo nondum agnoscitur"; there is added a note, remarking the opinions of Aristotle, but adducing also the authority of Zeller to the effect that Empedocles did not know of the soul as something distinct from the body and in a way opposed to it, and moreover spoke solely of vital actions - actions of the elements mutually united in a special way. Then follows a citation of Zeller (Pre*Socrat* Phil., II. 802. 2.): "Empedocles non compsuit animam ex elementis, sed ipse id, quod nos appellamus activitatem animae, declaravit ex compositione elementari corporis; animam distinctam a corpore eius physica nondum cognoscit." Attamen cum anima cocipiatur communiter ut subjectum et principium operationum vitalium et cum istae operationes secundum Empedoclem insint in elementis ut subjecto, sane illa elemta habentia in se istas operationes possunt etiam appellari anima." (loc. cit.). On the whole, as Adams on points out (Development of Greek Philosophy, pp. 58 ff.), this theory of Empedocles with regard to the foundations of life, so far as we

may discover it, does not make very clear how the transmigration of which he speaks could take place. Where, it may be asked, is there room for an individual soul?

51. Theophrastus, De Sensu X. (Passages from this author bearing on Empedocles are to be found in Burnet, op. cit. pp. 246 ff.) In view, no doubt, of this, Cicero said: "Empedocles animum esse censet cordi suffusum sanguinem". Tusculanae Disputationes I. ix. 19.

52. Metaphysica III. iv. 1000b.

53. Fr. 89.

54. Theophrastus, op. cit., VII. Thus, "we can only perceive an object if there is a proper symmetry between the pores of the receptive organ - such as eye or ear - and the particles of the object". M.E.J. Taylor, Greek Philosophy, pg. 38.

55. Aëtius, Synagoge, IV. 17.2. To be found in Beare, Greek Theories of Elementary Cognition, pg. 133.

56. Fr. 101.

57. Theophrastus, op. cit., IX.

58. Theophrastus, op. cit., XXI. (Apud Beare, op. cit., pg. 97.). Commenting on this, Beare says: "The gong to the outer sounds: but to us the sounds of the 'gong' itself are a fresh incognitum: how do we hear them? With another gong?" (op. cit., pp. 97-8.).

59. Fr. 84.

60. Theophrastus, op. cit., VII. "As will be seen below, it is not easy to ascertain how far the rays of fire passed outwards: whether (a) merely through the water to the outer surface of the eye, or (b) all the way to the object, however distant. The third possibility, that the inner fire formed a junction with the emanations from the object at some point intermediate between this and the eye, cannot, on any positive authority, be ascribed to Empedocles, but would seem to constitute the distinguishing feature of Plato's visual theory." Beare, op. cit., pg. 15.

61. "Empedocles, explaining the nature of the eye as organ of vision, states that its inner part consists of fire and water, while the environment of this consists of earth and air, through the sides. The pores of the fire and water alternate in position with one another. By those of fire we cognise white objects, by those of water, black objects; for these two sorts of objects fit into these two sets of pores respectively. Colours are carried to the eye by emanation." Theophrastus, op. cit., VII-VIII. (Apud Beare, op. cit., pp. 19-20.).

62. op. cit., XX.

63. Beare, op. cit., pp. 180-1.

64. Beare, op. cit., pg. 204. "Thus, we are told (fr. 102), all things have their share of breath and smell."

64a. Beare, op. cit., pg. 205. As Bréhier observes, "une théorie importante, dont on voit mal le lien avec le reste, celle de la perception extérieure". (Histoire de la philosophie, I. pg. 69).

65. Fr. 2. "Empedocles' utterances on the trustworthiness of perception and the relation of sense to reason

(Fr. 2, Burnet, E.G.P., 3rd ed., pg. 204.) are not developed and are not altogether clear. According as they are punctuated they may voice either a mild distrust or perception and an insistence on checking and correcting the reports of the senses by the opposed activity of reason, (Zeller, Pre-Socratic Philosophy, II, 169-70) or a plea not to withhold confidence from any of the sensory channels by which understanding is no wise opposed to perception may enter in. (Burnet, E.G.P., 3rd ed., p. 227. Cfr. 2nd ed., pp. 219-68.). But whichever interpretation be true, Empedocles did not lean far enough in either direction to fall into the problem of error and knowledge, and the question of Appearances vs. Reality. The senses introduced him to the Fire, Air, Water, Earth, Love, and Strife, which constituted his Universe. It was equally obvious that their presentations did not altogether acquaint him with the 'home life,' the relations, and the movements of these elements; and even suggested false ideas about them, such as their apparent coming into and passing out of being. Hence, in addition to perception some checking up by the exercise of common sense and thought was necessary, if he was to get a true view of things as they really are. Beyond this point, except for a rhetorical lamentation over the brevity of human life, the inadequacy of man's powers, the propensity of others to jump to hasty conclusions, and the difficulties of working out a philosophic system (difficulties, however, with which he feels himself able to cope), Empedocles' theory of knowledge does not go." So feels B.A.G. Fuller (History of Greek Philosophy, pp. 197-8.).

66. Fr. 114.

67. Fr. 132.

68. Fr. 4. "The mixture of elements," writes J. Erdmann (History of Philosophy, I. 56.), "is nowhere more thorough than in the blood. Hence he regards it as the $\nu\omicron\gamma\mu\alpha$ i.e., of the sum of all perceptions. Cognition by the senses is deceptive because it depends on a single object, and one element, and can only grasp the elements in their separation, and not in the $\sigma\phi\alpha\rho\omicron\varsigma$. This is not the case with the $\nu\omicron\gamma\mu\alpha$, which, itself the combination of all perceptions, has cognition also of that which is united by love."

69. op. cit., pp. 103-4.

70. Theophrastus, de Sensu X. "Intellectio et prudentia habentur a multis pro quadam forma speciali sensationis (in his enim utrisque anima discernit atque aliquid de rebus cognoscit); etiam Veteres quidem prudentiam (cognitionem) cum sensatione identificant - sicut et Empedocles, qui dixit: 'Intelligentia, enim hominum crescit in eadem proportione atque objecta praesentia', et alibi: 'Unde ipsis etiam alia atque alia cogitatio continuo in mentem venit'. de Anima III. iii 427a. Cfr. the discussion in Theaetetus 152.

71. Cfr. fr. 105.

72. Fr. 107. Indeed, he tells us that "the wisdom of men grows according to what is before them" (fr. 106.), and we are informed that "pleasure is produced by what is like in its

elements and their mixture; pain, by what is opposite" (Theophrastus, de Sensu IX).

73. Frs. 103-4.

74. Maritain, Réflexions sur l'intelligence, pp. 59-60.

75. Metaphysica I. iv. 985a.

76. op.cit., I.viii 989a.

77. W.A. Butler, Lectures on the History of Ancient Philosophy, I. 319.

Chapter VI: The Younger Physicists (ii.).

Then, I ween, there is Anaxagoras, a doughty champion, whom they call Mind, because forsooth his was the mind which suddenly woke up and fitted closely together all that had formerly been in a medley of confusion.¹

This interesting and in many ways important figure in the history of philosophy was a native of Clazomenae distinguished for his lineage and his means. He was a noble in more senses than one, however, and gave his inheritance over to his relatives, for he "also seems to have conceived of the Happy man not as either rich or powerful, saying that he should not wonder if he were accounted a strange man in the judgment of the multitude."² Having devoted himself to study, in the interests of his true fatherland, he studied - so report has it - under Anaximenes;³ actually, their times were a little too divergent for this to be probable. It seems more likely that the old School of Miletus continued after the death of Anaximenes and taught in his vein. But, even if "the old Ionic school was still capable of training great men, it was now powerless to keep them. Anaxagoras went his own way",⁴ as Melissus and Leucippus also did. Each of these was, however, really influenced by this oldest of the philosophical traditions.

In the year of Salamis, Anaxagoras came to Athens, quite possibly with the Persian army. Remaining after the Greek victory, he set himself up at Athens as something of a Sophist and imparted a knowledge of rhetoric and some philosophy to his disciples. Pericles was one of these, seeking to perfect an excellent talent under the best available teaching; Socrates is made to bear witness to the reasons for the disciplined attainments of the statesman:

All the great arts require discussion and high speculation about the truths of nature; hence come loftiness of thought and completeness of execution. And this, as I conceive, was the quality which, in addition to his natural gifts, Pericles acquired from his intercourse with Anaxagoras whom he happened to know. He was thus imbued with the higher philosophy, and attained the knowledge of Mind and the negative of Mind, which were favourite themes of Anaxagoras, and applied what suited his purpose to the art of speaking.⁵

It was a great period, that Periclean Age, crowded with men of

genius and their splendid works. The people of Hellas were, as we know from Herodotus and Aeschylus, profoundly impressed by the victory which they had, with the help of the gods and in the spirit of the fatherland, achieved over the Aryan might. The higher things of life were looked upon as those which counted most. Men had the leisure and were inspired by a zeitgeist which allowed and prompted them to seek for answers to the problems of life better than those which the materialists of the past had proposed: answers which had for the most part been dispelled by the Eleatic logic, which was in its own turn repugnant to common sense. Anaxagoras felt the movement of the age and responded in some degree at least.

But he also met with troubles, and was charged with Medism and impiety, as he had taught that the sun was hot stone and the moon just earth.⁶ Pericles, it would appear, was able to effect his release from prison and to get him out of the country. He spent his later years at Lampsacus and dying there requested that the school-children should every year be granted a holiday in his memory.

His more developed teachings he included in a single book, which ancient critics regarded as exemplifying a lofty and agreeable style. Preserved though it is in fragments, we can still see that:-

Its charm comes principally from the use of the Ionic dialect; while its grandeur lies in the thought itself. The author's personality seems as fully absent from his works as from a treatise on geometry. There is neither passion nor imagination, if one considers the details of its language. He never discusses, but simply, like an oracle, announces truths as certainties. So his contemporaries justly called him Intelligence. The epigram is just, and indicates well the lofty, clear, formal character of his style.⁷

In fine, his tone was definitely "philosophical", being marked in some measure, at least, by those characteristics which were henceforward to be associated with the perennial tradition and to find their fullest development in St Thomas.

With reference to the doctrine which he expounded in this manner, he was interested, like Empedocles, in effecting some reconciliation between that unchangeable Eleatic being and the testimony of the common sense as to the existence of a reality which manifests change, corruption, and generation to us. He looked upon the teachings of Parmenides as having been established, wherefore "we must know that all of them are neither more nor less; for it is not possible for them to be more than all, and all are always equal".⁸ Despite the common manner of speaking of things, men should not let themselves think that any real change takes place. What men really mean is that there is a mingl-

ing and dissociation of that which is.

The Hellenes follow a wrong usage in speaking of coming into being and passing away; for nothing comes into being or passes away, but there is a mingling and separation of things that are. So that they would be right to call coming into being mixture, and passing away separation.⁹

In other words, one ought not to take the Eleatic Being in too narrow a sense, nor should one place too great a credence in the apparent data of the senses. Thus, his way of reconciliation bears a resemblance to that of Empedocles, from whom it is conceivable that he derived the general notion and certain of its salient features.¹⁰

Like Empedocles, he had pulverised Reality into many particles which, though indestructible and unalterable in nature, possessed different characteristics and could shift their positions in space. And like him he had seen that creation and destruction and transformation need not imply absolute coming into or passing out of being, but could be explained as a mere mixture and separation of uncreated, indestructible, and unchangeable elements.¹¹

Now, in the system of Empedocles, the four opposites -- hot, cold, moist, dry, were things, and all of them were real in the Eleatic sense. This did not appeal to Anaxagoras, who considered that four elements were rather inadequate and thought it better to change the sum of fundamental differences and elements to an undefined number, which would afford a greater scope for the extensive variety of being. "The things that are in one world are not divided nor cut off from one another with a hatchet, neither the cold from the warm nor the warm from the cold."¹²

Thus, for Empedocles the four elements were qualitatively diverse and the other bodies, such as the bones and the flesh, could be derived from these elements and their properties could be explained from those of the elements. This seemed to be illogical, as Anaxagoras saw it; he could not grasp "how hair can come from what is not hair, or flesh from what is not flesh".¹³ The Eleatic rejection of the non-being appeared to be jeopardised by such a doctrine.

To explain these and other questions which the reconciliation brought up, he decided that "in everything there is a portion of everything".¹⁴ Now, this does not mean that there was at first just a commingling of things, before the worlds were contrived, although he does, true enough, speak of some such a time, describing everything as being found together, infinite in number and smallness alike: "And when all things were together,

none of them could be distinguished for their smallness".¹⁵ As a matter of fact, this state of affairs has not altered even in respect of the commingling. The portions, he goes on to say, of the large and the small are equal in their amount: "For this reason, too, all things will be in everything; nor is it possible for them to be apart, but all things have a portion of everything".¹⁶ It might be a little clearer.

At any rate, everything will thus have an equal number of the portions, and a smaller particle would only be able to have a less number of portions, should one of them cease to exist. But, if we take the Eleatic Being in its sense of necessity (though not of its narrower unity), it will be clear that no division will ever bring about the non-existence of anything, for whatever is, is. The less number need not, then, concern the philosopher.

Nor is there a least of what is small, but there is always a smaller; for it cannot be that what is should cease to be by being cut. But there is also always something greater than what is great, and it is equal to the small in amount, and, compared with itself, each thing is both great and small.¹⁷

At least, Zeno had taught people the art of tying things up.

At any rate, if we accept Anaxagoras' line of reasoning, it will be impossible for us to carry our analysis back to something that is free from mixture; the smallest of particles will have as many portions as the largest. Thus, we can never expect to reach a particle of simple nature.

In studying the character of the things found in everything, we may be guided by the objection which he made to the thought of hatching out the opposites, as hot and cold, and by other references which he makes to the traditional opposites.¹⁸

The mixture of all things -- of the moist and the dry, and the warm and the cold, and the light and the dark, and of much earth that was in it, and of a multitude of innumerable seeds in no way like each other. For none of the other things either is like any other. And these things being so, we must hold that all things are in the whole.¹⁹

Aristotle has remarked, in his Physica,²⁰ that, if the first principles of the real are considered to be infinite, as those of Anaxagoras clearly are, they may in that case be either, like those of Democritus, one in their kind, or they may be opposites. Porphyry, Themistius, and Simplicius ascribe the suggestion of the "opposites" to Anaxagoras, while Aristotle further indicates that his opposites may be called first principles as well as homoeomeries.²¹

It is of those opposites, then, and not of the different forms of matter, that everything contains a portion. Every particle, however large or however small, contains every one of those opposite qualities. That which is hot is also to a certain extent cold. Even snow, Anaxagoras affirmed, was black; that is, even the white contains a certain portion of the opposite quality.²²

If, in other words, one is successful in carrying out the analysis of Empedoclean being, he will arrive at length at the four elementary bodies, of earth, air, fire and water, which are said to constitute the ultimate reality. In the system of Anaxagoras, on the other hand, things are divisible ad infinitum; hence, no amount of reduction, however great it may be, will bring one to a body so small that it does not contain some portions, at least, of all the opposites. The denial of this would imply that real change is possible, which would contradict that Being, which simply is.²³

We find him pushing on some distance beyond Empedocles towards the atomistic and mechanical view of reality finally attained by Leucippus and Democritus. The four passave constituent elements of the Empedoclean world-stuff are expanded by him into an indefinite number of particles, each one of which shimmers with all the basic qualities, but is predominantly and distinctly colored with that which gives it its name.²⁴

Everything may be in everything, but a thing will appear to be just that of which it happens to have the most present in itself. For example, air would be that which had the most cold, although some heat would go along with it, whereas fire would be that which had the most heat, and there would be some of the cold in it too. What Empedocles regarded as elementary is now taken as a conglomeration of all sorts of seeds, inasmuch as "Each single thing is and was most manifestly those things of which it has most in it".²⁵

There was a time when everything was somehow found together; that more or less universal mingling would have presented the semblance of air and the aether, which constituted the most part of all, "being both of them infinite; for amongst all things these are the greatest both in quantity and size".²⁶ His manner of conceiving the original state of things is not unlike that of Anaximenes, who did exercise some influence over him; but, the seeming air is a mixture which is determined to its appearance by its greatest part and not by itself the primitive substance. The universal commingling would, of course, be infinite and without any void: two doctrines combining Pythagorean and Eleatic views. To his credit, he laid stress on the need for some in-

finite source of reality.

The seeds are, obviously, found no longer in this primitive condition; somehow, they have been brought into their present ordering, and the question naturally arises as to how this has happened. The seeds are subjected to a mixture and to a separation into the those innumerable conglomerations of various make-ups which go to constitute the world. "These things revolve and are separated off by the force and swiftness. And the swiftness makes the force. Their swiftness is not like the swiftness of any of these things that are now among men, but in every way many times as swift."²⁷ Since everything is in everything and since there cannot be any least thing -- as all things are divisible ad infinitum, "they cannot be separated nor come to be by themselves; but they must be now, just as they were in the beginning, all together. And in all things many things are contained, and an equal number both in the greater and in the smaller of the things that are separated off."²⁸ The seeds, as these and others of his comments show, do not separate themselves out, nor do they impart the needed force and swiftness to themselves. He was seeing, after some fashion, that nothing can well be posited as cause and effect in the same respect.

Like Empedocles, then, he is obliged to discover some source of the activity of separation. Parmenides, even before these men, had argued that a body could never move itself: the mover for which he sought had therefore to be somehow distinct from the bodies moved.

The cause of this separation, and of the various subsequent combinations of primitive particles, was not in the primary matter itself, for material particles do not, of their own accord, separate or enter into union. We are therefore forced to admit a cause higher than matter, but exerting an influence on it, and by this influence effecting the separation of the primary particles and their subsequent combinations.²⁹

The difficulties which constantly arose in precisely this regard were due to the materialistic influences which operate upon all these early thinkers. They were coming slowly to realise that matter cannot explain itself, but they were not able as yet to hit explicitly upon a metaphysical solution of the problems of reality. Thus, Empedocles had said that the forces which governed his four elements were Love and Strife, but he combined in them the incompatible attributes of efficient and material causality. Anaxagoras was looking for some one force, and therein served the cause of philosophy well, by returning to the quest after unity - and a unity this time not altogether the same as the material One of the Eleatic Being.

And when he sought to identify this stuff
(i. e., the dynamic substance which moves all else)

with some one of the qualities or elements with which we are acquainted he found its alter-ego or "twin-soul" not in a physiological instinct or mystical emotion, but in the thinking and reasoning activity of life and consciousness. The stuff which possessed the power of moving other things was perhaps most naturally that which possessed the power of knowing them. At any rate, Anaxagoras located his active element in Mind.

It was a suggestion that has made history. Perhaps it is not clear to us today what exactly were the various motives that together prompted him to his choice, but that a man should say the present universe is dependent upon mind, upon something analogous to the human reason, was a challenge -- imperfectly appreciated even by its maker -- to any attempt to account for ultimate reality in physical terms alone.

There could hardly be question but what men were using the Nous to seek out the meaning of things. Such implies that they do have a meaning, potential in the concrete things and made actual when freed by our mental activity; but that potential idea of things can have been put in the concrete realities only by something which would have it actually, that is to say, a Nous. If this other Nous has not been at such work, how could ours ever discover anything concerning a reality which would thus be so alien to it? "The same Reason which can explore the world must have been exerted to arrange it; and man can see in the work the image of the intelligence of the Artist."⁵¹

Other thinkers had insisted, and often with considerable force, that men should trust to their reason rather than to their senses. Heraclitus had, interestingly, made man's reason akin to the ever-living fire, and Parmenides had inaugurated a science of Being, but it remained for Anaxagoras to make a definite attempt to posit the mind on a different plane than the common material, and to interpret reality in terms of intelligence. He saw that matter cannot move itself, any more than the wood fashions itself into a bed or the bronze molds itself into a statue: some agent must intervene to produce these latter works, and it seemed but reasonable to suppose that matter in general required an agent to organise it. It would not do to hit merely upon some form of matter for the agent, as the difficulty would then be pushed back a stage and not obviated, nor will any material cause ever be able to account for the presence of goodness in things (a goodness which Empedocles endeavored to explain with his ambiguous Love).

When these men and the principles of this kind had had their day, as the latter were found inadequate to generate the nature of things, men again forced by the truth itself, as we said, to

inquire into the next kind of cause. For it is not likely that either fire or earth or any such element should be the reason why things manifest goodness and beauty both in their being and in their coming to be, or that those thinkers should have supposed that it was; nor again could it be right to entrust so great a matter to spontaneity and chance. When one man said, then, that reason was present -- as in animals, so throughout nature -- as the cause of order and of all arrangement, he seemed like a sober man in contrast with the random talk of his predecessors. We know that Anaxagoras certainly adopted these views, but Hermotimus of Clazomenae is credited with expressing them earlier.³²

Philosophers had at last described a source of reality, that would be at once the cause of the goodness and beauty of things and the principle of their movement. This discovery, published abroad by Anaxagoras, won him deservedly great renown and the title of Nous; he might have had some claims to such distinction by reason of his attainments in the study of nature, but it was secured to him because he assigned some intelligent cause of the universe, a cause whose character was much enhanced by subsequent reports. Plutarch has recorded that he was held in the highest esteem "because he was the first of the philosophers who did not refer the first ordering of the world to fortune or chance, nor to necessity or compulsion, but to a pure, unadulterated intelligence, which in all other existing mixed and compound things acts as a principle of discrimination, and of combination of like with like".³³ If one qualifies the encomium by understanding that all this was opened to philosophers by Anaxagoras, it is well put.

It is well at the same time to reflect that the patient effort of many later men was necessary in order that his suggestion might be made truly metaphysical and, in the long run, constructive. In point of fact, as Etienne Gilson has brought out, a revelation was needed for men to see that all this universe is radically contingent and must so depend in esse upon a transcendent being; this could have been worked out by reason alone, but as a matter of historical fact, men had to be shown the right way by Christ.

With regard to the contribution of Anaxagoras, Plato records that Socrates was in his early years much interested in the investigation of nature, but, becoming dissatisfied with the several schools of thought then prevailing, looked carefully abroad for the true answer as to the ordination of things. The enquiry was going on, when he heard somebody reading from a book by the Clazomenaeian (pr. 1 drachma at the stalls).--The theory that Mind has caused and disposed all things, which was set forth in that book, strikes him as admirable and he says to himself:

If mind is the disposer, mind will dispose all for the best, and put each particular in the best place; and I argued that if any one desired to find out the cause of the generation or destruction or existence of anything, he must find out what state of being or doing or suffering was best for that thing, and therefore a man had only to consider the best for himself and others, and then he would also know the worst, since the same science comprehended both.³⁴

These were indeed high hopes, though still, even for Socrates, on a plane higher than before, but not as high as pure metaphysics. He was right, nonetheless, in thinking that, if a man knew what he meant in saying that mind is the cause, he would give the answers to the questions that he proposed. The source and the good of things are objects of rational enquiry, and no enquiry is complete unless it essays their delineation.

Socrates was gravely disappointed in the development of this proposal as made by Anaxagoras himself. "As I proceeded," he tells us rather sadly, "I found my philosopher altogether forsaking mind or any other principle of order, but having recourse to air and ether, and water, and other eccentricities." He likens Anaxagoras to a man who would say that it would, generally speaking, be the mind of the man which accounted for the actions of Socrates, and would then go ahead to account for his presence, now, as a prisoner of the Eleven by discussing his bones, his muscles, and the like, with no further reference to the actual cause -- his reasoned submission to the verdict of the court.³⁶ It might be that he could not carry out his intentions without these bones and muscles, but any such a doctrine would be a weird medley of causes and conditions, which the many are forever confusing. This, incidentally, implies that Socrates thought of matter as a condition of the first causal operations, and did not see that it too must be created.

Aristotle, willing as he is to render Anaxagoras his full due, finds much the same fault with him. Like the others in the long run, Anaxagoras but vaguely apprehended the true nature of efficient causality. Like an untrained though spirited fighter, he could occasionally land a fine blow, but he was not consistently effective and was even unaware of the power of his actions. His type made only a partial use of their frequently good ideas: Parmenides had muffed the idea of the being, and Anaxagoras misapplied his notion of cause:

For Anaxagoras uses reason as a deus ex machina for the making of the world, and when he is at a loss to tell from what cause something necessarily is, then he drags reason in, but in all other cases ascribes events to anything rather than to reason.³⁸

Once we carefully study the account which Anaxagoras has given of the Nous, we shall readily see that, saving its unity, it is not much better than the forces which Empedocles had employed.

Thus, we learn that "all other things partake in a portion of everything, while Nous is infinite and self-ruled, and is mixed with nothing, but is alone, itself by itself."³⁹ No matter how much we may wish to take his teachings in their better sense, the fact remains that "this is not how men speak of an immaterial inextended consciousness."⁴⁰ Our idea of the immaterial may be negative, but no one with a proper notion of what it means would find it necessary to say that it is not mixed with other things, that it does not have the opposites, hot and cold, within it. At any rate, thanks to the fact that it is not mingled it enjoys a universal sway:

For in everything there is a portion of everything, as has been said by men in what goes before, and the things mixed with it would hinder it, so that it would have power over nothing in the same way that it now has being alone by itself.⁴¹

This universal power of the Nous consists in nothing more than the fact that it causes things to move, and this, after all, Heraclitus had attributed to his ever-living fire and Empedocles to his relentless strife, neither of which was immaterial.⁴²

His description of the formation of the world under the influence of this Mind is a further, very clear indication of its material character, despite the comparative superiority which its freedom from mixture may give to it. All things, as we saw, were at first somehow together; then, mind began to rotate a part of them, whereat "separating off took place from all that was moved, and so much as Nous set in motion was all separated. And as things were set in motion and separated, the revolution caused them to be separated much more."⁴³ This gradually widening rotatory motion is very swift,⁴⁴ and bring it to pass that "the dense and the moist and the cold and the dark came together where the earth is now, while the rare and the warm and the dry (and the bright) went out towards the further part of the aether".⁴⁵ This division according to the hot, light, rare, and dry qualities of the Aether and the opposite qualities of the Air is in keeping with his earlier teaching that these two were predominant in the primary mass. With the process begun in this way, he goes on to describe the remaining steps in a manner which puts the reader in mind on Anaximenes. For, the two masses are being separated off according to the dominant parts, and "from these as they are separated off earth is solidified; for from mists water is separated off, and from water earth. From the earth stones are solidified by the cold, and these rush outwards more than water."⁴⁶

Inasmuch as he was familiar with meteors -- to the extent that he was credited with predicting the fall of one (!) -- his theory of the heavenly bodies is an interesting product of

some scientific observation and presents some more original features. "We read," says Burnet, "at the end of fr. 16 that 'stones rush outwards more than water', and we learn from the doxographers that the heavenly bodies were explained as stones torn from the earth by the rapidity of its rotation and made red-hot by the speed of their own motion."⁴⁷

All this, taken with the terminology of Anaxagoras, fails to bespeak the immaterial character of the Mind. Certain other passages do attribute to It some rather contradictory attributes, at least from the viewpoint of immateriality. Thus, having spoken of it as unmixed, he goes on to say that "it is the thinnest of all things and the purest, and it has knowledge about everything and the greatest strength; and Nous has power over all things, both greater and smaller, that have life."⁴⁸

To our way of thinking, this knowledge about everything would bespeak an eminent materiality, but we cannot very well take it in our sense, after he has also referred to the Nous as the thinnest of all things and the purest. It was doubtless an excellent thing for him to insist as he did on the supremacy and the distinctive character of the Nous, but he has not envisioned it free of all material conditions; for his own part, he has but made it the least gross of whatever is material. After all, the quite material, ever-living fire has something of the universal knowledge, for "wisdom is one thing. It is to know the thought by which all things are steered through all things," while "the wise is one only."⁴⁹ We can agree with Zeller in so far as he would insist that "Anaxagoras' leading idea... is the conception of mind in distinction from matter",⁵⁰ because he finds this in the simplicity of the Nous as contrasted with the infinitely composite nature of everything else, but he ought not to push the distinction between mind and matter as conceived by Anaxagoras too far. Indeed, Zeller himself points out that "these expressions do not explicitly assert its incorporeality... Its essential function (he adds, significantly) consists in the separating of the mixed mass, so that its knowledge is nothing more than a distinguishing."⁵¹

Even though Anaxagoras may declare that "all the things that are mingled together and separated off and distinguished are all known by Nous", which "set in order all things that were to be, and all things that were and are not now and that are, and this revolution in which now revolve the stars and the sun and the moon, and the air and the aether that are separated off",⁵² it is clear from his own remarks and especially from the criticisms of the ancients that he failed to apply this in the proper way. The Mind is needed to start the movement of separation at one point in the mass, from which the rotatory motion spread with gathering swiftness. "We have no evidence," Zeller admits, "that Anaxagoras supposed mind to take a part in other stages of the process of the world creation."⁵³ Evidence there is, however, and to the contrary. We have the disappointment of those hopes which Socrates would not have sold at a great price, and we have the several times repeated criticisms made by Aristotle, who certainly respected the positive contributions of Anaxagoras.

The Masters appear to be in agreement that Anaxagoras did not avail himself of the opportunity, offered by the Nous, of giving a teleological explanation of things -- an explanation such as would be required by the theory that there is a mind behind it all -- like the human reason -- which has implanted the purpose that we can discover.

Both Plato and Aristotle, who believed that purpose was the main factor in the formation and ordering of the world, were severe with him for using Mind as a mere mechanical cause which did no more than wind the world up and then left it run by its own mechanism. And Plato doubtless was thinking of him as well as of Empedocles when he spoke of those philosophers who taught that the universe was formed "not by the action of mind...or of any God, or from art, but...by chance and nature only"(Laws 889). We have then no more right to attribute to him a "teleological" or "design" theory of the activity of Mind than we had to ascribe to him an immaterial view of its character.⁵⁴

Even as Empedocles had failed to use his efficient cause properly as such, so Anaxagoras, after a brief, and no doubt significant gesture, returned to those "eccentricities" which so distressed Socrates and spoke once more in terms of a material causality, like the rest. Aristotle has well said of these early thinkers, who at times said more than they knew, that "that for whose sake actions and changes and movements take place, they assert to be a cause in a way, but not in this way, i. e., not in the way in which it is in its nature to be a cause".⁵⁵

Now, whereas nothing else is quite like to any other thing, inasmuch as all that is other than mind goes by that which is predominant in it, "all Nous is alike, both the greater and the smaller".⁵⁶ If there are greater and smaller parts of the Mind, with all its different qualities, Burnet may be right when he finds that "Nous is certainly imagined as occupying space".⁵⁷ We could draw much the same conclusion from further remarks of Anaxagoras, as when he tells us that "Nous, which ever is, is certainly there, where everything else is, in the surrounding mass, and in what has been united with it and separated off from it." ⁵⁸

One very commendable aspect of his theory of the Nous was that it afforded him the opportunity to make some distinction between animate and inanimate beings. As he saw it, "in everything there is a portion of everything except Nous, and there are some things in which there is Nous also",⁵⁹ that is to say, in all that has life, whether in plants, brute animals or men. This Nous, being found always alike, "has power over all things, both greater and smaller, that have life".⁶⁰ Since, in other words,

Mind was responsible for the movement imparted to the entire world, it was but logical to suppose that in those corporeal beings which can in some way move themselves there should be something of that motive Mind, able to move and to know, forasmuch as it is all like to itself.

It was a definite step ahead for men to recognise a distinction between mere bodies and those which enjoy some form of life, and for them to acknowledge the somehow superior character of the principle of life. It was evidence that man, led on, as Aristotle would have it, by the very truth of things, was at last awakening to the fact that it is out of the question for the merely corporeal to stand as the highest of realities or as the only one.

Impossibile est autem aliquod corpus esse nobilissimum in entibus, quia corpus aut est vivum, aut non vivum. Corpus autem vivum, manifestum est, quod est nobilius corpore non vivo: corpus autem vivum non vivit, inquantum corpus, quia sic omne corpus viveret: oportet igitur, quod vivit per aliquid aliud, sicut corpus nostrum vivit per animam. Illud autem, per quod vivit corpus, est nobilius, quam corpus.⁶¹

Even if Anaxagoras was not fully aware of all this, he was at least conscious of the need for explaining life -- which is not a phenomenon common to all the bodies of our experience -- on some basis other than that of a crude hylozoism.

Of course, his 'absolute likeness of the Nous', which would not permit of degrees, militated against his discerning between the principles of life to be found respectively in men, brutes and plants as principles essentially diverse from one another. The appallingly self-same Nous would enjoy better, or at least more, opportunities in some bodies than in others. Hence we should not be surprised to learn that, in his view, plants were not alive merely, but also experienced pleasure and pain in their growth and in the loss of their leaves.⁶² Animals grew out of the moist element, and among them man was best equipped for what we would regard as rational activities; he was "the wisest of animals, not because he had a better sort of Nous, but because he had hands".⁶³

In the case of man no distinction was made between the Mind and the Soul -- as is hardly surprising. Having laid it down as a principle that everything is moved by mind, he would naturally regard the "soul" just as that which imparts motion, that is, Nous. The later Atomists were quite explicitly to affirm the identity of mind and soul, but, as it seems, "Anaxagoras a utem minus clare de hoc puncto mentem suam aperuit; multis quidem in locis intellectum vocat causam pulchri et veri, sed alibi docet eum esse animam, cum omnibus insit viventibus aequè magnis atque parvis, aequè superioribus atque inferioribus".⁶⁴ The position of Anaxagoras is hardly sound, for not only is

"mind", insofar as it may stand for wisdom, not present equally in all things, but it is not to be found equally or in the same way in all men. Perhaps, when Anaxagoras says "Nous (noos) has power over all things, both greater and smaller that have life (psyche)",⁶⁵ he may appear to make some distinction between the two; such a theory does not, however, bear close scrutiny, for he, after all, assigns the origin of motion and the knowledge of things to precisely the same principle, whether he styles it the noos or the psyche.

Utroque hoc termino indifferenter utitur ac si unam eandemque designarent naturam; nisi quod praecipuum principium omnium rerum statuit intellectum; certe affirmat eum solum esse inter res, quae existunt, simplicem, immixtum, purum; nihilominus uni eidemque principio utramque functionem, cognitionem videlicet atque movendi facultatem tribuit, dum asserit intellectum esse qui universum moverit.⁶⁶

His teaching as to the knowledge which man, the wisest, because hand-equipped, animal comes to possess is interesting, both in itself and by reason of the contrast it offers to that of Empedocles. The latter held that knowledge is of like by like, while Anaxagoras declared that it obtained through contraries, somewhat after the fashion of Heraclitus. Such a theory would be in harmony with his fundamental tenet of the unmingled Mind and with certain facts of experience. For it does seem that a number of perceptions, such as that of the temperature of something, depend on the existence of some difference between the state of the object and of the organ which perceives it. If water, for example, is at the same temperature as our hand, we will not, upon plunging our hands into the water, perceive it as either hot or cold. Moreover, the contrariety required by the doctrine of Anaxagoras as one of the conditions of perception exists for all possible cases; since, according to the Anaxagorean doctrine $\tau\alpha\nu\acute{\epsilon}\nu\tau\alpha\upsilon\tau\alpha$, we have within us the contraries of all possible external objects."⁶⁷

Inasmuch as the Nous is in some things and not in others, the activity of sensation, it is implied at least, is in some way different from other interactions. The implication which his distinction between the animate and inanimate, the Nous-bearing and the Nous-less, makes hard to escape, is not explained to any satisfaction by the various remarks which are attributed to him. "He does not define the general features which characterise all sensory activity, and at the same time distinguish it from other kinds of activity."⁶⁸ We can gather that sensible perception is brought about by the relation which obtains between contraries, and that the act of sensing will entail the production of some change in the organism. "Anaxagoras says that perception is produced by opposites; for," Theophrastus points out,

"like things cannot be affected by like".⁶⁹ Thus, we have sight thanks to the presence of the image in the pupil, but this will be cast only upon something that is of a different color. For most creatures, night is more of the same color as their pupils than the day is, and they will accordingly see better in the daylight. An image will be cast upon their pupils at such time "because light is a concomitant cause of the image, and because the prevailing color casts an image more readily upon its opposite".⁷⁰ The same is true of the senses of taste and of touch, for that which is at the same temperature as we are will neither warm nor cool us, nor again do we know the sweet or the bitter by themselves: "We know cold by warm, fresh by salt, and sweet by sour, by virtue of our deficiency in each; for all these are in us to begin with".⁷¹ The case is no different with our smelling or our hearing, for the former is associated with our processes of respiration and with the latter sound is produced when air in motion bumps against some fixed and solid air, and in its recoil is carried to the organ of hearing, where it hits upon the hollow bone that surrounds the brain.⁷²

All along the line, therefore, we perceive all the qualities of an object according as there is a defect or an excess of them in ourselves. Since everything is in everything, and so in us too, those contrarieties which perception requires are always possible. This may be all very interesting, but it does not tell us the distinctive characteristics of sensation as opposed to change in general; not only that, but it does not set the study of the vital phenomena apart from the physical sciences.

The contraries here referred to as required for perception are physical on both sides. Whence they derive their contrariety, or how the heterogeneity of the $\psi\upsilon\chi\eta$, which is active in perception, takes effect, we are not informed. The soul presides over the interacting contrary qualities of the perceiving sense and its object; that is all we know.⁷³

The theory has all the same a considerable value, and it is not without its modern parallels. The influence of opposites and the accompaniment of sensations by pain are facts which ought to be explained, and Anaxagoras deserves credit for having discussed them.⁷⁴

However, the knowledge which these senses give is to his notion weak and uncertain. As a result, "from the weakness of the senses we are not able to judge the truth".⁷⁵ We must be careful to understand his position aright, in the light of the causes which he assigns for this weakness. After all, he says, the organs of sense perception have elements as well which are like to those elements that are present in the things perceived, and this would interfere with our clearness of knowledge by unlikes. Hence, we do not perceive the portions of everything that are in everything, as, for instance, the portions of white in something that is predominantly, therefore apparently, black.

"Insuper organa huius hominis sunt saepe alio modo composita, quam organa alterius, id quod facit cognitionem sensitivam adhuc magis subjectivam."76

This does not necessarily imply a complete distrust of the senses or a thorough-going subjectivism, for we must admit the role of the subject in conditioning sensation. He is reported to have told his friends "that things would be for them such as they supposed them to be,"77 but this may refer to questions of moral responsibility. Even though we may not make of him a skeptic, it is easy for us to see that his doctrine, if not rectified, might give the lead to incipient skepticism, for it had not vindicated the true character of knowledge.

He makes the interesting remark that "what appears is a vision of the unseen",78 and seems thereby to indicate the presence in us at least of a power of knowledge somewhat different from that of the senses, which it supplements. The senses can go just so far in the analysis of phenomena, and then they must stop. On the other hand, "the mind's eye can still see all the colors in the rainbow-like nature of particles too small even for their dominant tint to strike the physical vision. But reason, in his view, does not descry a new world of immaterial or 'super-sensible realities'. It is merely a sort of microscope held to the naked eye of perception, which discovers nothing that the senses might not detect if only they were sharpened."79 This interpretation may be a little extreme, but it is not without a basis. As there is no corporeal organ assigned for this higher portion or aspect of the nous in men, it would apparently differ from the senses in that it would not be impeded in its operation by an organ where that which in the organ is like to the object would get in the way; hence, it should know somewhat better. This may be the reason why Sextus Empiricus speaks of the logos here as the criterion of the truth.80

Even though without such hinderance, it still suffers from serious limitations: "Multitudinem elementorum quae sese separant, nos scire non possumus per rationem neque per realitatem".81 Apart from this, it is not made plain how our mind, a participation in the unmixed Mind, is determined to a knowledge of things. It may be that the Mind always knows, but it is a fact of experience that we come to know and grow in knowledge. This indicates a prior condition of potency succeeded by one of act thanks to the operation of something agent, and even if there is no room for the potential in Eleatic being, this fact should nonetheless be given some explanation. "Anaxagoras solus affirmat intellectum esse passionis expertem eoque nihil communis cum ulla alia re habere. At si talis est eius natura, quomodo cognitionem exercebit et quaenam causa eum ad cognoscendum determinabit? Haec nec ipse diserte solvit nec ex eis, quae ab eo dicta sunt, perspicui possunt."82. His opinion, already noted, as to the fact that man is the most prudent of animals thanks to his possession of hands is quite probably a tribute to that ability to construct things and adapt them to his use, which is executed chiefly by means of those organs.

His life, devoted as it was with great enthusiasm to the study of science, would indicate a possible opinion that in such mental activity lay man's end.⁸³ Whether he professed immortality or not is uncertain; it could fit as well into his system as into that of Empedocles.

Anaxagoras is no place explicitly concerned with the problem of a God. The accounts of his trial would not suggest his acceptance of the traditional mythology; the attitude of his disciple Euripides points the same way. It may be that he regarded the motion-producing Nous as God, as a number of writers have believed.⁸⁴ This much is clear: his Nous does not play something of the role in reality which the Aristotelian tradition will assign to God; indeed, it is not altogether unlike Aristotle's rather unconcerned first mover. But there are notable differences. The Nous is not conceived of in the eminently different manner familiar to us in thinking of God; it is not, on the face of available evidence, an immaterial reality, and hence, a fortiori, not a spiritual reality; it does not clearly govern everything toward ends (and herein, of course, again differs from the first mover of Aristotle which moves by being loved); since it organises and does not produce the primitive commingling of all things, it could never be interpreted in terms of a Christian God, "factor caeli et terrae, visibilium et invisibilium."

On the other hand, it was certainly a fine thing for Anaxagoras to insist upon an explanation of reality in terms of Mind which initiated movement. Unaware of the fact, he was talking soberly in snatches among that drunken company. He at least directed men's attention to the more satisfactory nature of explanations which looked beyond the material, to principles which simply could not be of the very same stuff as corporeal reality, to a cause which imparted movement while remaining itself unmoved.⁸⁵ He saw and told people that the first principle was especially a living and a cognitive being, and acted by virtue of its knowledge; it was not for him to make proper sense of all this, but he had at least suggested possibilities which others, stimulated in his high ideas and his failures at their reading alike, were to investigate, with results that we have today.

Thus, in the teachings of Anaxagoras, we have the first definite challenge issued in the name of dualism to all that would take reality as merely material and so reduce man from his proper dignity. It has often and well been observed that there can be no true humanism which does not find itself in the teachings that there are forces superior to those of matter and that man derives his being, purpose and fulfillment from the Source of all reality. It is a sentiment which many a Greek felt and sought to express; the peculiar merit of Anaxagoras is that he first sketched in broad outline the philosophic reasons for this. In his doctrines as in his life, he emphasised the role of knowledge and the importance it must have for man, constituted as he is by his possession of reason. To put it briefly, Anaxagoras showed that philosophy is a life. As he is

said to have taught, "life is worth living because it enables us to contemplate the heavens and the order of the universe."⁸⁶

Notes to the Sixth Chapter:

1. Timon, Silloi, quoted by Diogenes Laertius II.6.

2. Nicomachaen Ethics X.viii 1179a. "When they (i.e., his relatives) accused him of neglecting it (i.e., his property), he replied, 'Why then do you not look after it, and at last he went into retirement and engaged in physical investigation without troubling himself about public affairs. When some one enquired, 'Have you no concern in your native land?' 'Gently,' he replied, 'I am greatly concerned with my fatherland,' and pointed to the sky. Diogenes Laertius II.7. The last remark, while we should read too much into it, is nonetheless a very appropriate one for a philosopher to make.

3. "Anaxagoras qui accepit ab Anaxamenes disciplinam." Cicero, De Natura Deorum, I.xxvi. Cfr. Diogenes Laertius II.6.

4. Burnet, Early Greek Philosophy, pg. 253.

5. Phaedrus 270.

6. Having been charged with atheism and being now assured by Meletus that he is completely guilty, Socrates asks, in the course of his trial:

Do you mean that I do not believe in the god-head of the sun or moon like other men?

I assure you, judges, that he does not: for he says that the sun is stone and the moon earth.

Friend Meletus, you think you are accusing Anaxagoras: and you have but a bad opinion of the judges, if you fancy them illiterate to such a degree as not to know that these doctrines are found in the books of Anaxagoras and Claxomenian, which are full of them. -- (Apology 26.)

Diogenes Laertius (II. 12 et seq.) gives rather a full account of such matters. As to the attitude of the people with reference to thinkers of this sort, Plutarch notes: "He who the first, and the most plainly of any, and with the greatest assurance committed to writing how the moon is enlightened and overshadowed, was Anaxagoras; and he was (at the time the Athenians were engaged in besieging Syracuse) as yet but recent, nor was his argument much known, but was rather kept secret, passing only among a few, under some kind of caution and confidence. People would not then tolerate natural philosophers, and theorists, as they called them about things above; as lessening the divine power by explaining away its agency into the operation of irrational causes and senseless forces acting by necessity, without anything of Providence or free agent. Hence it was that Protagoras was banished, and Anaxagoras cast into prison, so that

Pericles had much difficulty to procure his liberty..." (Life of Nicias 26.). He goes on to note that when philosophy explicitly developed a metaphysic, with Plato, philosophers acquired standing and could live safely at their work.

7. Scriset, Greek Literature, pg. 156. Cfr. Plutarch, Life of Pericles 4.

8. Fr. 5. The fragments are to be found in Burnet, op. cit., pp. 258. ff.

9. Fr. 17.

10. "It is in every way probable that Anaxagoras derived his theory of mixture from his younger contemporary, whose poem may have been published before his own treatise. In any case,.... the opinions of the latter were known at Athens before the middle of the fifth century." Burnet, op. cit., pg. 261. On this point, cfr. Zeller, Outlines of the History of Greek Philosophy, pg. 61.

11. B. A. G. Fuller, History of Greek Philosophy, pg. 217.

12. Fr. 8.

13. Fr. 10.

14. Fr. 11.

15. Fr. 1.

16. Fr. 6.

17. Fr. 3. While Anaxagoras, as we have had occasion to

remark, may have possessed many of the virtues of a philosophic writer, the condition of his subject apparently did not allow for an always noteworthy clarity.

18. We find much of this same thought in his 15th fragment, describing the evolution of the world.

19. Fr. 4. cfr. matter ad not. 45.

20. Physica I. ii. 184b.

21. Si, plicius, Physica XLIV.1; Aristotle, Physica I. iv. 187a. (Apud Burnet, op. cit., pg. 263.).

22. Burnet, op. cit., pp. 263-4. In view of the teaching here we can understand the attitude of Aristotle with reference to Anaxagoras and others, for whom "if all contradictory statements are true of the same subject at the same time, evidently all things will be one... And we thus get the doctrine of Anaxagoras, that all things are mixed together; so that nothing really exists. They seem, then, to be speaking of the indeterminate, and, while fancying themselves to be speaking of being, they are speaking about non-being; for it is that which exists potentially and not in complete reality that is indeterminate." (Metaphysica IV. iv. 1007 b.). There is something to this way of interpreting the reality, that which is, among thinkers of this sort. As we shall later have occasion to suggest, it is in this very co-positing of contraries with its sceptical influence that Anaxagoras, however well intentioned, made one of his gravest errors. For, "si praedicatur affirmatio, praedicabitur negatio cum simul verificentur: ergo necesse est quod homo sit triremis et eadem ratione quodlibet aliud. Et sic omnia erunt unum. Hoc igitur coningit dicentibus hanc positionem, scilicet quod contradictio verificetur de eodem." St. Thomas, In IV Metaph., lect. viii, 639.

23. "On the other hand, everything can pass into every-thing else just because the 'seeds', as he called them, of each form of matter contain a portion of everything, that is, of all the opposites, though in different proportions. If we are to use the word 'element' at all, it is these seeds that are the elements in the system of Anaxagoras." Burnet, op.cit., pg. 264. As Zeller puts it, being for Anaxagoras consists "of a mixture of innumerable uncreated, imperishable and unchangeable but not indivisible particles of peculiar composition...Anaxagoras calls his primary substances σείσματα or κρίματα . They are called by later writers 'homoeomeries', the Aristotelian term." (op.cit., pg. 62.).

24. Fuller, op.cit., pg. 224.

25. Fr. 12.

26. Fr. 1.

27. Fr. 9.

28. Fr. 6.

29. A. Stoeckl, Handbook of the History of Philosophy,

pg. 44.

30. Fuller, op. cit., pg. 218.

31. W.A. Butler, Lectures on the History of Ancient Philosophy, I. 322. There was very probably some inkling of this in the mind of Anaxagoras, some recognition of the fact that "since everything in the world is formed and arranged in accordance with a definite plan, and plan and order suppose Reason, it follows that the efficient cause which presides over matter must be mind ()" (Stoeckl, op.cit.), although he was not yet in a position rightly to interpret the hints of nature.

32. Metaaphysica I. iii 984b. "Apparuit aliquis dicens intellectum esse in tota natura, sicut est in animalibus, et ipsum esse causam mundi, et ordinis totius..., in quo ordine consistit bonum totius, et uniuscujusque. Et hic purificavit priores philosophos, ad puram veritatem eos reducens, qui inconvenientia dixerunt, hujusmodi causam non tangentes." St. Thomas, In I Metaph., lect. v. 100.

33. Life of Pericles, iv. "This mass void of form and motion, in which we may recognise the ἀπειρον of Anaximander, the σφαῖρα of Empedocles, and the union of the smallest particles of the Atomists, is now approached, not indeed by a separating and combining necessity, which is just what Anaxagoras denies, but by the νοῦς, a conscious power, the introduction of which at once provokes the teleological mode of regarding things. In direct opposition to the principle of the previous period, as formulated by Aristotle, Anaxagoras ascribes to the knowing νοῦς predicates contrary to those belonging to the known object (the mass)." J. Erdmann, History of Philosophy, pg. 67. It likely provoked the teleology, as in the case of Socrates, but that was about all.

34. Phaedo 97.

35. Phaedo 98.

36. This matter is handled very well by Socrates himself, when, in resisting the well-meant offers of escape made by

his friends, he displays his freely chosen course of submitting to the sovereign authority, in the Crito.

37. "Anaxagoras, then, at least on this side of his teaching, must be considered rather as an author of a phrase than as the father of a philosophy. The phrase remained, and had a profound influence on subsequent philosophies, but in his own hands it was little more than a dead letter. His immediate interest was rather in the variety of unity; he is theoretically perhaps, 'on the side of the angels', in practice he is a materialist." J. Marshall, A Short History of Greek Philosophy, pg. 55.

38. Metaphysica I. iv. 985 a.

39. Fr. 12.

40. A.W. Benn, The Greek Philosophers, I. 40. J. Adam gives a brief summary of the leading interpretations of the Nous, and notes his own agreement with Heinze and Arleth "in holding that Anaxagoras intended us to understand by Nous an incorporeal essence, although in the absence of an accepted philosophical terminology he failed to make the new idea absolutely clear" ("The Divine Origin of the Soul", pp. 35 to 76 of his Vitality of Platonism, this from pg. 43.). As our remarks suggest, we would agree with Socrates, Aristotle and other commentators that, while the incorporeal may render his theory more intelligible, the evidence indicates that he at least did not consistently recognise this, and, in fact, is generally in some contradiction to it.

41. Fr. 12.

42. Cfr. Physica VIII. v 256b.

43. Fr. 13. "Anaxagore, sous l'impression des changements produits par les révolutions célestes, admet que la première cause qui sépare les choses les unes des autres est un mouvement circulaire ou tourbillon; il imagine donc le Nous animé d'abord lui-même d'un mouvement circulaire, puis produisant dans une espace limitée un petit tourbillon, qui s'étend peu à peu autour de son centre, se propageant à travers l'espace infini." E. Bréhier, Histoire de la Philosophie, I. 73.

44. Cfr. fr. 9.

45. Fr. 15.

46. Fr. 16.

47. Burnet, op.cit., pg. 269. As to the doxographers, cfr. Aëtius, Placita, II. 13, 3 (R.P. 157 c.)

48. Fr. 12.

49. Heraclitus, frs. 19 and 65. Cfr. Burnet, op.cit., pg. 268.

50. Zeller, op.cit., pg. 61. "Zeller holds, indeed, that Anaxagoras meant to speak of something incorporeal; but he admits that he did not succeed in doing so (Die Philosophie der Griechen, Erster Theil, Fünfter Auflage; Leipzig, 1892, pg. 993), and that is historically the important point." Burnet, op.cit., pg. 268.

51. Zeller, Outlines, pg. 61. "In some respects," writes A.W. Benn (Early Greek Philosophy, pg. 78.), "he clearly

conceived it as like human reason, but with far greater powers... On the other hand, it is an extended substance, the **thinnest** and purest of all things, and enabled by this **absolute** separateness (!), of which it is an unique example, to act on them. Its action, however, is of a purely mechanical kind and has no other effect than to set up a ...movement by which the component elements of the original mixture are segregated."

52. Fr. 12.

53. op. cit., pg. 62. The language of Anaxagoras may at times suggest "to us the Hebrew idea of the Spirit of God moving on the face of the waters, and of a divine intelligence creating and controlling the world. We should be careful, however, not to read any such idea into Anaxagoras' thought. The action of Mind in setting the other stuffs in motion seemed to him as unpremeditated and mechanical as the commotion caused in a tumbler by the ingredients of a Seidlitz powder seems to us. And the formation of the world due to the spread of the initial commotion was not in any way planned or directed by the cosmic brain-matter. It was a wholly purposeless and blind process, liked the series of changes started and sustained among chemical elements by the mere presence of a catalyser." Fuller, op. cit., pg. 219.

54. As M. McDonald points out (The Progress of Philosophy, pg. 20.), the logic of Anaxagoras is not sound "and Aristotle criticises him severely for a manifestation of words conveying the thought that mind is both the creator of changes brought about by mixtures and separations and also but a necessary part resident in primal elements. Anaxagoras, in other words, has illogical cause and automatic result in Nous."

55. Metaphysica I. viii 988 b. "Isti ergo philosophi non dixerunt praedictas causas esse bonas, quasi horum causa aliquod entium sit aut fiat, quod pertinet ad rationem causae finalis; sed quia a praedictis, scilicet intellectu et amore, procedebat motus quidam ad esse et fieri rerum, quod pertinet ad rationem causae effecientis." St. Thomas, In I Metaph., lect. xi, 177.

56. Fr. 12.

57. op. cit., pg. 268.

58. Fr. 14.

59. Fr. 11.

60. Fr. 12.

61. Summa Theologica I. iii. 1. (Italics ours.).

62. So Pseudo-Aristotle has it, De Plant. I. i. 815 a (R.P. 160.). "All derivative minds are essentially the same with it (the Nous), and with one another, differing from it and from one another only in degree." B.C. Burt, Brief History of Greek Philosophy, pg. 29.

63. Burnet, op. cit., pg. 272. "the more perfectly a body is organised, the more powerful is the nous within it, and the more powerfully does it promote knowledge and animation. Hence even the plants are not devoid of soul; but the experience

n'est pas. Or le non-être ne peut s'élever à l'être. Rien ne devient donc qui ne soit préexistant à son propre devenir. En d'autres termes, le devenir ne fait que manifester l'être. Mais le devenir, le changement, aboutit aux termes les plus opposés, et cela dans le même objet. Cet objet précontenait donc à la fois ces éléments opposés. Ne faut-il pas, même, étendre davantage ~~avantage~~ cette proposition et dire, avec Anaxagore, que tout est dans tout? Et voilà la coexistence des contradictoires et des contraires qui se trouve imposée logiquement à notre assentiment." J. Maréchal, Le Point de Départ de la Métaphysique, I. 18-19.

78. Fr. 21 a.

79. Fuller, op. cit., pg. 224.

80. Adversus. Math. VII. xci. As sense-perception obtains through the reciprocal action of opposites, "perceptual knowledge acquired in this way is only relative. In contrast to it, the truth is found solely through the λόγος, through the participation of the individual in the world reason. W. Windelband, History of Ancient Philosophy, pg. 86.

81. Fr. 7 secundum Schaaf, op. cit., pg. 162. As usual, Burnet renders it "word and deed".

82. De Anima I. ii 405b.

83. While Erdmann comments on the rather strange lack of ethical data (op. cit., pg. 68.), Stoeckl declares that in the view of Anaxagoras "the highest contentment is to be found in the knowledge of the universe obtained by thought" (Handbook, pg. 45), and Burt (Brief History, pg. 29.) finds that "man's highest satisfaction lies in the pursuit of wisdom."

84. So Schaaf, op. cit., 163.f. We could cite other authorities who are likewise much taken by the Anaxagorean Nous, but it will suffice for our present purposes to note that, if our interpretation and its foundations have so far been fairly just, we cannot very well regard the Anaxagorean thinnest of all things, etc., as a God in a proper sense, though it may be more nearly one than most previous efforts. "Although this Nous possesses many of the attributes and discharges many of the functions which later philosophy assigned to the Deity, Anaxagoras in his extant fragments nowhere called it God." Adam, op. cit., pg. 44. In sum, we may well find much to agree with in the remarks of H. O. Taylor, when he says that "nous is thus a moving, ordering and knowing substance. With but a mechanical mentality it is not yet sheer immaterial mind. Yet it is groping thither -- dreaming on things to come... And as far as the man's effect, one perhaps may say that he started the mind on its career as Demiurge and made way for the conception of the Divine Will as Creator of the Universe." Prophets, poets, and Philosophers of the ancient World, pg. 158.

85. "All preceding thinkers had represented their supreme being under material conditions, either as one element singly or as a sum total where elemental differences were merged. Anaxagoras differed from them chiefly by the very sharp distinctions drawn between his informing principle and the rest of nature." Benn, Greek Philosophers, I. 40. As we have indicated in our own

and reason of the soul of man is greater, because he is endowed with hands." Erdmann, op.cit., pg. 68. Cfr. Aristotle, de.Part. Animal. IV. x 687a. (R.P. 160b.).

64. de Anima I.ii 404b.

65. καὶ ὅσα γε ψυχὴν ἔχει καὶ μέγω καὶ ἔλαττω, πάντων νόος κρατεῖ.

Found in Simplicius (Physic., 156.13. R.P. 155.). "Intellectus tribuit rebus motum non ope impulsus ab extra eis impressi sed ope impulsus ab intra eis communicati," observes P. Siwek (note 44 to de Anima I; pg. 73.).

66. de Anima I.ii 405 a.

67. J. Beare, Greek Theories of Elementary Perception, pg. 37.

68. op. cit., pg. 208

69. Theophrastus de Sensu, 27 ff. Found in Burnet, op.cit., 273 f. "Ill enseignait que la sensation se fait par les contraires; c'est dans la pupille, parfaitement obscure que peut apparaître une image lumineuse; c'est qui est plus chaud ou plus froid qui nous réchauffe ou nous refroidit; et c'est pourquoi toute sensation implique peine, parce que la peine est le contact du dissemblable." Bréhier, op.cit., I. 73.

70. Theophrastus, op. cit. Cfr. Beare. op.cit., pp. 38 ff.

71. Theophrastus, op. cit.

72. Theophrastus, op. cit. Beare, op. cit., pp. 103 f. cites Theophrastus discussion of Anaxagoras's vagueness on the relation of sensequality to the size of the animal.

73. Beare, op. cit., pg. 209.

74. "And all sensation implies pain, a view which would seem to be a consequence of the first assumption, for all unlike things produce pain by their contact. And this pain is made perceptible by the long continuance or by the excess of a sensation." Theophrastus, op.cit. (Burnet, pg. 273-4.)

75. Fr. 21. "The sense-faculties of man are too weak to attain to truth; they are unable to distinguish between the constituent elements of things. It is Mind that attains knowledge of things." Stoeckl, op. cit., pg. 45. "Taken by themselves our sensations are false, inasmuch as they give us only combined impressions, yet, "Marshall opines (op.cit., pg. 56.), "they are a necessary stage towards the truth, as providing the materials which reason must separate into their real elements."

76. I. Schaaf, Institutiones Historiae Philosophiae Graecae, pg. 162. Cfr. Erdmann, op. cit., pg. 68.

77. Metaphysica IV. v 1009b. As we have seen (cfr. note 21.), his doctrine as to the mixture of all things involved serious consequences as to knowledge, inasmuch as it in effect did away with the principle of contradiction, whence naught but scepticism could flow in the long run: "Pour un bon nombre des sceptiques, amis, au fond, de la vérité, la pierre d'achoppement fut la notion du mouvement, du changement, ou si l'on veut du 'devenir'. Ce qui devient - ainsi raisonnent-ils avec Anaxagore, Démocrite et d'autres, ce devoient, en tant qu'il devient,

treatment of the matter, the distinctions could be drawn a little more sharply still, if we are to have a satisfactory evaluation of the several orders of reality.

86. This is a fragment quoted by Aristotle, or, at least, an Aristotelian in the Eudemian Ethics 1216 a.

Chapter VII: The Atomists.

Amid these many and often ingenious efforts to effect a solution of those increasingly complex problems which the conflicting answers of succeeding thinkers had brought forward, there came upon the scene, perhaps from the across of the ancient philosophy at Miletus, one Leucippus, who is said to have been the pupil of Zeno the eleate.¹

In later times, Epicurus was rather coolly to dismiss Leucippus from his considerations, and to do so in such a way that he seems to deny the earlier man's existence; various commentators have taken his remarks in this way and taken them seriously. In the light of available evidence, however, this view appears to be rather unlikely, for "Aristotle and Theophrastus certainly made him the originator of the atomic theory, and they can hardly have been mistaken on such a point".²

Whether Leucippus -- granting his existence -- was a student under Zeno, or not, he evidently made some contacts with the Eleatic teachings, and, in company with many of his contemporaries, must have been impressed, by the stimulant notion of the One Being, by the excellence of monist dialectic, and by the difficulty of bringing either the stimulus or the excellence into harmony with common sense. It seemed on the one hand to be impossible to admit an absolute becoming and destruction and absurd on the other hand to rule out all coming and passing of beings.

Now if we assert that matter is uncreated and indestructible, and yet that things arise and pass away, there is only one way of explaining this. We must suppose that objects, as wholes, begin and cease to be, but that the material particles of which they are composed are uncreated and indestructible. This thought now forms the first principle of Empedocles, and of his successors, Anaxagoras, and the Atomists.³

The world, in fine, is to be conceived as made up of what we would probably call elements, which are the real and to which the attributes of the as yet dialectically unimpeachable Being are to be ascribed.

The theories which had been proposed up to this time had their different merits and their serious defects. It may be, however, that a study of these, in connection, very probably, with the teachings of Zeno and Melissus induced Leucippus to find his method of reconciliation in the positing of a primitive reality made up of two elements, the Atoms and the Void. As he came to see it, "the sum of all things is unlimited, and they all change into one another. The All includes the empty as well as the full. The worlds are formed when atoms fall into the void and are entangled with one another."⁴ This suggestion his discip-

ples, among whom Democritus of Abdera was especially prominent, took upon themselves to develop into a complete weltanschauung, wherein they faced the problem vexingly created by mental life and gave a consistently materialist explanation of knowledge. Anaxagoras had done this much for philosophy, that he compelled all succeeding thinkers to do something about Mind (or mind).

A history of which we expect a thoroughgoing and painstaking record of the precise opinions of each philosopher who occurs within its range could quite possibly, and no doubt with profit, distinguish between the teachings of Leucippus and Democritus. By and large, however, they have, especially been men whose influence was exercised jointly, and there is considerable truth to Zeller's contention that "no differences can be established in the main doctrines of these two men, so that as early as Aristotle they are quoted together. For the whole of later times Democritus was the representative of atomistic doctrines."⁵

The younger man was, at any rate, possessed of considerable attainments in the field of the natural sciences, and has been compared in this respect even to the universal genius precellent in Aristotle. He was widely travelled and his acquaintances included Anaxagoras, for whom he had no very high regard, as well as the Pythagoreans, for whom he is said to have entertained a great esteem. In view of the later history of Atomism and its connection with hedonistic teachings, it is not without interest to remark that Democritus was quite interested in problems of an ethical kind.⁶

Theophrastus has written that Leucippus was for a time associated with the venerable Parmenides, but that, instead of accepting the pure Eleatic doctrine, he chose to pursue a line of thought which might seem (as Sokel) to be something very different.⁷ In spite of this superficial difference, there was, as Theophrastus, in deed, appears to suggest, a close relationship between the two theories. The observations of Aristotle on the origin of the Atomic theory go to bear out this suggestion.

For, Aristotle points out, the Atomists took their start from that which is conceived as coming first in the order of nature. Now, earlier thinkers had maintained, forcibly and -- as we have seen -- with considerable effect, that the real can be only One and that immobile; such was the explicit teaching of the master:

One path only is left for us to speak of, namely, that It is. In this path there are very many tokens that what is uncreated and indestructible; for it is complete, immovable and without end. Nor was it ever, nor will it be; for now it is, all at once, a continuous one.⁸

In such a scheme of things as Parmenides envisioned empty space could not enjoy any reality, and motion, which would require an

empty space free from matter, would therefore be out of the question. Once empty space was thus excluded, there was nothing left to keep things separate and part; as a result, any plurality of being would likewise be impossible. Such phases of the the Eleatic doctrines were given a special emphasis in the work of Melissus of Samos:

Nor is anything empty. For what is empty is nothing. What is nothing cannot be. Nor does it move; for it has nowhere to betake itself to, but is full. For if there were ^{ought} ~~ought~~ empty, it would ~~betake~~ ^{betake} itself to the empty. But since there is ^{ought} ~~ought~~ empty, it has nowhere to betake itself to.⁹

If what is real is divided, it moves; but if it moves, it cannot be.¹⁰

Without making any specific references, Aristotle notes the arguments which Zeno, as we know, directed against such men as the Pythagoreans, who upheld a pluralist system, but could not discover any suitable reply to his ingenious objections, founded on an infinite divisibility. Having alluded also to Parmenides, Aristotle remarks that one thinker, who was probably Melissus, argued that the Eleatic Being (which is all) must be infinite, else it would be bounded by that empty space which cannot be in any way. The dialectical attainments of these men naturally impressed him, and he could not but admit the consistency of their arguments. He realised full well, however, that consistency is not by itself a necessary guarantee of the truth, and he reminded his students that "if we appeal to facts, to hold such a view seems like madness. No one who is mad is so far out of his senses that fire and ice appear to him to be one."¹¹

Now, the later monists were engaged largely in the defence of the teachings of Parmenides and in polemic against either the older pluralists or the newer schools of reconciliation. In the latter class, of course, there was Anaxagoras, who taught a way of allowing for something of a many while preserving the sacred character of the Being; his views had their good points, but they did not appeal to Melissus, who in retort declared that "If there were a many, these would have to be of the same kind as I say that the one is".¹²

It was fine debating strategy, but Leucippus also knew that trick of making your opponent's case your own and, with an equal skill, answered -- in effect -- "Why not?". Having observed the line taken by the Eleatic apologists, he thought that it was possible to hit upon a way of reconciling the data of common sense with the purity of the Being, provided that one did not concede too much to the Monists.

As the Atomists saw the case, then, the Eleatics had been at fault in denying the void. They were right in holding that without a void there could not be any motion, but, in view of

the presence of some motion in the world, such a denial did not appear to be well founded. In the light of these considerations, "he inferred that it was wrong to identify the void with the non-existent. What is not ($\tau\omicron\mu\kappa\acute{\omicron}\nu$) in the Parmenidean sense is just as much as what is ($\tau\omicron\acute{\omicron}\nu$)... The Pythagorean void had been more or less identified with 'air', but the void of Leucippus was really a vacuum."¹³ That which the early thinkers had insisted upon as not-being he takes to be as good as the being.

Heraclitus had said that the "non-existent is: all is and is not at once". Parmenides had asserted the absolute fulness of one Being, which is all in all. The Atomists declared reality to consist of Being and not-Being in combination of fulness and emptiness together. This conception in a scientific sense was the most fruitful of all.¹⁴

Further, since Parmenides had regarded his Being as the space-filling, or the full, and the not-being as the empty, the Atomist made corresponding adjustments in his own account and "accordingly declared (that) the full and the empty (are) the basic constituents of all things. But in order to explain phenomena from these postulates, he thought of the full as divided into innumerable particles, which on account of their smallness cannot be perceived separately."¹⁵ The empty will separate these particles one from another and the fact that each fills his (for the personal and impersonal are difficultly distinguishable here) own space -- as the Being must do -- plus the fact that they have nothing of the empty in themselves, renders them indivisible. In his own summary of the matter, Leucippus puts it this way:

For 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 indivisible owing to the smallness of their bulk. They move in the void (for there is a void); and by their coming together they effect coming into being; by their separation, passing away.¹⁶

That the void, which was so necessary to their explanation, did in some way enjoy existence, the Atomists seem to have argued on the basis of four reasons, drawn from experience:

Prima est necessitas admittendi pluralitatem et motum corporum; secunda est factum compressibilitatis corporum; tertia est nutritio, qua nutrimenta intrans in interstitia viventium; quarta demum est speciale factum, nempe vas plenum cineribus recipere in se tan-

tum aquae, ut appareat, aquam debere intrare partim in poros vacuos cinerum.¹⁷

This space was extremely helpful, for, by intervening between the various reals, it allowed for their plurality and their motion as well, while they, in turn, had none of this empty in them and were according indivisible, physically speaking. By introducing this element of physical indivisibility, the Atomist no doubt hoped that he would escape the criticisms of Zeno, that drew such inconvenient conclusions from the supposition of an infinitely divisible plurality of beings. As for the reals of the new system, "they are separated from one another by the empty, and are themselves indivisible because they completely fill their own space and have no empty in them. Hence," as Zeller goes on to say, "they are called atoms (ἄτομα) or dense bodies (πυκνά)."¹⁸

The four elements of Empedocles and the indefinite number of elements of Anaxagoras were in some way different, each element from the other, but this could no longer hold. For, in the Atomist endeavor at reconciliation, the primitive particles are not only all extended (and hence, if one likes, mathematically divisible), but they are all precisely the same as regards their substance.¹⁹ In such a scheme, even the elements of Empedocles will be composites, "even these are conglomerations of given atoms".²⁰ Since the atoms are thus so completely alike, their want of qualities will, as we shall see shortly, have serious repercussions in the order of knowledge.

Still things do not appear the same, and the Atomists sought to explain differences therein by referring to certain variations in the elements. "These differences (we would prefer the term variations), they say, are three -- shape and order and position. For they say the real is differentiated only by 'rhythm' and inter-contact' and 'turning'; and of these rhythm is shape, inter-contact is order, and turning is position; for A differs from N in shape, AN from NA in order, and from H in position."²¹

The atoms, moreover, are represented as being ever in motion, but Aristotle professed that he was dissatisfied with the account which was given as to the origin and kind of that motion. Indeed, he declared that the Atomists had failed through sloth to accord any adequate treatment to the question, in which they were not very much different from their predecessors. "Aliud vero," St Thomas comments, "in quo conveniebant isti philosophi cum antiquis est, quod sicut antiqui neglexerunt ponere causam ex qua motus inest rebus, ita et isti, licet illa indivisibilia corpora dicerent esse per se mobilia."²²

As it is well known, the Epicureans were later on to teach that the original movement of the atoms is a result of their weight, which makes them to fall down, always down, through infinite space.²³ This does not make it very easy to explain in just what way the atoms would ever come to meet, quite apart from

the question as to what "down" could mean in such a scheme. On the basis of the evidence, however, we need not ascribe these views to the earlier Atomists, although our Diogenes Laertius appears to have done so.

In the first place they did not...regard weight as a primary property of the atoms; and, in the second place, we have evidence that Demokritos said there was neither up or down, middle or end in the infinite void... We may therefore regard the original motion of the atoms as taking place in all directions, and we shall see that this alone will account for the formation of the worlds.²⁴

Aristotle, indeed, mentions that Demokritos likened the motions of the soul-atoms to the movements of those specks of dust that one may see in a sunbeam -- going in every sort of direction, even when there is no wind.²⁵ It is, in Burnet's opinion, a fair interpretation of this teaching that the original movement of all the atoms was so explained, for all atoms are alike, soul-atoms move in this fashion, and all should move so.²⁶

Burnet would further take issue with certain interpreters of Aristotle, for the latter remarked that motion was for the Atomists "spontaneous",²⁷ and this was taken to mean that it was ascribed to mere chance. While Aristotle was far from being enthusiastic where the Atomists were concerned, it does not seem altogether likely that he intended to direct such a charge against them in this precise connection, but, rather, that he took exception to their failure to seek, as he did seek, for natural or imposed motion. Certainly, the passage from Leucippus which Aëtius cites would indicate that chance, on the contrary, was denied: "Nothing happens for nothing, but everything from a ground and of necessity".²⁸

Now, Empedocles had in some measure recognised the need for a somehow higher and different force in order to explain how things were started along, and Anaxagoras, for reasons much the same, had introduced the all-moving Nous. The Atomists, however, did not see any occasion for looking to such a force, to Love (or Strife) or to Mind. This may be due to the fact that the Atomists made a cleaner break with the Being conceived, Eleatically, as just One: the earlier reconciliators had supposed some sort of a primary commingling of their elementary bodies, which had to be dispersed by some more external agency, whereas the Atomists began with an infinity of reals, to which the Eleatic properties were at once applied. Hence, the Atomists could not see any reason for looking to an external agency that would bring about the disgregation of atoms already separated by empty space. Rather, it was the problem of the Atomist that "he had to account for their coming together, and there was nothing so far to prevent his return to the old idea that motion does not require any explanation at all".²⁹ If we see the matter in this

light, we can appreciate the reasons for which the Atomists declined to search after a cause of motion, but any such appreciation leaves us nonetheless aware of the fact that they had failed to recognise the true meaning of motion, a transit from potency to act which the moved body can never explain by itself, and had, by leaving out the notion of efficient causality, destroyed any hopes for their system as a genuine science of causes.

Indeed, by failing to carry on the work initiated by Anaxagoras, they marked a retrogression in philosophic development. The Nous had its shortcomings, but it was most significant, all the same, and it did contain the much-sought germ of truth. Yet, "Democritus expressly opposes to this the doctrine of necessity. There is no reason or intelligence in the world. On the contrary, all phenomena and all becoming are completely determined by blind mechanical causes."³⁰ The early gains were in this way lost and the incipient dualism, which we have remarked, was in effect repudiated: "Sic dualismus inter corpus et spiritum, mundum et Deum ab Anaxagora feliciter introductus statim impugnatur et relicitur et iterum materialismus et atheismus propugnatur."³¹

The "weight" of the atoms has been the subject of not a little discussion, in the course of which several commentators have ascribed the motion of the atomic reals to their weight. If we could more or less identify the Epicurean physics with the teaching of the earlier Atomists, then the hypothesis of a motion springing from weight would fit in very nicely with a movement always downward. Such an identification does not, however, seem to be justified. On the whole, it is probably best to say with Burnet for the present "that it is only in the vortex that the atoms acquire weight and lightness, which are, after all, only popular names for facts which can be further analysed."³²

That vortex presents many features of interest. Since there is an infinity of atoms differing as to their shape, order and position, and of necessity wandering every which way, there is bound to be a meeting of some of them. The impact which they produce upon such meetings will then set up the movement of the vortex. All this is the fruit of no plan, yet, in view of the Atomist's feelings on the subject, it cannot be said to be the result of chance alone: "All things happen by virtue of necessity, the vortex being the cause of the creation (Gk. genesis) of all things, and this he (i.e., Democritus) calls necessity."³³ Leukippos is said to have given a full account of the procession of things from these Atomic movements, and his opinions are substantially those historically associated with the earlier Atomic school:

He declares the All to be unlimited...;
but of the All part is full and part empty,
and these he calls elements. Out of them arise

the worlds unlimited in number and into them they are dissolved. This is how the worlds are formed. In a given section many atoms of all manner of shapes are carried from the unlimited into the vast empty space. These collect together and form a single vortex, in which they jostle against each other and, circling round in every possible way, separate off, by like atoms joining like. And, the atoms being so numerous that they can no longer revolve in equilibrium, the light ones pass off into the empty space outside, as if they were being winnowed; ³⁴ the remainder keep together and, becoming entangled, go on their circuit together, and form a primary spherical system. This parts off like a shell, enclosing within it atoms of all kinds; and as these are whirled around by virtue of the resistance of the center, the enclosing shell becomes thinner, the adjacent atoms continually combining when they touch the vortex.³⁵

In terms of this set-up, the Atomist endeavors to explain the generation of "all composite things -- fire, water, air, earth; for even these are conglomerations of given atoms",³⁶ and the formation of the various bodies that there are. The earth is produced by the coming together of masses at the center; the outer shell dries off, fires, and so goes to make up the stars. On these details the masters of atomism are not in perfect agreement, so far as the fragments go to show.³⁷ By and large, however, their systems are at one in holding that things have come about from the vortex of atoms by a rigorous necessity. "As the world is born," Diogenes Laertius, points out, "so, too, it grows, decays, and perishes, in virtue of some necessity, the nature of which he (i.e., Leucippus) does not specify."³⁸

The Atomist thinkers, as we can now see, found in the idea of multiplicity, joined with the idea of complete homogeneity, what seemed to be a firm basis on which to build their accounts of things. As thinking men, they were interested in discovering some unity behind the multiplicity of things; it was their misfortune to confuse unity with homogeneity. In living up to this mistake, they were obliged to reduce qualitative differences to mere local congregations of atoms, atoms that are always the same in their substance; for them, change too became only the displacements which these atoms might undergo.

La simplification ainsi introduite dans les choses n'a d'unité que l'apparence: c'est l'unité de la quantité et du mouvement passif, autrement dit, la multiplicité pure, l'homo-

généité matérielle, l'inertie. Et chez eux, la quantité matérielle envahit à la fois les objets et la pensée.³⁹

Their primary intentions may have been very commendable, they may have tried their best to reconcile Being with experience. In point of fact, they were at variance with the data of common sense.

For, when it comes to the problem of knowledge, the Atomist is as materialist and mechanical in his attitude as he is elsewhere. "The sun and moon have been composed of such smooth and spherical masses (i. e., atoms), and so also the soul, which is identical with reason."⁴⁰ More especially, the soul is constructed of those atoms which in their concourse during movements have come to make up fire. As Aristotle reminds us, the soul must be characterised by the fact that it imparts motion and by its connection with knowledge; and both of these appear to belong to fire.

Quidam enim dicunt animam esse maxime et primario, quod movet; ratioue non posse quidquam movere aliud, nisi et ipsum sit in motu, censuerunt esse aliquid de genere aliquid de genere eorum, quae moventur. Unde Democritus affirmat eam esse aliquem ignem atque calorem; figurae etenim et atomi -- ita rem explicat -- sunt multitudine infinita; illae, quae formam habent sphaericam, vocantur ab eo ignis atque anima; similes sunt dictis ramentis, quae in aëre inveniuntur atque in radiis per fenestras immis- sis apparent, et quorum farraginem vocat elementa totius naturae.⁴¹

These slight, rounded atoms can move easily and, so, they get around to impart their motion to other atoms: "Tales figurae praecipue aptae sunt, quae omnes res penetrent atque -- cum et ipsae moveantur -- reliqua moveant; censent enim animam esse id, quod praebet animalibus, atque ideo etiam vitam finire cum respiratione."⁴² Not only does the surrounding air, in compressing the animal bodies, work off various atoms which, being mobile at all times, confer movement on the animals, but the vital atoms are helped by the fact that similarly disposed atoms will enter through respiration. The atoms outside moreover push on the bodies which compress and restrain the animal, and so impede the separation of the atoms inside, so long as there is life present.⁴³

When it comes to the question of knowledge, the Atomist would say that this, like any other action, consists in a movement of atoms, and that the especially mobile atoms of the fire were accordingly best adapted for producing it. Democritus did not actually speak of the soul as a Nous, but he identified the

soul in effect with what we would regard as the faculty that has to do with truth.

Democritus etiam acutius de hac re locutus est exhibendo rationes utriusvis horum factorum; anima, ait, atque intellectus sunt una eademque res, quae e corporibus primis et indivisilibus est formata atque capax exercendi motum propter exiguitatem et figuram atomorum suarum; sed figura maxime omnium volubilis, ait, est sphaerica; et ex talibus praecise atomis intellectus atque ignis compositi sunt.⁴⁴

Such opinions would indicate a commendable regard for the soul, but they do not serve really to set it apart from material things. The manner in which fire is introduced and its identification with the thinking or soul atoms effected is no doubt somewhat subtler than that of Heraclitus, but it is, in the final analysis, quite as materialistic, and more explicitly so than with the Ephesian.

Like Empedocles and Anaxagoras, the Atomist is saying that the fact of knowledge and of life is one that must be accounted for by the highest, or the most "efficient" form of matter, but it remains matter all the same. If the soul corresponds to our description, then it is clear that intellectual knowledge, as we understand it, will have no place in the system. There was a good deal of justification for Cicero's disgusted pronouncement: "Illam vero funditus eiciamus individuum corporum levium et rotundorum concursione fortuitam, quam tamen Democritus concalectam et spirabilem, id est, animale, esse volt."⁴⁵

In the Atomic scheme, the relations between all things were reduced to the mechanical level, and this had to mean the corresponding reduction of sensation. The interaction which is found in sense perception cannot here be any different, when one gets down to it, from the interaction of any atomic group on another, for the fire-atoms of the soul are not substantially different from other atoms. "All interaction whatever consists in or involves contact: and this is as true of the interaction between a percipient and a perceived object as of any other. Sensation is due in the last resort to a contact between the objects of sense, or ἀνορροοί from these, all of which are atoms combined in various ways, and the spherical atoms of which the soul is composed."⁴⁶ If, with the soul composed -- like everything else -- of homogeneous atoms, sensation must consist in atomic interaction, then we shall find that the impact of atoms from the outside on those which make up the soul will constitute sensation, and that the sense-organs will be as pores that give passage to the travelling atoms.

For every body was continually sending forth emanations or images resembling itself

sufficiently in form and structure. These images travelled by a process of successive transmission, similar to that by which wave-motions are propagated in water. They were, in other words, not movements of the particles of the object, which latter must otherwise in time grow less and fade away, but a modification in the arrangement of the particles immediately reproduced itself in the next following, and so on through the medium to the perceptive body.⁴⁷

In this way, the several senses are become modes of that one sense of touch, which is exercised thanks to the actual contact of the object and the sense, in a physical manner. The particles which are introduced through the senses must be dispersed through the body, in order that they may establish their contacts with the soul. In the case of sight, accordingly, the objects of vision are not exactly those things which we opine that we are seeing, but rather the deikela (or eidola), or images, that have been sent off from the thing. The essential element in vision is, therefore, the image in the pupil of the Atomist's eye.

He held that vision is the result of the image of the object mirrored in the eye. But when we ask -- what exactly is mirrored? the answer for him is not easy; since between object and eye come what he called δείγματα ..., things also referred to as ἀπορροαὶ τῆς κορφῆς. These δείγματα, not the object, are therefore the immediate and proper data of sense.⁴⁸

Inasmuch as the air which intervenes between the source of such emanations and the eye itself may tend to disperse or to distort the image-waves, our vision does not afford us a precise likeness of the object. This conclusion is borne out by the effect which distance, that is, the amount of intervening air, will have on the visibility of objects. Differences as to color may be traced to the tangible qualities of the images; thus, white is smooth, while black is rough. Aristotle, further, thought that Democritus had done well in associating vision with the liquor (water) in the eye, but accounted it matter for regret that he should have identified vision itself with the apparition of the object seen in the pupil, thanks to the corporeal disposition of that smooth, polished eye.

Et ita patet quod ipsum videre non consistit in hoc, quod est apparere talem formam in oculo, sed consistit in vidente, idest in habente virtutem visivam: non enim oculus est

videns propter hoc quod est laevis, sed propter hoc quod est virtutis visivae: illa enim passio, scilicet quod forma rei visae in oculo appareat, est reverberatio, idest causatur ex refractione sive reverberatione formae ad corpus politum.⁴⁹

So too, when we come to the sense of hearing, we find that the sounding body gives off particles of sounds, that are communicated to the auditor by means of the air. Sound, in other words, is a stream of atoms that imparts movement to the atoms of air, according as they are like to it in shape and size, and so at last by impact on the body it attains to the soul atoms.⁵⁰ As Theophrastus has brought out, the sound may enter principally at the ear, but it is disseminated throughout the body; this is not harmonised with his teaching on the other senses, for they might just as well be diffused in this way, if hearing is to be so.⁵¹

Taste is dependent upon the diversities in the shape of the atoms: the sweet is round and large, the sour, large and rough, the acid angular, curving and thin, the salty, angular and large, and so on. "It makes much difference also what the bodily state is with which the shapes come into relation; for from this it happens sometimes that the same stimulus...produces contrary subjective effects, and that contrary stimuli produce the same subjective effect."⁵² The Atomists, to their credit, were aware of the rôle of the subjective in sensation, but the fact impressed rather too strongly and, as we may see, came to destroy the objective value of our sense-knowledge.

The explanation of the sense of smell is more or less like that of his kindred sense of taste, though he does not discuss it as fully.

With the sense of touch thus playing so large a part in his system, the Atomist, like others that we have seen, failed to investigate that sense itself with the care that his efforts elsewhere would seem to demand in this case. For Aristotle:

Democritus and most of the 'physiologi' who treat of sense do a very extraordinary thing: they represent all objects of sense as objects of touch. If, however, this is true it plainly follows that each of the other senses is a kind of touch which is manifestly impossible.⁵³

Democritus was at variance with Protagoras, who held that sensations are all possessed of an equal truth for the subject that senses. The Atomist held -- not much more constructively -- that, in reality, the sensations of the several special senses are false, for they have nothing that corresponds them in the objective order. This viewpoint, indeed, was implicit in the entire tradition of the ontologists from the time of Parmenides

on. The master had very definitely declared that "all these things are but names which mortals have given, believing them to be true -- coming into being and passing away, being and not being, change of place and alteration of bright color",⁵⁴ and the atomist was at pains to attribute to the Being proper what -- as Melissus argued -- was true of the One Being. The Being had accordingly been fragmented into the atoms and the void, which could alone be real. "The qualities of things exist merely by convention (νόμῳ)," the Atomist maintained: "in nature (φύσει) there is nothing but atoms and void space."⁵⁵ He is quite insistent on this point, and goes into some detail, saying:

By use (νόμῳ) sweet is sweet, by convention bitter is bitter, by convention hot is hot, by convention cold is cold, by convention color is color. But in reality (ἐστὶν) ⁵⁶ there are atoms and the void. That is, the objects of sense are supposed to be real and it is customary to regard them as such, but in truth they are not. Only the atoms and the void are real.⁵⁷

Even though something may be going on outside, the senses are unable to give us a true apprehension of any such fact. The same sensations may, and in fact do, have different meanings for the other living beings -- though how we would come to know of this in the Atomic set-up is not made clear. The same person may be variously affected by the same object. There is true in this observation, but too much is made of it and the conclusion too early drawn: "that we do not really know of what sort each thing is, or is not, has often been shown".⁵⁸ "In fact," we are further told, "we do not know anything infallibly, but only that which changes according to the condition of our body and of the (influences) that reach and impinge upon it."⁵⁹ More, "this argument shows that in truth we know nothing about anything, but every man shares the generally prevailing opinion."⁶⁰ The senses do not give us any valid knowledge of the real, which, as we have seen, is too small for purposes of observation. "Verily we know nothing. Truth is buried deep."⁶¹ It is nice in a way to feel that there is truth somewhere, but hardly helpful to be told that it is beyond our reach.

Democritus does seem to try to avoid the full consequences of a rejection of sensory knowledge, as when he says that there is another and a higher kind of knowledge. Where the bastard knowledge of the senses deceives and lets us down, the true-born will succor us and show how things stand:

There are two forms of knowledge: one genuine, one obscure. To the obscure belong all of the following: sight, hearing, smell, taste, feeling. The other form is the genuine and is quite distinct from this. (And then, distinguishing the

genuine from the obscure, he continues:) Whenever the obscure (way of knowing) has reached the minimum sensible of hearing, smell, taste, and touch, and when the investigation must be carried farther into that which is still finer, then arises the genuine way of knowing, which has a finer organ of thought.⁶²

He makes a worthwhile effort to safeguard the possibility of our achieving a scientific knowledge, but we cannot see that he has really succeeded in doing so.

The explanation of the genuine knowledge is expressed as much in terms of mechanics as was that which he gave of the bastard. "Uti sensatio, sic etiam intellectio est actio mere physica et materialis, et hoc sensu Aristoteles potest dicere, ex mente Democriti nullum esse discrimen inter animam (sentientem) et intellectum."⁶³ Inasmuch as the soul is made up of atoms, and as all atoms in the last resort agree in one material substance, the soul is nothing but a body, and even its "finest" or fiery portion will be affected in a material way. The atomist would maintain -- let us bear in mind -- that "the atoms outside us could affect the atoms of our soul directly without the intervention of the organs of sense. The atoms of the soul are not confined to any particular parts of the body, but permeated it in every direction, and there was nothing to prevent them from **having immediate contact with the external atoms**; and so coming to know them as they really are."⁶⁴ The material must always enter in some way and by its impulse give rise not only to motion and the like, but even to the highest form of knowledge itself. Image waves, which distance deteriorated in the case of sensible knowledge, now by their contact produce thought itself. Cicero again was right when he said that these people could do anything with a bunch of atoms; certainly they make of them to be "imagines, quas idola nominant, quarum incursione non solum videamus, sed etiam cogitemus."⁶⁵

Theophrastus informs us that knowledge obtained when the soul was conveniently disposed after that movement which understanding produces. Accordingly, the knowledge will be true, if the temperature of the body is even, but false, if it is too warm or too cool.⁶⁶ Now, we can not suppose that the atomic conglomerations outside are shooting off both sensible images, that are no help, and some other images that will better represent the atoms and the void -- they are always too subtle for our observation.⁶⁷ Hence, with the same atomic streams hitting the soul particles that must be at the right heat, it does not seem that there is any absolute distinction between sensation and thought. Democritus, in deed, depicts a scene in which the senses address the higher faculty: "Poor Mind: it is from us thou hast got the proofs to throw us with. Thy throw is a fall."⁶⁸ Even if he also speaks of a difference between the truth values of sensation and of understanding, and regards the former as obscure and the latter as genuine, he could neither justify his words

nor make his meaning clear.

He drew no dividing line between αἴσθησις and νόος as psychical entities. For him all knowledge, sensory or other, is effected by mechanical interaction between the atoms of bodies and those of the soul.⁶⁹

The Atomist suffers from much the same failing as beset Empedocles. The earlier thinker had been unable to account for knowledge, for the union which must take place between the knower and the object known, without supposing that there obtained a physical union of the two: the thing known had to get into the one who knows according to its physical mode of existence. The same is substantially the case when we come to the Atomist; his materialism is more consistent, and his failing the easier to see for that reason. "C'est pareille rêverie de l'imagination matérialiste," Jacques Maritain has pointed out, "que de vouloir, avec Démocrite, qu'elle (c'est-à-dire la qualité sensible) y passe entitativement, ou, parce qu'elle n'y est pas entitativement, de nier, avec les 'scientistes' modernes, qu'elle y puisse passer."⁷⁰ So long as one demands that the object known, however imperfectly it may be known at that, must get physically into the subject, that one is enslaved to matter, and cannot construct a system truly metaphysical. Democritus may deserve considerable credit for having addressed himself explicitly to the problem of knowledge and for having put his answer in such definite terms. The issues between the materialism for which he stood and the dualism, of which we have found recurrent signs in the earlier thinkers, were now more clearly defined. It was up to those who found the Atomist theory unacceptable to essay as cogent and coherent an account of their side.

In the field of knowledge, especially, he brought it out that if a man is to avoid materialism he cannot accept the theory that knowledge obtains through an ontological union, which in the case of a rational animal here situate could only be on the corporeal level. The insufficiencies of materialism, even when organised and elaborated as by Democritus, called to men's attention that, if they would preserve human knowledge as valuable, they must interpret it in terms of a union effected on a non-corporeal level, on a plane superior to the material. In fine, they must develop a theory of forms, which can exist intentionally in the knower.

Disons donc en général qu'à côté de l'être de chose, par lequel une nature est posée hors du néant pour son propre compte, comme substance ou comme accident, il faut admettre un autre être, une autre existence, qui en tant même qu'existence est pure tendance, une existence ténue, impondérable, décantée, spiritualisée, (non pas

chose tenue qui existerait à la manière ordinaire, comme les εἰδωλα de Démocrite, mais un exister lui-même et comme tel purement tendanciel), qui suffit pour que la chose qui existe sous cet état produise un certain effet, mais non pas pour qu'elle soit plantée dans l'être à son propre compte, et qui demande, à cause de cela même, à s'accrocher à quelque autre chose existant pour soi, dans laquelle passera ou existera ce qui a cet être de tendance. 71

Democritus was also, as we have remarked, interested in ethical problems, and he has said, interestingly, that "the end of action is tranquillity, which is not identical with pleasure, as some by a false interpretation have understood, but a state in which the soul continues calm and strong, undisturbed by any fear or superstition or any other emotion. This he calls well-being and many other names." 72 He rejects any way of life, however well provided it may be, wherein wisdom does not serve as the guide. For, if a man will apply himself to wisdom in the practical order, he will be able "to deliberate well, to speak to the point, to do what is right." 73 Such a man, being content with his lot, and being free from any envy or any pining after that which he does not have, is the "right-minded man, ever inclined to righteous and lawful deeds, ... joyous day and night, and strong, and free from care." 74

The gods of mythology did not appeal very much to Democritus, but he is said to have looked upon the whole of nature, atoms and void together, as divine, and to have spoken of the soul atoms as of gods. His views in these ethical and theological matters could hardly be fitted in with a genuinely humanist philosophy. To have such a one entails recognition of the true character of the intellectual life and the acknowledgement that the universe depends on the Divine as its Cause -- and this the naturally moving atoms could never allow for. Without a proper concept of the intellectual order, the tranquil life, which contemplation of the Truth could alone effect, would not be possible for men; without a God, as we need hardly demonstrate at length, nothing has its meaning.

It is not without interest, we may observe in closing, to remark that atomism has been the system of most succeeding materialists, who would explain things -- if, indeed, such a thing as an explanation is here conceivable -- in terms of matter and its "blind" forces. This was true in the case of the antique hedonists, like Epicurus or Lucretius, who might indulge in fine sentiments but were all the same constructing philosophies which belied their names as well as the humane principles of thought and life. The same, with somewhat less of the higher sentiments, continues to hold into our own day. 76

Notes to the Seventh Chapter:

1. Diogenes Laertius IX. 30.
2. Burnet, Early Greek Philosophy, pg. 330. Cfr. Schaaf, Institutiones Historiae Philosophiae Graecae, pg. 178.
3. W. Stace, A Critical History of Greek Philosophy, pg. 82.
4. Diogenes Laertius, loc. cit.
5. E. Zeller, Outlines of the History of Greek Philosophy, pp. 64-5. "His (i.e., Leucippus') opinions, too, have been so imperfectly transmitted that it is usual to speak of the tenets of the Atomists without distinguishing how much we owe to Leucippus, who by Aristotle and Theophrastus is regarded as the founder of the system, and how much we owe to Democritus, who was the ablest and best-known expounder of the atomistic philosophy." W. Turner, History of Philosophy, pg. 65.
6. Cfr. Diogenes Laertius IX. 34 et seq.; P. Geny says of him: "Democritus fuit certe (quidquid de Leucippo dicendum sit) vir rarae eruditionis, solus qui, sub hoc respectu, Aristoteli aequiparari et forsan anteponi possit; fuit etiam robusti ingenii, magni vi logica e principiis consequentia ducens. Problematis eleatici solutionem proposuit novam, elegantem, in se simplicem." Brevis Conspectus Historiae Philosophiae, pg. 54.
7. Theophrastus, found in Simplicius, Physic. xxviii. 4 (R.P. 185.).
8. Parmenides, fr. 8. Found in Burnet, op.cit., pp.174 f.
9. Melissus, fr. 7. Found in Burnet, op.cit., pg. 323.
10. Melissus, fr. 10; op.cit., pg. 324.
11. Aristotle, de Generatione et Corruptione I.viii 325a. Found in Burnet, op.cit., pp. 334-5.
12. Melissus, fr. 8. Found in Burnet, op.cit., pg. 323.
13. Burnet, Greek Philosophy: Part I, pg. 95. "In other words, Leukippos was the first philosopher to affirm, with a full consciousness of what he was doing, the existence of empty space." ibid.
14. L. Campbell, Religion in Greek Literature, pg. 320.
15. Zeller, op.cit., pg. 65.
16. Aristotle, loc. cit.
17. Schaaf, op.cit., pp. 182-3. A full account of this may be found in Aristotle, Physica IV.vi 213a.
18. Zeller, op.cit., pp. 65-6.
19. "All the atoms," comments Stace (op.cit., pg. 88.), "are composed of exactly the same kind of matter... They are entirely non-qualitative, the only differences between them being differences of quantity." Having stated that the atoms were held to be the same in their substance, Burnet (E.G.P., pg. 336) cites Aristotle (de Caelo I.vii 275b.): τὴν δὲ φύσιν εἶναι φάσιν αὐτῶν μίαν, and adds that "here φύσις can only have one meaning. Cf. Phys. Γ, 4 203 a 34, αὐτῶ (Ἀημοκρίτῳ) τὸ κοινὸν σῶμα πάντων ἐστὶν ἀρχή."

20. Diogenes Laertius IX. 44.

21. Metaphysica I. iv. 985b. "Sicut ergo propter triplicem diversitatem in literis ex eisdem literis diversimode se habentibus fit tragoedia et comoedia, ita ex eisdem corporibus indivisibilibus diversimode habentibus fiunt diversae species rerum. St. Thomas, In I Metaph., lect. vii. 117.

22. St. Thomas, op. cit., 118.

23. Cfr. Diogenes Laertius X. 35, where Epicurus' letter to Herodotus is cited. The matter is taken up by most historians of Greek Philosophy; on Epicurus, cfr. Turner, op. cit., pp. 178. et seq.

24. Burnet, Greek Philosophy: Part I, pg. 96.

25. de Anima I. ii 403b - 404a.

26. Burnet, op. cit.

27. Cfr. Physica II. iv. 196a.

28. Aetius i. 25, 4. Found in Burnet. E.G.P., pg. 340.

29. Burnet, op. cit., pg. 341.

30. Stace, op. cit., pg. 91. "Democritus also pulled to pieces the views of Anaxagoras on cosmogony and on mind, having a spite against him, because Anaxagoras did not take to him." Diogenes Laertius IX. 35.

31. Schaaf, op. cit., pg. 180.

32. Burnet, op. cit., pg. 344.

33. Diogenes Laertius IX. 45. We have ourselves inserted the term (genesis) to make the meaning clear.

34. Several authorities, as Gomperz, have said that the atomist vortex was in contradiction to the physical law that in centrifugal machines the heaviest bodies are thrown the farthest. Burnet finds that a closer study of the teaching here, in conjunction with Aristotle's observation that the atomists drew an analogy between the world in the center of the vortex and an eddy of wind or water, will fail to bear this out. "We must remember that all the parts of the vortex are in contact, and that it is just this contact...by which the motion of the outer-most parts is communicated to those within them. The larger bodies are more able to resist this communicated motion than the smaller, and in this way they make their way to the centre where the motion is least, and force the smaller bodies out... There is no question of "centrifugal force" at all, and the analogy of eddies in air and water is in reality quite satisfactory." op. cit., pp. 346-7.

35. Diogenes Laertius IX. 31-2.

36. Diogenes Laertius IX. 44.

37. Cfr. Burnet, op. cit., pg. 347.

38. Diogenes Laertius IX. 33.

39. J. Maréchal, LePoint du départ de la Métaphysique,

I. 43.

40. Diogenes Laertius IX. 44. "Nisi quae me forte fugiunt," Cicero says after noting various psychologies, "haec sunt fere de animo sententiae. Democritum enim, magnum illum quidem verum, sed levibus et rotundis corpusculis efficientem animum concursu quodam fortuito, omittamus. Nihil est enim apud

istos quod non atomorum turba conficiat." (Tusculanae Disputationes I. xi. 22.). Of course, the atomists insisted on the working of necessity, but it was certainly one without really ascribable purpose.

41. Aristotle, de Anima I. ii 403b - 404a. "Consisting of atoms like the motes in a sunbeam, Democritus imagines the soul to be, which permeates the whole body, and renews itself in breathing by continually taking up similar atoms. And because of the general diffusion of such atoms, no body can be declared quite inanimate and devoid of soul...And as animation and the principle of cognition are not distinguished from each other, his theory of knowledge is purely physical." J. Erdmann, History of Philosophy, I. 60.

42. de Anima I. ii. 404a.

43. Aristotle reminds us that Heraclitus had also thought of the fire as the soul: "quibusdam anima videbatur esse ignis, cum hic et subtilissimus sit et maxima incorporeus ex elementis, atque tum se ipsum caetera primo moveat." op. cit., 405a. The incorporeality is not immateriality or spirituality strictly speaking, but rather a relative immateriality, proper to such subtler bodies (Siwek, note 42 to de Anima I.).

44. Aristotle, op. cit., 405a.

45. Cicero, op. cit., I. xviii. 42.

46. J. Beare, Greek Theories of Elementary Cognition, pg. 205.

47. J. Marshall, Short History of Greek Philosophy, pg. 79. "The hypothesis by which he attempted to explain perception was both ingenious and bold; and many centuries elapsed before a better one (sic) was suggested. He supposed that all things were constantly throwing off images of themselves..., which, assimilating to themselves the surrounding air, enter the soul by the pores of the sensitive organ. The eye, for example, is composed of aqueous humors; and water sees. But how does water see? It is diaphanous, and receives the image of whatever is presented to it." G. Lewis, History of Philosophy, I. 100.

48. Beare, op. cit., pg. 25.

49. St. Thomas, In de Sensu et Sensato lect. iv, 48.

50. "Democritus and others regarded sound as affecting the auditory apparatus materially or mechanically in the form of an inrush of air. Sound is a stream of atoms emanating from the sonant body and causing motion in the air between this and the ear. The sound atoms are not supposed to reach the ear alone, but together with air fragments, which resemble them. These fragments, following the law that like consorts with like, come together according to their similarity of shapes and sizes." Beare, op. cit., pp. 101-2.

51. Theophrastus, de Sensu, 57.

52. op. cit., 67. Apud Beare, op. cit., pg. 164.

53. de Sensu et Sensato iv 442a--b. St. Thomas comments "Quod autem hoc sit falsum, facile est videre; quia alii sensus sensus sentiunt per medium extraneum, non autem tactus" (In de

Sensu, etc. lect. xi, 154. Beare, from whom we draw the original quotation, says: "This criticism appears to exhibit Aristotle as incapable of profoundly apprehending the idea of biological development. Yet, strangely, he himself most firmly held the theory that Touch is the original sense from which all others have been differentiated" (op. cit., pg. 182.). Recurring to S. Thomas, we are told: "Sicut Philos. videntur dicere in 2. de Anima, sensus tactus est unus genere, sed dividitur in multos sensus secundum speciem (et propter hoc est diversarum contrarietatum). Qui tamen non separantur ab invicem secundum organum, sed per totum corpus se concomitantur: et ideo eorum distinctio non apparet." (Summa Theologica I. lxxviii. 3 ad 3um; cfr. ad 4um.).

54. Parmenides, fr. 8. (Burnet, Early Greek Philosophy, pg. 176.). "Now that all things, "he goes on to say, "have been named night and light, and the names which belong to the power of each have been assigned to these, and to those, everything is full at once of light and dark night, both equal, since neither has aught to do with the other." (fr. 9, op. cit., pp. 176-7.).

55. Diogenes Laertius IX. 45. "La vraie réalité appartient à l'atome et au vide; les autres propriétés que nous donnons aux choses, saveur, chaleur ou couleur, leur appartiennent simplement par convention; elles sont de simples affections de la sensation qui naissent dans l'alteration de l'organe par l'objet... Ainsi, en même temps qu'une physique mécaniste, naît tout naturellement le scepticisme à l'égard des sens..." Bréhier, Histoire de la philosophie, I. 79.

56. Lewes prefers to take it as αἰτία "in causal reality", and notes that "modern editors read ἐτεῖα, 'in reality'. I am inclined, however, to preserve the old reading, as more antithetical to νόμῳ." (op. cit., I. 98.).

57. From Sextus Empiricus, Math. vii. 135. (Apud Bakewell, Source Book in Ancient Philosophy, pg. 60.)

58. fr. 10. (Bakewell, op. cit., pg. 59.).

59. fr. 9. (op. cit.).

60. fr. 7. (op. cit.).

61. Fr. 117. (op. cit.).

62. fr. 11. (op. cit., pp. 59-60.).

63. Schaaf, op. cit., pg. 208. The reference to Aristotle de Anima I.ii.

64. Burnet, Greek Philosophy, I. 198.

65. de Finibus I. vi.

66. de Sensu 58.

67. "Sed quod ipse putaverit, a corporibus praeter imagines sensibles adhuc alias imagines provenire, atomos quales et vacua repraesentantes, vix supponi posse videntur." Schaaf, op. cit., pg. 209. "Thought itself, which grasps the truth of things, is nothing else than a motion of atoms, and in so far is like perception... If now Democritus regarded thought as the finest motion of the first atoms, he must have looked upon

the finest εἶδωλα also as the stimuli of that motion, viz. those εἶδωλα in which the true atomistic form of things is copied." So finds W. Windelband, History of Ancient Philosophy, pg. 158. Schaaf cites this and disagrees with it, noting: "ad rem tamen iure Zeller notare videtur: 'Non intelligitur, quomodo vacuum ullo modo agere possit et quomodo atomi alio modo agant, quam unitae, in corporibus ex eis compositis et quomodo ista corpora composita alio modo agant in animam, quam per sensus' (916)." op. cit.

68. fr. 125. (Burnet, op. dit.).

69. Beare, op. cit., pg. 254.

70. J. Maritain, Les degrés du savoir, pg. 223. We cannot forget the close relationship which always obtains between a metaphysic and an epistemology: "In ogni sistema, il problema della conoscenza è quello che è, perchè tale e non diversa è la metafisica del pensatore. La teoria della realtà oggettiva e della soggettività in Democrito ('opinione il dolce, opinione l'amaro, opinione il caldo, opinione il freddo, opinione il colore: verità solo gli atomi e il vuoto'); la identità di sensazione e di pensiero; la relatività del pensiero al temperamento corporea, e si vada dicendo, sono una conseguenza della sua metafisica materialistica." F. Ogliastra, "Il Problema della Conoscenza nella Filosofia moderna ed il Realismo scolastico," pg. 53; Acta Secundi Congressus Thomistici Internationalis, pp. 47-63.

71. Maritain, Réflexions sur l'intelligence, pp. 60-1. The "intentional being" is very important in philosophy, as our author points out; "quoi qu'il en soit, ce qui nous importe ici, c'est son rôle dans la connaissance et dans les opérations immatérielles de celle-ci, c'est la présence intentionnelle de l'objet dans l'âme et la transformation d l'âme en l'objet, fonction l'une et l'autre d l'immatérialité (imparfaite pour le sens, absolue pour l'intelligence) des facultés cognitives." (Les degrés du savoir, pp. 223-4.).

72. Diogenes Laertius, IX. 45.

73. fr. Bakewell, op. cit., pg. 60.

74. fr. 174. (op. cit., pg. 63.).

75. Schaaf (op. cit., pp. 213 et seq.) discusses this point at some length.

76. The ancient cases are well known, but we find the influence of atomism recurring also in the Middle Ages: "Guillaume de Conches admet ouvertement l'atomisme de Démocrite, une doctrine ~~psycho-physiologique~~ de la connaissance d'un réalisme assez naïf et d'origine orientale, il enseigne enfin que le Saint-Esprit est l'âme du monde en termes tels qu'on ne s'étonne pas qu'il se soit attiré des difficultés d'ordre théologique." E. Gilson, Philosophie au moyen age, pg. 63. As to the modern development: "Stenus adhuc apud Dalton; ipse utique fundamentum primum sumpsit ex atomismo Democriti - theoria scholasticorum ei penitus ignota erat - sed addidit ut hypothesim (praeter eam quae agit de paucitate minimorum) propositionem de aequalitate

minimorum unius elementi. Sed haec propositio non est tam specificatio theoriae generalis Democriti, quam correctio erroris, qui in hoc systemate est essentialis. Democritus enim consequenter ad sua principia statuerat omnes omnino quantitates in suis atomis inveniri (et non paucas illas, quas exigit parvus numerus elementorum chemicorum) id quod cum hypothesis, quam Dalton fecit, convenire nequit... Cetera verae naturae specificae in atomismo Democriti admitti non possunt. Sed eadem propositio aequalitatis minimorum tam naturalis est in systemate peripatetico, ut iam apud Aristotelem inveniatur et a scholasticis communiter admittatur. Nonne theoria atomica saeculi praecedentis, cuius fundamenta Dalton iecerat, saltem in initiis potiori iure dicenda est specificatio theoriae Aristotelicae, quam Democriticae?" P. Hoenen, "De Constitutione Corporum", pg. 182; Acta Secundi Congressus Thomistici Internationalis, pp. 173- 90.

Chapter VIII: The Sophists.

Up to the present point of our study, the philosophic endeavors of the early Greeks had been concerned for the most part with physical and cosmological problems. Men had sought to discover the origin and make-up of the external universe, and had made the grievous mistake of thinking -- whether explicitly or otherwise -- that they were then studying the whole of reality. Their systems were as a result deficient and, in the long run, discouraging to the student, as we may gather from the eloquent testimony of Socrates as to his sad experience with the Nous of Anaxagoras.¹

The number of conflicting systems and the difficulties of reconciling many of them with common sense contributed to a decline of the early zeal for the pursuit of this kind of philosophy. Since so many and such notable men had failed to attain the full truth of these matters and since some of them had further proposed theories that reflected upon human knowledge, men evidenced at once a growing diffidence with regard to man's powers of knowledge and a desire to enquire into them.²

Certain thinkers had already made excursions into these wider fields. Anaxagoras had definitely brought up the subject of the Mind and by suggesting some notion of efficient causality had introduced a partially theological subject; Democritus had dealt with human knowledge and certain ethical questions; Xenophanes had brought ethics to bear on religion; Pythagoras had made of philosophy a way of life.

Praeparata iam erat tractatio problematis anthropologici, et naturalis evolutio fuisset, ut philosophi sese accingerent ad ista alia objecta philosophiae eadem alacritate investiganda, uti antecessores perscrutati erant mundum externum.³

The first men who worked especially along these newer lines were the Sophists, influenced at once by the failures of the older physics and by the current impulses to define the relations of man to the universe and to his fellows.

The term "sophistes" originally referred to men who were noted for their wisdom, generally of a practical sort, and for their devotion to some kind of study. It was in this sense that a variety of early poets, musicians and "philosophers" came to be known as sophists, or wise men. Thanks to the famed modesty of Pythagoras, those who engaged themselves in the quest after causes later preferred to style themselves "philosophoi", or lovers of wisdom, rather than simply wise men. The old name, while occasionally used with its original force, came to acquire a different significance. Thus, in the Fifth Century (B.C.), it

was used to designate those men who travelled about the Greek world, imparting some species of knowledge or other, usually for a fee. The ordinary subjects in which they would instruct their followers were in the practical realm -- ways of getting ahead. Protagoras, who is said to have initiated this mode of teaching is quoted to this effect. Refusing to conceal his art by any dodges, he declares: "I...acknowledge myself to be a sophist and instructor of mankind". Much envied by reason of his success and influence, he describes his work as "a stranger finding his way into great cities, and persuading the flower of the youth in them to leave the company of their kinsmen or any other acquaintances, old or young, and live with him, under the idea that they will be improved by his conversation".⁵ The sophist was likely to meet with popular disapproval, not only of his power and his teachings, but also of his habit of charging for the improving conversations.

The name of sophist has of course fallen into disrepute for some of these reasons, and because of the practice of many later sophists who perverted their skill and learning for the sake of gain, and by their sceptical tendencies as well as their excessive use of "sophisms" brought the work into disfavor and seriously affected the truly philosophic sciences. The criticism which Socrates and Plato directed at such fellows is well known, and Aristotle has well summarised the meaning which sophistry assumed in its degradation:

Sophistic is nothing but apparent wisdom in no wise real, and the Sophist is only eager to get rich off his apparent wisdom, which is not the true. Evidently, these fellows seek rather to appear wise than to be wise without so appearing.⁶

Although the name, with its early associations of a most noble kind, has thus been altered in its meaning, until it now has much the significance that it had for Aristotle, we can see that not all the "sophists" were of such an unpleasant character.

That the scepticism whereof we spoke now appeared on the scene of Greek speculation, we may ascribe to a number of causes operating in that intensely alive period of Athenian greatness. Not the least consideration was the mess which preceding schools had left behind. All those assorted thinkers had tried to tell people about the first data of consciousness, the material world around them, and had succeeded in devising ingenious accounts which were usually self-contradictory and at variance one with the other on fundamental points. The followers of Heraclitus and the Eleatics, while vigorously assailing each other, agreed in the not very constructive opinion that the senses are fallacious. Accepting the corrosive Eleatic dialectics, Empedocles and Anaxagoras strove to harmonise the Being with experience, and ended up by compromising both. They might speak of the trust which should be reposed in the reason, but their systems left no place

for such a unique power, which they would as a rule make to depend on some physical action.

Now that Athenian hegemony had brought the currents of Hellenic civilisation closer together, men had the opportunity of studying these various answers, and, accordingly, of being confounded by them. It was not very long before they saw and bemoaned aloud the failure of the old, physical philosophy. As they saw it, the traditional science was broken down: it had essayed to make the world intelligible, but had instead come forth with a number of divergent views which contradicted the evidence on hand. Science might be explaining some universe or other, but not this present one. Naturally, men began to ask themselves why they should regard these strange worlds of the philosophers as being any truer than the one in which we live. It is the man who has these reputedly false senses and it is the man who thinks out the sciences. Wherefore, then, are his senses such false witnesses, while his reason alone passes as trustworthy? Where is its special warrant?

Science proceeds on the assumption that there is some fundamental reality () which we can discover, but what guarantees have we for that? It is very plain that men's views of right and wrong, fair and foul, vary from people to people, and even from city to city, so there is no fundamental reality in them at any rate. In the same way the scientific schools only agree in one thing -- namely, that all other schools are wrong. It is surely just as unlikely that any of these schools should possess the truth as that any of the nations, Hellenic or barbaric, should have established among themselves the true law of nature. Such were the thoughts that must have kept suggesting themselves to cultivated men in the middle of the fifth century B.C.

Small wonder, then, that the Sophists were able to draw from the very positions -- the "ways of truth" and "stories of the goddesses" -- of their predecessors the means for doubting or even for denying all certain knowledge. The perpetual flux of Heravlitus and the Eleatic repudiation of the plurality and change of experience would have fitted in beautifully.

In addition to the philosophic shortcomings, political and social factors influenced the development of a sceptical attitude. The triumph over Xerxes had brought boundless glory and wealth to the Hellenic victors, and particularly to the Athenians, with their league. Under the leadership of Pericles, the violet-crowned city flourished at the peak of a great civilisation. The arts were cultivated to an unrivalled degree of perfection: the sculptures of Phidias and the dramas of Sophocles represented the human genius at its heights. Just as at the time of the so-called Italian Renaissance, men were inflamed

with a passion for more knowledge in all those fields to which fast-moving events had opened their vision. Blessed with the leisure to indulge their insatiable curiosity, the Athenian gentlemen looked for the answers to the great problems of life, sought -- in other words -- a philosophy, but there was none yet to be found.

Non sufficiebat amplius invocare unice traditionem et communem persuasionem ad veritates philosophicas tanti momenti admittendas, uti sunt existentia Dei et obligatio legis moralis. Attamen ab ipsis philosophis solutiones sufficientes horum problematum non offerebantur, quippe quae scientificae nondum tractatae essent. Quid mirum igitur, quod tendentia critica et sceptica irrueret?⁸

The associations with so many peoples which colonial expansion, increased commerce, and their relations with Persia had brought about emphasised more than ever the apparent divergencies between men on basic questions. Yet it struck them that people might express seemingly quite different views, and yet all get along fairly well: that seemed to be the important thing -- to cash in on the great movements, to rise to the top, to enjoy wealth, to exercise power, to get the most out of life. If there were no satisfactory answers to the fundamental problems, then those which worked for a fuller life in the present could be taken. In this way, studies of a practical value in training men to take part -- and profitable part, at that -- in public life were brought into vogue.⁹

Nor should we forget that at this time, too, democracy (as it is called) was especially in favor among many Hellenes, and was, of course, the system established at Athens itself. The influence of Pericles might mollify the people or mitigate the effects of the system, but, in the long run, he was a demagogue rather than the chief of a truly organic commonwealth. Whatever advantages such democracy may have, a respect for standards and a feeling for true order are rare among them. The native Greek genius did much to overcome the 'democratic' virus, but it could not free itself from all the bad effects. With every free man as good as the next, truth itself came to be a matter of individual, or at most of majority opinion. What the demos regarded as the true and the good were to be received as such. If any one disagreed, he was allowed to toast the state in hemlock!

Now, the Sophists who came forward to cater to the current tastes never formed a school, and were certainly of the most diverse qualities. What characterised them as a group was a preoccupation with the practical, which some did not conceive too badly, and a renunciation of strict philosophic enquiry into the several possible objects of knowledge, in favor of a sub-

jective reflection, which was largely indifferent where scientific truths were concerned. As Aristotle has summed it up:

It is the function of the philosopher to be able to investigate all things... Sophistic and dialectic turn on the same class of things as philosophy, but this differs from dialectic in the nature of the faculty required and from sophistic in respect of the purpose of the philosophic life. Dialectic is, merely, critical where philosophy claims to know, and sophistic is what appears to be philosophy but is not.¹⁰

Generally speaking, the earlier sophists were less reprehensible in their teachings than those who came after them. Thus Protagoras, with his faults and bad influence, failed to attack the principles of morality as such.

Certainly, the sophists are entitled to our praise for their cultivation and enrichment of many arts and sciences, as well as for their development of a new technique in teaching. With all their shortcomings, they at least posed many vital questions, and by bringing philosophic difficulties so much into the open stimulated greater men to effect their solution. At their hands, moreover, the art of disputation was perfected and men's minds accordingly sharpened for better uses.

They strove, in fact, to excel in all the current arts, and Cicero, noting their contributions to language studies, puts in the mouth of his Catulus a glowing tribute to their accomplishments: "Namque illos veteres doctores auctoresque dicendi nullum genus disputationis a se alienum putasse accepimus semperque esse in omni orationis genere versatos."¹¹ And then, he goes on to speak of the universality of interests displayed by Hippias of Elis:

Cum Olympiam venisset maxima illa quinquennali celebritate ludorum, gloriatus est cuncta pæne audiente Graecia nihil esse ulla in arte rerum omnium quod ipse nesciret; nec solum has artis, quibus liberales doctrinae atque ingenuae continerentur, geometriam, musicam, litterarum cognitionem et poetarum atque illa, quae de naturis rerum, quae de rebus publicis dicerentur, sed anulum, quem haberet, pallium quo amictus, soccos, quibus indutus esset, sua manu confecisse.¹²

Looked at from the more serious side, this may well indicate a fine feeling, somewhat misguided, for the all-around development of man. It was conceived that he should seek to grow to his full stature as a being and make use of all his powers in the conduct of a complete life. Unfortunately, of course, the Sophists were uncertain as to what was the proper end of life, and accordingly as to what precise means should be adopted in

order to attain the end. Hence, the stress was laid on those powers which would make for material success, or at least for success in anthropocentric terms. The Sophists did, at least, call to men's attention the possibilities of a rounded and humane culture, and by their own deficiencies showed that any such a culture demands a proper order as its basis. As H. O. Taylor has said, "one cannot read the reports concerning them, and the fragments of their utterances, without realising the largeness of their thinking; and if their ideas seem crude and curious, we also know how they passed into the theories of Plato and Aristotle, to be made over or refurbished so as to be presentable to the human mind forever."¹³

Thus being the heirs of a bankrupt materialism, the sophists were afflicted with both theoretical and practical scepticism. We know a good deal concerning the latter from the dialogues of Plato, in which the Sophist characters often insist on the utilitarian character of any moral code and the doubt which they see enshrouding the fundamentals of ethical life. It is thus that Hippias is cited as of the opinion that law is a tyrant for men,¹⁴ and that Thrasymachus declares "the just is nothing else than the advantage of the stronger",¹⁵ while Callicles, who is to Adamson's way of thinking the representative of a newer trend, away from the sophistic, asserts that "he who would truly live ought to allow his desires to wax to the uttermost, and not to chastise them; but when they have grown to their greatest he should have courage and intelligence to minister to them and to satisfy all his longings. And this I affirm to be natural justice justice and nobility."¹⁶ However eloquently he or his kind might expound this view and whatever the arguments advanced, the fact remains that it amounts in reality to a refusal to seek after standards, to following the line of least resistance.

Two of the sophists are especially remembered in the history of philosophy, and with them our survey might well be concluded. The first is Protagoras of Abdera, who was in some respects the father of the movement. In early life, he worked as a porter, and -- incidentally -- invented a shoulder pad to be used in his profession. His efficiency in this line caught the notice of his distinguished fellow-townsmen, Democritus, under whom he is said to have studied after that. Having acquired a considerable proficiency in philosophy and rhetoric, he entered too upon the work of teaching and in the long course of a long career visited the greater part of the Greek world. He was the first recorded to have been paid for his instructions, thus starting "a practice not to be despised, since the pursuits on which we spend money we prize more than those for which no money is charged".¹⁷ His opinions on various points of language, the art of rhetoric and methods of argumentation are by no means without interest, but what has made him famous was his opinion -- which he was the first to hold -- that there are two sides to every question, and that knowledge is relative.

For his acquaintance with the conflicting systems of philosophy had persuaded him that, as Heraclitus had maintained, all things are involved in ceaseless becoming, that the universe is just movement, and that apart from this movement there is nothing. This view he carried over from the universe at large to the thinking subject, and enunciated the principle that "man is the measure of all things, of things that are that they are, and of things that are not that they are not".¹⁹ In this formula, "he merely stated that for each individual things are as they appear to be. In other words, truth is for each individual that which he holds to be true. Subjective truth is the only truth."²⁰

It seems to be fairly clear that "man" refers to the individual by himself and that knowledge is taken as the knowledge of subjective appearances, simply. Thus, the way is opened to subjectivism, relativism, and, almost inevitably, to a sensualism of the worst sort. Indeed, if the dictum were applied in all its strictness, "it would signify not only that no two persons think or perceive the same thing, but that no person feels or thinks twice alike; it would mean also that there is and can be no real fixed object of knowledge."²¹ Contradictory opinions would be equally true under such a system, although there is evidence that Protagoras thought there could be better and worse among them, usually according to the prevalent opinion of men. Even so, right and wrong are left thoroughly subjective. "He used to say that the soul was nothing apart from the senses, as we learn from Plato in the Theaetetus, and that everything is true."²² The older traditions have definitely broken down: there is in this surrender to error and doubt the evident need for a reform which, as Plato has so well brought out, Socrates was to appreciate and to act upon.

It was bad enough to have mathematical certainties being dragged into dispute, but the situation became impossible and inhuman when the sophists declared that things divine were utterly beyond the reach of reason:

As to the gods, I have no means of knowing either that they exist or that they do not exist. For many are the obstacles that impede knowledge, both the obscurity of the question and the shortness of human life.²³

No one who has read the opening portions of either of St Thomas' great Summae can question those difficulties or the moral need which they create for a revelation, touching even on those matters of which the human reason is capable. But it is plain that a truly humanist philosophy is rendered impossible by this exclusion of the divine as an object of our knowledge by the light of the reason. After all, the capstone of the whole scientific structure is to be found in a natural theology, and without this science man's reason is frustrated in its search after the causes of the things about and even deprived of means of knowing to judge con-

cerning a professed revelation. For one time at least, the Athenians were right in their prejudices when they attacked Protagoras for such teachings.

The other more famous Sophist hailed from Sicily -- Gorgias of Leontini, whose forceful character, mastery of language and skilful approach to men and issues made him a very father of the Sophists. His views, considered in one way, were opposite to those of Protagoras. For the latter, like many a modern liberal, might admit that everything is true, but the Westerner held that nothing is true. Following the fashion, he wrote a book Concerning Nature, or the Non-Existent: it was an interesting qualification and testimony to his thoroughgoingness. In this work he has taken the trouble to set forth his views, under three rather disconcerting heads:

First, nothing exists; second, if anything did exist we could never know it; third, if perchance a man should come to know it, he would be unable to describe it to his fellow men. ²⁴

At any rate, we may reflect that this can't be truer than anything else.

Where Protagoras had begun with something like the Heraclitean flux, Gorgias seems to have upheld the western Eleaticism, the dialectic of which he follows in many places. That there is no being is plain to him from the fact that anything which did exist would be either derived or eternal. It could not -- as Parmenides and others had shown -- be derived either from that which exists or that which does not exist; it could not be eternal, for the eternal is infinite, whereas the infinite can neither be in itself nor in anything else, and that which is nowhere does not exist.

Even granting that it existed, we would still be unable to know of it, for, if knowledge is to be possible, the thought should be like the thing, or, rather, the very thing itself, else that which exists could not be known: this would mean that the non-existent is unknowable. But, if the knowable is the real, there could be no error in stating that chariots raced upon the ocean. And so on. The Sophist has done a good job of reducing to their logical and absurd conclusions the old errors of the materialists. His arguments seem the nightmare one might have after studying those people. After his work it would be pretty hard to maintain that being is univocal and univocally identified with that which can be thought of it -- in the materialistic sense of the monists, or that knowledge obtains through the thought's being that very physical thing which is known.

In his own scheme, he felt that knowledge, even if gained, could never be communicated. For communication would make use of symbols, and symbols are different from the things symbolised. "How can any one by a word communicate the mental image of a color -- the ear does not hear color, but sounds? And how can

the mental image be in two persons who are different from one another?"²⁵ The questions could never be answered if knowledge is thought to consist in ontological union. Intentional existence of the universalised form is the only avenue of escape from the maze. Interestingly, Gorgias made his living by communicating all this to those non-beings who would listen and pay. He was not as logical as Cratylus, whose views along the same lines led him to disdain speech. As for the teaching itself, there is scarcely need for comment²⁶ Apart from its value as a stimulus, the theory of Gorgias is anarchism, simple and unshamed.

Quodsi, priusquam valedicamus sophistis, in ipsorum doctrinam respicimus eamque philosophia praecedente comparamus, statim videmus, aspectum philosophiae alium factum esse: antea praeprimis problema cosmologicum tractabatur; nunc quaestio cognitionis ad problema anthropologicum pertinens est centrum inquisitionis et disputationis. Tempora sunt mutata, philosophiae nova periodus praeparatur. Theoria vero cognitionis proposita a sophistic magnopere differt a solutionibus, quas philosophi praecedentes occasione data eidem problemati dederunt. Anaxagoras quoad rem spiritualitatem intellectus defendit, ipsi intellectui assignavit objectum essentialiter diversum ab objectis sensuum, et sic intellectualismum praeparavit; Democritus vero omnem cognitionem fecit actum mere materialem et sic est pater materialismi, etsi sibi non cohaerens facultatem appellatam intellectivam ulterius se extendere docuit, quam sensus. Protagoras cognitionem intellectualem subjective spectatam a cognitione sensitiva non distinguit eamque etiam coarctat ad objecta sensitiva, et sic iure censetur esse primus praesentans sensualismi.

Ipsae et Gorgias et alii sophistae insuper extenso indulserunt scepticismo. Sensualismus proinde et scepticismus sunt proprii partus sophistarum, a philosophia sequenti ante omnia superandi. ²⁷

Notes to the Eighth Chapter:

1. Cfr. Phaedo, 97 et seq.

2. "Hitherto the attention of the Greek philosophers had been concentrated on man's natural environment, the universe within which man came into consideration only as a part of the great whole, as an animal creature. The most varied attempts had been made to explain world-origin and world-events. All laid claim to correctness, without however a reconciliation of their

opposing doctrines being possible. It is no wonder that the bold enthusiasm of the earlier philosophers was replaced by a distrust of human powers of attaining knowledge of the ultimate basis of natural phenomena, and that a certain fatigue and reservation in speculation made itself felt; that the growing realisation of the uncertainty of sense-perception prepared the way for a fundamental scepticism. On the other hand man as an intellectual being and his own peculiar creation, civilisation, had hitherto attracted only an occasional fleeting glance from the philosophers... Meanwhile in Ionia, side by side with Philosophy, a new kind of investigation had sprung up (ιστορικη)... The comparison of different customs and forms of life with those of their own people challenged reflection and criticism. It raised the question how all that had come about and the doubt whether one's own institutions were alone authoritative and valid for all time, and whether civilisation was the creation of benevolent gods or the work of man himself... Sophism is then in the first place a philosophy of civilisation and is distinguished in its subject matter from the previous philosophy of nature. Its object is man as an individual and as a social being together with the culture created by him in language, religion, art, poetry, ethics, and politics." E. Zeller, Outlines of the History of Greek Philosophy, pp. 75-6. Cfr. the observations made in the earlier portions of his Socrates and the Socratic Schools.

3. I Schaaf, Institutiones Historiae Philosophiae Graecae pg. 257.

4. Protagoras, 317.

5. op.cit., 316.

6. de Sophisticis Elenchis I.1 165. To be found in Bake-well, Source Book in Ancient Philosophy, pg. 69. "What is sophistry?" asks W. Butler. "It is the mimicry of wisdom -- the form and the attire, without the substance and body, of well-ordered reason." Lectures on the History of Ancient Philosophy, I. 357. Jacques Maritain is very strong in his disapproval: "Sophistry is not a system of ideas, but a vicious attitude of mind. Superficially the sophists were the successors and disciples of the thinkers of an earlier generation -- even the word sophist originally bore no derogatory significance -- in reality they differed from them completely. For the aim and rule of their knowledge was no longer that which is, that is to say, the object of knowledge, but the interest of the knowing subject." An Introduction to Philosophy, pg. 65.

7. Burnet, Greek Philosophy: Part I, pg. 105.

8. Schaaf, op.cit., pg. 259.

9. "Prosperitas materialis qua Graecia victis Persis gavisata est, gloria acquisita, quies et otium augent quidem amorem scientiae; progressus democratiae impellit iuvenes ad artem dicendi acquirendam; at simul istae causae enervent mentes, mores tum privatos, tum publicos corrumpunt; quaeritur successus facilis atque rapidus, nulla habetur ratio de nobilitate vel licetate mediorum: inde scepticismus practicus." P. Geny, Brevis Conspectus Historiae Philosophiae, pg. 56.

10. Metaphysica IV.ii 1004b. "We must regard the ancient sophistic art as philosophic rhetoric. For it discusses the themes that philosophers treat of, but whereas they, by their method of questioning, set snares for knowledge, and advance step by step as they confirm the minor points of their investigations, but assert that they still have no sure knowledge (an interesting statement, this), the sophist of the old school assumes a knowledge of that whereof he speaks. At any rate, he introduces his speeches with such phrases as 'I know', or 'I am aware', or 'I have long observed', or 'For mankind there is nothing fixed or sure' (!). This kind of introduction gives a tone of nobility and self-confidence to the speech and implies a clear grasp of the truth. The method of the philosophers resembles the prophetic art which is controlled by man and was organised by the Egyptians and Chaldaeans, and, before them, by the Indians, who used to conjecture the truth by the aid of countless stars; the sophistic method resembles the prophetic art of soothsayers and oracles." Such was the appearance of the case in later topics to Philostratus; Lives of the Sophists, I. 480.

11. de Oratore III.xxxii 16-9. There is also some truth to the comment that "so far as philosophy is concerned (for the sophist), it is far more important for him to learn how to express eloquently an idea than it is to spend time discussing the ultimate validity of the idea." M. McDonald, Progress of Philosophy, pg. 25.

12. Cicero, op.cit., 19-29. Of Sophist Hippias it has been said that "he was the enemy of all specialism... , prepared to lecture on anything, from astronomy to ancient history. Such a man had need of a good memory. And we know that he invented a system of mnemonics... This was the age when men were still sanguine of squaring the circle by a geometrical construction... He invented the curve still known as the quadratrix... , which would solve the problem if it could be mechanically described." Burnet, op.cit., pg. 118. "Hippias," we also learn, "set a high value on truth as a virtue, preferring Achilles to Ulysses on a count of his superior veracity. Perhaps it was as an exercise in pure truth that he inculcated the study of mathematics." A. Benn, Early Greek Philosophy, pg. 94.

13. H. O. Taylor, Prophets, Poets and Philosophers of the Ancient World, pg. 153. Rejecting the supposition of a body of "sophistic doctrine", Lewes speaks of an art whereby people were taught to be their own advocates and says: "This was by no means an immoral act. If it might or did lead to immorality, few Greeks would have quarreled with an art so necessary." He proceeds to say that none blames a barrister for using all his skill in a case, even though the cause is a bad one: "On the contrary, the badness of the cause makes the greatness of the triumph." History of Philosophy, I. 114-5. Sophist morality continued, it would seem.

14. Protagoras 337. "Running all through these problems of civilisation, becoming of pressing moment so soon as they are considered, is the distinction between nature and convention,

the natural and the artificial -- a distinction already emphasized in the theory of knowledge and existence by the Atomists. We have evidence to show that the application of this distinction -- even to such a problem as that of the significance and origin of words -- fell within the scope of the speculative work of this time. It is not impossible that on this topic the counter-views of the Heraclitean school and of the Atomists were brought with Protagoras to a sharp issue." R. Adamson, Development of Greek Philosophy, pg. 70. In the case of the present sophist, "we know on good authority that Hippias habitually distinguished between natural and customary law, the former being, according to him, everywhere the same, while the latter varied from state to state, and in the same state at different times." A. Benn, The Greek Philosophers, I. 78.

15. Republic I.xii 338.

16. Gorgias 491. Cfr. Adamson, op.cit., pg. 69.

17. Philostratus, op.cit. I. 494. Aristotle observes that men who are paid in advance and then fail to convey are justly held in blame. "The Sophists, however, are perhaps obliged to take this course, because no one would give a sixpence for their knowledge". He does not condemn the payment of teachers, but suggests that the rules of friendship should obtain as between master and disciple in philosophy: "for here the value of the commodity cannot be measured by money, and, in fact, an exactly equivalent price cannot be set upon it, but perhaps it is sufficient to do what one can, as in the case of the gods or one's parents". Ethica Nicomachea IX.1 1164a-b.

18. Theaetetus 156.

19. Diogenes Laertius IX. 51.

20. Stoeckl, Handbook of the History of Philosophy, pg.

59. "Plato interprets this text in several different passages, and he invariably understands it to mean that the present sense perception of the individual is the norm of truth for that individual. What my senses report to me here and now is true for me here and now, and what your senses represent to you is true... This obviously excludes the possibility of error, since there is no knowledge distinct from the present sensation, which is always just what it is, and represents an object just as it affects me at a given instant. The philosopher's task, therefore, is not to discover the true, since all knowledge is equally true, but to find out which sensations it is best to have, in order that he may put himself and other men in the way of experiencing only them. Protagoras was no trifler. He belonged to the older school of Sophists, who believed that salvation lay in turning from science to problems of education and social life." L. Keeler, The Problem of Error, pp. 1-2.

21. Burt, Brief History of Greek Philosophy, pg. 36.

22. Diogenes Laertius IX. 51. "He said that man is the measure of all things, meaning simply that that which seems to each man also assuredly is. If this is so, it follows that the same thing is and is not, and is bad and good, and that the contents of all other opposite statements are true, because often

a particular thing appears beautiful to some and the contrary of beautiful to others, and that which appears to each man is the measure." Metaphysica XI.vi 1062b.

23. Diogenes Laertius, loc.cit.

24. To be found in Sextus Empiricus, Adv. Math. VII 67.
Bakewell, op.cit., pg. 67.

25. Stoeckl, op.cit., pg. 60.

26. As to the teaching of Gorgias, "its main result is to isolate. It isolates each man from his fellows; he cannot tell what they know or think, they cannot reach any common ground with him. It isolates him from nature; he cannot tell what nature is, he cannot tell whether he knows anything of nature or reality at all. It isolates him from himself; he cannot tell for certain what relation exists (if any) between what he imagines he perceives at any moment and any remembered or imagined previous experiences; he cannot be sure that there ever were any such experiences, or what that self was (if anything) which had them, or whether there was or is any self perceiving anything."
J. Marshall, Short History of Greek Philosophy, pp. 94-5.

27. Schaaf, op.cit., pp. 295-6.

Chapter IX: Some Reflections:

As we have had the opportunity of seeing, the philosophers who came before Socrates -- the Physicists as they have been justly called, were concerned chiefly with the external universe and bent their efforts to the discovery of the material principle of that reality which their senses knew and which seemed at first to be the very sum of being. There were gropings beyond that, the raising of problems which called for metaphysical solutions, talk of Minds and what resembled efficient causality, but they were undisciplined and unaware of the full import either of what they studied or sometimes said.

These thinkers are, after all, at home only in arguments about generation and destruction and movement; for it is practically only of this sort of substance that they seek the principles and causes. But those who extend their vision to all things that exist, and of existing things suppose some to be perceptible, and others not perceptible, evidently study both classes, which is all the more reason why one should devote some time to seeing what is good in their views and what bad from the standpoint of the inquiry we have now before us.¹

Thus, the early Ionians and the so-called younger physicists alike investigated the material cause of things and arrived at various answers. Some looked upon it as some one element: Thales had his Water, Anaximenes his air, Heraclitus his Fire. Others regarded it as some more or less indeterminate matter: Anaximander spoke of his Boundless, Empedocles found four elements and two forces, Anaxagoras found an infinity of specifically diverse elements, and the Atomists an infinity of homogeneous ones. The Pythagoreans and the Eleatics, and especially the latter, looked rather to that which things are, and so came to formulate some notion of being itself. The Pythagoreans, moreover, with their philosophy of numbers, laid stress on the order found in things and showed that ordered things can be explained only in terms of what the intellect can apprehend -- even if they did not rightly show what this is. The Eleatics, with their talk of what is (or being), confounded logical unity with the real while remaining on the physical level and pointed the way to a metaphysical science, one that could solve their difficulties.

These several views of the cause of things were not always easy to reconcile with the presentations of the senses or the testimony of common sense. The Milesians were perhaps not so

much bothered by problems in this respect, but Heraclitus, being impressed by the change in the universe, made of the ever-living -- i.e., ever-changing -- fire the source of all that is real and in its name denied the implicit data of the senses as to the abiding of something throughout all the changes of things. The Eleatics, intoxicated with that powerful idea upon which they had come, ventured to place so high a value on their interpretation of it as to deny the undoubted experience of a changing many; then, by their brilliant dialectic -- a dialectic possible while men were still physicists though bootlegging some metaphysics, discomfited everybody else without vindicating their own theory.

Both Heracliteans and Eleatics insisted that men ought to follow after reason rather than the illusions of sense, and both failed, of course, to see reason for what it is in deed, and they accordingly through the necessary data of the senses overboard. The efforts of men like Empedocles and Anaxagoras to save both the Being and the sense experience were, as we have seen, unsuccessful, with a really significant contribution, however, in the Nous suggested by the latter. The underlying materialism of these various systems was at length organised into the extremely ingenious systems of Leucippus and Democritus. At the same time, the confusing struggles of the schools drove others to study man from a subjective viewpoint, which issued at last in sceptical anarchy.

All these people were bringing up questions of a higher order and proposing answers of the most unsatisfactory character. Such discussions, as we have several times suggested, drove constructive thinkers to attain the metaphysical level and to essay a solution of the vital problem of knowledge.

Indeed, it was not until rather late that men addressed themselves explicitly to the matter of human knowledge, but all along the way which we have followed their explanations of reality in general entailed of necessity that they should have some attitude on the subject; often as not, the attitude deducible from their systems was not altogether fortunate.

There is in that real order which is open to the investigations of men a diversity and at the same time the evidences of a unity, which they feel impelled to bring out and to clarify. It is the concern of those thinkers who would retain their balance to recognise both these facts and to take them both into account when they undertake to devise a philosophy. As the experience of the Pre-Socratics abundantly shows, it is a difficult thing to preserve that balance. It is a far easier thing to reduce that which is not yet known, but should be the object of a careful search, to that which is already known in some degree; easier to establish an obvious and specious unity, that may exclude the plurality with which a start was made; easier to force reality to conform itself to an explanation once devised, rather than constantly to endeavor to fit one's explanations to the real.

Hence, as the being is the proper object of the human

intellect, and as the intellect is conversely the faculty of being, it is inevitable that men will take the conditions of our knowledge in terms of being; one's epistemology is, therefore, bound to be conceived after the same mode as one's metaphysics, so far as it is a consistent science of knowledge.

Ainsi, tous ceux qui ont négligé la diversité du connaître, et qui, à la suite des Éléates, ont considéré la pensée comme une chose absolument une et unificatrice, ont toujours tendu à cette doctrine moniste et mécanistique selon laquelle l'être est une unité une, $\epsilon\nu\ \xi\nu$, qui n'admet point de coupure ni d'initiative... La connaissance, pour l'homme, est le vestibule du réel: il en faut jalousement surveiller l'entrée.³

Even if the philosophy in question is a philosophy of the Flux, the fact remains that the Flux is conceived as the one explanation, as the pseudo-unity, in the name of which metaphysics and epistemology are perverted.

When Thales said...that everything is water, though he certainly did not prove his thesis, he at least made it clear that reason is naturally able to conceive all that is as being basically one and the same thing, and that such a unification of reality cannot be achieved by reducing the whole to one of its parts. Instead of drawing that conclusion, the successors of Thales inferred from his failure that he had singled out the wrong part. Thus Anaximenes said that it was not water but air. It still did not work. Then Heraclitus said it was fire, and as there were always objections, the Hegel of the time appeared, who said that the common substance of all things was the indeterminate, that is, the initial fusion of all the contraries from which the rest has been evolved. Anaximander thus completed the first philosophical cycle recorded by the history of Western culture. The description of the later cycles could not take us further, for it is already clear, from a mere inspection of the first, that the human mind must be possessed of a natural appetite to conceive all things as the same, but always fails in its endeavor to conceive all things as being the same as one of them. In short, the failures of the metaphysicians flow from their unguarded use of a principle of unity present in the human mind.⁴

It might be objected that by our own testimony true metaphysics was not to be found in the ancient philosophers. In that those thinkers did not properly conceive either such a science or its object, the point is well made. Yet, they were trying to get to the one source of reality, and they were accordingly acting in the spirit of metaphysics, under the impulse of their rational nature itself. "It is an observable character of all metaphysical doctrines that, widely divergent as they may be, they agree on the necessity of finding out the first cause of all that is... In all cases the metaphysician is a man who looks behind and beyond experience for an ultimate ground of all real and possible experience."⁵ Metaphysics thus regarded is found among the ancients. From the first crude efforts of Thales onward they sought to find that ultimate ground. They were hearkening to that call which, as Aristotle said, every man hears, the call to find out the truth, and especially the truth which touches upon all things.

The efforts, therefore, of every Pre-Socratic bear witness to the intrinsically and ineradicably metaphysical character of the human mind, and their repeated strivings to find better answers witness likewise to man's refusal to be satisfied with anything less than a proper science of being. No matter how interesting or consistent their schemes might be, they felt the need for trying again. At first on the material plane alone, they shortly exhausted its possibilities and tried to get higher. If one received their answers at their face value, "from these facts one might think that the only cause is the so-called material cause; but as men thus advanced, the very facts opened the way for them and joined in forcing them to investigate the subject... When these men and the principles of this kind had had their day, as the latter were found inadequate to generate the nature of things were again forced by the truth itself to inquire into the next kind of cause".⁶ In this way, they came to see that neither water nor fire nor the well-rounded what-is can account for all that is present in the universe, for its unity, order and goodness. One member of the drunken company, Anaxagoras of Clazomenae, suggested that the reason which is so manifest in our own lives may be the cause of the wondrous disposition of all things. It was but a hint, but a hint which was to have a great future. Once this was broached, men were bound to investigate reason and to discover what truth there lay in the notion that, if our minds derive ideas from things, those ideas can be present in the things only through having been implanted there by some mind.

Insofar as they sought after the common ground, all these men were tacitly acknowledging the intellectual character of human knowledge. Insofar, however, as their systems were imperfect and materialist, they were contradicting that character, the impulses of which they were at the same time following. Considering their unceasing efforts to rectify previous errors, the Pre-Socratics may well be regarded -- as Aristotle tended to regard them, as men who were trying to build up a metaphysical

science, but who by reason of their early advent and the easiness of a materialist answer failed to arrive at what they were actually driving.

The twofold character of the intellectual intuition of being, to be given in any sensible experience, and yet yet to transcend all particular experience, is both the origin of metaphysics and the permanent occasion of its failures. If being is included in all my representations, no analysis of reality will ever be complete, unless it culminates in a science of being, that is in metaphysics. ⁶

Men may be prone to be impressed by some noteworthy discovery as to some phase of reality, or even by some adumbration of the whole, as was the case with the Eleatics. The ancients, no matter how high they reached, were not yet able to see that in the particular determination of being which they had -- although in having it they doubtless intuited being itself, was only partial. In making of such a part -- water, fire, atoms, elements, or spherical being -- the universality of the real they, they excluded all other aspects and so involved themselves in those difficulties which we have seen. "All the failures of metaphysics should be traced to the fact, that the first principle of human knowledge has either been overlooked or misused by the metaphysicians." ⁷ We can appreciate, then, the value of the work of the Sophists in bringing their contemporaries to consider the question of what it is that we know. Up to their time, men had had the intuition of being, were implicitly metaphysical in their outlook, but they did not clarify that all-important idea of the being.

Historically, as we know, the perennial philosophy was brought to its Platonic and Aristotelian peaks of perfection thanks to the studies of Socrates, the man who "abandoned science, because he thought its explanations, not indeed of the cosmos, but of human nature and human conduct, were superficial and unsatisfactory". ⁸ He saw that attention must be paid to the preparation of the spectator if he is to appreciate the meaning of reality, and his place in its spectacle. His work was valuable not only for its insistence upon human dignity, but also in that he urged men in every enquiry they undertook to state first of all what it is that they are seeking, to look, in other words, for what really does make things to be what they are. He obliged men to discover what it is that they really do know of things, to conform themselves to the object, rather than to remain content with their specious views.

As a result of this insistence, men at first attached an excessive importance to the ideas, as apart from the realities, but it was not long before Aristotle, building on the work of his predecessors, showed that the proper object of the human intel-

lect is being, the sum of all that is or can be, that men know it as presented in concrete, material objects which are far from exhausting the being, and that they effect their knowledge by liberating the forms imprisoned in the matter, liberating them so that their intellects may have the same form intentionally. To this culmination, whether they knew it or not, the long succession of the great Pre-Socratics had been working, servants, we may say with justice, of "the master of them that think" and of the Angelic Doctor who utilised so much of the Philosopher's work in a greater synthesis.

Notes to the Ninth Chapter:

1. Metaphysica I.viii 989b.

2. As Cornford has put it in his Religion to Philosophy, "the first business of the intellect, driven by the impulse to power, is to find its way about the world, to trace out the shapes and contours of its parts, and to frame a perfectly clear plan of the cosmos. With this intent, it will take for its point of departure that aspect of the physis which submits to this treatment -- its aspect as material substance filling space. This aspect will be emphasised to the ultimate exclusion of Soul, or Life, and of God, in so far as these conceptions contain something that defies exact analysis and measurement, for you cannot make a map of vital energy. All that will be left of God is the attribute of immutability, which can be ascribed to matter; all that will be left of Soul is mechanical motion -- change of position in space. Such philosophy is governed in its progress by the ideal which it finds in the science of spacemeasurement; and it reaches its own perfect fulfillment in Atomism."

3. J. Chevalier, L'idée et le réel, pp. 13-4.

4. E. Gilson, The Unity of Philosophical Experience, pp. 311-2. "De là L'extrême importance que revêt toute théorie de la connaissance; de là, en particulier, l'intérêt qui s'attache à la question de savoir quel est l'objet et quelle est la portée exacte de notre connaissance. Car c'est seulement à condition d'y donner une réponse claire et sûre que nous pourrons répondre à cette autre question, qui est la question ultime, la question fondamentale: Où chercher le réel? De la solution de l'une dépend la solution de l'autre. Elles sont inséparables." Chevalier, op.cit.

5. Gilson, op.cit., pp. 306-7.

6. Metaphysica I.iii 984a-b. "The long effort of these speculative pioneers which we have briefly recapitulated had equipped human thought with a number of fundamental truths. But if, looking backwards with a knowledge of the mighty synthesis in which all those truths, then partially perceived, have been harmonised and balanced, we can contemplate with admiration the gradual formation of the vital centres and arteries of philo-

sophy, at the time, in fifth-century Hellas, these good results were concealed not only by the medley of contradictory theories, but by the number and gravity of prevalent errors, and it seemed as though the entire movement had achieved nothing but disorder and chaos. -- The Greek thinkers had set out with high hopes of knowing everything, and climbing the sky of wisdom in a single step. As a result of this immoderate ambition, and because they lacked discipline and restraint in handling ideas, their concepts were embroiled in a confused strife, an interminable battle of opposing probabilities." Maritain, An Introduction to philosophy, pg. 64.

7. Gilson, op.cit., pp. 314-5.

8. op.cit., pg. 316.

9. R. Livingstone, Greek Ideals and Modern Life, pg. 66.

Bibliography:

Books of a special value are indicated by an asterisk.

The Bibliography does not exhaust the material on the subject, or the works to which we are indebted. It is made up of helpful and readily available books.

1. Adam, James, The Vitality of Platonism and Other Essays. Edited by Adela M. Adam. Cambridge, at the University Press, 1911. Especially the essay on "The Doctrine of the Logos in Heraclitus", pp. 77-103.
2. Adamson, Robert, The Development of Greek Philosophy. Edited by W. R. Sorley and R. P. Hardie. Edinburgh and London: Wm. Blackwood and Sons, 1908.
3. Aristotle, The Nicomachean Ethics. Translated by D. P. Chase. London: J. M. Dent and Sons, Ltd. (Everyman's Library, No. 547.).
4. Aristotle, A Treatise on Government. Being the "Politics" translated by Wm. Ellis. London: J. M. Dent and Sons, Ltd. (Everyman's Library, No. 605.).

The Works Of Aristotle Translated into English, under the Editorship of W. D. Ross. Second Edition. Oxford, at the Clarendon Press, 1928.

- * 5. Volume II. Physica; de Caelo; de Generatione et Corruptione.
- * 6. Volume III: Meteorologica; de Mundo; * de Anima; Parva Naturalia.
- * 7. Volume VIII: Metaphysica.
- * 8. Aristotle, De Anima Libri Tres Graece et Latine. Edited by Paulus Siwek, S. J. Romae: Apud Aedes Pont. Univ. Greg., 1933. (Textus et Documenta: - Nos. 8-10.). We have used this Latin translation because of its Scholastic Precision.
- * 9. Bakewell, Charles M., Source Book in Ancient Philosophy. New York: Charles Scribner's Sons, 1907.

- * 10. Beare, John I., Greek Theories of Elementary Cognition From Alcmaeon to Aristotle. Oxford: at the Clarendon Press, 1906.
11. Benn, Alfred William, The Greek Philosophers. London: Kegan Paul, Trench, and Company, 1882. In Two Volumes.
12. Benn, Alfred William, Early Greek Philosophy. London: Archibald Constable and Company, Ltd., 1908.
13. Boas, George, The Major Traditions of European Philosophy. New York: Harper and Brothers, 1929.
14. Boutroux, Émile, Historical Studies in Philosophy. Authorised Translation by Fred Rothwell.
- * 15. Bréhier, Émile, Histoire de la Philosophie. Tome I: "L'antiquité et le moyen age. I. Introduction - Période Hellénique." Paris: Librairie Félix Alcan, 1931. Nouvelle édition.
16. Bundy, Murray Wright, "The Theory of Imagination in Classical and Mediaeval Thought." Appearing in the University of Illinois Studies in Language and Literature, Vol. XII, No. 2 (May, 1927) and No. 3 (August, 1927), pp. 183-472. Urbana, 1927. -- The article is an interesting study of the precise meaning of imagination and related knowledge processes as expressed by ancient and mediaeval authors.
- * 17. Burnet, John, Greek Philosophy: Part I -- Thales to Plato. London: Macmillan and Company, Ltd., 1914.
- * 18. Burnet, John, Early Greek Philosophy. Fourth Edition. London: A. and C. Black, Ltd., 1930. -- a well-nigh indispensable work, and the ready, authoritative English source of fragments, etc.
19. Burt, A. C., A Brief History of Greek Philosophy. Boston: Ginn and Company, 1889.
20. Butler, William Archer, Lectures on the History of Ancient Philosophy. Edited by W. H. Thompson. Cambridge: Macmillan, and Company, 1886. In Two Volumes.
21. Campbell, Lewis, Religion in Greek Literature: A Sketch in Outline. London: Longmans, Green and Company, 1898.

- * 22. Chevalier, Jacques, L'idée et le réel. Grenoble: B. Arthaud, n.d. -- Extremely valuable for its background.
- 23. Cassiodorus Senator, Flavius Magnus Aurelius: Cassiodori Senatoris Institutiones. Edited from the Manuscripts by R. A. B. Mynors. Oxford: at the Clarendon Press, 1937.
- 24. Cicero, Marcus Tullius, De Oratore Libri Tres. With explanatory notes by E. P. Crowell. Philadelphia: Eldredge and Brother, 1879.
- 25. Cicero, Marcus Tullius, De Finibus Bonorum et Malorum. Translated by H. Rackham. New York: The Macmillan Company, 1914. (The Loeb Classical Library, No. 40.).
- 26. Cicero, Marcus Tullius, De Natura Deorum; Academica; de Fato. Translated by H. Rackham. London: William Heinemann, Ltd. (The Loeb Classical Library, No. 268.).
- 27. Cicero, Marcus Tullius, Tusculanae Disputationes. Translated by J. E. King. New York: G. P. Putnam's Sons, 1927. (The Loeb Classical Library, No. 141.).
- 28. Cornford, Francis Macdonald, From Religion to Philosophy: A Study in the Origins of Western Speculation. London: Edward Arnold, 1912.
- 29. Croiset, Alfred and Maurice, AN Abridged History of Greek Literature. Authorised translation by George F. Heffelbower. New York: The Macmillan Company, 1904.
- * 30. Dawson, Christopher, The Age of the Gods. New York: Sheed and Ward, 1933.
- 31. Descartes, Rene, Dicours de la methode. Texte et commentaire par Etienne Gilson. Deuxieme Edition. Paris: Librairie Philosophique J. Vrin, 1930.
- * 32. Diogenes Laertius, Lives of Eminent Philosophers. Translated by R. D. Hicks. London: William Heinemann, 1925. (The Loeb Classical Library -- Vol. I as No. 184, and Vol. II as No. 185.).
- * 33. Erdmann, Johann Eduard, A History of Philosophy. Translated by Williston S. Hough. In Three Volumes. -- Vol. I: "Ancient and Mediaeval Philosophy." London: George Allen and Unwin, Ltd., Reprint.

34. Eusebius Caesariensis, Praeparatio Evangelica. Edited by Wilhelm Dindorf. Lipsiae: in Aedibus B. G. Teubneri, 1867.
35. Fernandez- Alonso, Anicetus, O. P., "De Primis Intrisecis Corporum Naturalium Principiis." Apud Acta Secundi Congressus Thomistici Internationalis, MCMXXXVI; pp. 284-96. Taurini- Romae: Casa Editrice Marietti, 1937.
36. Franson, Marcel, "Petrarch, Disciple of Heraclitus". Appearing in Speculum, Vol. XI, No. 2, April, 1936; pp. 265-71.-- Some interesting sidelights.
- * 37. Fuller, B. A. G., History of Greek Philosophy: Thales to Democritus. London: Jonathan Cape, 1923.
38. Garrigou- Lagrange, Reginald, O. P., God: His Existence and Nature. Translated from the Fifth French Edition by Dom Bede Rose, O. S. B. St. Louis: Herder, Volume I: 1934, Volume II; 1936.
- * 39. Geny, Paulus, S. J., Brevis Conspectus Historiae Philosophiae. Editio Quarta, emendata et aucta. Romae: apud Aedes Pont. Univ. Greg., 1932.
40. Gilson, Étienne, La philosophie au moyen age. Paris: Payot, 1930. (Collection Payot, Nos. 25 and 26.).
- * 41. Gilson, Étienne, The Spirit of Mediaeval Philosophy. Translated by A. H. C. Downes. New York: Charles Scribner's Sons, 1936.-- The treatment of philosophy as a life and of the significance of being in the ancient and mediaeval authors represents an indispensable contribution to the history of philosophy.
42. Gilson, Étienne, The Unity of Philosophical Experience. New York: Charles Scribner's Sons, 1937.
43. Gilson, Étienne, The Philosophy of St. Bonaventure. Translated by Dom Iltyd Trthowan and F. J. Sheed. London: Sheed and Ward, 1938.
44. Herodotus of Halicarnassus, The Histories. Translated by A. D. Godley. London: William Heinemann, Volume I: 1931, Volume II; 1928, Volume III: 1932, Volume IV: 1930, (The Loeb Classical Library, Nos. 117-120.).
45. Hoenen, Petrus, S. J., "De Constitutione Corporum". Apud Acta Secundi Congressus Thomistici Internationalis.

- is, MCMXXXVI. Taurini- Romae: Casa Editrice Marietti, 1937. PP. 173- 90.
46. Jevons, Frank Byron, A History of Greek Literature: From the Earliest Period to the Death of Demosthenes. London: Charles Griffin and Company, n. d.
47. Keeler, Leo W., S. J., The Problem of Error from Plato to Kant. Romae: apud Aedes Pont. Univ. Greg., 1934. (Analecta Gregoriana, VI.).
- * 48. Lee, H. D. P., Zeno of Elea: A text, with translation and notes. Cambridge, at the University press, 1936.
49. Leigh, Aston, The Story of Philosophy. London: Truebner and Company, 1881.
50. Lewes, George Henry, The History of Philosophy. Vol. I: "Ancient Philosophy". London: Longmans, Green and Company, 1871. Fourth Edition Revised.
51. Lewis, Clarence J., Mind and the World Order: Outline of a theory of knowledge. New York: Charles Scribner's Sons, 1929.
52. Livingstone, Sir R. W., Greek Ideals and Modern Life. Cambridge: Harvard University Press, 1935. (Martin Classical Lectures, V.0). -- An interesting study of certain sides of Greek humanism.
53. Loftus, Joseph E., "Psychology Today". Appearing in The New Scholasticism, Vol. XII, No. 2., April, 1938; pp. 161- 70.
54. McDonald, Milo F., The Progress of Philosophy. New York: Standard Text Press, 1930.
- * 55. Maréchal, J., S.J., Le point de départ de la Métaphysique. "Leçons sur le développement historique et théorique du problème de la Connaissance." Cahier I: "De l'antiquité à la fin du moyen age: la critique ancienne de la Connaissance." Muséum Lessianum -- Paris: Librairie Félix Alcan, 1927.
- * 56. Maritain, Jacques, Distinguer pour unir, ou Les degrés du savoir. Laris: Desclée de Brouwer et Cie., 1935. (Nouvelle Édition Revue). (Bibliothèque Française de Philosophie).
57. Maritain, Jacques, Réflexions sur l'intelligence,

- et sur sa vie propre. Paris: Desclée de Brouwer et Cie., 1930. (3e Edition.). (Bibliothèque Française de Philosophie.).
58. Maritain, Jacques, An Introduction to Philosophy. Translated by E. I. Watkin. New York: Sheed and Ward, n. d.
- * 59. Marshall, John, A Short History of Greek Philosophy. New York: The Macmillan Company, 1891.
60. Maurice, Frederick D., Moral and Metaphysical Philosophy. Vol. I: "Ancient Philosophy and the First to the Thirteenth Centuries". New Edition. New York: Scribner, Welford, and Armstrong, 1872.
61. McCormick, John F., S. J., Scholastic Metaphysics. Part I: "Being, Its Divisions and Causes". Chicago: Loyola University Press, 1928.
62. Mitchell, Ellen M., A Study of Greek Philosophy. With Introduction by William Rounseville Alger. Chicago: S. C. Griggs and Company, 1891.
63. Ogliati, F., "Il Problema della Conoscenza nella Filosofia moderna ed il Realismo scolastico." Apud Acta Secundi Congressus Thomistici Internationalis.
64. Parente, Petrus, "Quid Re valeat humana de Deo Cognition", Apud Acta Pontificiae Academiae Romanae Sti. Thomae et Religionis Catholicae; Nova Series, Vol. II, 1935; pp. 7- 31. Romae: Casa Editrice Marietti, 1936.
65. Philostratus and Eunapius, The Lives of the Sophists and The Lives of the Philosophers. Translated by W. C. Wright. London: William Heinemann, 1922. (The Loeb Classical Library, No. 134.).
66. The Dialogues of Plato, being Selections from the Translation of Benjamin Jowett, edited with an Introduction by William Chase Greene. New York: Horace Liveright, 1932. (The Black and Gold Library.).
67. Plato, The Republic. Translated by Paul Shorey. New York: G. P. Putnam's Sons, Volume I: 1930, Volume II: 1935. (The Loeb Classical Library, Nos. 237 and 276.).
68. Plutarch, The Lives of the Noble Grecians and Romans. Translated by John Dryden. Revised by Arthur Hugh Clough. New York: The Modern Library, n. d.

- * 69. Ritter, H., and Preller, L., Historia Philosophiae Graecae. Editio Decima. Gotha: Leopold Klotz Verlag, 1934.
- * 70. Ross, W. D., Aristotle. London: Methuen and Company, Ltd., 1923.
- * 71. Schaaf, H., S. J., Institutiones Historiae Philosophiae Graecae. Romae: ex officina typographia editrice a sapientia, 1912. -- An excellent history which expresses a considered Scholastic viewpoint.
- 72. Sheen, Fulton J., God and Intelligence in Modern Philosophy. London: Longmans, Green and Company, 1935.
- 73. Simon, Yves, Introduction à l'ontologie du connaître. Paris: Desclée de Brouwer et Cie., 1934. (Bibliothèque Française de Philosophie.)
- 74. Stace, W. T., A Critical History of Greek Philosophy. London: Macmillan and Company, Ltd., 1928.
- * 75. Stoeckl, Albert, Handbook of the History of Philosophy. Translated by T. A. Finley, S. J. Dublin: M. H. Gibb, and Son, 1887.
- 76. Taylor, A. E., Philosophical Studies. London: Macmillan and Company, Ltd., 1934. Especially the study on "Parmenides, Zeno, and Socrates", pp. 28- 90.
- 77. Taylor, Henry Osborn, Prophets, Poets and Philosophers of the Ancient World. New York: The Macmillan Company, Reprint of 1933.
- 78. Taylor, M. E. J., Greek Philosophy: An Introduction. London: Oxford University Press -- Humphrey Milford, 1924. -- A handy book.
- * 79. St. Thomae Aquinatis, In Metaphysicam Aristotelis Commentaria. Edited by P. Fr. M.-R. Cathala. Altera editio recognita. Taurini: Marietti, 1926.
- 80. St. Thomae Aquinatis, In Physicorum Aristotelis Libros Commentaria.
- 81. St. Thomae Aquinatis, In Aristotelis Libros de Sensu et Sensato, de Memoria et Reminiscentia Commentarium. Editio Novissima, edited by Angelus M. Pirota, O.P. Taurini: Marietti, 1928.

82. Sti Thomae Aquinatis, In Aristotelis Librum de Anima Commentarium. Editio Secunda, edited by Angelus M. Pirotta, O. P. Taurini: Marietti, 1936. -- Extremely helpful to a better understanding of Aristotle's writings on this subject.
83. Sti Thomae Aquinatis, Quaestiones Disputatae et Quaestiones Duodecim Quodlibetales. Vol. I: De Potentia Dei. Editio Sexta Tauriniensis, Marietti, 1936.
84. Sti Thomae Aquinatis, Quaestiones Disputatae et Quaestiones Duodecim Quodlibetales. Vol. IV: De Veritate (2a pars). Editio Quinta Tauriniensis, Marietti, 1927.
- * 85. Divi Thomae Aquinatis, Summa Theologica. Editio Altera Romana, accuratissime recognita. Romae: Forzani et S., 1927.
86. Theophrastus, Metaphysics. Translated, etc., by W. D. Ross and F. H. Forbes. Oxford, at the Clarendon Press, 1929.
- * 87. Theophrastus, On the Senses. For our references to this work we are indebted to Messrs. Ritter and Preller, Beare, and Burnet, in particular.
88. Turner, William, History of Philosophy. Boston: Ginn and Company, 1903.
89. Windelband, W., History of Ancient Philosophy. Authorised Translation by H. E. Cushman from the Second German Edition. London: Sampson Low, Marston and Company, Ltd., 1900.
90. Wright, Wilmer Cave, A Short History of Greek Literature: From Homer to Julian. New York: The American Book Company, 1907.
91. Zeller, Eduard, Socrates and the Socratic Schools. Translated by Oswald J. Reichel. London: Longmans, Green and Company, 1868.
- * 92. Zeller, Eduard, Outlines of the History of Greek Philosophy. Thirteenth Edition, Revised by Dr. Wilhelm Nestle, and Translated by L. R. Palmer. New York: Harcourt, Brace, and Company, 1931. (The International Library of Psychology, Philosophy and Scientific Method.).