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CRITERIA OF TRUTH IN PRE-SOCRATIC PHILOSOPHY

by

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Chapter I

PRE-PHILOSOPHICAL CRITERIA OF TRUTH

Philosophy, all must admit, is a highly refined type of human experience, but it does not, by virtue of this refinement, cease to be human experience. Consequently, an adequate historical description of philosophy as an intellectual phenomenon demands a description of the human situation from which it takes its rise. Men believed, men died, for their convictions, ages before the advent of formal speculation. Men believed in truth long before the advent of any reflection deserving of the name of philosophy, and our first task shall be to examine why. Let us, then, consider those criteria of truth accepted by human society, both ancient and modern, and attempt to reconstruct thereby the background against which the intellectual drama, whose history is to be the burden of this paper, was born, struggled, flourished, and expired.

The pages of history testify that there are probably no bodies of doctrine to which men so tenaciously adhere as to the articles of their religious faith. Certainly religious truth is very formidable indeed, and criteria of religious truth, one suspects, must be exceedingly compelling.

Mystical experience has been the privilege of only a few mystics. The objects of religious devotion are, at least in the more highly refined faiths, not sensuously
apprehensible, and men commonly do not possess sufficient logical prowess to deduce the existence of non-tangible deities on purely rational bases. How, then, is the truth of religious dogma imposed? Ecclesiastical history makes one answer plain - authority. The Greeks continually appealed to the authority of the poets, of Homer and Hesiod; the Scholastic Doctors turned to the Fathers of the Church; and in the contemporary world Roman Catholics accept the authority of their Pope while Fundamentalists make the literal interpretation of Scripture the foundation of their faith.

Prominent among the bases of authority are custom and tradition, due investment, and divine inspiration. The first two represent the practical mechanics of tradition and convention as criteria of truth and have their political analogues. The last, divine inspiration, is uniquely a religious criterion of truth.

The Greeks held the insane in awe and supposed epileptics to be divinely inspired. Their seers self-induced fits with toxins and their utterances were carefully recorded by scribes. Even the most responsible state officials placed great trust in the pronouncements of agurs, magi, and prophets. Wily rulers contrived magical displays that made their personal determinations

seem like divine intention. Other monarchs slept in temples, sacred groves, and other consecrated places in the hope that dreams of divine origin would indicate to them the proper conduct of the affairs of state. The Greeks also believed that those soon to die were granted a moment of divine insight and given the tongue of prophecy. Divine manifestation revealed the truth accidentally or miraculously, as in the case of Laocoön, or could be induced to do so by the power of human art, the latter forming the basis of magic and divination.

Organized society, like organized religion, authoritatively imposes its truths upon its members. In some social organizations religious and political activities mutually intrude, and the chief, who is frequently also high priest, justifies his sovereignty on the basis of divine appointment and his judgments on divine revelation. In other societies where such religious sanctions do not exist the state and its ministers must support their claim to authority by other means. If the state be a barbaric one it adopts the simple expedient of liquidating those who are reluctant to embrace its truths. The persuasion of the sword, the oubliette, yes, even of mere social ostracism, assumes the proportions of a most convincing criterion of truth. In more subtle states the forthright sword is replaced as a criterion of truth by

1. Frankfort et al., BP, 20, 203-206.
jurisprudence - not to be confused with justice. Truth is held answerable to law, and reason must bow before legality.

The pre-Socratic philosophers, paying the price that all ages impose for the social "sin" of being intelligent, independent, and learned, had to contend with these evil forces, and those who were refractory to the point of remaining loyal to the conclusions of their reflections were persecuted and banished, like Xenophanes, Protagoras, Empedocles, and Anaxagoras, or, like Zeno, Pythagoras, and, of course, Socrates, martyred.

Yet the masses are willing to accept such abuses of the state for they consider the social homeostasis to be an end worth any price and of far greater value than truth. They are only too willing to applaud the state's criteria of "truth," and, by way of amplification, they are ready to add a few abuses of their own invention. The common man, that is to say the mass man, makes no distinction between truth and opinion. But the coercive force of opinion as a criterion of truth rests, not on the soundness of its basis, but in the penalty, social censure and worse, if one fails to comply with its dictates and in its sheer weight, for, when an opinion

gathers adherents its authority, the social pressure that it can exert on dissidents, correspondingly increases. It becomes a custom or tradition. Custom or tradition is the accumulative opinion of the masses.

Now, inasmuch as tradition does represent the repository of the race's experience, and inasmuch as the cultural continuity thus depends to a large extent upon it, tradition is certainly worthy of serious philosophic consideration. All art and philosophy that is not hopelessly precious must have roots deep in tradition. Art and philosophy start in tradition and are necessarily voices of an age and of a social milieu, but the triumph of both is to go beyond and exceed the confines of traditional human usage. The speculations of the pre-Socratics carried them far beyond tradition. Yet tradition supposes that those who are not her allies are her enemies. The pre-Socratics frequently crossed swords with tradition, with tradition's guardian, the state, and with her legions, the masses. Accusations and persecution were not unknown to them.

A final word about tradition - mankind, being indifferently optimistic and historically myopic, has always assumed that truth ultimately triumphs over falsehood, that eventually, as if truth possessed a sort of Darwinian fitness for survival, right will out, or, as THE PHILO-

... things that are true and things that are better are, by their nature, practically always easier to prove and easier to believe in. 1

... men have a sufficient natural instinct for what is true, and usually do arrive at the truth. 2

... things that are true and things that are just have a natural tendency to prevail over their opposites ... 3

This endurance criterion of truth adds credulity to tradition, for, in the brief span of life given to men, tradition is apt to appear very adamant, immutable, and thus true.

The pre-Socratic philosophers were all, nevertheless, members of society and consequently exposed to the pre-philosophic criteria of truth employed by organized society. But they were also men and necessarily influenced by other pre-philosophic criteria of truth which perhaps can be designated, for want of a better name, psychological criteria of truth.

Without a doubt the criterion of truth most venerable, of widest and most common applicability, and, in the popular if not in the speculative mind, given most credulity is sensation. Just as man has been given teeth to chew with and limbs for locomotion, he has been given the senses as the instruments especially designed for conveying to his

1. Aristotle, Rhet., 1355a38.
intellect the impressions of the external world about him. Sensation has been, it is safe to speculate, from pre-historic, indeed pre-human, times accepted as the ultimate criterion of truth. The pre-Socratic philosophers, as will be seen, were the first to cast doubt on the reliability of sensation as a criterion of truth and to seriously seek substitutes. A proper appreciation of the magnitude of their intellectual achievement demands only a moment's reflection on the power of the sway that sensation still holds over the minds of men.

Yet there are worlds of which the eye can only guess. Primitive man was vaguely aware that the senses did not reveal all, that there were other forces, other worlds - unseen worlds. His experience seemed to extend beyond the realm of sense, beyond his conscious life into more dim realms. This invisible, intangible world demanded new criteria of truth - instinct, feeling, intuition. Due to the very intangibility and incommunicability of these criteria it is exceedingly difficult to criticize them. They are intimately related to superstition, magic, religion, and to the optimistic notion mentioned earlier that truth has some inherent power which enables it ultimately to prevail. The Greeks were not so rash as to banish a priori these criteria to a sort of intellectual Limbo. There is a continuous, al-

though often tenuous, thread of extra-sensory perception which reoccurs throughout pre-Socratic speculation and appears quite markedly in Plato's theory of Ideas.

Practicality, or if you wish - pragmatism, is probably a pre-philosophic criterion of truth. Un sophisti-
gated people today judge on the basis of workability and expedience, and it is not overly bold to assume that their progenitors also did so in ancient times. And, of course, so-called common sense has in all likelihood been a criterion of truth since time immemorial. Philosophers, and the pre-Socratics cannot be exonerated from this fault, have often in their soarings lost sight of practicality and common sense, of the prosaic yet durable rationality of simply trying to be reasonable.

Finally, it might be inferred from its attempt in its mythologies to account for the diversity of natural phenomena on the basis of a relatively few descriptive parameters and to recommend these mythologies on the basis of their scope and intelligibility that the pre-philosophic intelligence had some inkling of coherence as a criterion of truth. This idea received considerable, but possibly unconscious, development in the hands of the earlier cosmologists who strove to achieve greater coherence than

1. Vid. Brightman, IP, 50 et seq.
2. Vid. Brightman, IP, 58 et seq.
the traditional mythologies had attained and who evidently regarded the coherence and economy of their conceptual systems to be their greatest recommendation.

Now, equipped with this brief survey of the prephilosophic criteria of truth which were no doubt familiar to, and to differing degrees influenced, the philosophers of ancient Greece, the investigation of pre-Socratic criteria of truth is ready to begin. It must be remembered throughout the course of this study that these popular conceptions of truth were forces which were continually playing upon the minds of the Hellenic philosophers, and that this influence occasionally exceeded the bounds one would expect were speculation literally detached. The attack, sometimes approaching vehemence, on sensation as a criterion of truth, for example, must confess to having been strongly colored by an aristocratic contempt on the part of a learned minority for the opinions and methods of the rabble. Political, social, cultural, and even economic factors continually intruded upon the philosopher's legendary ivory tower, now operating subtly, the next moment violently. It is hoped that this introductory discussion will in some measure prepare the reader for the never-absent, non-philosophical overtones and undercurrents which will accent the subsequent historical account.
Chapter II
THE MILESIAN MONISTS AND THE PYTHAGOREANS

The first philosophers, The School of Miletus, were empiricists. Their chosen occupation was the careful observation and exegesis of Nature. Taking first things first, they asked the question, "What is reality?" The cosmologies which they devised to answer this query focused on the problem of substance and relied heavily on that data most readily accessible to them—the evidence of the senses. Quite literally, they looked at Nature more carefully, but at the same time with greater imagination, than anyone had done hitherto.

With more imagination, but also with greater reflection, Rationalism sprang into existence simultaneously with empiricism. The Milesian philosophers were not content merely to observe Nature. They went one step further, and it is this all important step that sets philosophy apart from casual observation; they intellectualized about their findings. They weighed and organized their experiences with the aid of their mental faculties. In short, they philosophized. They realized that the most valuable truths were not those of fact but those of principle.

2. Maritain, IP, 47.
Thales of Miletus

Little is known of Thales of Miletus, one of the Seven Sages of ancient Greece and the founder of Ionian natural philosophy. It is not possible, as will be the case with subsequent thinkers, to trace schools and influences, for there were none. Thales was indeed the father of philosophy.

Thales said that all is water; water was his first principle. From where did this hypothesis come? The consensus of scholarly opinion is that the choice of water as a first principle was based on empirical observation of considerable range.

Thales' philosophy was founded firmly on sensation, seeking its factual data in observation and testing its hypotheses with sensation. But the value which Thales attached to sensory data was not without exceedingly significant reservations, for even in his primitive world-view the opposition between sensation and reason, the opposition which was to become the central issue of Greek speculation, had already become manifest.

No man lives in a vacuum. Thales, although he comes closest to doing so, was no exception. While much of his

2. Fairbanks, FPG, 1.
7. Burnet, EGP, 49.
8. Farrington, GS, I, 32.
11. Thilly, HP, 16.
12. Ueberweg, HP, 34.
13. Ferrier, PW, II, 43.
importance lies in the small degree to which he relied on conventional solutions to the problems he set before himself, there is some evidence that his doctrine that all is water may have been traditional. 1,2,3 Nevertheless, while the influence of old mythologies may have been still strong, Thales was not heavily dependent on popular tradition. He made a serious effort to abandon mythical explanation and the criteria of truth which it presupposes, to face the question of substance squarely, examining it in physical rather than mythical terms and seeking reality behind phenomena. He evidenced a tendency to substitute reason for imagination, a "disposition of mind antagonistic to the mythological disposition." 9

Thales' cosmology was a long, bold step forward in the transition from poetry to science, from mythology to philosophy. 10,11,12 He had a new common sense way of looking at Nature; he wished to give reasons; he recognized implicitly, if not explicitly, that philosophy requires universals, points of agreement for all intelligence. By so doing he indicated the way to escape

8. Freeman, FSP, 52.
from the domination of sense-perception as the ultimate criterion of truth, and that way was reason, the universal faculty, a source of truth that is, unlike the transient, subjective images of the senses, absolute and universal.

Anaximander

Anaximander, Thales' friend, compatriot, pupil, and immediate successor, developed and improved the system of his master, ably continuing the tradition of intense scientific curiosity established by the father of philosophy. "He was a man of very sane and bold scientific imagination, trying to state the most reasonable theory of the origin and structure of the world in straightforward terms that would recommend it to the enlightened intellects of his time."

This scientific spirit was based upon an "innocent and unbiased observation of nature," and, of course, implied a great credulity in the evidence of the senses. One of the most striking features of the data thus amassed was the ease with which some semblance of order could be imposed on the confusion of phenomena by sifting pairs of

opposites from the chaos. The contention among opposites, the dynamic equilibrium of the universe, led at once to a higher degree of abstraction, a step further removed from immediate sensory experience, the concept of regularity, a necessity, a Natural Law governing the continual conflict among the opposites - another key idea in pre-Socratic philosophy.

But the opposites can not be generated from or reduced to one another; they must, therefore, be contained in some One, emerging from it by segregation. Correspondingly, this One, this primary substance, inasmuch as it had to encompass all opposites, could not have been any one of the physical elements. The water of Thales was too specific, rather the One had to be the Boundless, the Non-Limited, the Infinite.

Anaximander's doctrine of the Infinite, this "germ of idealism," was arrived at logically, a recognition of the opposition between the world as given by the transient appearances presented by the senses and the real world apprehended, not directly, but on the grounds of logical necessity. His thought represents a bold step forward to a higher degree of abstraction, towards the

2. Scoon, GFBP, 27. 10. Fuller, HGP, 87.
supersensible, and away from the sensualism of his prede-

1,2,3,4

cessor. Not only was he the first thinker to ap-

preciate the significance of the negative as essential in

the constitution of reason, he also was the first to

postulate a scientific object, an object not immediately

perceived by the senses but inferred, thus distinguis-

hing the primary physics from its visible and protean ele-

ments.

Anaximenes

Ritter places Anaximenes before Anaximander, but

in so doing he departs from the customary practice of

considering Anaximenes as the pupil, or at least the as-

9,10,11,12,13,14

sociate, of Anaximander.

The water of Thales had been too specific, yet, on

the other extreme, Anaximander had carried his abstraction

too far - the Boundless was too vague a first principle.

Anaximenes tried to mediate between these two views by

taking as his first principle a material that was one and

infinite, yet determinate and known to experience - air.

15,16

1. Adamson, DGP, 15.
2. Jaeger, P, I, 158.
3. Snider, AEP, 86.
4. Thilly, HP, 18.
5. Ferrier, PW, II, 54.
6. Cornford, RP, 144.
7. Scoon, GPBF, 34.
12. Fuller, HGP, 90.
13. Snider, AEP, 86.
15. Aristotle, Met., 984a5.
16. Burnet, EGP, 73-75.
It is unjust to characterize Anaximenes' system as reactionary or "extremely empirical" and without general philosophical foundation. He was a systematizer of previous opinions and a consistent theorist. He weeded out the more audacious theories of his predecessors and then applied himself to the task of consolidating the remaining tenets, of forging a consistent body of doctrine from the hypotheses of the earlier Milesians. His thought is noteworthy for its logical quality of mind; his desire was "to simplify and clarify the conceptual model of the world;" and his efforts illustrate the proposition that "science advances by theoretical interpretation as well as by discovering new facts."

The Pythagoreans

The Milesian Monists are said to have been one of the more profound influences on the development of Pythagoreanism. Pythagoras himself, according to some opinion, may have been a pupil of Anaximander and perhaps based his cosmology on that of Anaximenes. But Pythagoras and his followers were not perpetrators of the scientific tradition; on the contrary, this legendary

2. Scoon, GEPB, 28, 255. 7. Scoon, GEPB, 28.
5. Scoon, GEPB, 255-256. 10. Fuller, HGP, 106.
figure re-introduced into the philosophical mainstream
a tradition most at odds with the spirit of the new
science - religious mysticism.

There is at least a trace of empiricism in the
dogma of the Pythagoreans, and, presumably, Milesian
influence is responsible. The universe perceives by
sensation, and, although the senses are admittedly
deceptive, intelligence enters from without via their
mediacy; thus, because of its need for cognition, the
soul condescends to dwell a while in the imperfect
body.

Alcmaeon of Croton, a pupil of Pythagoras, pur-
sued these ideas to some extent. He distinguished sense
perception from understanding or intelligence, possibly
basing the dichotomy on the notion that synthesis was
unique of the latter. He also attributed immortality
to the reason alone.

Still another interpretation of Alcmaeon's tenets
is that thought is only the stable mode of memory and
opinion, the basis of both being transient sensation.
He combined epistemology with psychology and psychology
with physiology. He held that only the gods were cap-
able of real understanding, and, consequently, there is

2. Fairbanks, FPG, 150. 7. Adamson, DGP, 144.
5. Freeman, APSP, 40. 10. Robin, GT, 65.
a definite strain of agnosticism in his thought.

The doctrine of harmony, a doctrine derived from that of opposites, evolved further in the hands of the Pythagoreans. They were the first to call the world "order" (cosmos), and they took this regularity to be the essence of the universe. Harmony is necessary, and man known by inner revelation, by intuition, that the real structure of the world must be an exemplification of harmony and the embodiment of the divine proportion that he admires. But the significance which the Pythagorean Philolaus attached to harmony was epistemological as well as ontological - harmony was in some way cognitive, akin to the Nous of Anaxagoras, almost God. It established through numerical specification a correspondence between knowledge and being, existing both in cognition and in Nature, "...a union of things mixed from many parts, and an agreement of variously mind ed beings."

The Pythagoreans were religious mystics, and their dogma serves to underscore certain criteria of truth concomitant with such a position. Pythagoras himself, legend has it, was divinely inspired and practiced divination. He also was supposed to have retained the recollection of

previous existences. The criterion of truth associated with such a doctrine of metempsychosis is, of course, the doctrine of reminiscence of Platonic fame.

Pythagoras' disciples accepted authority as a criterion of truth, investing great faith in the teachings of "ingenious persons." They also practiced in communal contemplation during which they were supposed to be divinely inspired by the spirit of the master, Pythagoras.

The most interesting of the Pythagorean doctrines is that of Numbers. They taught that all of Nature was composed of numbers, holding that numbers were the essence or first principle of all things and that definitions were connected with numbers. They gave numbers a very real existence and spoke of them as the causes of all that happens.

The premise that all things are numbers is to be understood quite literally, not abstractly; numbers are inseparable from the objects of sense. Later Pythagoreans modified and weakened this view, possibly due to

3. Fuller, HGF, 105.
4. Cf. Plato, Meno, Paedag, etc.
5. Burnet, GP, 43.
6. Fairbanks, FP, 133.
8. Russell, HWP, 35.
9. Aristotle, De Caelo, 300a16.
10. Aristotle, Met., 1018b18.
16. Scoon, GP, 41-42.
19. Fairbanks, FP, 134.
the criticisms of Zeno of Elea, saying that things were not actually numbers but only like them, that things exist by imitating numbers.

Pythagoras is often given credit as the founder of geometry; "mathematics, in the sense of demonstrative deductive argument, begins with him." Now "mathematics is ... the chief source of the belief in eternal and exact truth, as well as in a super-sensible world." Thus the Pythagoreans, by supposing existing things to be composed of mathematical units, eliminated sensually-perceived corporeal matter retaining the intellectually-perceived form alone as true, presupposing by such a liberation from the world of tangible matter realities of a higher order than those perceptible to the sensory equipment.

The Pythagoreans applied themselves to mathematical studies to purge their souls of opinion and other vulgar criteria of truth and sought thereby a world-view as certain and as exact as the theorems of geometry, not dependent on empirical knowledge with its many shortcomings, but based, as they presumed mathematics to be based, solely on thought, a faculty superior to sense or intuition, a basis for universal truth, truth valid for all intellect.

"... Everything that can be known has a number," according to Philolaus, "for it is impossible to grasp anything with the mind or to recognize it without this." Numbers and the relations among them, namely harmony, were the conditions of as well as the proper objects of knowledge; the recognition by the soul of their operation constituted truth. \[1\]

Number is, in fact, the cause of recognition, able to give guidance and teaching to every man in what is puzzling and unknown ... Number, fitting all things into the soul through sense-perception, makes them recognizable and comparable with one another ... number ... divides the different relationships of things ... The nature of Number and Harmony admits of no falsehood." \[2,3\]

Philosophy has been launched and already it finds itself in high seas. Four opposed traditions; science and mysticism, empiricism and rationalism; have already appeared, and their influence has been firmly entrenched in pre-Socratic thought. In their doctrine of Number the Pythagoreans have established a precedent of dissatisfaction with the sensory faculties, and this malcontent will function healthily as a goad which again and again will press speculation to increasingly exalted degrees of abstraction, closer and closer to a more ideal rationalism - until Eleaticism's ill-fated Icarian flight.

1. Freeman, APSP, 74.
2. Ritter, HAP, I, 413.
3. Scoon, GEP, 310, 342.
4. Freeman, APSP, 74.
Chapter III
XENOPHANES AND HERACLITUS

The time is at hand for a distinction to be made between three frequently confused philosophical positions. By skepticism is meant, in the most exact sense of the term, the views derived from the assertion that there is no truth. By agnosticism is meant the views derived from the assertion that man is ignorant of the truth or is ignorant as to whether there is truth or not. But the term skepticism, apparently for the want of a better name, is frequently used to describe another and very different philosophical attitude - an attitude so common among the pre-Socratics that it nearly assumes the proportions of being one of their distinguishing characteristics. This second sense of skepticism alludes to the perennial and precious dissatisfaction which rankles in the philosopher's bosom; it is the goad, or the lure, which inspires men to venture upon the philosophical quest. It leads the philosopher, as in the case of Xenophanes, to question the accomplishments of man, or, even more profoundly, as in the case of Heraclitus, to question the ability of man to know truth.

Xenophanes of Colophon

Xenophanes of Colophon, the first of the Eleatics, seems to have been a wandering poet and speculative theo-
logician rather than a philosopher proper. 1,2,3,4,5,6,7
Possibly he was a pupil of Anaximander, and there are elements in his work which strongly intimate Pythagorean influences.

Xenophanes was dismayed by the moral harm caused by the mythical traditions of the poets and responded in three ways which were all destined to play important roles throughout the history of Hellenic thought. Firstly, there was the negative response, an iconoclasm, a scornful rejection of the old gods and the anthropomorphism they embodied (by anthropomorphism is meant both anthropomorphism proper, giving human forms to gods, and anthropopathism, giving human emotions and motives to gods (and Nature)). In the second place, there was the positive attempt to crystallize conceptions of new divinities which would not be an affront to human intelligence. And finally, from the deep impression he felt of the power of art and its ability to make the false seem true and the true false, good evil and evil good, there was born that suspicion of art which was to infect no less than Plato. 8,9,10

2. Fairbanks, FPG, 65.
5. Plato, Soph., 242D.
10. Turner, HP, 45.
12. Freeman, APSP, 22.
14. Scoon, EGP, 47.
All three of these responses are related to the problem of truth: the first rejects all those criteria of truth inherent in mystagogic religion—authority, intuition, divine revelation; the second involves the formation of a new theology not inconsistent with criteria of truth which the reason previously holds to be valid; and the third plunges into the heart of the very profound problem of art, truth, and artistic truth.

Thales tried to sever philosophy from its dependence on ancient mystical religions. This attempt to substitute scientific observation and rational criteria of truth for the old dogmas and poetic tradition and their criteria represented the genesis of philosophy. The iconoclasm of Xenophanes is significant in the history of this religious criticism for it indicates that a healthy doubt had spread from the Ionian physicists with whom it had originated to those like Xenophanes whom were not professional philosophers. With Xenophanes the problem of truth became the concern of every well-educated man and not the special precinct of metaphysicians—"philosophy was becoming a cultural force."

Xenophanes' iconoclasm had a broad aspect. It was an integral part of an impressive program of social reform. He wanted to cast down the prevailing ideals of culture and the criteria of truth of the market place and the sanctum

sanctorum and to put in their place a natural and logical conception of the universe. He felt that "the tales of the poets [were] directly responsible for the moral corruption of the time." But more important, inasmuch as he associated god with the world-order and thus, it must be supposed, with ultimate truth, he realized that god, like truth, must be eternal and immutable and not dependent upon on circumscribed by the whims and follies of human kind.

Those who cast down old gods make for themselves the task of setting up new. Consequently Xenophanes found himself faced with the problem of arriving "at a knowledge of God, who is truth." He was not able to free himself from the hylozoism and anthropomorphism to which he objected, yet he did manage to envisage a diety vastly superior to those of the popular religions of his day and to introduce into theological thought the monistic doctrines of the Ionian physicists.

He held that God is the One and the All. The monotheistic nature of Xenophanes' deity indicates a single set of governing principles, and its pantheistic character indicates that this set of principles is applicable to all of Nature. He seems to have anticipated the Nous

of Anaxagoras (frag. 21.25) and to have left the door ajar for man to acquire some knowledge of the nature of this set of principles, for perhaps the divine mind functions in a manner similar to the workings of man's mind and is therefore accessible to human intelligence. He also says (frag. 21.26) that once we have perceived these principles we have knowledge, not merely for the nonce, not fleeting illumination, but for all time; immutable, eternal knowledge - that is to say, truth. Xenophanes, to summarize, attempted to repair the breach between theology and physics; he described the compass (All) and the nature (One and immutable) of the realm of truth.

The Skeptics pointed to Xenophanes as their earliest forerunner. Now the accusation of skepticism, when one is concerned with the problem of truth and its criteria, is always a very serious one indeed, for if a philosopher insists that there is no truth there is little point in searching through his work for criteria of truth. Certainly some of the fragments of Xenophanes utterances give cause for the suspicion of skepticism. Some authors hold that Xenophanes was a complete skeptic; that he denied the possibility of absolute and objective knowledge and dismissed reason along with sensation as deception.

Another author restricts Xenophanes' skepticism to matters of theology, while yet another, pointing to the compelling evidence that Xenophanes had very positive theories of his own, adheres to the more conservative point of view that he was not a complete skeptic.

Xenophanes was skeptical, yet not a skeptic. He occupies a strategic position in the history of the problem of truth. While the Milesians and the Pythagoreans may have been the first to become dimly aware of super-sensory truth, Xenophanes recognized the difficulties involved in sensation with hitherto unequalled clearness; he approached a realization of the concept of double consciousness more closely than his predecessors, discerning on the one hand the rational consciousness of the cognizant, immutable One, real and true in itself; and on the other hand the sensible consciousness which has as its object the changeable, the unreal, the Many. He pioneered the distinction between true knowledge and opinion, the knowledge of appearances; between the universal or One and the particular or Many. In short, he introduced the problem of truth into Greek thought.

This dawning awareness of the momentous difficulties involved in the problem of truth left Xenophanes in a state of dazed shock. Yet, while cautiously treating all philosophical systems as conjecture and the guesses of private persons, he nevertheless did not lose faith in the existence of an absolute truth, and he continued to aim, even if blindly, at certainty and truth. Man is incapable of absolute certitude, and opinion is the lot of all, for even were man to happen upon the truth he would not know what he had achieved. Truth may, however, be approximated by opinion, not through divine revelation, but by patient study. By such diligent investigation one may gain a better and better opinion which will become increasingly more like the truth. Truth is to be discovered by degrees.

The key to Xenophanes' epistemological troubles lies in his assertion that man cannot recognize truth even when he has it within his grasp; Xenophanes had no instrument for judging knowledge; he had no criterion of truth.

The conclusions of Zeller form so sensible and summary an account of Xenophanes' theories that they deserve to be quoted at length:

1. Fuller, HGP, 101.
2. Freeman, PSP, 98.
3. Ferrier, PW, II, 81.
4. Turner, HP, 46.
5. Freeman, APSF, 24.
7. Freeman, FSP, 98.
10. Scoon, GPFP, 306.
12. Freeman, FSP, 97-98.
It would be more important, were the assertion correct, that Xenophanes either wholly denied the possibility of knowledge, or restricted it to the doctrine of the Deity; or, as others say, that he recognized the truth of the perceptions of reason only, and not the perceptions of sense. The expressions, however, from which the statement is derived have by no means this scope and compass. Xenophanes observes that truth is only discovered by degrees. He thinks that perfect certainty of knowledge is not possible; if ever a man should hit upon the truth in a matter, he is never absolutely certain that he has done so; and, therefore, Xenophanes designates his own views, even on the weightiest questions, merely as probabilities. But this modesty of the philosopher ought not to be mistaken for a skeptical theory, though it arose, no doubt, from a skeptical temperament. For the uncertainty of knowledge is not here based on a general inquiry into the intellectual faculty of man, it is simply maintained as the result of personal experience; consequently, the philosopher is not hindered, by the consideration of it, from advancing his theological and physical propositions with full conviction.

Heraclitus of Ephesus

Some have asserted that Heraclitus was a disciple of Xenophanes, yet there is little evidence to support such an opinion. However, Heraclitus was acquainted with the Milesian cosmologists and with the poems of Xenophanes, and he also seems to have had some familiarity with the theories of Pythagoras. Heraclitus had a much more profound influence upon his successors than any other of the early physicists.

1. Burnet, EGP, 131.
2. Burnet, EGP, 131.
He was the first seriously to attempt a dichotomy between the qualities directly sensed and those inferred by reason, and it was with the recognition of this problem that Greek philosophy began to emerge from a blissful state of innocence. This new awakening was destined to grow, to foreshadow the critical question, and to evolve directly, down a dynasty of Heraclitean thinkers, to the skepticism of Cratylus - and to become the heritage of Cratylus' youthful pupil, Plato, who also was to doubt the veracity of the senses and the possibility of knowledge, who was to escape from the Heraclitean Flux by taking refuge in an immutable world of Ideas. The genesis of the critical philosophy of the Sophists, of the Socratic doctrine of the concept and the Platonic doctrine of the Idea, was to be found, as well as the seed of the most extreme forms of skepticism, in the Heraclitean philosophy.

The cosmologies and epistemologies of the pre-Heraclitean philosophers were frequently bound together in a most tenuous and arbitrary fashion, if at all. The epistemology of Heraclitus, however, was intimately associated with his cosmology, which, in turn, was built upon three fundamental concepts: (1) that of opposites, (2) that of flux, and (3) that of the Law.

1. Scoon, GPPP, 53.  
4. Patrick, GS, 10-11, 232 et seq.  
5. Webb, HP, 16-17, 25.  
Heraclitus, when he adopts the Pythagorean doctrine of opposites, gives it two significant metaphysical twists—he identifies opposites, but as a physical, not a logical, theory, and he makes the ceaseless strife among opposites the father and king of all things, the dynamic principle of his cosmos. In the former connection Burnet makes the valuable observation that Heraclitus' identification of opposites if logically pursued leads to a type of relativistic theory which anticipates Protagoras, although Heraclitus himself did not subscribe to such relativism because he believed that all things, even the opposites, were reconciled in God, the "one wise."

The opposites, thus, are not fixed points of reference for their extreme character invites the intrusion of compensating qualities. There is no permanency; nothing stays; all things change; all is flux. Nor, as Plato thought, are merely such things as are sensorily apprehended caught up in the Heraclitean flux. As a matter of fact, it is through the senses that some things seem deceptively permanent. There is nothing

(with the exception of the Law) fixed and abiding, only fluxional process. There is no Being, only Becoming.

Now this is a deplorable situation. If nature, as Heraclitus asserts, is in a state of continual change, then any statement concerning it will be outdated, no longer true, even before it has issued from the observers' lips. All knowledge is a priori obsolete. And what has become of truth, immutable truth, the same for everyone everywhere and for all time? Epistemology finds itself impaled on the first horn of that dilemma which the Sophists were later to delight in exploiting (the other horn - the Eleatic doctrine that all is Being, that there is no Becoming, no change, and that knowledge, ignorance becoming wisdom, is therefore impossible). How will epistemology extricate itself?

How strange it would be had this austere person, who in public life was devoted to the cause of law and order, allowed anarch to dominate his cosmos. Heraclitus pointed a way out from the problem he had posited. He "passionately held" to a personal conviction of the reality of value and truth, and he immediately set himself to the task of rescuing knowledge from the danger in which the doctrine of flux had placed it. He held that

while all is in a state of constant flux, yet the cosmic process is not haphazard but rather that change occurs in accordance with "measure." In this manner a universal order is restored. A rational principle is evoked as an immutable Grundlage whose strictures provide a framework within which the transient world of appearances is confined. The details of the cosmos are ever-shifting, protean; but the pattern of events is fixed; the modes of change are given by destiny, order, and the reason of the world. The universe is generated, not in accordance with time, but with something whose validity is independent of flux, becoming, and time, with reason and intelligence, with necessity, with Law. With this conception of the Logos or universal law Heraclitus sketched that of natural law. He recognized more clearly than did his predecessors the need of a rational principle to direct the universe.

Heraclitus repeatedly stresses the point that the law is common to all. He appeals to his listeners, not on the basis of superior wisdom or some other authority, but tells them to hearken to that which is common to all, the Law. In the fact that the Law is common to all lies its cogency.

1. Burnet, EGP, 150.  
2. Thilly, HP, 25.  
5. Fuller, HGP, 150.  
8. Windelband, HAP, 54.  
11. Benn, GF, 18.  
13. Freeman, APSP, 28.
The Law provides a common ground in the midst of flux which enables human intellects to communicate. Through the Law man may rise above the level of inarticulate irrationality. The Law responds to man's desire to know; it justifies his claim to knowledge, and through it the universe and man's rationality become counterparts. It is at once the condition and the object of knowledge.

Heraclitus was given to oracular utterances which he made no attempt to prove. Whence arose his assurance? Russell has suggested that Heraclitus "was a mystic, but of a peculiar kind." The famed Delphic maxim was "Know thyself," and to the realization of this very end Heraclitus took as his methodological credo the maxim, "I searched into myself." Heraclitus sought truth by introspection. Man is a part of the cosmos, and as such he too must embody the universal Law. Thus the wise man directs his attention inward to the human soul, the microcosmos, and by such insight penetrates beneath the surface of sensory appearances to the hidden truth. Self-consciousness and understanding were the cardinal virtues of Heraclitus. Intuition was his immediate goal.

But what is this intuition, and how is such an enlightened state produced? Firstly, it can be said that intuition is trained by experience (frag. 22.35). Yet experience alone is insufficient (frag. 22.45). The initiative of man’s faculties is not enough; there must be a more intimate relationship between man and the cosmos in which he finds himself. Wisdom begins with experience, with sensation; but the senses are untrustworthy and inadequate witnesses for they give the fictitious impression of fixity to some things while having as their objects isolated and fleeting phenomena.

Furthermore, sensation is a particular faculty of men peculiar to different kinds of intelligence. While man may learn the qualities of things from sensory observations, sensation without reflection is of relatively little value. A universal faculty common to all intelligence must be evoked. Such a faculty is reason, and with reason man can discern the Law buried within the seemingly chaotic flux. Heraclitus, unfort-
unately, did not go beyond this point: Socrates was the first to undertake the task of determining the conditions of rational knowledge.

Doubt was born with philosophy, and by the times of Xenophanes and Heraclitus the tradition of systematic doubt had made itself manifest. There was, on the one hand, an impatience with tradition and a contempt of popular opinion, and, on the other, a profound current of discomfort over the inadequacy of man's sensory faculties. It was soon recognized that the senses were not completely reliable, and efforts were made to substitute reason to repair the deficiencies of the senses. Yet epistemology was still in swaddling clothes and reason was hesitant about assuming command. The period of thought graced by the figures of Xenophanes and Heraclitus was a rich formative period, yet a period of transition. Consequently their solutions to the problem of truth and its criteria were rather atypical of pre-Socratic speculation as a whole and partial.

1. Turner, HP, 57.
Sensation as a criterion of truth was acknowledged as inadequate at best, deceptive at worst; yet an understanding of reasons and of the details of its application had not been sufficiently developed to enable this criterion of truth to step in and fill the lacuna created by the decline of sensation's reputation. This was the task of the Eleatics, of Parmenides in particular. The pre-Parmenidean philosophers toyed with the idea of abandoning sensation, but they had to content themselves with a "reason" that was little more than analogical generalization. Parmenides, however, made the bold plunge. He categorically dismissed all sensation as sheer, even if sometimes useful, opinion and unequivocally proclaimed reason or logic to be his sole criterion of truth.

Parmenides of Elea

Parmenides of Elea, "a man to be reverenced and at the same time feared," is alleged to have been the pupil of Xenophanes, yet was "no follower of his," for, although he enlarged that philosopher's distinction between sensory and rational cognition, the Pythag-

1. Scoon, GPBP, 71.
2. Plato, Theaet., 183E.
3. Adamson, DGP, 30, 32.
5. Snider, AEP, 100.
6. Turner, HP, 47.
8. Fairbanks, FFG, 106.
oreans were the dominate, if negative, influence upon 1,2,3,4,5,6,7 him. Furthermore, he was acquainted with 8 the teachings of Heraclitus and his cosmology bears 9,10 the faint stamp of Anaximander, 11 despite his rejection of the Milesian concept of change.

Parmenides' famous didactic poem, *On Nature*, was divided into a Prologue and two parts: The Way of Truth and 12 The Way of Opinion. The burden of the work as a whole is an allegorical description of how Parmenides himself was led by a goddess from error (night), presumably Pythagoreanism, to truth (day). Two methological paths are figuratively represented: that of truth, attained through reason and the proper subject of a METAPHYSICS or science of absolute knowledge; and that of opinion, the product of sensory perception and the proper material for a hypothetical PHYSICS or cosmology of appearances.

The goddess begins her lesson by pointing out most emphatically that there is only ONE path available to those 16 who seek truth (frags. 28.2 and 7). Herein lies the crux of Parmenides' philosophy. The compulsion of pure reason is the great discovery about which his philosophy is centered. 17 Reason has an absolute compelling cogency, for

2. Burnet, GF, 64.
4. Fairbanks, FFG, 86.
8. Thilly, HP, 28.
11. Scoon, GPP, 68.
15. Turner, HP, 47.
16. Freeman, AFSP, 42, 43.
17. Jaeger, P, I, 175.
non-being is inconceivable and cannot even be spoken of or mentioned; to do so is unreasonable. Reason is a tyrant that commands and debars (frags. 28.6 and 7). The goddess tells him to judge by reasoning and not to trust his senses, for reason is our spiritual eyes and ears, and the man who fails to use his reason is worse than one blind and deaf, being lost in the maze of contradictions and in the multiplicity of the Heraclitean flux. All, mankind and Nature as well, must bow before the uncontested hegemony of reason. Reason's behest must be obeyed no matter what the consequences may be, even if it requires the philosopher to turn his back on the "obvious facts" of immediate experience.

The energy with which Parmenides "imposes his doctrines on his audience arises not from the enthusiasm of the doctrinaire but from the logician's triumphant belief in the necessary sequence of his thoughts." By virtue of this "force of truth" reason becomes a cosmic agent, and yields truth which, unlike the relative truth of sensation, must be admitted by all intelligence.

Whence this extreme certitude? Thought and Being, Parmenides held, are identical. Nothing unthinkable,
nothing contradictory to thought, could be real; thought apprehends Being only. That which can be thought and that which can be are one and the same, and whatever is an object of thought is also an object of existence.

Thought recognized the being of that-which-is as necessary and the existence of that-which-is-not as impossible. Truth consists in the knowledge of these principles, and such truth must be universal truth for all reason.

Farmerides was the first philosopher to argue, to deduce formally conclusions from premises rather than to be content with dogmatic pronouncements. He was the first to abstract and formulate the principle of identity and that of non-contradiction as the fundamental axioms of all thought. Here is something new. Here is a conception of the meaning of a logical proof. Truth rests upon proof, and reason is the "way" by which propositions may be proved.

In addition to The Way of Truth there is a second path, a path more frequently pursued by mortal kind, The Way of Opinion (or "Belief", or "Seeming"), based on

2. Webb, HP, 39. 11. Freeman, APSF, 42.
7. Scoon, GPEF, 80. 16. Burnet, EGP, 176.
9. Turner, HP, 47.
the diverse, confused, and ever changing appearances
presented by sensory experience, influenced by habit,
the bodily condition, variable, fleeting, uncertain,
a world of plurality and instability that is little
more than a dream of the one true existence.
This view can never predominate, for it is merely a
decceptive order of words. There is no truth in this
second "way."

Why, then, does Parmenides stop his exposition
of his "reliable theory" and concern himself with a
long description of what seems to misguided mortals?
The Way of Opinion is an outline of the principle tenets
of Pythagorean cosmology, and it includes (1) what seems
real or appears to the senses, (2) what seems true, and
(3) what seems right to men. The philosopher aspiring
after truth must inquire into everything; he must learn
the opinions of mortals and "go through all the things-
that-seem without exception and test them," studying the
world order of phenomena "in order that no intellect of
man may outstrip him." The opinions of men regarding
seeming things may be assembled into a system which, if

2. Robin, GT, 85. 9. Freeman, APSP, 44.
4. Ueberveg, HP, 57. 11. Freeman, APSP, 42.
5. Freeman, APSP, 43. 12. Freeman, APSP, 42.
6. Freeman, APSP, 44. 13. Freeman, APSP, 42.
not true, is at least plausible, a phase on the way to The Way of Truth through which every philosopher must pass.

Parmenides had no patience with criteria of truth other than reason. He dismissed the feeling or intuition of men as a "perplexity in their bosoms [that] steers their intelligence away." He never tired of castigating opinion and those who were carried along with the deaf, blind, amazed, and uncritical hordes, who bowed to habit or the conventions that mortals had established. Whereas Parmenides' predecessors had been merely agnostic about the validity of sense-perception, he plainly insisted that it was deceptive and could not be trusted. To regard truth as being given by the sense-perception is to identify Being with non-Being. Yet what-seems-to-be is identical with what-is-not, and of all the human faculties reason alone is connected to what-is.

Parmenides also recognized that language was inextricably associated with the thinking processes. For him the unthinkable and the inexpressible were synony-

mous, and, conversely, in a positive sense, "To think is the same as the thought that It Is, for you will not find thinking without Being ..." Both thought and language require objects outside of themselves, and when a word is used significantly its object must in some sense exist. True names correspond to what really exists, and, by the same token, that-which-is-not is not capable of utterance. Yet, while words are essential to communication, possibly even for the conceptualization of truth, they are not an unmixed blessing, for their improper use gives rise to falsehood. Mortals are deluded into accepting the names that they have established, that they have conventionally assigned to appearances, as realities "... that is where they have gone astray." The Way of Opinion thus reduces to a "deceptive order of words." 

Reason was Parmenides' sole criterion of truth. He elucidated a philosophical system so coherent, so self-consistent, that he could boast, "It is all the same for me from what point I begin, for I shall return again to the same point." But for all its excellence his system had one flaw, a fatal flaw. The Way of Truth was too difficult. It is too much to demand of men that they turn their backs upon the experience which is cajoling them and

1. Freeman, APSP, 43. 6. Freeman, APSP, 44, 46.
2. Freeman, APSP, 44. 7. Freeman, APSP, 44.
5. Russell, HWP, 50-51. 10. Freeman, SPSP, 43.
pressing on every side. Parmenides in his quest for truth followed reason wherever it led, not hesitating a moment when reason demanded that he set all common sense at defiance, ignore sensory evidence as illusion, and embrace conclusions violently at odds with all common sense and experience. Parmenides' method was alien to the growing interest in experimentation. Subsequent generations were to agree with Aristotle that Parmenides' approach was not that of science, that he was an "anti-naturalist." Even Parmenides' own pupils, being unable to perceive the master's grand schemes, were to reduce his philosophy to empty, negative eristics and the old Ionian naturalism. Parmenides was a man much too profound for his times.

Zeno and Melissus

Zeno of Elea was the favorite pupil, friend, and some say adopted son of Parmenides. Yet for all his devotion to his master he lost sight of Parmenides' purpose, clinging only to the great Eleatic's methodology, the scythe of logic which in the pupil's hands became, not a criterion of truth, but a criterion of falsehood. Parmenides was a man much too profound for his times.

5. Windelband, HAP, 63.  11. Snider, AEP, 103.
ides' position was immediately assailed from every side. Zeno felt obliged to defend his beloved teacher's principles against these attackers. Zeno's arguments were not constructed in the spirit of wanton paradox, but rather as replies to those who "made fun" of Parmenides. Parmenides' method had led him to deny the obvious facts of human experience. This made his stand very vulnerable to ridicule; his views, understandably, seemed paradoxical. Zeno's purpose was to demonstrate irrefutably that the tenets of Parmenides' detractors when logically pursued lead to conclusions that are even more paradoxical than those of his master. It is not clear whether the new geometry suggested the method of reductio ad absurdum to Zeno or he to it; at any rate, his defense of Eleatic doctrine was based on a negative approach and consisted in demonstrating by deduction that the non-Parmenidean presuppositions of plurality and motion lead to the wildest contradictions and absurdities.

There can be little doubt that Zeno's paradoxes were very effective. They were considered irrefutable in their day. Windelband, however, raises the following objection to Zeno's methodology:

1. Lee, ZE, 6-7. 8. Freeman, AFSP, 47.
Zeno was no longer concerned in apprehending or understanding empirical reality ... He was interested only in the conceptual defense of the paradoxes of his teacher. In seeking to discover the contradictions which inhere in ordinary opinions regarding the plurality and mutability of things, he employed in a more partisan spirit than Parmenides, arguments not based on subject matter or empirical fact, but only those of formal logic.

Nevertheless, for all the negative character of Zeno's efforts, with him there first appears a detailed notion of the general structure of argument. He well deserved the laurel that Aristotle placed upon his brow - the father of the Dialectic.

Melissus, a contemporary of Zeno and a disciple of Parmenides although he may not have actually heard the great Eleatic, tried to reaffirm the doctrines of Parmenides in a more positive manner than Zeno had done, taking into account the arguments of the pluralists. However, he failed to preserve the essential purity of Eleatic doctrine. Rather than complementing Zeno's indirect arguments with a direct and positive dialectic, he managed only to addle the Eleatic tradition by the introduction of Ionian physics.

While the Eleatics themselves are free from any just imputation of skepticism, the charge can be laid at their feet that their doctrines gave great impetus to the growth of skepticism in the classical world. There is a direct historical connection between the Eleatics and the Sophists and the Skeptics. Zeno, by providing those who would misuse it a dialectic unaccompanied by the restraining principles of criticism necessary for its fruitful application, paved the way for the transition from the dogmatism of Parmenides to the relativism of Protagoras and the intellectual nihilism of Gorgias.\(^2,3\)

Parmenides possessed sufficient intellectual courage to abandon sensation completely and proclaim reason as his sole criterion of truth. But his philosophy was too difficult for the epigoni that were to follow; it was premature. Premature, for, while he made logic the test of truth, logic was still in a nascent state. The negative dialectic developed by Zeno was inadequate as a medium for the propagation of Parmenidean metaphysics for it was not directed by sufficient philosophical purpose nor protected by the stabilizing influence of a mature criticism. For a fleeting moment reason rode tri-

1. Patrick, GS, 21.
3. Turner, HP, 52.
umphant over sensation, yet it remained for Socrates to attempt to formulate the conditions of rational knowledge. The metaphysical kernel of Parmenidean philosophy was almost immediately abandoned while the husk, the dialectic of Zeno, was readily exploited by the Sophists. Ignorance of the proper limits of formal logic led to a disappointment and disillusionment that were a fertile soil for skepticism. However, the fate of Eleatic speculation was not totally tragic. Although preparing the way for Sophism and Skepticism, Parmenides and his pupils, by the invention of the dialectic and the elaboration of the concept of pure thought, helped set the philosophical scene for the advent of Socrates and Plato.

1. Turner, HP, 49.
able, partly ineffable. Empedocles frequently com-
plained of the limitations of human knowledge and be-
lieved two factors to be largely responsible: the weak-
ness of knowledge's instruments and the circumscribed
nature of the individual's experience. The mind of
man is allowed no rest, for, while the cognition of the
mundane world ought to be the first object of his pur-
suit, he cannot attain any certainty of thought if he
gives himself entirely to the world of sense.
Emped-
ocles failed to distinguish thought from sensation on a
clear psychological basis or to establish a connection
between divine knowledge and sensory cognition. He did
have something to say, however, on the physiology of sense-
perception. But if, as Empedocles held, sense-
perception is "what we think with" then knowledge derived
thence will vary with the variations of the bodily condi-
tion. This seems to be the meaning of the fragment, "In
so far as their natures have changed so does it befall men
to think changed thoughts."

For all his lack of esteem for the veracity of the
senses, Empedocles nevertheless depended heavily on the
sensory equipment as his principle source of knowledge.

At this point Empedocles is found to be inconsistent, or at least unclear. On the one hand he expressed distrust of the sensory apparatus, and on the other he pleaded that confidence not be withheld from any of the sensory channels. If Empedocles had denied the credibility of the senses in toto, it would be difficult, as Butler points out, to account for the estimation in which he was held by Lucretius and the remark of Sextus Empiricus that he held that "all the senses are trustworthy, if under the control of reason." While Parmenides thought of proof, that is to say the criterion of truth, as being logical demonstration, Empedocles returned to sense perception as his criterion of truth, asserting that, "the intelligence of Man grows towards the material that is present," and speaking of the eyes and hands as "in truth ... the best highway of persuasion into the mind of man." Empedocles came to the defense of sensation and attacked Parmenides' rejection of these faculties:

But come, observe with every means, to see by which way each thing is clear, and do not hold any of sight higher in credibility than those according to hearing, nor the loud-sounding hearing above the evidence of the tongue; nor refuse credence at all to any of the other limbs where there exists a path for perception, but use whatever way of perception makes each thing clear.

1. Fuller, HGF, 197. 5. Fairbanks, FPG, 201.
No, Empedocles certainly had no intention of following the example of Parmenides and forsaking sensation as a criterion of truth. On the contrary, Aristotle declares that Empedocles identified thinking and perceiving—quite the opposite extreme from rejecting sensation as a criterion of truth.

But the evidence of each of the sensory sources was not to be examined separate from a more general context. While the Eleatics placed emphasis on reason, Empedocles gave importance to reflection, that is to say, the knowledge acquired by all the powers available to man, sensation and reason, functioning in an interrelated and integrated manner, all the senses trusted equally and truth obtained by synoptically comparing their data. This was a step in the right direction towards a synthetic faculty of sense, the *sensus communis*, yet, although Empedocles did center perception in the heart, Aristotle criticizes him for failing to provide a central coordinating agency.

The practical course to be followed becomes clear; once must continually sense, continually experience under the most perfectly controlled conditions possible. In a word, one must experiment. And experiment Empedocles did.

1. Adamson, DGP, 58.  5. Freeman, PSP, 197.
4. Turner, HF, 60.
In general, he tried to justify his theories by marshalling a greater body of factual information than had any of his predecessors. His method, in depending upon detailed investigations and appeal to sense experience, in contrast to that of Parmenides, may be properly styled scientific.

Inasmuch as sensation played such an important role in Empedocles' epistemology, it is not surprising to find that he devoted considerable attention to the problem of a physiological theory of sense-perception. Briefly, as Alcmaeon of Croton had previously theorized, things produce "effluences" which enter the "pores" or passages of the respective sense organs, and there, according to Empedocles' very famous hypothesis, like interacts with and thus becomes known by like - similia similibus cognoscuntur.

Thought, like sense-perception, occurs by means of similars and is thus, as has been suggested earlier, similar to sensation. Man's superior intellect is due to the fact that he is the repository of all the cosmic elements and is thus admitted into contact with them and is cognizant of them.

1. Scoon, GFBP, 83.
4. Butler, LHAP, 301.
13. Scoon, GFBP, 92.
15. Burnet, EGP, 247, 249.
Anaxagoras of Clazomenae

Anaxagoras of Clazomenae was influenced by the Ionians, especially Anaximenes. His own influence was wide; on the one hand his "seed" hypothesis gave him a claim to the title of the father of corpuscular physics, and on the other hand his doctrine of Nous made a lasting impression on the young Socrates. Aristotle set Anaxagoras apart, saying that he seemed "like a sober man in contrast with the random talk of his predecessors."

Anaxagoras' doctrine of Nous, of an intelligent principle organizing and directing the cosmos, by re-introducing a human-like faculty into the scheme of nature evinced a growing interest in physiological and psychological as distinguishing from purely cosmological matters. The parallelism thus suggested between divine and human intelligence enabled man to infer truths about nature from truths available to him by introspection, for all mind is of like character, both the less and the greater.

How fortunate it would be, how much more light could be thrown upon pre-Socratic speculation if only Anaxagoras' fascinating doctrine of Nous had been clarified and developed. Unfortunately, however, having once introduced the concept

of Nous into his cosmology Anaxagoras seems to have been most reluctant to exploit it. Aristotle complains

... 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 causes something necessarily is, then he drags reason in, but in all other cases ascribes events to anything rather than to reason. 1,2

and Plato voices the same protest in the Laws and in that very well known passage in the Phaedo. Anaxagoras did not consistently work out the details of his doctrine of Nous; on the contrary, he took refuge in mechanical explanations whenever possible.

Anaxagoras’ reliance on mechanical representation as a principle of explanation indicates that, like Empedocles, he placed great store in sense-perception, in experimentation and the purely mechanical principles derived therefrom. He evidently found empirical testing a more concrete and convincing criterion of truth than reason. Most revealing is the statement of Aristotle that Anaxagoras asserted that man is the most intelligent of animals because of his hands - the instruments with which he experiments.

4. Plato, Phaedo, 97B-980. 10. Webb, HP, 44.
5. Russell, HWP, 63. 11. Weber and Perry, HP, 34.
But Anaxagoras was not satisfied with the sensory equipment. Paradoxically he points to an experiment to illustrate the deficiencies of the senses: the senses are too weak to discern the gradual changes in color which take place when a black and a white liquid are mixed drop by drop. Although he bemoans the fact that "through the weakness of the sense-perceptions, we cannot judge truth," Anaxagoras was not a skeptic, and Cicero erred when he included him among the agnostics. Granted the senses are gross and weak, they even may be misleading, yet their evidence is not totally devoid of value, for, if they were, it would be difficult to understand why Anaxagoras took such pains to give an elaborate and detailed enumeration of them, and why he ultimately appealed to them whenever possible.

The difficulty with the senses, Anaxagoras felt, was that they were too blunt tools, they could not make distinctions fine enough, they detected only the predominate qualities in things, only those portions that prevail, while the more recessive qualities escaped them; their reports were only partial. There is a certain degree of

1. Freeman, PSP, 273.
3. Freeman, APSP, 86.
4. Burnet, EGP, 274.
5. Turner, HP, 64.
6. Freeman, PSP, 273-274.
8. Fairbanks, FFG, 255.
11. Turner, HP, 64.
15. Fuller, HGP, 223-224.
17. Turner, HP, 64.
18. Ueberweg, HP, I, 66.
of truth in sensory apprehension, and so the evidence that appearances offer may be utilized in seeing the invisible, that is to say, as a standard for the cognition of the non-apparent. \[1,2,3\] "Visible existences are a sight of the unseen.\[4\]

The details of Anaxagoras' theory of sensation are interesting. Unlike Empedocles who thought that perception was produced by the interaction of like with like (homoeopathy), Anaxagoras held just the opposite opinion that like cannot affect like and thus sensory perception must be produced by the interaction of unlike qualities (allopathism). This theory that sensation depends on irritation by opposites has an intriguing consequence: when a thing is known it is differentiated from its opposite, hence knowledge becomes discrimination.

What of mind, of reason? Anaxagoras is strangely reticent and obscure on this subject, the very matter which should have been the crux of his philosophy. He pictured reason as a more precise instrument to supplement the cruder senses, as a sort of microscope held up to natural processes, and as a repository of "experience, memory, and

2. Freeman, PSF, 273-274.
4. Freeman, APSP, 86.
5. Beare, GT, 208-209.
7. Fairbanks, FG, 258.
8. Turner, HP, 64.
10. Vorländer, GF, 52.
11. Windelband, HAP, 86.
14. Fuller, HGP, 223-224.
Anaxagoras says that reason, which is unmixed, is the only faculty by which one can see everything in everything and so become cognizant of the truth.

Little is said of the way in which reason functions; truth may be discovered by reason through contemplation independent of sensory perception, and through it the individual can somehow participate in the world reason to which all is known. Reason is the regulative faculty of the mind just as Nous is that of the universe. Yet neither sense nor reason alone is ground for certitude; the former perceives phenomena, the latter noumena. Further details of Anaxagoras ideas are wanting.

Empedocles for all his claims of divine descent and heavenly illumination, for all his physiological and psychological theories, had little better to offer as a criterion of truth than sensation. In like manner Anaxagoras, as if distrustful of his own promising doctrine of Nous, had little better to offer than, again, sensation. Both, while reacting against Eleaticism, failed to produce a superior concept of reason than that of Parmenides. Philosophy fell back to the obvious, to sensation as a criterion of truth, to those faculties by which the bewildering multiplicity of

1. Freeman, APSP, 86.  
3. Turner, HP, 64.  
5. Ueberweg, HP, 66.  
6. Windelband, HEP, 86.  
7. Cocker, CGP, 313.
appearances was most immediately apprehended. The stage was set for the final development of sensation as the criterion of truth by the Atomists and for that tragic admission of epistemological failure - the relativism of the Sophists.
Placing the Atomists in proper perspective with the body of pre-Socratic speculation is something of a problem. The materialism of the Atomists was one of the three, great, positive, synthetic philosophies of ancient Greece, being comparable to the monumental systems of Plato and Aristotle. At least one authority places the work of Democritus posterior to and in opposition to the Protagorean relativism, and if chronology be discarded in favour of what perhaps seems the natural course of intellectual development, this may well be justified. Yet there is good evidence that the Atomists' theory of sensation, along with the Heraclitean flux and the Eleatic dialectic, was one of the major ingredients of Sophism.

Part of the explanation for this anomaly lies in the fact that the Sophists adopted the negative features of materialistic sensualism while ignoring the positive metaphysics of the Atomists, just as in the case of the Eleatics. Thus the philosophical mainstream fell into the abyss of Sophistic despair for the most part oblivious that one of the principle solutions to the problems that threatened to overwhelm philosophy had already been elucidated.

1. McClure, EPG, 205.
2. Weber and Perry, HP, 40.
Leucippus of Abdera

Leucippus of Abdera has remained an obscure figure, very much overshadowed by his pupil Democritus. Even one of his later followers, Epicurus, flatly asserted that "there never was such a person as a philosopher Leucippus." Yet Aristotle did not question the existence of Leucippus and, in addition to mentioning him in several places, spoke of Democritus as "his associate," thus suggesting that Leucippus was the founder of the atomic school at Abdera.

Leucippus seems to have come from Miletus and to have flourished around the middle of the fifth century, B.C. There is no conclusive evidence to indicate that his doctrines were largely derived, as might be expected, from the "seed" hypothesis of Anaxagoras. Aristotle held that the opinions of the Atomists took their origin in the Eleatic denial of the void, and this view appears reasonable for Leucippus is said to have been the pupil of Zeno.

Aristotle wrote that:

1. Bailey, GAE, 66.
2. Russell, HWF, 64.
5. Burnet, GF, 94-95.
7. Thilly, HP, 6, 36-37.
8. Bailey, GAE, 537 et seq.
10. Aristotle, De Gen. et Cor., 325al.
Leucippus ... thought he had a theory which harmonized with sense perception and would not abolish either coming-to-be and passing-away or motion and the multiplicity of things. He made these concessions to the facts of perception ...

The utmost significance may be attached to this remark, for the kernel of the problem of a criterion of truth as it existed for the pre-Socratics was a dissatisfaction with the adequacy of sense-perception. With Xenophanes and more especially Heraclitus this difficulty was clearly recognized and, together with the problems of change, the one and the many, and substance, had formed the basis of subsequent Greek thought. Its result, prior to the three great synthetic philosophies, was to produce on the one hand Sophism, which was virtually an admission of failure to solve the problem of truth and its criteria, and, on the other hand, the dogma of the Eleatics who, overawed by the shortcomings of sensation, grasped the only other philosophical criterion of truth with which they were familiar, logic, and clung to it so tenaciously that they were ready to follow wherever it lead, even if in so doing they had to deny the obvious facts of experience. However, the "facts" of sense experience, chimerical though they may be, must be rescued. One cannot simply dismiss one faculty, sensation, as faulty while subscribing to the infallible validity of another faculty, reason, equally as

1. Aristotle, De Gen. et Cor., 325a24.
human.

The Atomists re-examined and re-evaluated sense-perception as a criterion of truth, studying the issue freshly with unprecedented thoroughness. They did not rashly dismiss sensation as a source of mere opinion as their Eleatic predecessors had done, nor did they equally rashly embrace sensation as the way of truth as Empedocles and Anaxagoras had done for all practical purposes. Their attitude may be typified as one of extremely cautious interest. But even this reserved interest, skeptical though it may have been was a new and promising departure from the traditions of unmitigated empiricism and rationalism. In their synthetic philosophy the Atomists made considerable progress by adopting, not the vices as the Sophists had done, but rather the virtues of these traditions.

While studying the potentialities of sensation with great care the Atomists did not make it the foundation of their philosophy. The two ultimate realities admitted by Leucippus and his school, atoms and the void, were neither susceptible to sensory apprehension. The Eleatics had argued that the latter, inasmuch as it was what-is-not was not even susceptible to rational apprehension. Leucippus affirmed that what-is and what-is-not were both equally real in direct opposition to the Eleatics.  

1. Burnet, EGP, 333.
2. Burnet, GP, 95.
Evidence of the by no means meager residuum of skepticism that the Atomists persisted in nurturing towards sense-perception is to be found in their fascinating doctrine that the objects of sense-perception exist by "convention" or "use." Leucippus is given credit as the inventor of this thesis, and of it Democritus says:

Sweet exists by convention, bitter by convention, color by convention; atoms and void [alone] exist in reality ... We know nothing accurately in reality, but [only] as it changes according to the bodily condition, and the constitution of those things that flow upon [the body] and impinge upon it. 6

The use of the term "convention" is perhaps unfortunate for it immediately brings to mind contemporary conventionalism. Parmenideas had said that colors and the like were only names, but it seems more likely that the conventionalism of the Atomists was not this type of nominalism but rather a criticism on the accuracy of sense-perception based upon a distinction between primary and secondary qualities.

The Atomists were most emphatic in attributing the order of the universe to necessity rather than chance. Leucippus affirmed, "Nothing happens at random; every-

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thing happens out of reason and by necessity." And Democritus added, "Men have fashioned an image of chance as an excuse for their own stupidity." "Chance is generous but unreliable. Nature, however, is self-sufficient." Both were at pains to reject both chance and teleology as explanations of the world about them, and as an alternative they embraced necessity in the fundamental sense of natural law. This doctrine of necessity, which in the hands of Democritus became "the most fully scientific conception in Greek philosophy," was "one of the sources from which science derived its belief in natural law."

But what is the relation of necessity to the problem of criteria of truth? Any manner of world order will at least set the stage for truth, for knowledge, will at least establish the possibility of events coming into being rationally, not accidently. Necessity provides a fixed framework for all phenomena and is based on principles reasonably intelligible to human reason. The fixed framework admits of the possibility of truth; the simplicity and universality of the principle of necessity promotes its likelihood. Then too, necessity is intimately

1. Burnet, EGF, 340-341. 7. Bailey, GAE, 49, 84, 93, 121-123, 133.
related to logic as a criterion of truth, for necessity is the logic of the natural order.

Democritus of Abdera

Democritus of Abdera was the pupil of Leucippus, and apparently he learned his master's lessons well for he elaborated atomistic speculation into a philosophic system that "answered better than any other current theory the problems of his own day" and that attained "a greater logical coherence than any other ancient system."

There are two classical interpretations of Democritus' theory of knowledge; there is firstly that of Aristotle who asserted that Democritus claimed that all knowledge is derived from experience, that the phenomenal is the only reality apprehended, and who criticized the Atomists on the basis of this position; and secondly, to swing from the extreme of phenomenalism to the opposite pole of skepticism, there is the interpretation of Sextus Empiricus who, a skeptic himself, tried to present Democritus as holding views similar to his own.

Aristotle seems to have been shocked by the Democritean identification of reason with the soul and may have based his estimation on this reaction. 1,2,3,4,5,6,7,8,9,10,11 Plutarch claims that

1. Farrington, GS, I, 60.
2. Adamson, DGP, 64.
3. Aristotle, De Anima, 404a27.
5. Bailey, GAE, 177-179.
8. Ueberweg, HP, I, 70.
Aristotle was speaking of an early theory which the atomist later abandoned. This latter possibility finds support in the complaint of Theophrastus that Democritus in one of his treatises set out by "pompously announcing his intention of proving the truth of the senses which in the sequel of the same treatise he entirely subverts." The other view, that Democritus was a skeptic, was supported also by Colotes who "tried to prove Democritus a skeptic by quoting him as saying, 'An object is not naturally constituted in one way any more than in another.'" But here again Democritus was referring to secondary qualities whose reality he did indeed deny.

Although some scholars have come dangerously close to following the lead of Sextus, declaring that Democritus doctrines were even anti-philosophical, many more scholars, while admitting a skeptical cast to the atomist's thought, insist that he was not a skeptic.

Furthermore, it is more than unlikely that a confirmed skeptic would take the greatest pains to construct so elaborate a philosophy, and in particular such detailed theories of sensation and knowledge, as Democritus did.

At first glance, on the basis of the Democritean frag-

1. Butler, LHAP, 310.
3. Cocker, CGP, 293.
5. Bailey, GAE, 180.
6. Freeman, PSP, 310.
8. Ueberweg, HP, I, 70.
ments, the case for skepticism appears overwhelming, but upon closer inspection of these fragments one finds that Democritus did not claim that there was no truth. His position is that of agnosticism rather than skepticism. There is a reality, but man is severed from it; there is truth, but it lies in an abyss.

Democritus made a dichotomy between true and false knowledge strongly reminiscent of Parmenides' "Way of Truth" and "Way of Opinion." His faith in the reality of atoms and the void suggests that his "skepticism" did not extend to them. Genuine knowledge has as its object the genuinely real — atoms and the void. Yet atoms and the void lie beyond the reach of sense in that sub-phenomenal realm from which the phenomena arise. They are not susceptible to sensory apprehension; consequently only intellectual concepts of these absolute, unchanging, universal realities and the understanding of their movements and primary qualities, the application of correct rather than habitual terms to them, can give rise to truth, truth which, by virtue of the immutable nature and universality of its referents, has claim upon, not the consent of particular men, but of all men for all time.

2. Freeman, APSP, 92-93.
3. Freeman, APSP, 92.
4. Freeman, APSP, 104.
6. Freeman, APSP, 93.
7. Ueberweg, HP, I, 70.
10. Ferrier, PW, II, 163.
Thought, rather than sensation, is "The Way of Truth," and reason (logos), which he called "clear knowledge," is Democritus' guiding criterion of truth. Obscure or "bastard" knowledge, on the other hand, belongs to the domain of the senses and deals with the qualities of things, not with quantities which are the only differences which truly exist in nature, being the properties of the atoms themselves of which all things are composed. The knowledge which arises from the senses is little more than opinion; "it is obscure, as if we were always looking at things in the dark and could only see their vague configurations;" it represents only a "shadowy diversity of internal impressions which can claim no real archetype."

The question naturally occurs at this point, how does one acquire genuine knowledge? The answer is: "Through reason." But reason gathers its material from the data of the senses. You cannot condemn the latter without damaging the former. Still, if reason takes its information from the senses, and the senses can give rise only to bastard knowledge, it would seem that the case for skepticism is complete.

3. Adamson, DGP, 64-65. 8. Freeman, APSP, 104.
Democritus was understandably reluctant to assume the responsibility of absolutely denying the truth of sensory knowledge, for he recognized sensory experience as the ultimate source of knowledge:

... the way to truth lay through sense-perception rightly understood ... all [sense] percepts are true in the sense that they are due to actual events; they are different to healthy animals and ourselves, and different at different times to the same person, but this is due to the differences in the receiving organs; the cause of perceptions remains a reality, and in that sense all percepts are "equal", and one set is not more real than another. 3

Even the gods manifest themselves through the images which strike our senses. Like Anaxagoras, Democritus held that one could proceed by inductive inferences based on analogy, premising that the forces and qualities obtained by sense-perception were valid beyond the limits of sensation, from appearances, perceptible facts, phenomena, to a knowledge of the unapparent, of the unknown, thus overstepping the limits of sensation in space and time. 5,6,7,8,9 "... The 'criterion' for the apprehension of things unseen is phenomena."

Progress along such an arduous "Way of Truth" is facilitated by the fact that "the atoms outside us [can] affect the atoms of our soul directly without the inter-

4. Ueberweg, HP, I, 70.  9. Ueberweg, HP, I, 70.
vention of the organs of sense." 1 When such immediate communication occurs and the motions of the soul are symmetrical, rational knowledge results. This last doctrine, as did Empedocles' principle that like knows like, may suggest an inner sense as a criterion of truth which may be a sort of intuition or even just common sense.

Lacking ideal or even satisfactory instruments and precision for determining truth, Democritus bemoaned the fact that the fruit of all his labor was so meager.

The reproach that he levelled at the senses collectively was that their evidence did not extend far enough; that they deserted us at the points where the minutest bodies and the most delicate processes were to be got at from which the material masses and the processes obtaining in them are composed. 7

While denying the objective reality of secondary qualities, Democritus never for a moment questioned the objective existence of bodies and their attributes; he rejected any sort of arbitrary or relativistic "plebisite" for determining the truth and affirmed that the various grades of reality could be measured by a theory of sense-perception. Democritus was not a skeptic; he was a logical empiricist who, dismayed by the inadequacy of the scientific equipment and knowledge of his times, was not above venting his pique in despairing, agnostic aphorisms.

4. Ueberweg, HP, I, 70. 9. Freeman, PSP, 310.
5. Burnet, GF, 198.
The Atomists, then, adopted and shaped into a coherent philosophical position many of the positive discoveries of their predecessors. Like the Milesian naturalists and Empedocles and Anaxagoras they relied heavily upon sensory observations to fill in the details of their system. But, fully aware of the shortcomings of sensation as a criterion of truth, they followed the lead of the Eleatics by making the underlying principles of their philosophy known by reason. And, finally, like the Pythagoreans, they made the particular qualities apprehended by the senses dependent upon universal, rationally apprehended quantities.
Chapter VII

THE SOPHISTS

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. The immediate and obvious result of these attempts at philosophising seemed the bankruptcy of speculative thought. It is not, therefore, surprising that this period of elaboration produced a crisis in the history of thought, at which an intellectual disease imperilled the very existence of philosophic speculation. This intellectual disease was sophistry, that is to say, the corruption of philosophy. 1

The "causes" of Sophism were legion. Sophism was the inevitable catastrophe towards which pre-Socratic speculation heedlessly swept. The whole panorama of Greek intellectual history was but the stage setting for a colossal philosophic and cultural calamity - Sophism - but also, lest the key be too minor, mankind's supreme intellectual triumphs - Plato and Aristotle. To write in detail, then, of the causes of Sophism would be a task of encyclopaedic proportions, involving a description, not only of the evolution of Greek philosophy, but of the entire social, political, cultural, and economic history of ancient Greece as well. It is possible, however, to attempt to isolate the principle philosophical causes of Sophism.

1. Maritain, IP, 64-65.
Paradoxically, ironically, the principle cause of Sophism was Eleaticism; an absolutist philosophy gave birth to a relativistic philosophy. Heracliteanism might be called the thesis, Parmenideanism the antithesis. The synthesis was threefold, the three great, positive philosophies of Democritus, Plato, and Aristotle. Sophism was the expression of inefficacy, of despair, and flourished in that interval after the incompatibility of the opposites had been recognized but before the resolution of the synthesis had been envisioned.

The discrepancies between the conclusions of Eleatic metaphysics and human experience profoundly impressed the early Sophists and gave great impetus to their movement. The demands made by Parmenidean theory, despite the apologies of Zeno and Melissus, were simply too severe. Philosophy was not ready nor willing to turn its back on immediate experience and follow Parmenides' narrow and difficult path. Yet while spurning the Eleatic metaphysics, the Sophists were only too eager to accept the Eleatic dialectic.

But why should the disintegration of Parmenidean metaphysics have had such a deleterious effect on Greek speculation? Certainly there were plenty of other philosophical views available as alternatives, each proffering its respective virtues. That was just the trouble. There were too many customs and philosophical opinions; there was a virtual

1. Scoon, GEBP, 130.
philosophical Babel. How could anyone arbitrate among the nearly endless diversity of opinion? Perhaps they all had some element of truth; perhaps they were all totally false. It was a time for intellectual inventory. Philosophy, especially cosmology, seemed to be more a property of philosophers than of Nature. Consequently the faith of men in universally valid truth was shaken, and the possibility of any certain knowledge became very remote.

Remote also, hopelessly remote, seemed the proud ideal of an objective science. Such an intellectual Nirvana no longer seemed within mortal grasp. And so the Sophists turned away from natural science; the more moderate Sophists, like Protagoras, abandoning theoretical science for a subjective empiricism; the most extreme, like Gorgias, espousing the empty husk of Eleatic dialectic. The emphasis turned from Nature and focused on Man, from knowledge to a theory of knowledge, from physics to psychology.

In reaction against the Parmenidean Immutable One the Heraclitean doctrine of flux was revived, and this doctrine provided a metaphysical basis for the new relativism of Protagoras. The view of Protagoras' friend and fellow townsman Democritus, that secondary qualities reside not in

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1. Schiller, Art. (1911).
2. Scoon, GPBP, 130.
3. Scoon, GPBP, 312.
6. Robin, GT, 140.
7. Freeman, FSP, 348-349.
8. Robin, GT, 140.
10. Weber and Perry, HP, 40.
11. Burnet, EGP, 166.
things but in the sentient mind of man and that reason is simply a continuation of sensation, completed the picture. "The skepticism [relativism?] of Protagoras represents the conclusion of a syllogism of which Heraclitus' doctrine of flux forms the major, and the sensualism of Democritus the minor, premise." 3

On the other hand, however, Sophism, especially as in the case of Protagoras, was a "great educational movement." Yet of even greater value to philosophy than the humanistic and educational emphasis of the Sophists was the spirit of criticism they fostered. The pre-Sophistic thinkers tacitly assumed that there was a body of universal and absolute truth which man had only to discover. They sought this truth assiduously, so assiduously that they never paused, or at least did so rarely, to take stock of the adequateness of their equipment. The Sophists did precisely this, thereby rendering philosophy a necessary, if painful, service. Their age was one of critical reflection. They examined the powers of the intellect itself and discovered that truth and reality are not something purely external to thinking and feeling, but that the mind of man is an important factor in the process of knowing, that human understanding is a never negligible coefficient in the production of knowledge.

2. Weber and Perry, HP, 40-41. 5. Thilly, HP, 46.
Protagoras

Protagoras, the most famous of the Sophists, was a fellowtownsman and perhaps a friend and pupil of Democritus, yet his philosophy more closely resembles that of Heraclitus rather than the materialistic determinism of the Atomists. He led the Sophists in their abandonment of the natural sciences in favour of classical education, in the transition from naturalism to humanism.

The paradoxes posited by Eleatic metaphysics made the attainment of truth seem impossible and philosophic speculation vain; they provoked widespread skepticism. Why, then, should man occupy himself with such unrewarding pursuits? Why not devote himself to his most immediate interests, to the conditions of his happiness? Why not, in the face of the multitude of philosophical dogma, make a declaration of independence, a manifesto proclaiming the spiritual autonomy of the individual? If man cannot escape from the limits imposed by his nature, why repudiate the sole truth that is within the compass of his powers? Rather let each man make the most of such faculties as are available to him.

And what equipment does man have at his disposal?

Sensation. Sensation alone and little more, for had not

Democritus shown (at least as Protagoras chose to interpret him) that even reason was little more than the continuation of sensation? Sense-perception is the only mode of apprehension, the only source of knowledge, the only criterion of truth. There is no truth for man beyond what he perceives, feels, and experiences.

But, however, in sense-perception the relation of correspondence between image and imaged exists only momentarily and is dependent in detail on the circumstances, even the bodily condition, of the perceiver and is unique of him in that instant. Yet this fleeting image, although only subjective opinion and not objective truth, is true for the observer. There is only one tribunal of truth; in matters of knowledge the perceiver is a law unto himself. What seems to him is true, the only truth of which he is capable:

Of all things the measure is Man, of things that are, that they are, and of things that are not, that they are not. 9,10,11,12,13,14,15,16

This is the famous doctrine of the homo mensura.

The majority of commentators have concurred with Aristotle in their interpretation of the Protagorean homo mensura,

2. Weber and Perry, HP, 40.
3. Adamson, DG, 71.
4. Benn, GP, 74.
8. Thilly, HP, 46.
9. Freeman, AFSP, 125.
11. Benn, GP, 74.
13. Ferrier, PW, II, 204.
15. Watson, Art. (1907).
17. Burnet, GP, 114 et seq.
taking it to mean that "that which seems to EACH man ... assuredly is." Sensation, and that is the only criterion of truth which Protagoras would admit, was a wholly subjective phenomenon, contingent and, of greatest importance, in a vital sense unique to the individual involved.

Another interesting interpretation of the *homo mensura* is that Protagoras meant man in a generic rather than in an individual sense. If such was the case, the practical consequence of a denial of objective truth is to make the majority the arbiters of the good and the bad, the true and the false. Race-made truth involves not one but several criteria of truth - custom, tradition, convention, *consensus gentium*, compulsion, and so on.

The importance Protagoras assigned to sense-perception made him an empiricist, but an empiricist unredeemed by any sense of the importance of the organization, systematization, generalization, and abstraction that characterizes scientific activity. Protagoras has also been styled "a pragmatist before pragmatism," and with

2. Adamson, DGP, 71.
3. Benn, GP, 74.
5. Ferrier, FWP, II, 204.
8. Weber and Ferry, HP, 43.
9. Freeman, PSP, 348-349.
12. Schiller, Art. (1911).
15. Watson, Art. (1907).
justification. Yet the pragmatic, the practical element in his philosophy was subordinated to a more broad ideal—humanism. The whole of his philosophy and of the educational theory and practice in which he set such store was directed towards the fulfilment of human ends.

Finally, as a corollary of these humanistic sentiments, Protagoras arrived at a position, if not identical at least very similar to that of the conventionalists. He made convention, rather than Nature, his law.

Relativism, that "false and even monstrous" manufacture of truth, so incompatible with the conviction that "truth does not change," that "a principle which has any soundness should stand firm not only now and then but always and forever," is by far the most serious charge that can be made against Protagoras, an accusation which he probably would make little attempt to deny for relativism is inseparable from the doctrine of homo mensura and the sensualism on which that criterion of truth was based. For Protagoras practical and theoretical truth alike were purely relative, matters of taste, temperament, education, past experience, bodily condition, and varying from one moment, from one individual to the next. There is no universally
valid truth; there are no criteria for recognizing the absolute truth of any moral or metaphysical proposition. The standard of intelligence essential to the establishment of a standard of truth cannot be fixed. In other words, Protagoras unequivocally and irrevocably denied the universality of the intellect, the possibility of absolute knowledge, and the existence of any criteria of unconditioned truth.

But Protagoras was not content to stop at this point. If there is no possibility of truth, it requires but little courage to go one step further and affirm that there is no possibility of falsehood. Protagoras, like most of the other Sophists, held that there were two opposed sides to every question each equally "true." The homo mensura has implicit in it a denial of the principle of contradiction. Aristotle, like Plato, with his customary sagacity quickly detected this highly vulnerable difficulty and made it the focus of his attack on the Sophists.

There is yet another difficulty inherent in the relativism of the Sophists. While each man's opinions are equally "true" for him, the opinions of men are not, according to Protagoras, all equally valuable, and one position may be,

if not more true, at least better than a second.

Presumably Protagoras believed those "truths" to be better which were most profitable and salutary in a given circumstance, and which were in accord with the convictions of a man in a "normal" condition of body and mind. Now either the Sophists must be arbitrarily accepted at the repositories of truth or else the common man becomes the arbiter of metaphysical truth, and "average good opinion" has superior claims to truth. The majority dictates truth. Such an interpretation of Protagoras' relativism is compatible with the fact that neither Protagoras nor Gorgias, unlike the later Sophists, extended their relativism to morality, tradition, and other popularly established institutions.

The positive contributions that Protagoras made to philosophy were not completely negligible. He inaugurated a long overdue age of critical reflection, of philosophical self-examination, and he did succeed in making it clear once and for all that human understanding itself was inextricably involved in the search for truth and reality. He destroyed the mental foundations of the old polytheism, preparing the way for the higher creeds of Socrates and the Stoics; he destroyed the dogmatism of fantastic speculation and dialectical extravagance, compelling thought to give an account of itself;

1. Freeman, PSP, 348-349. 7. Watson, Art. (1907).
5. Robin, GT, 145. 11. Weber and Perry, HP, 3-4, 42.
and he created a science of language.

But, on the other hand, he exaggerated psychological and physiological differences between individuals while deliberately overlooking the universal character of human reason and the fact that science, by demanding reproducibility, achieves an intellectual universality that overcomes these human differences. His view that language was little more than a collection of signs, his neglect of meaning in favour of verbal quibblings made him the "father of the whole tribe of eristical disputants now so much in evidence." He was foremost among the Sophists, the Sophists who betrayed the calling of philosophy and in whose hands "knowledge altogether lost sight of its true purpose."

Gorgias of Leontini

A real distinction cannot be delineated between relativism and skepticism. While the relativists speak of relative truth they are, as Parmenides would be alert to point out, abusing terms. Opinion, no matter with what names it may be graced, remains opinion. The Sophists did not have a characteristic, organized philosophic system,
and while some, like Protagoras, were religious agnostics, they did, as a whole, abide by and support the moral codes established by the community. The Skeptics, however, emerge more clearly as a well defined school and, casting aside the last remnants of restraint, pushed relativism to its logical extreme, caring as little for conventional morality as they did for metaphysics. Nevertheless, the differences between the Sophists and the Skeptics were more matters of personal inclination than of any fundamental philosophical disagreement. Relativism is thinly disguised Skepticism; the theories of Protagoras immediately ushered in the skeptical spirit.

The Sophist whose thinking was most closely allied to that of the Skeptics proper was Gorgias of Leontini, a disciple of Empedocles, and a direct and tragic product of the Eleatic school, an embodiment of the worst of Sophism. This stark nihilist borrowed the most dangerous elements in the eristics of Zeno and Melissus and demonstrated to his own satisfaction, not that everything was true as Protagoras had held, but that nothing was true. He held that there was not truth, that nothing exists, that

even if there was anything we could not know it, and that
even if we could know it we could not communicate this
1, 2, 3, 4, 5, 6
knowledge.

Gorgias must have been something of a dullard, for
in "proving" that there is no truth he presupposes that
logic, the Eleatic dialectic, is a criterion of truth.
Skeptics, as Aristotle slyly pointed out, do not philoso-
phize; their only proper function is to vegetate. Yet it
was not Gorgias' nature to be content in such a passive
(and ill paid) role. While teaching that the transmission
of truth by words was impossible he charged one hundred
7
minae for his lessons in rhetoric. He was intoxicated
with the power of speech, "Speech is a great power, which
achieves the most divine works by means of the smallest
and least form," and he compared it to a forceful abduc-
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tion or a potent drug. Like the true addict he talked
for his own amusement and, despite his thoroughgoing
skepticism, was never at a lost for something to say.
When he couldn't carry a point by argument he won it by
ridicule. Little wonder that Plato was shocked by Gorgias'
utter disregard of the truth and his infatuation with words.

1. Adamson, DGP, 72.
2. Benn, GP, 80-81, 426.
4. Freeman, APSP, 127-129.
5. Ritter, HAP, I, 583.
8. Freeman, APSP, 132.
10. Freeman, APSP, 132.
11. Freeman, APSP, 132.
12. Aristotle, Rhet., 1418a34.
Gorgias said that "those who neglect philosophy and spend their time on ordinary studies are like those Suitors who desired Penelope but slept with her maids." And of these "Suitors" the name of Gorgias comes immediately to mind.

With this discussion of the Sophists the present study of pre-Socratic criteria of truth is concluded. Certainly it must be admitted that the story has ended in a minor key. From the Icarian flight of Parmenidean metaphysics Greek speculation plunged into the dark and turbulent sea of relativistic sophistry. Proud reason was brought low. Philosophy is left at its lowest ebb. The Sophists "believed in knowledge without believing in truth ... Sophistry [was] not a system of ideas, but a vicious state of mind ... an intellectual disease [which] imperilled the very existence of philosophic speculation." But on the constructive side of the ledger:

their criticisms of knowledge made necessary a pro­founder study of the problem of knowledge ... [and] forced philosophy to examine the thinking process itself and opened the way for a theory of knowledge. In employing all sorts of logical fallacies and sophisms, they made necessary a study of the correct laws of thought and hastened the birth of logic ... The great value of the entire Sophistic movement consisted in this: it awakened thought and challenged philosophy, religion, custom, morals, and the institutions based on them, to justify themselves to reason ... they compelled philosophy to seek a criterion of knowledge ...

1. Freeman, APSP, 139.
3. Thilly, HP, 48-49.
How much poorer philosophy would be had not Socrates and Plato felt the urgent need to defend philosophy from the onslaughts of Sophism and to re-define its goals. The greatest contribution of the Sophists - they were both a foil and a stimulant to Socrates and Plato.
CONCLUSION

One fact clearly emerges from even the most cursory examination of the foregoing pages; for the pre-Socratics the problem of truth and its criteria gravitated about sensation on the one hand and reason on the other, giving rise respectively to the empirical and rational traditions. From the advantage point afforded by these concluding paragraphs it will undoubtedly be instructive to review, by way of a summary, the history of pre-Socratic epistemological speculation in terms of these two criteria of truth, sensation and reason, and placing particular emphasis on the limits of application of one or the other criterion by each of the several thinkers involved and comparing their conceptions of the meaning of these all-important terms.

Sensation and reason both were ingredients of pre-philosophic speculation; the former without doubt played a dominant role. But pre-philosophic sensation was little more than the most casual, non-critical observation; pre-philosophic reason, if indeed it is not premature to use the term "reason" at all, was very rudimentary, an avoidance of flagrant paradox, always subordinate to sensation if the issue became crucial, a residuum rationality that might be called "common sense."

Yet before philosophy could focus on the epistemological problem, no more, before the genesis of truly philosophical speculation could occur, it was necessary for the issue to be simplified by the elimination, momentarily at least, of certain
criteria of truth associated with prevailing religious and social institutions. THALES not only took the bold step forward, weaning philosophy from religion thus making it intellectually autonomous, but his thought adumbrated the course of future empirical and rational speculation in ancient Greece. With Thales sensation ceased to be casual; it became more careful, minute, and, most important, selective. The environment of man, the natural order in which he found himself and of which he was a part, was scrutinized with new devotion and with some pretension of objectivity. Thales was no "pure" empiricist, however; he was far from content with the scattered facts of experience no matter how carefully gleaned. Sensation alone is inadequate; it is but the first rung on the ladder of knowledge. Sensory data was the material upon which the philosopher lavished the power of his reason. There is no evidence that reason for Thales, as, for that matter, for the remainder of the pre-Eleatics, was a concept at all clear or subtle. Reason for Thales was abstraction, for he dimly recognized that the proper objects of thought must be universals rather than the particulars of sense-experience. It is difficult to imagine how Thales might have proceeded from the particulars of sense-experience to universals without employing inductive reasoning in some form, and, again, how he returned from the universals to explain the particulars without resorting to a form of deductive reasoning. But there is no unequivocal evidence that he was conscious of the exact details of these
ANAXIMANDER concurred with Thales in principle but made some significant changes in some aspects of his master's system. He took as his prime universal, not water, but the non-sensually apprehensible yet rationally meaningful Non-Limited thus completely removing the process of abstraction from the realm of sense-experience. Anaximander's Non-Limited marks an important stage in the development of classical logic; it laid the basis for an exact terminology. All of his successors fell into the usage of speaking of terms and their contradictories - the Limited and the Non-Limited, Being and Non-Being, and so on. Thus when a more precise logic began to develop in the hands of the Eleatics, there already existed an exact and systematic terminology with which to work. Although it cannot be said to what extent, the contradictories of Anaximander, a much more subtle doctrine than the popular idea of opposites (contraries), suggest a recognition of the principle of contradiction. Thales had insisted on universals; Anaximander took another crucial step forward in this direction; he insisted on a definite organization of the universals and their constituent parts, that is to say, Natural Law. With Heraclitus this Natural Law was to become the object and pattern of reason, Parmenides was to identify it with reason, Anaxagoras was to call it Nous, and with the Atomists the concept emerged as Necessity. ANAXIMENES is of note for having retreated somewhat from the highly abstract position of Anaximander and for having organized the doctrines of his predecessors.
The pre-Eleatic philosophers concerned themselves with "reason" yet there is no evidence that they had a clear concept of anything that might be properly called logic. The PYTHAGOREANS tried to circumvent this difficulty in a most ingenious manner. There was one system of logic known to the pre-Eleatics, and that system of pre-logical logic was arithmetic. The Pythagoreans identified things with numbers, thus hoping to bring the cosmos under the hegemony of the particular "reason" known to them, mathematics. The Pythagoreans were not ignorant of the work of the Ionian Naturalists, yet it is impossible to distinguish the role that sensation played in their philosophy because early Pythagorean doctrine is confused with that of later Pythagoreans who were involved in the empirical revival following the decline of Eleaticism. The Pythagoreans also subscribed to the doctrine of metempsychosis, a doctrine which was later to give rise to the Platonic doctrine of reminiscence.

With XENOPHANES the metaphysical problems were momentarily deferred in favor of iconoclastic sallies and moral preoccupations. However, his insistence that God is One is taken as the genesis of Eleaticism and certainly is not unrelated to the problem of truth and its criteria. Xenophanes was also sensitive to the dichotomy between knowledge and opinion, a distinction which was to take its ultimate form in the thought of Parmenides. There was a skeptical cast to Xenophanes' philosophy, and the want of a reliable criterion of truth
(sensation was discredited, reason callow and nascent) may well have been responsible.

HERACLITUS, however, plunged into the very midst of the difficulties that vexed pre-Socratic metaphysics. Sense-experience presented man with a flux of appearances. But Heraclitus, following the clew of Anaximander, became firmly convinced that this flux occurred, not randomly, but in accordance with Law. Thus Heraclitus rescued the possibility, the necessary condition of universal knowledge. He directed his attention, not outward at the cosmos as the Ionian Naturalists had done, but inward. He sought the Law by introspection, for, if man is a part of Nature, the Law must be exemplified in him as well as around him. His immediate goal was intuition taken in its most literal sense, and this insight was to provide the key, the "outsight", to coin a word, to the natural order. What are the criteria of truth of the introspective methodology? Certainly not the senses, although sense-experience may be an aid, for they are directed to the outer world. The Law is a rational order; reason is not dependent upon externals, in fact only reason can penetrate behind the external appearances presented by sense-experience. Consequently, he made reason or reflection his criterion of truth. But still, as in the case of Xenophanes, he could not describe the very faculty he had recommended, for there is again no evidence of a clear and adequate conception of the nature of reason.
The lack of a clear and adequate conception of the nature of reason was a very great shortcoming of pre-Socratic thought; it was the cause of a pronounced skeptical tendency, and the deficiency was not remedied until the advent of the Eleatic School. PARMENIDES set out by elucidating the role and realm of reason. Firstly he did what all his predecessors had been reluctant to do; he categorically dismissed sensation as false, "The Way of Opinion." He proclaimed reason to be the sole reliable criterion of truth. He did not stop here, he identified thought and being thus merging epistemology with ontology. For Heraclitus reason had been simply the methodology of introspection, for Parmenides it was nothing less than thought itself. It was urgent, compelling, and the only "Way" from which man was not strictly debarred. Semantics was intimately bound to the Greek concept of reason. When they spoke of reason the pre-Eleatics may have had partly in mind a type of semantic analysis, and Plato's insistence on careful definition is a reflection of this concern. This semantic concept of reason received a clearer articulation with Parmenides, who was very concerned with words and the grammatical structure of language, than with any of his predecessors. Yet for all the claims Parmenides made for reason he still failed, at least in the known fragments of his works, to say exactly what reason was. Yes, reason is being, but precisely what does one do when one sits down to reason?

Parmenides' pupil, ZENO, provides the answer to this question, for in the fragments of his work that have been
preserved there are several clear and concise examples of the reasoning process - the famed paradoxes. These paradoxes, which were constructed in defense of Parmenides and were designed to annihilate his critics, follow the same pattern: a postulate is stated, it is then shown by logical analysis, by deduction, that this postulate leads to conclusions which are manifestly absurd or contradictory, and thus the original postulate is demonstrably false. Reason has at last matured into a precise logical methodology, MELISSUS, another disciple of Parmenides, tried to complement Zeno's negative dialectic with one more positive in character but succeeded only in adding Parmenidean metaphysics by the introduction of Ionian natural science.

The conclusions of Parmenidean metaphysics and Zeno's dialectic were at odds with the "facts" of sense-experience, and this proved to be more than the successors of the Eleatics could bear. There was an almost immediate reaction against the dialectic and monism of the Eleatics, a renewed interest in empiricism and pluralism. EMPEDOCLES recommended reason and warned of the dangers of sensation, but like the pre-Eleatics, whom he resembled in many ways, his conception of reason was far from clear and he was obliged to rely heavily on empirical evidence. Both sensation and reason should be used in the pursuit of truth he asserted, but he himself depended on a considerable collection of empirical evidence, on a variety of experiments of impressive ingenuity, and on an activity intermediate between reason and sensation, re-
flection, by which he seems to have meant a careful comparative study and consequent evaluation of available empirical data. Of the basis of the reflective evaluation he is mute. His criterion of truth was the weight of empirical data that he could gather to support a given tenet. It was certainly not reason in the Eleatic sense; it was something more than simply sensation; it was reflection. The emphasis Empedocles placed in sensation prompted him to elaborate, much more carefully than had any of his predecessors, a theory of the actual mechanism of sense-perception. This theory was that of homoeopathism, and its elucidation culminates in most concrete and articulate form a whole vein of pre-Socratic epistemological speculation.

ANAXAGORAS transformed the Heraclitean concept of Law into the doctrine of Nous, an idea pregnant with potentiality and most intimately related to the problem of truth and its criteria, but an idea which, much to the despair of Plato and Aristotle, Anaxagoras then proceeded to ignore. He praised reason, he hinted at a connection between human and universal intelligence, he even suggested that reason was a process of analogical generalization by which it was possible to exceed the limits of sensory experience, but, rather than developing any of these fine ideas, he fell back to an empiricism very similar to that of Empedocles.

With Empedocles and Anaxagoras the formative period of Greek speculation drew to its conclusion. Its principle accomplishments were (1) the recognition of the universal
and immutable nature of truth (Thales, Anaximander, Heraclitus), (2) the recognition that sensory data are the material, not the end, of human knowledge (Thales), (3) the concept of Natural Law (Anaximander, Heraclitus), (4) teleology (Anaxagoras), (5) the ideal of scientific objectivity (Thales) and the recognition of the role and interpretation of careful scientific experimentation (Empedocles), (6) the distinction between knowledge and opinion (Xenophanes, Parmenides), (7) and accurate yet flexible, inherently logical philosophic terminology and an awareness of the relation between semantics and reason (Anaximander, Parmenides), (8) three workable logical systems - the inductive analogical generalization of the naturalists (Thales, Anaxagoras, Anaximander, Anaximenes, Empedocles), the mathematical theory of the Pythagoreans, and the deductive dialectic (Parmenides, Zeno) - as well as an appreciation of the power and scope of logical methodology (Parmenides), and (9) two epistemological theories - the Pythagorean doctrine of metempsychosis and reminiscence and the doctrine of homoeopathism, the latter ranging from, most generally, a parallelism between the human intellect and the nature of things (Heraclitus, Anaxagoras) to, most specifically, Empedocles' detailed theory of the nature of the sensory mechanism. But these many achievements were not an unmixed blessing, for their very number and diversity gave rise to a philosophical discouragement, a feeling that philosophy had become a tower of Babel, that there was no universal truth but merely the opinions of the philosophers. The Greek genius
A second response to philosophy's difficulties, which really was no response at all but rather an admission of failure, was SOPHISM. Sensation as a criterion of truth had persisted and prospered even in the face of the onslaughts of reason; its prestige for all the attacks upon it had been but little damaged. The Sophists assumed that sensation was the only source of knowledge - an idea sometimes attributed to Democritus. But the senses present to each man an Heraclitean flux that is conditioned by his own unique disposition. Truth is not objective and universal but completely subjective; each man is the measure of truth for himself, if not the individual man, then at least the community. While the more modest relativists like PROTAGORAS, possibly out of expedience, were willing to abide by the dictates of tradition, other Sophists of a more skeptical cast such as GORGIAS refused to recognize even this criterion of truth, indeed, they rashly asserted that there was no truth (rather paradoxically assuming the Eleatic dialectic true in order to prove their point). With the Sophists philosophy almost lost its integrity. The philosophic quest was abandoned; practical ends became the order of the day. Even the Eleatic dialectic was perverted and made the tool of insincere eristics and rhetorical and forensic mischief. But for all the damage they did to philosophy, the Sophists also extended to it an invaluable and exceedingly timely service. The pre-Socratic spirit was intoxicated by its own power and accomplishment, and one of the dangerous aspects of its exuberance was the lack of sober criticism. The Sophists launched this needed
criticism with devastating results. They really posited the epistemological question; no longer would it be possible to approach the problem of truth and its criteria without constant attention to the role played by the human intellect itself in the search for truth. Like the materialistic tradition, the Sophistic tradition, relativistic and skeptical, has remained lively.

The Sophists had aggravated the problems of philosophy and were ready to monopolize upon these problems. It remained for the genius of Plato to reinstate and re-vitalize philosophic speculation. His was the monumental task of establishing, in addition to the validity, the value of philosophy, and for this great vocation he drew heavily on pre-Socratic sources. He was haunted ontologically by the Heraclitean flux, epistemologically by the Protagorean relativism; nor would he have anything to do with the materialistic "solution" of Democritus. From the Pythagoreans he drew his doctrine of reminiscence and fondness for numerology, numbers may also have suggested the realm of ideals to him; from Anaximander and Heraclitus he drew his conviction in a universal order; from Parmenides the knowledge that the universal order is rational; from Anaxagoras the suggestion that this order was purposeful; with Xenophanes and his own teacher, Socrates, he shared, yet much more lucidly, the insight that this purposeful universal order must be ultimately good; and he was furthermore deeply impressed with the cogency of the Eleatic dialectic and its ability to lead part way up the ladder of knowledge.
The fourth response to the problems of pre-Socratic philosophy was the system of ARISTOTLE, whose massive genius assimilated all previous philosophy, who in the best schoolmasterly manner sifted the wheat from the chaff, and who, from the raw material provided by prior speculation, constructed a vast, intellectual edifice that was broadly expository yet analytic, synoptic yet oriented, minute in its particulars yet grand in scheme, eclectic yet bearing everywhere the unmistakable stamp of his unique and colossal intellect.
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