The Pre-Socratic Use of

Φύσις

As a Term for the Principle of Motion

BY

SISTER M. THOMAS AQUINAS, B. S. D., M. A.

OF THE

CONGREGATION OF SAINT DOMINIC, SINSINAWA, WISCONSIN

A DISSERTATION

Submitted to the Catholic Sisters College of the Catholic University of America in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

WASHINGTON, D. C.

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PREFACE

The general purpose of this study is to modify some of the effects due to the necessities of language among the Greek philosophers of the fifth and sixth centuries B. C. There can be no doubt that ideas conceived at this time suffered from lack of adequate forms of expression. Later thinkers, exhibiting a disregard for the effects of inadequate terminology, have assigned to the pre-Socratic philosophers theories inconsistent with true growth of thought. A study of the word ψυχή as standing for a kinetic principle in the minds of philosophers preceding Socrates cannot fail to emphasize the consideration of the need of terms as a factor in the history of philosophy.

On the positive side, this study would suggest an adjustment of the sources for Greek terms for the soul in an effort to account for the vocabulary of later philosophers regarding ψυχή proper.

The method adopted in the collection of pre-Socratic terms would balance a too ready acceptance of words ascribed to early thinkers and an absolute rejection of terms colored by Aristotelian influence.

The scope of the study includes terms for ἀρχή, for ψυχή as a kinetic principle, and for would-be agent causes as used during the century and a half of Greek speculation from Thales (585 B. C.) to Democritus (420 B. C.).

The frequent mention of Diels' *Die Fragmente der Vorsokratiker* (abbreviated *Vor.*), of Diels' *Doxographi Graeci* (*Dox.*), of Ritter and Preller's *Historia Philosophiae Graecae* (R. P.), and of Hick's edition of Aristotle's *De Anima* indicates the free use of works invaluable in this study.

To the Reverend William Turner, S. T. D., at whose suggestion this thesis was written, is due grateful acknowledgement of encouragement and assistance.

Sister Thomas Aquinas.

Feast of Saint Thomas Aquinas, O. P.,
March 7, 1915.

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I. INTRODUCTION

1. THE PURPOSE OF A STUDY OF TERMS FOR KINETIC Ψυχή

Aristotle, in the first chapter of *De Anima*, justified his treatise on the soul when he said: "It would seem, too, that an acquaintance with this subject contributes to the whole domain of truth." Likewise a knowledge of the word ψυχή as used in a particular sense by the early Greek philosophers seems well worth while as teaching that Truth is the First and the Last.

Since an understanding of the first attempts at a physical system implies a first-hand rather than a traditional knowledge of the words these thinkers used, a study of the kinetic ψυχή is proper to an investigation of the theories of the physicists before Socrates.

The use of ψυχή in another sense than for the soul of man recurs from Thales to Democritus. Commonly held to stand for a principle of animation, in its earliest use it may have stood for only the principle of motion. For these early thinkers life was not necessarily coextensive with motion. Linguistic poverty accounts for the use of this term to express now the idea of mere mobility and again the quality of animation. According to an imperfect analogy—"a likeness and a difference" (Theophratus III, 152 Wimmer)—objects could have been thought of as ἔμψυχα—endowed with ψυχή—and the whole term could have been used when only the attribute of motion was being predicated of things.

We cannot too often recall, in a study such as this, that the object of speculation at this period was nature and that the purpose of the so-called philosophers of these days was to find an underlying principle—a "one." Sometimes they cast the problem into another form and set it in terms of change when they asked how things were "moved."

It is fairly established that there was no definite speculation regarding the human soul in the early days of philosophy. It goes without saying that the three Aristotelian distinctions of ψυχή were not in the minds of the pre-Socratics. The first philosophical ψυχή represented a kinetic principle rich in promise. The physiologers took the term ψυχή out of popular phraseology and raised it from its place in their Homeric and pre-philosophical

inheritance to stand for a would-be cosmothetic force somewhat after the manner in which they adopted ἀρχή for philosophical terminology.

The knowledge of pre-Socratic systems has suffered from a confounding of the term ψυχή as used for a kinetic principle with the old (and later the new-old) term ψυχή as used for the principle of animation and for the soul of man. The identification of ψυχή and ἀρχή has branded the earliest Ionians with latent materialism. The simplest explanation of the identification of these terms is by no means final. To decide that, after the physicist had reduced all things to air, fire, or some other body, he postulated, by way of a corollary, this primary element as the cause of vital function is only to include ψυχή taken as standing for the human soul, in ἀρχή, the material substratum of all things. Commentators were prone to read into a term the sense it held in their own time. The only meaning of the term ψυχή in the mind of most later thinkers was ψυχή as it stood for the human soul and included the principle of life. Again, the analysis of this equation which discredits scepticism as a natural attitude is on the side of ψυχή as a term for soul proper. The fact that the power of the mind gives rise to processes mentally reproducing the nature of the object known has been noted as potent enough to cause early thinkers to infer that the soul is a mixture of all elements. If all things were reduced to a primitive substance, then would the mind that knows them be that substance; ψυχή, the knowing part of us, becomes identical with ἀρχή, the first principle. However satisfactory as explanations of theories attributed to the philosophers who began to give attention to mental science, for the early Ionians at least, who, as physicists, certainly used ψυχή in other than the old sense, these solutions of the equation are strained. The formation of what seems to us an equation was probably due to a lack of words, while ψυχή as the original member of it was merely kinetic in force. ἀρχή was the basis of all things and all things were moved, ψυχή being the principle of motion. If ἀρχή and ψυχή coexisted hylokinetically, then ψυχή as a force in nature was the kinetic aspect of ἀρχή. Philosophy from the first tended toward physical dualism and ψυχή buried in ἀρχή contained part of the efficient cause in germ. The crude but prophetic half-conception of a force causing things to move was impeded by a lack of words for this new element of thought. The growth of the notion of trans-

ient force culminated in νοῦς or νοῦς καὶ ψυχή. Anaxagoras was the true successor of the earlier thinkers; the Atomists were unworthy heirs of Ionian philosophy.

Recalling that distinctions very clear in our own day had not yet been made in philosophy at this time, we cannot project upon the pre-Socratics a system of causes which was the outcome of a synthesis of many threads of speculation. Nevertheless, the philosopher of that day was the forerunner of both the cosmologist and the scientist, whose conclusions can never be contradictory. These early explanations due to natural processes of thought carried phases belonging to separate fields of later philosophical speculation. When studying Greek philosophy in its beginnings, we must not overlook the fact that there was often mental discrimination on the part of the early thinkers where we find identity of term. Their lack of words for their new ideas should not convict them of the ancient errors of modern times.

Besides its effect on our knowledge of the physical theories of the pre-Socratics, a consideration of the exact sense of their use of ψυχή and its derivatives should discredit the assumption of ethnological animism. Recent theorists, not emphasizing the distinction of kinetic ψυχή as a principle for inanimate objects and ψυχή as a principle of life and thought, have tried to convict the earliest Greek philosophers of animism in support of the "soul-theory" or "ghost-theory" of religion. This theory, which attacks the integrity of the history of religion, is insecurely based on evidence afforded by the mere necessity of language at a period before philosophy distinguished immanent and transient motion. Philology has offered opposition to this evolutionistic trend of thought by pointing out that objects called living were so called from a lack of words to represent qualities they were conceived as possessing. (Cf. Max Müller—*Lectures on the Origin of Religion.*)

Viewed in our perspective, many of the terms for qualitative refinement and for quantitative indeterminateness applied to ψυχή as a term for the principle of motion, now in reference to the kinetic aspect of ἀρχή and again to ἀρχή without regard to its principle of motion, contributed to the vocabulary used to describe ψυχή proper when the heirs of Socrates began to turn their minds to conscious psychological speculation. Philosophy now easily passes from the notion of soul as a life-giving, animating principle to the idea of a sensitive or of a rational soul. The

Greeks arrived at the complete notion of ψυχή by two lines of thought. One line began in the earliest physical systems of the pre-Socratics. Faintly drawn for themselves, it is almost obliterated for us through their lack of words. We know only that they used the term ψυχή; we do not know that they even perceived the analogy which led them to use a term wider than the power they intended to connote by it. We cannot regard the words gathering around this natural force as the sole influence in the development of terminology for ψυχή proper. Kinetic ψυχή may appear distorted in the isolation to which it is subjected in an effort to balance former lack of consideration of its claims as a factor in terminological progress. In offsetting the decided tendency to indicate the effect of the old popular term and idea and of the vague philosophical ψυχή proper on the ψυχή of the physicist, we cannot disregard cross-lines of popular notions and terms with would-be philosophically technical thought and expression. Yet, while we admit this interaction as well as the unconscious subjective element in speculation by which the power of thought is transferred to things, we would qualify for even the first Greek philospher the assertion that inanimate were assimilated to animate objects.

When philosophical speculation centered on the human soul, attention turned first to the element of sensation, that other source of knowledge and terms for ψυχή so often noted by Aristotle. (Cf. *De Anima* 403 b 2). There is no sharp definition of the periods for the use of ψυχή in physical and psychological senses. When the time came to consider the element of motion in the definition of the human soul and the ideas and terms for ψυχή as an objective principle were in turn caught up for "our soul," the use of the word ψυχή had completed an orbit in the history of philosophy. In seeking to determine how part of the vocabulary came to be at hand for the expression of Platonic and of Aristotelian notions for the new-old power in man, we find at least one source of terms in expressions for the force in nature for which the old terms for power, human or divine, had been borrowed by philosophy in its beginnings. The Homeric and popular inheritance of terms for ψυχή was not directly transmitted to the greatest Greek philosopher. The loan of terms was compensated for with interest by the physiologers who had, on the way, ground down many of these words to terms fitting the ideas of incorporeal-

ity and of immortality as defined on the heights of philosophic thought.

2. THE METHOD OF TREATMENT OF PRE-SOCRATIC TERMS

We have aimed to follow a *via media* and to adopt in our method a mean between over-ready acceptance of terms for the pre-Socratics and a final rejection of all terms attributed to them on the authority of those affected by Aristotelian form of expression. Truth cannot be sacrificed to an exaggerated attitude of historical insight. The words of those thinkers were pre-Aristotelian, but the human mind philosophized even when the philosopher knew nothing of the nature of his own mode of thought. We shall not deny to the Greek thinkers before Socrates certain tendencies natural to speculation in every age.

"When a given symbol which represents a thought has lain for a certain length of time in the mind, it undergoes a change like that which rest in a certain position gives iron. It becomes magnetic in its relations—it is traversed by strange forces which did not belong to it. The word, and consequently the idea it represents, is polarized." (O. W. Holmes. *The Professor at the Breakfast Table.*)

An appreciation of the early Ionian standpoint often demands that words attributed to Ionian thinkers be subjected in the days of developed terminology to a process of depolarization. The early philosophers themselves, though scarcely realizing its need, were unconsciously influenced by some such process when compelled to adopt for their new ideas terms in use as forms of religious and popular expression. The terms of religion suggested themselves through the evident relativity of the new philosophical notions and of the old conceptions of the attributes of the gods, who, while not then in philosophy, were deep in the lives of these philosophers. The tendency of thinkers to stop on the brink of the great conclusion just short of a great contribution and to fall the lower for their ascent often accounts for a falling back on old catch-phrases and popular expressions.

The terms for kinetic ψυχή used by the philosophers of the principal schools before the time of Socrates fall into two general classes: (1) the terms found at first hand in the fragments of the early thinkers themselves and (2) the terms occurring in mediate

and secondary sources which state opinions attributed to these thinkers.

Where we have an immediate and first-hand source in an authentic fragment, we must further consider the philosopher's terminological inheritance, whether popular or philosophical, as well as his attitude of mind in using his words. Later thinkers were often inclined to overrate an unscientific, popular, or casual use of a term. An unphilosophical expression remains in the class which Aristotle would call a mere ὄνομα. On the other hand, there was sometimes an effort for exactness in an attempt to express a thought which was ahead of current terminology. An old term had then taken on a new content or inner sense—διάνοια, as Aristotle would call it. Again, even when the use of the term was scientific, the philosopher's temperament often dictated his form of expression, and style, or λέξις, regulated the adoption of one word above another, as in the case of Empedocles and of Heraclitus. The point of view of the age and of the philosopher consciously using these terms largely determined the inner sense of the word. Philosophy in that age was taking for granted all things but ἀρχή. While turning full attention on the sense of ψυχή in one place, the philosopher could have accepted, as his age accepted, ψυχή with other terms as mere ὀνόματα.

We may locate the second class of terms in two principal mediate sources: Aristotle and the Doxographers. The Doxographers include Theophrastus, the authors of the *Placita*, who, for the most part, drew from him, Plutarch, Simplicius and the other historians of opinions. Plato, whose references to pre-Socratic thinkers are comparatively few, can scarcely be regarded as a fruitful source for this period. To the Pythagoreans and Parmenides he gave some attention, presenting them, however, not as historical characters but as his own creations.

Aristotle has been accused of reading his own views into the theories of early philosophers. In the first chapter of *De Anima* and in the first book of *Metaphysics* he has given a synopsis of the opinions of those who went before him. It is true that this account is in his own terms, and yet he seemed to recognize the frequent attempts of the other seekers to bring their phraseology up to the level of their new ideas. While he censured, in some cases, it would seem, undeservedly, he did not fail to praise as well. In cautious qualifications, here and there, of his own terms in

explaining the theories of his predecessors (Cf. De An. 404 and 405), Aristotle was evidently conscious that he was himself speaking on the heights of his own system.

We must observe a cautious discrimination of sources when accepting terms occurring in the Doxographers. (Cf. Fairbanks p. 263). An εἴπερ or a λέγεται were often dropped in the tradition to which the words of Aristotle and of others were subjected. These historians of opinions, failing to depolarize the terms they cited, exhibit tendencies of "accommodation," of false inference, and of inaccurate listing of philosophers. In many cases the historian of philosophy has accepted doxographic tradition on faith. It should not be necessary to note that distinctions familiar enough today were contributed by periods subsequent to the fifth century B. C. The pre-Socratics did not deal in the full-grown ideas and much less in the words often attributed to them. The method of Theophrastus (and of those drawing on him as a source) of casting into Aristotelian terms the naïve solutions offered in pre-Socratic times was sometimes responsible for distorted tradition. We shall endeavor, then, not to transform a pre-Socratic thinker into a post-Aristotelian, but thus forewarned, we may accept the potent fact that the philosophers themselves strove for new words and that their minds "compelled by truth itself" (Arist. *Met.* 984, b 8) spoke words other than those afforded by their language.

II. STUDY OF TERMS FOR KINETIC Ψυχή.

1. EARLY IONIAN TERMS

The early Ionians were physicists; they were neither metaphysicians nor psychologists in the sense these words bear today. The method of each early Ionian philosopher might be described as corresponding to the method of Thales, who was led to his conclusion about a first principle by things that appear to the senses. (Simpl. Phys. 23, 21 Dox. 475.) A recollection of this objective view-point discredits over-drawn deductions regarding Ionian theories. If the problem of change furnished by the senses was the problem these thinkers set out to solve, in their solutions they began, in a certain sense, to lay down a doctrine of causality. The word then used for "cause" was not *αἰτία* but *ἀρχή*. By this was meant a principle approaching Aristotelian "material cause," and yet the Ionian said no more than that *ἀρχή* furnished the ground for the existence of other things. That a material cause should be held as actually giving being to its effect had not yet suggested itself to these early thinkers. Saint Thomas noted that those of the ancient philosophers who acknowledged motion in things admitted motion only as to accidents, as in rarity and density, aggregation and disgregation. (Summa Theolog. I, Q. LXIV, a. 2.) Yet while they were looking beneath the surface for a fundamental principle, they were at the same time developing a principle of motion. Aristotle (Met. 984 b I) seemed to see in the ideas of Parmenides the first recognition of the nature of such a cause. If we trust to the natural mode of thought and go back even of Parmenides, we find traces of the crude conception and of the imperfect and confused expression of some kind of force, which for the pre-Socratics averaged into an expression indicating kinetic power. To the Ionian physiologers at this point in the development of philosophy we leave wide margin for the unquestioning acceptance of the idea of a moving force. The popular god was dropped from the world of the physicists, who were considered *ἄθεοι* (Cf. Simplicius, Phys. Dox. 475), but their habits of thought were not so easily changed since their need of words caused them to revert to the term *θεός* for this newly conceived force. Words heretofore used in quite another sphere, yet bearing for pre-Socratic thinkers a suggestive analogy, were frequently heard in the childish accents of their speculations.

The early Ionian inheritance of ψυχή as a general term for the source of human activity was strong enough to keep that word prominently before a thinker groping for a form of expression for his latent agent cause. Granting that the first agents for the human language were human agents, we may maintain that the anthropological element, and with it the element of life, was dropped when the old word ψυχή was retained by the physicist.

The two statements most directly attributed to Thales have reference to ψυχή in its kinetic sense, as the energizing force and the source of motion. *If* he said that the magnet has ψυχή because it moves iron, said Aristotle (*De An.* 405 a. 19), then Thales conceived the soul as something having the power of motion—κινητικόν τι. Aristotle, consciously treating περὶ ψυχῆς, thus cited an instance of the early use of the term ψυχή. In this passage Aristotle was calling attention to the element of motion in the definition of the human soul which he was himself constructing. Thales would have regarded the soul as κινητικόν τι since he used the word ψυχή for his moving force, yet it is quite possible that he would not recognize himself in the *De Anima*. His outlook was in quite another direction when he used the significant form ψυχή.

Perhaps, said Aristotle (*De An.* 411 a. 7), Thales said that all things are full of gods, because, "as some say," ψυχή is interfused (μεμεῖχθαι) in things throughout (ἐν τῷ ὅλῳ). πάντα here was for Thales the merest unification of the world of phenomena. The expression θεῶν πλήρη πάντα, which has been elaborated for him as ἀρχή μία καὶ κινουμένη (*Simpl. Phys. Dox.* 475), further bespeaks the need of terms.

Plato (Leg. X, 899 B) decided to include ψυχαί under the term θεοί whether they order (κοσμεῖν) the whole heavens as living beings in bodies or whether they accomplish this in some other form and manner. Plato further showed that he was here only repeating the apothegm of Thales. We cannot explain the form and manner in which the moving force acted on the elementary water for the first Ionian philosopher. Plato himself, on the strength of the statement that things are full of gods, in Platonic phraseology called ψυχὴ ἢ ψυχαί . . . αἴτιαι. This moving force, hylokinetically present in things, is an instance of a prophetic conception held by the Greek mind.

Diogenes Laertius (1. 27) asserted that Thales held the world endowed with ψυχή (ἔμψυχος) and full of δαίμονες in place of

the θεοί of the apothegm quoted by Plato and Aristotle. Thales was again (Cf. Aetius, Dox. 301) noted as holding τὸ πᾶν as ἔμψυχον and full of δαίμονες, but the tradition was too hard pressed by Stoic influence when it attributed to Thales the identification of God with the mind of the universe. (νοῦς τοῦ κόσμου ὁ θεός). Cicero fell in with this doxography (Cf. Burnet p. 46) and even raised this ψυχή to the level of a full grown agent cause. (Cf. D. Deor. N. 10, 15—eam mentem quae ex aqua cuncta fingeret.)

Since Thales in no conscious sense distinguished matter and its opposite, the heirs of Aristotelian thought and terminology have overdrawn decidedly in such statements as: "He supposed soul to be unsubstantial form." (Cf. Simpl. in Arist. De An. 8 r 31, 32). Tradition has assigned to Thales a fuller vocabulary than he possessed and thoughts that are beyond his highest conceptions. Although his first principle was "one and moved" (μία καὶ κινουμένη), his ψυχή was a most elementary cause, the form and manner of whose activity is all hidden in the one word κινεῖν. To say that for him a divine moving power (δύναμις θεία κινητική) pervaded (διήκειν) the elementary water (Aet. Dox. 301) is to distort the thought and much more the words of Thales. Yet when he said that the world was full of gods, Thales had fallen behind his own thought through need of words.

It can better be said what this first philosophical ψυχή was not than what it was. It was not water nor was it the popular deity. The first principle, the object of speculation was one and moved. Everything came from water, but everything was full of gods. The ἀρχή was determined and its κίνησις was ψυχή.

Aside from the inferences of his commentators, there is no evidence of an attempt on the part of Thales himself to give any terms to the human soul. We have noted that later efforts to fix ψυχή proper were significant in their appeal to the quality of motion which the physicists were forced to express in the old terms ἔχειν ψυχήν.

The process of how things came out of the elementary water has been described for Thales as the purely accidental process of solidifying and melting. (Cf. πήγνυσθαι and διανίεσθαι of Hipp. Dox. 555.)

The point of transition from Thales to Anaximander is in the conception of a first principle. Thales was one of those who said that the material substratum of things was one and moved, but

he said also that it was limited. (πεπερασμένη—Simpl. Phys. Dox. 475.) Anaximander's first principle could not be quantitatively designated by any word then in use and so he adopted for philosophy a word to signify the boundlessness or the endlessness of his ἀρχή. He first imported (κομίζειν) the term ἄπειρος. (Cf. Simpl. Phys. Dox. 476). It is not so probable that Anaximander was the first to employ the term ἀρχή (Hipp. Dox. 559) in a philosophical sense. (Cf. Burnet p. 52.)

While there is no evidence for the qualitative determination of Anaximander's principle, we cannot doubt that he unquestioningly regarded it as material. Commentators tried qualitatively to determine this ἀρχή which was τὸ ἄπειρον by fixing it between air and water and again between air and fire on the strength of false interpretations of Aristotle, *De Caelo* 303 b. (Cf. R. P. 16 b.)

To Anaximander, among others, was attributed the statement (Theodoret Dox. 387) that the nature of ψυχή is ἀερώδης. This is perhaps significant as bringing into some relation the falsely determined ἀρχή and the element of motion within it, which Anaximander likewise may have expressed by the term ψυχή.

In the consideration of the "process" as explained by early thinkers we find traces of the kineticism, general or particular, for which they seem to have made ψυχή stand. Anaximander was not ready with words to describe this "process." Theophrastus (Dox. 476) has noted his poetic form of expression where it is said that things return of necessity (κατὰ τὸ χρέων) to that from which they spring, "paying the penalty to one another according to the order of time." The process for him was one requiring a separation of the opposites (ἀποκρινομένων τῶν ἐναντίων) and this separation took place through eternal motion (διὰ τῆς ἀιδίου κινήσεως). This "eternal motion," postulated in addition to τὸ ἄπειρον (Hipp. Dox. 559), is prominent in doxographic tradition for Anaximander. Hermippus (Dox. 653) represented Anaximander asserting that ἀρχή was older (πρεσβύτερα) than water and was eternal motion (ἀίδιος κίνησις) by which (ταύτῃ) things came to be and were destroyed.

Two fragments attributed to Anaximander occur in Aristotle's *Physics* (203 b) where Aristotle himself assumed τὸ ἄπειρον as the subject of περιέχειν ἅπαντα καὶ πάντα κυβερνᾶν. Of whatever the power to surround all and to direct all was predicated, it is

significant that these words are found in a verbal citation of one of those thinkers who, as Aristotle noted, gave no other cause than τὸ ἄπειρον. The Ionian was doubtless giving in these terms directive power to the kinetic aspect of τὸ ἄπειρον. (Cf. Tannery p. 98). Aristotle further assumed τὸ ἄπειρον to be τὸ θεῖον, because it was for Anaximander and his contemporaries ἀθάνατον καὶ ἀνώλεθρον. However, in this passage Aristotle did not fail to cite νοῦς and φιλία as instances of the progress of philosophy whereby the full grown ψυχή cause came into its own.

Hippolytus (Dox. 559) repeated περιέχειν for Anaximander and gave to ἀρχή the ἀίδιος of the κίνησις. He added for ἀρχή the term ἀγήρως as kindred of the ἀθάνατος and the ἀνώλεθρος quoted by Aristotle for Anaximander. To these may be added the terms ὡς ἀγένητόν τε καὶ ἄφθαρτον attributed by Simplicius (Phys. 465, 13 D) to the ἀρχή of Anaximander. This ἀρχή Simplicius called θεῖον τὸ αἴτιον. The use of the term θεῖον may indicate Anaximander's reversion to a form of the word θεός for his partly inherent force. In the days of Anaximander ἀρχή was elevated from popular to philosophic terminology according to the same principle by which ψυχή took on its new sense.

The "eternal motion" of Anaximander passed on to Anaximenes. With Anaximenes we have the continuance of the use of the term ἄπειρος as found in his predecessor, but to the qualitative determination of the ἀρχή this philosopher seems to have given most of his attention. Since we find with him the most definite ἀρχή, we may here endeavor to determine what these thinkers meant by that term.

Aristotle (Met. 983 a 27), in giving his own definition of "material cause," said (983 b) that most of the early philosophers thought that only first principles *in the form of matter* were the sources of things. (ἐν ὕλης εἴδει . . . ἀρχαί.) (Cf. R. P. 10 a.) Aristotle, attempting in the same passage to define what early thinkers meant by ἀρχή, decided that ἐξ οὗ ἔστιν ἅπαντα τὰ ὄντα best fitted their principle, however the πλῆθος and the εἶδος may have differed for the individual thinker.

Anaximenes identified his ἀρχή with ἀήρ, a word said to have been used by him synonymously with πνεῦμα. (Cf. Aet. Dox. 278.) Simplicius (De Caelo 615 Heiberg) said that ἀήρ was chosen as ἀρχή by Anaximenes because it was sufficiently adaptable to change. (εὐαλλοίωτος πρὸς μεταβολήν).

Conscious of the need of words, Anaximenes (Aet. Dox. 278) reverted to *περιέχειν* of Anaximander to express the activity of *ἀήρ*. Plutarch (de prim. frig. c 7, 947 F) gave *χαλαρός* as a new term for Anaximenes in attributing to him the statement that the relaxed state of matter is from heat.

Wherever *ἀήρ-ἀρχή* is assigned to Anaximenes, *κίνησις* is found with it. Theophrastus (ap. Simpl. Phys. Dox. 476) recorded that Anaximenes held an "underlying nature" (*ὑποκειμένη φύσις*) which was *μία* and *ἄπειρος*. After describing the varying rarity and density of *ἀήρ*, Theophrastus added: "And he, too, posits eternal motion (*κίνησις ἀίδιος*) through which change takes place. (*δι' ἣν καὶ τὴν μεταβολὴν γίνεσθαι*). We have as another form of expression for this eternal motion of Anaximenes *κίνησις ἐξ αἰῶνος*. (Ps. Plut. Strom. Dox. 579.)

Olympiodorus (Berthelot, *Collection des anciens alchimistes grecs*, p. 83), introducing the false fragment for Anaximenes (*ἐγγύς ἐστιν ὁ ἀὴρ τοῦ ἀσωμάτου*) said *μίαν δὲ κινουμένην ἄπειρον ἀρχὴν πάντων τῶν ὄντων . . . τὸν ἀέρα*.

Hippolytus (Dox. 560) repeated *ἄπειρος ἀήρ* for Anaximenes and included *θεοὶ καὶ θεῖα* among the things of which the Ionian made it the source. Continuing, Hippolytus gave motion as one of the causes why air becomes perceptible and represented Anaximenes as having named motion with other changes, but as having had a special place for it in his mind when he added *κινεῖσθαι δὲ ἀεί*. However, the remark that things would not change (*μεταβάλλειν*) unless *ἀήρ* were in motion (*εἰ μὴ κίνοιτο*) is evidently the statement of the doxographer himself.

In place of being the principle from which the gods and divine beings came, *ἀήρ* was identified with *θεός* by Anaximenes according to Aetius (Dox. 302) who especially noted the term *θεός*.

The fragment attributed to Anaximenes (Aet. Dox. 278) (*οἷον ἡ ψυχὴ ἡ ἡμετέρα ἀὴρ οὖσα συγκρατεῖ ἡμᾶς, καὶ ὅλον τὸν κόσμον πνεῦμα καὶ ἀὴρ περιέχει.*) is especially noteworthy as marking off *ἡ ψυχὴ ἡ ἡμετέρα* from the new philosophical principle *ψυχή*. The term for the human soul was used here only in a casual comparison and is seen to be the same *ἀρχή* as *θεοῖ* and all other things. Whence its power *συγκρατεῖν ἡμᾶς* if not from the fundamental kinetic *ψυχή* was a question that remained to be asked. The *συγκρατεῖν* statement can scarcely be made significant as

describing a function of the old ψυχή not yet an object of philosophy. For Anaximenes ἀήρ-ἀρχή was the real subject of περιέχειν.

The terms ἀερία (Dox. 214) and ἀερώδης (Dox. 287) assigned to Anaximenes as descriptive of ψυχή were doubtless derived by direct inference if they refer to ψυχή proper. All things were ἀήρ: then the soul must have been like ἀήρ. Again, they may have been affected by the survival of the relation of ἀήρ-ἀρχή to ψυχή as the kinetic aspect of ἀήρ.

The fact that he postulated a qualitatively determined ἀρχή in no wise convicts Anaximenes of a retrogression. We have seen him taking advantage of the ἄπειρος of Anaximander to express the lack of quantification of his first principle. In the accounts of the process by which things came from "air-mist" he seems to have made an effort for words to describe differences demanding a higher complexity of expression than the terms for the "separation" process of Anaximander.

Theophrastus (Dox. 476) described the process of "thickening and thinning," by which the nature of things was made to differ for Anaximenes, when he said that ἀήρ becomes ἀραιούμενος and again πυκνούμενος. The forms ἀραίωσις and πύκνωσις are also used to describe the states of Ionian ἀρχή. (Ps. Plut. Dox. 579).

Diogenes of Apollonia (423 B. C.) is found in the company of the Ionians of this century as holding ἀρχή identical with ἀήρ (Cf. Aristotle, *Met.* 984 a 5). Aristotle assigned the refinement of the ἀήρ-ἀρχή of Diogenes, which was πάντων λεπτομερέστατος, as the cause of the moving power of soul proper for those who identified ψυχή with "air-mist." (Cf. *De An.* 405 a. 21—ψυχήν . . . ἢ δὲ λεπτότατον κινητικὸν εἶναι). Anaximenes had given a new turn to things by all unconsciously posing as a representative of immateriality. He appears to have sought a first principle from which all things including motion could in reality come. The criticism (Aet. Dox. 278) which rejected the semi-monism of Anaximenes is, of course, out of place. ἀλλὰ καὶ τὸ ποιοῦν αἴτιον χρὴ ὑποτιθέναι was not intelligible to an early Ionian philosopher.

2. TERMS OF THE EARLY PYTHAGOREANS

In a treatment of terms for the Pythagoreans the difficulty lies in keeping earlier and later Pythagorean doctrines and terms distinct. In most statements of opinions for "the Pythagoreans" Neo-Pythagorean influence is strong. The doctrine of opposites, the idea of harmony, and the substantiality of number colored many of their opinions, and yet the earlier thinkers of this school were working in the same direction as the early Ionians.

The question of the human soul must have been for the Pythagoreans, as members of an ethical society, a vital one. Few of these doctrines, however rich in significant phraseology, were connected with scientific speculation. One of the traditional works of Pythagoras himself is *περὶ ψυχῆς* (Cf. Diog. L. VIII-7). Brotinos, a Pythagorean preceding Hippasus, has been credited with a work *περὶ νοῦ καὶ διανοίας*. (Cf. Iamblich. Vor. p. 29.) Some of the early terms of the Pythagoreans for the faculties of perception and knowledge would be in place in a study of the growth of terms for the element of sensation in the definition of the soul proper.

The possible emphasis with which the "soul of man" was distinguished from any other *ψυχή* in statements for the Pythagoreans draws a line between the popular term and the term for a kinetic principle. This distinction occurred in the traditional oath: "By him who transmitted to our soul the tetraktys, which has the spring and root of ever flowing nature." (For the *ἀμετέρα ψυχά* cf. *ἀνθρώπου ψυχή* of Herodotus, II, 123 where he ascribed the doctrine of immortality to the Egyptians and to the Pythagoreans. A further instance occurs in a statement of Pythagorean divisions of the soul—Alex. Polyh. ap. Diog. VIII, 30.)

The term *κεφαλά* replaces *ψυχά* in one form of the oath. (Cf. Aet. Dox. 280 and R. P. 65 (a).) (Od. 2, 237 has *κεφαλαί* for *ψυχαί* of Od. 3, 74.) For the *παγὰ ἀενάου φύσεως 'ρίζωμά τ'* of the oath cf. *πηγὴ καὶ ἀρχὴ κινήσεως* of Plato. (Phaedr. 245 C.)

The terms *ἀθάνατος* (Hipp. Dox. 557) and *ἄφθαρτος* (Dox. 392) were traditionally ascribed to Pythagoras for *ψυχή*. The term *ἀενάος* of the oath contributes to the notion of "eternity" so often connected with the Ionian concept of motion.

Doxographic tradition (Aet. Dox. 280) assigned to Pythagoras *ἀρχαί . . . οἱ ἀριθμοὶ καὶ συμμετρίαι αἱ ἐν τούτοις, ἃς καὶ ἁρμονίας καλεῖ.* Of the *ἀρχαί,* continued the doxographer, one tends toward the creative and form-giving cause which is intelligence, that is god (*ἐπὶ τὸ ποιητικὸν αἴτιον καὶ εἰδικόν, ὅπερ ἐστὶν νοῦς ὁ θεός*) and the other tends toward the passive and material cause, which is the visible universe. (*ἐπὶ τὸ παθητικόν τε καὶ ὑλικόν, ὅπερ ἐστὶν ὁ ὁρατὸς κόσμος.*)

Although we may question this assertion for Pythagoras himself, the words of the early representatives of this school indicate a tendency toward dualism and a probable use of the term *ψυχή* for the principle of motion.

If we allow for doctrines peculiar to the philosophers in the west (Cf. Arist. Met. 987 a. 15), we find a decided correspondence between early Pythagorean and early Ionian terminology. For Pythagoras *δαίμονες* were *ψυχικαὶ οὐσίαι.* (Aet. Dox. 307.) According to secondary sources, Hippasus of Metapontum held *πεπερασμένον εἶναι τὸ πᾶν καὶ ἀεικίνητον.* (Diog. L. VIII, 84.)

For Hippasus (and Heraclitus) we have from Aristotle (Met. 984, a. 7) the word *πῦρ* as his *ἀρχή.* Theophrastus (Dox. 475) filled in with *ἓν καὶ κινούμενον καὶ πεπερασμένον.* Hippasus was again named with Heraclitus in a statement containing for *πῦρ* the term *θεός* (Cf. Clem. Protr. Vor. p. 31.) Aetius (Dox. 388) added to these the name of Parmenides in the statement *ἡ ψυχή . . . πυρώδης.*

A recurrence of thought gives an *ἀρχή* one and moved and here and there identified with *θεός*; the term *ψυχή* then partakes of the qualitative determinateness of the double first principle. A recognition of the growing ideas of the early Pythagoreans should release them from the class of hylozoistic monists.

An instance of the use of *ψυχή* at this time as a philosophical term to connote life may be found in the words of Epicharmus (480 B. C.). In the following first hand fragment (Vor. p. 91) Epicharmus marked a transition later to be noted:

ἀλλ' ὅσσα περ ζῇ, πάντα καὶ γνώμην ἔχει . . . . . .
. . . . . οὐ τίκτει τέκνα
ζῶντ(α) ἀλλ' ἐπῴζει καὶ ποιεῖ ψυχὰν ἔχειν.

The context here differs from that in which the expression *ψυχὴν ἔχειν* is found as a citation for Thales. When *ψυχή* is

used in a statement regarding man, the element of motion is for us covered by the element of life, but for pre-Socratic philosophers there was as yet no formal distinction of immanent and transient activity.

An epigram of Epicharmus (Vor. p. 100) may be noted for a possible identification of γῆ and θεός. Again, his terms in a fragment (Vor. p. 93) wherein νοῦς was distinguished from all else command attention as expressions for ψυχή proper on the side of perception.

Even in his so-called monism, the Pythagorean divided the underlying substratum of things sometimes into two and sometimes into ten principles. ἀριθμός, said Aristotle (Met. 986 a. 15) the Pythagoreans considered ἀρχή, and of number the elements (στοιχεῖα) were τὸ ἄρτιον καὶ τὸ περιττόν (Cf. Met. 985, b. 25.)

Aristotle placed Alcmaeon among those who held αἱ ἀρχαὶ δέκα. Aside from this doctrine peculiar to himself as a Pythagorean ("and they seemed to be speaking about another heaven and other bodies than those perceived by senses" Met. 1090, a. 34) Alcmaeon continued in the same direction as the Ionians. A term for perpetual motion occurs in *De Anima* (405 a 29) where Aristotle assigned to Alcmaeon a reason for the immortality of ψυχή. There ψυχή is ἀθάνατος on account of its resemblance to οἱ ἀθάνατοι and it possesses this likeness by reason of being ever in motion (ὡς ἀεὶ κινουμένη). Aristotle further said that Alcmaeon had held κινεῖσθαι γὰρ καὶ τὰ θεῖα πάντα συνεχῶς ἀεί. The term τὰ θεῖα as standing for the heavenly bodies (De An. 405 b. I) is the evident contribution of popular belief.

Aristotle noted (De. An. 404 a. 18) that "some of the Pythagoreans" identified ψυχή and τὰ ἐν τῷ ἀέρι ξύσματα while others again called ψυχή τὸ ταῦτα κινοῦν.

To Alcmaeon was assigned the opinion θεοί . . . . οἱ ἀστέρες εἰσὶ ἔμψυχοι ὄντες. (Clem. Protr. Vor. p. 102.) Built on the *De Anima* statement for Alcmaeon is the assertion of Aetius (Dox. 386) which repeats ἀίδιος κίνησις and gives ψυχή as φύσις αὐτοκίνητος. The term φύσις here recalls Plato's speculation (Cratyl. 399 D-400 A) that the word ψυχή is derived from the expression ἡ φύσιν ὀχεῖ καὶ ἔχει. Diog. Laert. VIII, 83 said that Alcmaeon held ψυχή to be ἀθάνατος and κινεῖσθαι συνεχῶς.

It is doubtful whether we have in Philolaus an instance of a purely kinetic ψυχή. The term occurs with the conventional

force in several fragments of Philolaus. (Cf. Vor. 243, 244, 254.) We meet with interesting and prophetic forms of expression in a doubtful citation for Philolaus regarding θεός. (Cf. Vor. 247.)

Worthy of note for us is the fragment of Philolaus (Vor. 239) which says: ἀ φύσις δ' ἐν τῷ κόσμῳ ἁρμόχθη ἐξ ἀπείρων τε καὶ περαινόντων. (Cf. Aet. Dox. 283.)

A further instance of the harmony idea which illustrates the natural demand for a directive and harmonizing principle occurs in a statement of Philolaus (Vor. 241) which granted to ἀίδιος ἔσσα καὶ αὐτὰ ἀ φύσις a certain θεία καὶ οὐκ ἀνθρωπίνη γνῶσις. He significantly added here: ἀδύνατον ἦς κα αὐταῖς (ταῖς ἀρχαῖς) κοσμηθῆναι, εἰ μὴ ἁρμονία ἐπεγένετο. We meet the term κρατεῖν also in another expression of the idea of the harmonizing and ordering force of Philolaus. (Procl. in Tim. Vor. 234.)

The harmony notion was brought to bear on ψυχή proper in Aristotle's account of "a certain other opinion." (Cf. De An. 407 b. 30). ψυχή is there ἁρμονία τις—that is κρᾶσις καὶ σύνθεσις ἐναντίων. Plato (Phaedo 85 E) identified ψυχή of Philolaus with ἁρμονία τις ἡμῶν and he further said (Polit. 1340 b. 18) that some of the "wise men" held that the soul has harmony and others that it was itself harmony.

A new term for Philolaus is found (Theol. Arith. Vor. 235) as ψύχωσις ἐν ἑξάδι, following Aristotle's identification of ψυχὴ καὶ νοῦς with τῶν ἀριθμῶν πάθος (Cf. Met. 985 b 30).

The false fragment for Philolaus (Stob. Ecl. Vor. 247), lending itself to the doctrine of the world soul, contains the expression ἀρχὰ τᾶς κινήσιός τε καὶ μεταβολᾶς and the significant combination νοῦς καὶ ψυχή.

Ecphantus of Syracuse, if faithfully represented by Hippolytus (Dox. 566), must be added to the number of those using the term ψυχή as a kinetic force. In him too we see the combination νοῦς καὶ ψυχή. For Ecphantus (Dox. 566) τὰ σώματα were moved μήτε ὑπὸ βάρους μήτε πληγῆς but ὑπὸ θείας δυνάμεως which Ecphantus, according to the doxographer, called νοῦς καὶ ψυχή. (Cf. Plut. Dox. 217 where for Pythagoras, Plato and Aristotle νοῦς ὁ κινοῦν was said to be ἀσώματος.)

Although the terms ascribed to the early Pythagorean philosophers are often doubtful or colored, yet they bear evidence of the survival of ψυχή as a term for a kinetic principle, at the same time foreshadowing the terminology of an actual distinction of matter and force.

3. TERMS OF HERACLITUS

The history of Ionian philosophy after 504 B. C. can be traced in first-hand sources as well as in the records of opinions. The terms in the fragments of Heraclitus, proverbially obscure, are influenced by the two phases of a theory more than half in line with the early Ionian solutions and yet carrying a new element of thought. The vague and figurative expression of a force apart from things appears to have begun with Heraclitus.

In a confession of his own effort for precision of expression Heraclitus says (Frag. 2 (Bywater) Vor. p. 61): "Men seem unskilled when they make trial of words and matters such as I am setting forth in my effort to discriminate each thing according to its nature and to tell what its state is."

The fragments of this heir of the early Ionians offer terms for the material principle, for the element of motion, and for the process by which things came from fire. ψυχή in a kinetic sense appears to have been used by Heraclitus.

The directive phase of πῦρ is shown in Frag. 28 (Vor. p. 71) where the thunderbolt is said to direct the course of all things. (οἰακίζειν) (Cf. Frag. 21, Vor. 67 where πρηστήρ is one of the πυρὸς τροπαί.) The term οἰακίζειν derived from οἴαξ, the handle of the rudder, recalls the κυβερνᾶν of Anaximander. Heraclitus himself used κυβερνᾶν in relation to γνώμη of Frag. 19 (Vor. 68). A further attempt to unfold two principles out of πῦρ was seen by Hippolytus in the use by Heraclitus (Frag. 24, Vor. 71) of the words χρησμοσύνη and κόρος. Hippolytus thought that "want" was the process of arrangement (διακόσμησις) by fire and that "satiety" was the ἐκπύρωσις, and so this commentator decided that πῦρ was φρόνιμος and called it τῆς διοικήσεως τῶν ὅλων αἴτιος. The activity of πῦρ may have been further described in Frag. 26 (Vor. 71). Heraclitus characteristically expressed his panmetabolism in Frags. 41-42 (Vor. 64).

Frag. 20 (Vor. 66) offers important terms: "Order (κόσμος) the same for all things, no one of the gods or men has made, but it always was and is and ever shall be an ever living fire—πῦρ ἀείζωον." For the οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησε of this fragment cf. Frag. 65 (Vor. 67) where wisdom (τὸ σοφόν) is ἕν and is willing and yet unwilling to be called by the name of Zeus. The

"process" is found in the same fragment (20) in the terms ἀπτόμενος and ἀποσβεννύμενος and this "kindling and quenching" took place according to fixed measure. (μέτρα). Frag. 77 (Vor 66) gives the same words for the process where Heraclitus said that man like a light (φάος) is kindled and put out. Frag. 78 (Vor. 74) also emphasizes the subjective view-point and applies directly to the phases of mortal life the universal law of change. (μεταπίπτειν).

The words of Heraclitus so far noted mark a tendency on the part of the philosopher to draw out the note of efficiency in πῦρ, and it remains to be seen whether he ever expressed this aspect of ἀρχή in terms of ψυχή. Heraclitean terms for the definition of ψυχή proper on the side of sensation occur in several fragments where the conventional force of ψυχή became philosophical. However, the term ψυχή was evidently employed in a kinetic sense by Heraclitus. In the spurious fragment (131 Bywater) ψυχή would undoubtedly bear that sense. (Cf. Diog. L. IX, 7—πάντα ψυχῶν εἶναι καὶ δαιμόνων πλήρη.) Frag. 71 (Vor. 68) ψυχῆς πείρατα οὐκ ἂν ἐξεύροιο may hold a survival of kinetic ψυχή. (Cf. ἄπειρος . . . ἀρχή of Anaximander.) Frag. 68 (Vor. 67) states that it is death (θάνατος) to ψυχάι to become water, for ἐξ ὕδατος δὲ ψυχή (γίνεται). (θάνατος here stands for ἡ εἰς ἕτερον στοιχεῖον μεταβολή according to Philo. R. P. 38 a.) With this we take Frag. 25 (Vor. 73) where fire lives in the death of earth and air lives in the death of fire: water lives in the death of air, and air in that of water. (ζῇ πῦρ τὸν γῆς θάνατον κ. τ. λ. (Cf. Plut. de E. 18, 392 C-Vor. 73). A reconciliation of Frag. 68 and Frag. 25 is found in Frags. 41-42 (Vor. 64) where Heraclitus uses the new term ἀναθυμιᾶσθαι.

In his elementary attempt to fix psychological values, Heraclitus may have been affected in his use of ψυχή by the terms for the process. (Cf. Frags. 77-78.) Arius Didymus (Dox. 471) ascribed to Heraclitus a theory for ψυχή proper showing this tendency. "Wishing to make it clear that αἱ ψυχαὶ ἀναθυμιωμέναι νοεραὶ ἀεὶ γίνονται, he likened them to rivers." Moreover, we have (Dox. 471) the inference for Heraclitus that ψυχή was αἰσθητικὴ ἀναθυμίασις.

It seems clear that the term ψυχή will bear our interpretation in this later Ionian thinker. Standing for the principle of motion, ψῡχή was seemingly identified with one of the four elements just

as the material principle seemed to have been identified with πῦρ. (R. P. 38 b notes the explanation of Philoponus for whom the Heraclitean πῦρ was ἡ ξηρὰ ἀναθυμίασις and who also said ἐκ ταύτης ψυχή).

Aristotle's statement (De An. 405 a 25) for Heraclitus takes over for ψυχή proper the earlier thinker's terms for kinetic ψυχή. Here Aristotle, as in the case of Thales, qualified his assertion that Heraclitus identified ἀρχή and ψυχή by the words "if he identifies it with ἡ ἀναθυμίασις from which he derives all other things." Aristotle added the terms ἀσωματώτατος and ῥέον ἀεί for the ψυχή-ἀρχή of Heraclitus. Aetius (Dox. 389) represented Heraclitus distinguishing between ἡ τοῦ κόσμου ψυχή (which he called ἀναθυμίασις ἐκ τῶν ὑγρῶν) and the ψυχὴ ἐν τοῖς ζῴοις. Theodoret (Dox. 386) gave for the ψυχή of Heraclitus the term πυρώδης.

Further secondary authorities keep Heraclitus in line with the early Ionians. Aristotle (Met. 984 a. 7) named him with Hippasus as holding πῦρ for his ἀρχή. (Cf. also Aet. Dox. 292.) Theophrastus (Dox. 475) elaborated this statement with the terms ἓν and κινούμενος and πεπερασμένος, with πύκωνσις and with μάνωσις as terms for the process. The Heraclitean process was thus described by Aetius (Dox. 283): "As this (πῦρ) is quenched all things come into order. (κοσμοποιεῖσθαι)." In the description of the origin of earth, water and air from fire, as conceived by Heraclitus, Aetius (Dox. 283) offered a repetition of the new term ἀναθυμιᾶσθαι found in Frags. 41-42.

"Motion" for Heraclitus was variously described by the secondary authorities. Plato (Cratyl. 402 A) said that for Heraclitus πάντα χωρεῖ καὶ οὐδὲν μένει. To the followers of Heraclitus (οἱ ῥέοντες) he ascribed the doctrine πάντα κινεῖται (Cf. Theaet. 180 D-181 A.) Again, Aristotle (De An. 405 a. 28) said that Heraclitus thought that all things were in κίνησις. Aetius (Dox. 320) distinguished for Heraclitus between eternal motion (ἀίδιος κίνησις) and φθαρτὴ κίνησις. Aetius (Dox. 303) offered for πῦρ the term ἀίδιος.

Up to this point Heraclitus had not departed from the old order, but the personification of a dual activity in some of the fragments of his work marks a turning point in the early efforts of Greek philosophy. The term ἔρις and ἁρμονία vaguely expressed the notion of a force apart from things.

Frags. 20 and 65 would put Heraclitus philosophically among the *ἄθεοι*. In Frag. 36 (Vor. 71) *ὁ θεός* was *πόλεμος εἰρήνη* by one phase of the power there ascribed in the term *ἀλλοιοῦσθαι*. In Frag. 44 (Vor. 69) we find *πόλεμος πάντων μὲν πατήρ ἐστι πάντων δὲ βασιλεύς*. Frag. 62 (Vor. 73-74) gives both terms *ἔρις* and *πόλεμος* and all things arise *κατ' ἔριν*. (*δίκη* is here identified with *ἔρις*.) Frag. 46 (Vor. 63) combines both harmony and strife. "Opposition unites and from differences comes the most beautiful harmony." (*καλλίστη ἁρμονία*.) Aristotle (Eud. Eth. 1234 a. 25) named Heraclitus as blaming Homer (Σ107) for his wish that strife would pass away.

Heraclitus himself was probably unconscious of the implications of the notion he conveyed in thus imperfectly speaking in terms of dualism. His other force, *ψυχή* inherent in *ἀρχή*, was not yet supplanted in his mind and survived here and there in his terminology as the kinetic phase of his *πῦρ-ἀρχή*. Frag. 18 (Vor. 77) where *σοφόν* is *πάντων κεχωρισμένον* and Frag. 19 (Vor. 68) by the words *γνώμη ὁτέη ἐκυβέρνησε πάντα διὰ πάντων* foreshadow later terms for a real second cause which will arise with the passing of kinetic *ψυχή* into *νοῦς*.

4. ELEATIC TERMS

Before tracing the idea of an external force as developed by the Ionians, it is worth while to examine the terms of the Eleatic philosophers for the notion of efficient cause and for the ever growing tendency toward immateriality. These philosophers furnished terms for the powers of ψυχή proper on the side of knowledge and perception, but it is doubtful whether there is any trace in their writings of the term ψυχή in a kinetic sense.

Xenophanes was radical in his differences with the earlier philosophers. For him there was no change, and the unity was God. He was the first to philosophize on the Deity. Aristotle and Theophrastus have noted his method as unusual. Aristotle criticized Xenophanes for failing to make things clear. "Looking up into the broad heavens," Xenophanes asserted that unity is God. (Cf. Met. 986 b. 22.) Theophrastus admitted, according to Simplicius (Phys. Dox. 480), that the record of the opinion of Xenophanes came from some other source than ἱστορία περὶ φύσεως.

The effort of Xenophanes was strongest toward ideas and terms that would take away false notions of the deity that was being. Since for him there was no motion, a second principle, even as an aspect of ἀρχή, should have been out of place. In some of the fragments, however, we find a reversion to the Ionian attitude. The terms πηγή and γενέτωρ in Frag. 11 (Karsten) (Vor. p. 51) and the ἐκ γαίης πάντα statement of Frag. 8 indicate a physiologer's interest. Earth and water form the twofold source in Frags. 9-10. In Frag. 9 we are all sprung (ἐκγενόμεσθα) from earth and water. In Frag. 10 all things ὅσα γίνοντ' ἠδὲ φύονται are earth and water. In Frag. 12, offering forms for the limitation of one phase of the source, we find the terms πεῖρας and ἄπειρον.

The doctrine peculiar to Xenophanes and his school is found in Frag. 4 where he said Being or God always abides in the same place, not at all moved. (κινούμενος οὐδέν). A strong effort for a term for incorporeality is found in a fragment usually accredited to Xenophanes. (Frag. 2.) The climax of the theodicy of Xenophanes is reached in the magnificent hexameter of Frag. 3: "Without effort (God) swings all things by the power of thought." (νόου φρενί) (Cf. Diog. L. IX, 19).

The sole instance of the use of ψυχή by Xenophanes occurs in Frag. 18 where he attested the acceptance of the doctrine of metempsychosis by Pythagoras. Diog. L. IX, 19 ascribed to Xenophanes the term πνεῦμα for his ψυχή.

Parmenides, striving to distinguish things according to opinion from things according to truth, although affected by the ideas and terms of Xenophanes, still reverted to old notions and time-worn terms. In his "metaphysics" according to reason (κατὰ τὸν λόγον), as a consistent Eleatic denying all movement, he would have been excluded from the ranks of thinkers whose terms offer evidence for ψυχή as a principle of motion. Nevertheless, an examination of the terms in which he expressed his "cosmology of the apparent" discloses a tendency to give to his πῦρ-ἀρχή an aspect of force.

Aristotle, censuring Xenophanes and Melissus for crudeness, said (Met. 986 b. 27) that Parmenides seemed to speak in some places with more care. (μᾶλλον βλέπων) "But being compelled to account for phenomena," continued Aristotle, "he assumed that things are one from the standpoint of reason (κατὰ τὸν λόγον) but plural from the standpoint of sense. (κατὰ τὴν αἴσθησιν)."

Parmenides (Verses 83-84, Vor. p. 120) said that true belief completely rejected generation (γένεσις) and destruction (ὄλεθρος). Again in v. 77 generation is extinguished (ἀπέσβεσται) and destruction is incredible. (ἄπυστος) Parmenides (v. 100) included generation (γίνεσθαι) and destruction (ὄλλυσθαι) among those things which mortals believed true but which he would himself consider but a name. (ὄνομα).

In the poem of Parmenides entitled τὰ πρὸς ἀλήθειαν we find the privative terms ἀγένητος and ἀνώλεθρος (v. 59), ἀτρεμής (v. 60), ἀκίνητος (v. 82), ἀτέλεστος (v. 60), ἀτελεύτητος (v. 88), ἄπαυστος (v. 83), ἄναρχος (v. 83)—all applied to τὸ ἐόν. His other expressions describing Being are important as terms later to be adopted generally by philosophy. (Cf. Verses 60, 62, 78-80, and 89).

The terms applied by Parmenides in his philosophy τὰ πρὸς δόξαν to a new force on the way to the clear expression of the idea of efficient cause may be regarded as the results of the efforts of Ionian thinkers for terms for their principle of motion. Aristotle's assertion (Met. 984 b. I) that none of those who affirmed that all is one understood the nature of an ἀρχή τῆς κινήσεως ex-

cepted Parmenides in so far as this Eleatic in reality held two causes. Aristotle (Met. 986 b. 33) especially noted the terms πῦρ and γῆ used by Parmenides for his two αἰτίαι. Parmenides himself (v. 113) said that there are two μορφαί which men have determined to name. These he described (vv. 116-117) as ethereal flame of fire (fine, (ἤπιος), rarefied (ἀραιός), and everywhere identified with itself) and (v. 119) flameless darkness, dense and heavy in character. (Cf. v. 122 for the terms φάος and νύξ). In v. 125 he gave to δαίμων the term κυβερνᾶν.

In v. 120 Parmenides proposed to tell every seeming arrangement (διάκοσμος) of his two principles. Aristotle (Met. 984 b. 25) cited the verse of Parmenides (132) which names Ἔρως as the first of all θεοί. This "Desire" Aristotle called an αἰτία the activity of which he expressed by the words κινεῖν and συνάγειν. Parmenides (v. 127) mentioned a δαίμων ἣ πάντα κυβερνᾷ. Simplicius (Phys. 39, 12) noted the ποιητικόν element of thought here. However correct may be the identification (Cf. Aet. Dox. 335) of Δίκη (v. 69) and of Ἀνάγκη (v. 86) with this δαίμων (v. 127), the doxographer saw in this δαίμων (which he called κυβερνήτις καὶ κληροῦχος) a source of motion and generation for all things.

The tendency of the Doxographers (cf. tradition for Pythagoras and for Heraclitus) to give an efficient aspect to one phase of the ἀρχή may be seen in a statement of Theophrastus (Dox. 482) for Parmenides where πῦρ is regarded as ποιοῦν. (Cf. also Hippolytus Dox. 564.) It is a question whether these statements are quite consistent with the concessions of Parmenides to popular opinion. He appears to have tended toward a second cause in his δαίμων and at the same time to have emphasized the double aspect of ἀρχή by the terms πῦρ and γῆ.

The term πυρώδης was attributed to Parmenides for ψυχή. (Cf. Aet. Dox. 388). Elsewhere (Aet. Dox. 443 and Theophr. Dox. 500) there is some evidence of the confusion of ψυχή as a physical principle and ψυχή perceptive and animate.

As a pupil of Xenophanes and a contemporary of Heraclitus, Parmenides possibly fell heir to terms by which he expressed his vague idea of a second cause, but that later division of philosophy which treated of ψυχή proper is particularly indebted to him for the distinction of truth and opinion.

Zeno, the double-tongued Eleatic dialectician (Cf. Simpl. Phys. 30 r 138, 30), confined himself to proofs of the unity of being by a method earning Aristotle's παραλογίζεσθαι. (Cf. Physics 239 b. 5.) Zeno brought out nothing peculiar to himself, but he started further difficulties. (Cf. Plut. Dox. 581.) Diog. L. IX, 72 noted Zeno's Eleaticism in his superficial denial of motion. The earlier terms ἀίδιος and ἄπειρος are attributed (Aet. Dox. 303) to Zeno and to Melissus. The doxographer there also assigned to Zeno the term θεία for his ψυχή. In one of the ἀρέσκοντα of Zeno (Diog. L. IX. 29) we find ψυχή called κρᾶμα.

Although consistent with true Eleaticism, Melissus offered interesting and significant terms. The fragments of the work περὶ φύσεως ἢ περὶ τοῦ ὄντος bring out his method and indicate his inheritance of terminology. The Eleatic denial of motion was expressed by him in Frag. 10 (Vor. p. 149) thus: (τὸ ἐόν) κινούμενον δὲ οὐκ ἂν εἴη. Discussing κόσμος in Frag. 6, Melissus used the terms ἑτεροιοῦσθαι and μετακοσμηθῆναι.

Simplicius, significantly prefacing Frag. 8 (Vor. 149), affirmed that Melissus meant Being to be ἀσώματον. This fragment seems to indicate a very vague notion of incorporeality, and yet we cannot read the expression δεῖ σῶμα μὴ ἔχειν as the contemporary of Melissus read it. Olympiodorus (Vor. 142) represented Melissus employing as terms for his ἀρχή the words μία, ἀκίνητος, ἄπειρος (Cf. Parmenides v. 104) and θεῖος. (Cf. Aet. Dox. 303.)

The Eleatic philosophers, not so far from the world of sense as their own apparent efforts and the traditional titles of their works would imply, nevertheless enriched philosophic terminology and laid up for later thinkers modes of expression which could fairly convey newly conceived ideas. The field of philosophy had already begun to widen and the growth of tendencies in speculation concerning nature, in minds not wholly unaccustomed to notions shading into the idea of the incorporeal, could not fail to be influenced by terms for the activity that was first expressed by kinetic ψυχή.

5. SUMMARY OF TERMS OF PRE-SOCRATIC DYNAMISM

Allowing always for the fact that we are analyzing philosophy alive in men's minds when put out in certain terms, we find the dynamism of the predecessors of Anaxagoras expressed in three answers to the first question of philosophy. In one sense we may say that these early thinkers found three ways of avoiding the question of causality. The simplest course was the one taken by the early Ionians who, "not at all displeased with themselves," said ἓν τὸ ὑποκείμενον (Cf. Arist. Met. 984 a. 30), including an unexplained motion in the substratum of things. The Eleatics avoided the question for the time by altogether denying motion. Aristotle saw in this course the method of those who saw the difficulty and were conquered by it. (Cf. Met. 984.) Heraclitus took yet another course in his assertion that all is motion.

The early Ionians reduced the many to a "one" in terms of physical matter and took for granted as their primitive substance a physical substratum which was eternally moved. Their genius for relations had, very probably, not so far exercised itself as to combine with their first principle physical things and the movement observed in qualitative change (not then so much as reduced to physical energy). This gap, if at all evident to them, they bridged by terms, old or new, for purely accidental change. A set of terms for the mode of action of their dynamic "one" is found along with the set of terms for the "one" itself, and the formula ψυχή-ἀρχή covers mere hylokineticism.

The phase of the notion of causality to which efficient action is in last analysis reduced was presented by the Pythagoreans, who left the sense-perceived world to answer the same question which had proposed itself to the early Ionians. The Pythagoreans raised the quantitative property of things into that other sphere where Plato was to find his "Idea" and Aristotle his "Form." We have no means of knowing from the words of the Pythagoreans the nature of the contents of the quantity expressed by the earlier of these philosophers in terms which hold them in regions of matter. As physical speculation widened, that mode of action expressed in the condition of proportion was accounted for by the Pythagoreans in terms for "harmony." The union of the opposites of which their first principle was composed called for expression

supplied here and there by ψυχή and even by ψυχὴ καὶ νοῦς denoting only a physical condition.

Before the Eleatics began in any way to develop the notion of cause, they struck a note of criticism. Before they attempted to account for things they tried to reduce the object of their inquiry by excluding from philosophy what they called non-Being. Although they fixed no ground for the distinction of truth and opinion, yet their efforts in this direction served to raise and to leave open a future question for philosophy. If judged by their terms, the attempt of the philosophers of Elea to get away from sense in knowledge and from physical in object was far from successful. From the "all" of Thales to the "unity" and "Being" of Parmenides there was certainly an advance in terms, and yet notions transcendent at first sound were probably on the level with the Eleatic concept of Being akin to our idea of space. However certainly the ideas of being and of bodilessness are reduced, on evidence afforded by their own words, to physical counterparts, philosophy cannot but be grateful for the contribution of such terms as those of Parmenides for his "Being." There should have been for the Eleatics no chasm from the many to the one, and yet in their inconsistency or in their concessions to popular thought they, too, accounted for plurality in terms of accidental change. Parmenides may have been merely describing physical conditions of union for the two phases of his primitive substance in words that now seem to carry the true note of efficiency.

The time had not yet come for philosophy to see the final relation of things and their ultimate cause, but meanwhile thinkers here and there were defining a less inadequate notion of the Deity. The early Ionian (to adapt the words of Saint Augustine (De Civ. Dei VIII, 2) for Anaximenes) "nec . . . negavit aut tacuit, non tamen ab (Ipso) . . . factum . . . credidit." If, in the eyes of the old religion, to be a philosopher was to be ἄθεος, Truth soon supplied itself as an object for the mind of the philosopher without a God. A study of the growth of terms for the "Deity" and for "mind" shows the Pythagorean and the Eleatic philosophers at their best in these regions of thought.

Heraclitus addressed himself to the genetic as opposed to the static phase of things. No longer primarily concerned with that from which things originated, philosophic speculation now began to ask how the world came to be what it is, the very question

that would compel these thinkers to arrive at the true notion of efficiency and all that it implies. Heraclitus was critical in his acceptance of sense evidence, but, although he looked beneath for reality, from his terms we may conclude that he saw only physical reality. For him the mode of activity expressed in the order that remains was as real as the continual passing of the individual, the truth of which he arrived at by a Greek guess. Ultimately a dynamist, Heraclitus spoke for mechanism the strongest words thus far found in philosophical terminology. So long as the relation of the material cause and its activity was expressed as Heraclitus expressed the relation of "fire" and its motion, kinetic ψυχή had still survived. Although he seemed to raise "fire" above the other elements which he postulated with it, his terms sometimes indicate that he conceived ψυχή in the sense of a more special energy. If there was a definite sense in his use of the term ἀείζωον for πῦρ—an actual introduction of the element of life in the motion of his ἀρχή—and if he used ψυχή as another term for the activity of ἀρχή, philosophy in the person of Heraclitus was on the point of seeing for the first time the immanent character of ψυχή as a physical activity. (Cf. Alcmaeon who, on secondary authority (Aet. Dox. 386), gave to φύσις the term αὐτοκίνητος). The element of immanency of the κίνησις ἀίδιος of the first ἀρχή was not immediately evident to the first philosophers. The force directly combined with matter, which they called through dearth of words θεός and ψυχή, still continued as a ψυχή principle of motion. Dynamism or hylokineticism we may call a system inaccurately described as hylozoism.

The notion of efficient cause may have entered with Heraclitus. He may have meant to convey by his ἔρις a new idea of which he half saw the need, and yet this "Strife" might have been for him but a phase of θεός (Frag. 36) in the sense of merely describing a physical condition. His conception of πῦρ as ἀείζωον is most noteworthy. If kinetic ψυχή had up to this time for the early thinkers no immanency, we take it as an evidence of the sincerity of their quest that they henceforth strove to separate matter and its motion.

6. TERMS OF EMPEDOCLES

From a glimmer of the idea of efficiency in the figurative forces ἔρις and ἁρμονία existing for Heraclitus along with the dynamic aspect of his first principle πῦρ, we pass to Empedocles who, in his efforts to reconcile Heraclitus and the Eleatics, was the first (if we accept the word of Aristotle, Met. 985 a. 21) to express the notion of efficiency.

In his endeavors to determine true knowledge, Empedocles aimed at accuracy of expression. He believed that it is hard to get at the mind of man (vv. 367-368 Stein) and he realized that custom often dictates forms of expression. (Cf. v. 44.) He bade his hearers look with the eye of the mind (νόος) at the well pointed report (v. 363) which he assumed they demanded from him as from an oracle. His effort appears again in his desire to speak forcefully in case there had been in his former words anything defective. (v. 96.)

Aristotle fixed the method of study of the philosophy of Empedocles when he advised (Met. 985 b. 32) that we heed the διάνοια of the pre-Socratic rather than ἃ ψελλίζεται λέγων. Although his expression was characteristically poetical and mythological, Empedocles has been placed for us in Aristotle's Poetics (1447 b. 17) as a φυσιολόγος rather than a ποιητής.

Trying to work out a system where things are one and many (πολλά τε καὶ ἕν) (Cf. Plato Sophist. 242 D and Arist. Phys. 187, a. 20), Empedocles, in a reaction against prevailing thought, said that "fools" and those to whom far-reaching thoughts (v. 45) are denied think that "mingling" is coming into being and that "separation" is destruction. (Cf. vv. 36-39.)

Empedocles postulated the four elements as his material cause. The term πηγή occurs with him in v. 128 and the form ἀρχή in v. 130. The elements are named in mythological terms in vv. 33-35. In vv. 104-107 Empedocles asserted that mortals and even θεοί arise from these elements which appear to have been also the means of the power φρονεῖν. (Cf. v. 336-337.)

Aristotle's statement (Met. 985 a. 23) that Empedocles set πῦρ by itself (καθ' αὐτό) is witness to the tendency of those who are still dynamists to limit the activity of the material cause of one element and to make the rest of the ἀρχή passive. Although Empedocles

seems to have made one of these elements predominant by setting "fire" over against the other three, still here and there he gave them all equal power. (Cf. vv. 87-89 and v. 112.) To "fire" in particular belong powers contained in the term κρατεῖν (Cf. v. 112). In v. 263 "fire" separating (κρινόμενον) caused men and women to arise (ἀνάγειν). A doctrine peculiarly Empedoclean (vv. 265-267) maintains that πῦρ through its desire to reach its like, caused οὐλοφυεῖς τύποι to spring up out of the earth. In a special application of the "elemental fire" (ὠγύγιον πῦρ) to the theory of vision he used the term ταναώτερος (v. 325) to denote the refined character of his πῦρ. However, although "fire" is more important than the other elements, it, too, plays a subordinate part. (Cf. vv. 215-216.)

The mention of Κύπρις (v. 215) brings us to a consideration of the forces of Empedocles which Aristotle (Met. 985 a. 21) named as Φιλία and Νεῖκος. Empedocles usually introduced these forces along with the elements and may even have used them as modes of expression for mere physical conditions of repulsion and attraction as Heraclitus used the terms "Strife" and "Harmony." (Cf. vv. 102-103, 66-68, 248-251.)

The activity of his own "Strife" and "Love" in the "process" was brought out by Empedocles in vv. 171-175. Terms for the motion of things coming into being are found in vv. 69-73 where he tried to reconcile continual change and immobility. The terms for the forces of Empedocles vary. He usually expressed them by the words Νεῖκος and Φιλότης (171-172). V. 250 has the term ἔρις coupled with Φιλότης of v. 248. Again, in vv. 190-195 he used Ἀφροδίτη and Νεῖκος "which wrought the birth of things."

"Love" under the names of Aphrodite and Kypris doubtless held the strongest note of efficiency for Empedocles. (Cf. v. 213, 215-216, 240-241.) Empedocles himself was probably one of those whom he mentioned (405-407) as having had no θεός but Κύπρις Βασίλεια.

The element of chance enters in v. 196 and again in v. 174 and v. 255. The term τύχη occurs in v. 195 where by the ἰότης of τύχη all things πεφρόνηκεν. (Cf. v. 231 where it is the property of all things to have φρόνησις and a share of νῶμα.)

Plato (Leg. X 889 B) named Empedocles among those who relied on φύσις and τύχη rather than on τέχνη or νοῦς or any θεός. (We note in this passage the term ἄψυχος which Plato applied to the elements of Empedocles.)

Aristotle (De gen. et corr. 333 b. 20) said that for Empedocles "Love" separated the elements, which were before θεός in origin. Empedocles himself identified these with θεοί (Cf. vv. 104-107.) A noteworthy attempt on the part of Empedocles to fix the notion of a deity is found in vv. 137-138 where a sphere rejoicing in solitude is said to have been fixed in a vessel of harmony. Nearest to incorporeality of all his notions and recalling a like attempt on the part of Xenophanes are the ideas conveyed by the terms of vv. 344-351 where a divine being is defined as sacred and ineffable mind alone. (φρὴν ἱερὴ καὶ ἀθέσφατος.)

The term ψυχή is not found in the extant fragments of Empedocles. His commentators used it when giving his doctrine of metempsychosis (Cf. Hipp. Ref. Dox. 558), but θυμός is his own word for the life of animals (v. 414) and of men (v. 435) who have changed their μορφή (v. 430). The word μένος is found in v. 32 for the spirit in Hades.

The verses 333-335 of Empedocles were quoted by Aristotle (*De An.* 404 b. 11) as authority for the statement that for Empedocles the elements were ἀρχή and each element was ψυχή. (Cf Theophr. Dox. 478 where six ἀρχαί were credited to Empedocles.) The terms of Empedocles could not have been omitted in an examination of the growth of words expressing the earliest notion of a real moving cause.

7. TERMS OF ANAXAGORAS.

Aristotle's assertion (Met. 984 a. 11) that Anaxagoras preceded Empedocles in age but followed him in works places Anaxagoras for our purpose. Difficult as it is to fix the dates of the later Ionian philosophers, it is quite impossible exactly to determine the influence and the dependence of each on the ideas and terms of the other. The task of all who followed Heraclitus and the Eleatics was to synthesize the elements of truth in both systems. Anaxagoras, a true successor of the early Ionians, inherited and developed the tendency of Heraclitus to advance toward ideas and terms which would destroy the identification of ἀρχή and its motion. Anaxagoras was for Aristotle (Met. 984 b. 15) the first "sober thinker," and yet by their "random talking" his predecessors had assisted him in the way of making the terms for his new ideas less inadequate than they would otherwise have been.

His effort for precision of expression, even in a particular instance, shows that Anaxagoras realized the value of accurate terminology. (Cf. Frag. 17, Diels. Vor. 320.) His critical tendency of method may be seen in the apothegm ascribed to him by Aristotle (Met. 1009 b. 25): "Just such things as men assume will be real for them." Aristotle (Met. 989 b. 4) recognized the efforts of Anaxagoras for terms and noted that while Anaxagoras did not speak rightly or clearly, yet he meant almost the same thing as those who spoke later with greater clearness.

In a study of the terms of Anaxagoras, we find safety only in his own words since the whole tendency of his commentators has been to identify his term νοῦς with νοῦς as it came into meaning after Socrates. We have seen a growing tendency on the part of philosophers to fix epistemological values, and yet we find nothing of this in the extant fragments of Anaxagoras. By raising the notion of νοῦς, semi-popular and particular, to the idea of a directive cause is one way by which Anaxagoras may have come to postulate an efficient force. However, this seems a big step for a thinker at this stage of the development of thought. He might have taken out the ψυχή which was the dynamic term for the motion of the ἀρχή and have made it the separate cosmothetic force under a kindred term. By some such process as this, we think, Anaxagoras postulated νοῦς. He did not all at once arrive

at a full realization of the implication of his new idea, and so we find with him ψυχή remaining in things as a cause of motion (and possibly restricted to animate being) while at the same time its powers had already passed over into νοῦς.

Before giving attention to the idea peculiar to Anaxagoras, we shall make the transition from the other Ionians to him through his terms for what would correspond to the former ἀρχή and κίνησις. Terms for the "surrounding mass" (τὸ περιέχον) of Anaxagoras are found in Frag. 2 (Vor. 314) and Frag. 14 (Vor. 320). "Air and aether" (ἀὴρ καὶ αἰθήρ) occur in Frags. 1 (Vor. 313), 2 (Vor. 314), 12 (Vor. 319). The terms κινεῖν, ἀποκρίνεσθαι, διακρίνεσθαι for "motion" occur in Frag. 13 (Vor. 319). Motion is frequently expressed in terms of "rotation" or "whirling" (περιχώρησις). (Cf. Frag. 12 Vor. 318). Force (Βίη) and swiftness (ταχυτής) as sources of motion are found in Frag. 9 (Vor. 317). One phase of the process of how things came from air and aether is described in Frag. 15 (Vor. 320) as a συγχωρεῖν and an ἐκχωρεῖν. (Cf. also Frag. 16 Vor. 320 and Frag. 12 Vor. 319.)

Anaxagoras appears sometimes to have overlooked νοῦς as a source of special activity and to have substituted for it physical conditions. However, νοῦς as an omnipresent τῆς κινήσεως αἴτιον was at all times very real for him. (Cf. Frag. 8 Vor. 317 and Frag. 14 Vor. 320.) In his analysis of things as they now are, Anaxagoras insisted that, excepting νοῦς, nothing is absolutely separate or capable of existing apart or of itself. Many of his negative statements served only to emphasize the attributes of νοῦς. He frequently reverted to πάντα παντὸς μοῖραν μετέχει of Frag. 6 (Vor. 316). When things were all together, nothing was clear and distinct by reason of their smallness (ὑπὸ σμικρότητος), but finally of whatever "seeds" there were the most (ὅτων πλεῖστα) each object became and remained distinctly (ἐνδηλότατα) qualified by their character. (Cf. Frag. 1 Vor. 313 and Frag. 12 Vor. 319.)

In the answer to the question at once suggested by ὅτων πλεῖστα we come upon the notion of a "world of σπέρματα" peculiar to Anaxagoras. (σπέρματα became for Aristotle τὰ ὁμοιομερῆ). These are described in Frag. 4 (Vor. 315) where Anaxagoras said that in every compound there existed σπέρματα πάντων χρημάτων.

Anaxagoras, explaining περὶ τῆς ἀποκρίσιος in Frag. 4, made certain mystifying references to another world or another order. Simplicius (Phys. 157, 9) noted this ἑτέρα τις διακόσμησις as

not *αἰσθητή* and considered that Anaxagoras spoke *ὡς περὶ ἄλλων* and that his *διάκρισις* was *νοερά*. (Cf. Anaxagoras on "other world swiftness" in Frag. 9 Vor. 317.)

It is safe to say that the fragments of Anaxagoras containing references to *νοῦς* itself are the most important words spoken thus far in philosophy. The phraseology is still far from strict terms for the incorporeal, but we can almost see the efforts of Anaxagoras in his emphasis on the simplicity of *νοῦς* as he aims to confer upon it powers yet new.

In Frag. 11 (Vor. 318) *νοῦς* is set apart from all other things. The end of Frag. 12 (Vor. 319) contains the same thought. There Anaxagoras maintained that *νοῦς* is mixed with no other thing but is *μόνος αὐτὸς ἐπ' ἐωυτοῦ*. The significant term *αὐτοκρατής* occurs in Frag 12. (Cf. Plato, Cratyl. 413 C who gave to the *νοῦς* of Anaxagoras the terms *αὐτοκράτωρ, οὐθενὶ μεμείγμενος, κοσμεῖν*.) Further terms for *νοῦς* are: *ἄπειρος* and *κρατεῖν* and *ἰσχύειν μέγιστον* (Frag. 12). The words *λεπτότατον πάντων χρημάτων καὶ καθαρώτατον* of Frag. 12 indicate that the old striving toward immateriality continued in Anaxagoras.

At this point we may compare with *νοῦς* the Heraclitean *λόγος* and *τὸ σοφόν* and *γνώμη*, which are not always clear. In Frag. 2 (Vor. 61) Heraclitus attested to the ignorance of men regarding *λόγος* and further said that all things *γίνεσθαι κατὰ τὸν λόγον*. He complained (Frag. 18 Vor. 77) that no one had yet reached the conclusion that *τὸ σοφόν* is *πάντων κεχωρισμένον*. He mentioned *γνώμη* in Frag. 19 (Vor. 68), which Diels renders: "In Einen besteht die Weisheit, die Vernunft zu erkennen, als welche alles und jedes zu lenken weiss." In Frag. 65 (Vor. 67) Heraclitus represented *τὸ σοφόν* as willing and yet unwilling to be called by the name of Zeus.

If Anaxagoras took up for *νοῦς* the ideas of Heraclitus, it cannot but be seen that the *γνώμη* of Anaxagoras is something distinct from *νοῦς* itself. However much *νοῦς*, through the power by which it *ἔγνω* and *διεκόσμησε*, excelled an unthinking agency, it cannot be reduced to one of its own attributes, even to the highest power it possesses.

The only instances of the use of *ψυχή* by Anaxagoras lend themselves to the interpretation of *ψυχή* as a term for the principle of motion. Frag. 4 (Vor. 315) gives *ἄνθρωποι καὶ τὰ ἄλλα ζῷα ὅσα ψυχὴν ἔχει*. If *ψυχή* was here actually used in a restricted

sense as the principle of animation, we may conclude that it was at the point where νοῦς took its place in the terminology of cosmology that ψυχή became peculiar to animate being. The other instance of the Anaxagorean ψυχή (Frag. 12) repeats the expression ὅσα ψυχὴν ἔχει. ψυχή may have been restricted in Frag. 4, but ὅσα ψυχὴν ἔχει (Frag. 12) has an extension as wide as ὅσην ἐκίνησεν ὁ νοῦς of Frag. 13 (Vor. 319).

We cannot say how definitely νοῦς superseded ψυχή in the mind of Anaxagoras. In particular applications of νοῦς to the cosmological process the old way of thinking may have led him to couple ψυχή with νοῦς in portions of his work that have never reached us. Plato (Cratyl. 400 A) cited Anaxagoras as holding that the φύσις of all things was νοῦς and that it was ψυχή which arranged (διακοσμεῖν) and controlled (ἔχειν) all things. (Cf. Doxographic tradition for Ecphantus.) Aristotle's difficulty over the relation of ψυχή and νοῦς of Anaxagoras is well known. (Cf. *De Anima* 404 b 1, 405 a 13, 429 a 18).

It was natural that Plato and Aristotle, whose minds were ruled by Socratic standards and fixed conditions of knowledge, should have been disappointed at the failure of Anaxagoras to apply his doctrine of νοῦς. The new agency, νοῦς, was not yet alight with finality for Anaxagoras. It remained for Socrates to quicken νοῦς into a final cause. In the act of abandoning ψυχή as a kinetic principle philosophy began to speak in such terms as ζῷον, ἔμψυχος, ἄψυχος and ψύχωσις. The real substitute for kinetic ψυχή would appear only when Greek philosophy had reached its height.

8. TERMS OF THE SUCCESSORS OF ANAXAGORAS.

It is a question whether Anaxagoras deserved the reproach of Aristotle (Met. 985 a. 18 ff.) to the effect that, when he had used νοῦς as a μηχανὴ πρὸς τὴν κοσμοποιίαν, he reverted to it only when at a loss for a cause, in other cases accounting for things by any other cause rather than νοῦς. Philosophy at this period found new life in the doctrine of the νοῦς of Anaxagoras. Greek thought had been advancing all the way from Thales to Anaxagoras, but the heirs to the terms and ideas of the great pre-Socratic were unable or unwilling to take advantage of their heritage.

There are no extant fragments of the works of Archelaus. Diogenes Laertius (11, 16) has placed him for us as an Athenian or a Milesian, a pupil of Anaxagoras and a teacher of Socrates.

Aetius, Dox. 331, attributed a doctrine to him in these terms: ὑπὸ θερμοῦ καὶ ἐμψυχίας συστῆναι τὸν κόσμον. For him ἀήρ and νοῦς were ὁ θεός (Aet. Dox. 302), but the doxographer qualified θεός as not κοσμοποιός.

The influence of Anaxagoras on Archelaus is apparent in the statement (Philop. de an. 71, 17 Hayd.) that Archelaus was among those who said that the all was moved ὑπὸ τοῦ νοῦ. (We note in this passage τῇ ψυχῇ τὸ κινεῖν.) A tendency to employ νοῦς in a particular sense appears in a statement attributed to Archelaus by Hippolytus wherein he granted νοῦς to all living things (Dox. 563).

If the system of Anaxagoras were to be judged only by the representation it received at the hands of Diogenes of Apollonia, then Plato would have been justified in his assertion (Phaedo 98 B) that Anaxagoras made no use of νοῦς but treated "air" and "aether" as causes. (Cf. Plato's word ἄτοπα as descriptive of these causes.)

Aristotle's statements regarding the αἰθήρ of Anaxagoras are in place in a consideration of the system of Diogenes. Aristotle (De Caelo 302 a. 31) noted that Anaxagoras used the words πῦρ and αἰθήρ synonymously.

In an effort to explain the phenomena of animate life, Diogenes limited to living things the νοῦς of Anaxagoras which Aristotle (*De An.* 405 a. 13) has called the Anaxagorean ἀρχή. The term used by Diogenes is νόησις and νόησις was for Aristotle himself (*De An.* 407 a. 20) νοῦ κίνησις.

Simplicius (Vor. 335) ascribed to Diogenes (Frag. 4 (Diels) Vor. 335) an ἀήρ-ἀρχή which was the source of life as well as of ψυχὴ καὶ νόησις. In the words of Diogenes (Frag. 4) ψυχή, the same for all living things, was ἀήρ. (Cf. Frag. 5.)

Frag. 5 (Vor. 335) contains as significant terms for ἀήρ-νόησις κυβερνᾶν, κρατεῖν, θεός. Frag. 7 (Vor. 339) describes the first principle as ἀίδιον καὶ ἀθάνατον σῶμα. (Cf. also Frag. 8 Vor. 339.) Theophrastus (Dox. 477) gave to the ἀήρ of Diogenes the terms ἄπειρος and ἀίδιος.

Aristotle's statement (*De An.* 405 a. 21) has been given for Anaximenes as one of those included under "certain others," but Diogenes is deservedly the only one there named as identifying ψυχή and ἀήρ. ἀήρ is there described as πάντων λεπτομερέστατος. Aetius (Dox. 392) said that for Anaximenes, Anaxagoras, Archelaus, and Diogenes οὐσία ψυχῆς was ἀερώδης. However, Diogenes is the only one whose words convict him of that charge. Of Diogenes it can be said as of no other philosopher before him that to have ψυχή was to be ἔμψυχος. In Diogenes we find true hylozoism. Whereas Anaxagoras caught his νοῦς from above by a brilliant stroke that did not fully succeed in bringing it down to things, Diogenes postulated νόησις inhering in ἀήρ. He outlined his monistic system with open eyes in contrast to Xenophanes whose pantheism probably never presented itself to his own mind.

While on the one hand the strivings of Anaxagoras were wasted on Diogenes and their results appropriated by conscious dynamism, νοῦς failed equally of development with the Atomists. Leucippus is credited (Aet. Dox. 321) with a work περὶ νοῦ of which we have no fragments. In the fragments of the works of Democritus we find terms new and significant. ψυχή as a term for "our soul" was frequently used by Democritus (Cf. Frags. 171, 159, 187 Diels). Frag. 1 (Vor. 385) contains the term ψύχωσις.

Frag. 11 (Vor. 389), describing the two kinds of γνώμη as γνησίη and σκοτίη, indicates a critical attitude and recalls σκοτόεσσα δόξα of Empedocles (v. 343). The term ἄψυχος (Frag. 164 Vor. 414-415) occurred for the first time with Democritus. (Cf. also the term ἄλογος of this fragment (164) and the terms ἔμψυχος and ἄψυχος of the introduction to the fragment by Sextus Empiricus.)

The phrase ὅσσα ψυχὴν ἔχει (Cf. Anaxagoras) recurs in Frag. 278 (Vor. 435). Here ψυχή is confined to mortals and other ζῷα.

We are indebted for the most part to Aristotle for the physical doctrines of the Atomists. He gave as their στοιχεῖα the terms τὸ πλῆρες καὶ τὸ κενόν. Simplicius (Phys. 36, 1) (Vor. 346) used the term ἄτομα in describing the doctrine peculiar to cosmological atomism. Aristotle contributed the account regarding the "natural necessity" according to which the atoms came together. φύσις was given as the principle of motion. (Cf. Phys. 265 b. 24.) Simplicius (Phys. 327, 14 Vor. 364) criticized the Atomists for giving no αἰτία but ἀπὸ ταὐτομάτου καὶ τύχης (Cf. Aristotle, Phys. 196 a. 24.) Cicero (De Deor. Nat. 1, 24, 66) in the words "sed concursu quodam fortuito" may have drawn on the apparent identification of αὐτόματον and τύχη (Cf. Arist. Met. 984 b. 8).

The latent materialism of Democritus was brought out by Aristotle (De Resp. 471 b. 30) where ἡ ψυχή was τὸ θερμόν and certain σχήματα in the air were called νοῦς καὶ ψυχή. As a statement of Democritus we have (Plac. Dox. 390) the assertion that all things μετέχει ψυχῆς ποιᾶς. The "incorporeality" of the πῦρ of the Atomists was described by Philoponus (Vor. 369) as ἐν σώμασιν ἀσώματον διὰ λεπτομέρειαν.

Democritus received much attention from Aristotle in the *De Anima*. Although Aristotle admitted (405 a. 13) that Anaxagoras meant by νοῦς something different from ψυχή, he seemed certain that Democritus used νοῦς and ψυχή as interchangeable terms (Cf. 404 a. 28). ψυχή proper is for Democritus πῦρ τι καὶ θερμόν (404 a. 1). "The spherical atoms," continued Aristotle, "Democritus called πῦρ καὶ ψυχή. These spherical soul-atoms most easily find their way through things and, being themselves in motion, they set other things in motion, for the Atomists assumed ἡ ψυχή as that which furnished motion to living things." No such sharp lines as Aristotle drew around νοῦς existed for the Atomists whose use of the term was probably akin to its force in the phrase ἐκ παντὸς νόου of Herodotus (8, 97).

Aristotle (De An. 405 a. 8) commended Democritus for neatness of expression. Perhaps the greatest contribution of systems that failed to develop the idea of νοῦς was the contribution of more precise and accurate terminology for ideas already in the mind of philosophy.

9. SUMMARY.

It remains to review in these systems, all of which were incomplete, the instances of the use of ψυχή as a term for motion. The early Ionians, for the most part oblivious of the real problem, included motion in the generic notion of cause. In particular instances they used the expression ψυχὴν ἔχειν as merely equivalent to κινητικὸν εἶναι. Again, when speaking of beings of a limited sphere, they expressed the property of life by the same phrase—ψυχὴν ἔχειν. ψυχή possibly came to stand with some for the general principle of κίνησις which, while it had not yet worked itself out into a separate force, was nevertheless on the way to becoming a specific cause.

In the period of transition, when ψυχή as a dynamic force was passing into ψυχὴ καὶ νοῦς and into νοῦς as a term by itself for a mechanical and a final cause, whether through an over hasty advance or through a reaction, thinkers in all good faith gave the power of thought even to all things. ψυχή in their minds had not yet fully separated from things when, with Heraclitus, a material principle that was ἀείζωον replaced the ἀρχή which had before been ἀεικίνητον. ψυχή had not so much narrowed as it had continued, almost in a faded sense, as the principle of motion for all things to which the term ζῷον had been extended. Thus "whatever has ψυχή" stood now for all things whatsoever and again for all things with life. Moreover, from philosophers yet lacking sharp distinctions of the power of life and the power of thought we may expect such statements as those of Epicharmus to the effect that all living being is endowed with thought and attempts such as those of Philolaus to distinguish the power of thought in man and in nature. Heraclitus and Empedocles were marked by this tendency to grant φρόνησις to all things.

The pivotal idea of all philosophy before Socrates is the νοῦς of Anaxagoras. This cosmothetic force, νοῦς, was for him the only thing absolutely separate and unmixed, but his language at that time offered no better terms for it than λεπτότατος and καθαρώτατος. The idea of an efficient force was for Anaxagoras paralleled by the notion of true immateriality. Empedocles had veiled the aspects of the separate moving power under poetical and figurative terms. The genius of Diogenes of Apollonia was

not great enough for his inheritance and so, in the answer *νόησις-ἀήρ* he returned to a position which philosophy had outgrown and in his self-satisfied cosmological monism he can be rated only below the early Ionians. The philosophers before Anaxagoras had all tended towards a separation of force from matter and in their hylokineticism may be regarded as the forerunners of dualism in a sense in which the acknowledged hylozoist can never be so considered. At this point it took genius to see that the problem was not solved by the mere naming of *γνώμη* or *νοῦς* as a separate force.

While philosophy, rising to the distinction of the element of thought and the element of life, was separating a rational force from "first substance," it did not all at once desert its old position, but left the element of life inhering in all matter. At this time terms for life and terms for distinctions of powers came to be used in a more conscious sense.

In Diogenes of Apollonia we find frequent use of the terms for life and a distinction of *ψυχή* and *νόησις*. *ἔχειν νόησιν* took on with him definite meaning, while there seems to have been in his mind a complete identification of the ideas connoted by the phrases *ἔμψυχον εἶναι* and *ψυχὴν ἔχειν*.

The inestimable value of the Anaxagorean *νοῦς* was ceded away and its true development was again thwarted when philosophy, in the system of the Atomists, turned into the lane that must lead to a dead wall. However, the appearance, at this point, of the first systems of latent panpsychism on the one hand and of latent materialism on the other can be regarded as part of the growth of philosophy in the sense that, while the natural tendency of the sincerely philosophizing mind is in neither direction, these systems, evolved before adequate notions or terms for the immaterial order had been advanced, in the light of the system of Aristotle would serve as instances of cast-off hypotheses.

Among the words of Democritus we find the terms *ζωή*, *ψύχωσις* and the noteworthy use of *ἄλογος* and of *ἄψυχος*. The *ὅσσα ψυχὴν ἔχει* phrase recurring in Democritus is equivalent to *ἔμψυχα* without the uncertainty attending its use by Anaxagoras.

As the extension of the term *ψυχή* became more restricted by lines of demarcation separating the regions of speculation, active specialization in one sphere attached more definite sense to terms hitherto used with a vague meaning. No clear notions of imma-

nent and of transient motion had yet been conceived. φύσις and ἔσσα had appeared as terms of Philolaus, and Plato tells us, in a characteristic speculation on the derivation of the term ψυχή, that it was a refinement of the expression ἡ φύσιν ὀχεῖ καὶ ἔχει. The Atomists, less inexcusably than the philosopher of today, thought to solve the problem of motion by the doctrine of "natural necessity" or self-movement. We have noted the terms φύσις and τὸ αὐτόματον ascribed to them by Aristotle. On secondary authority Alcmaeon has been credited with φύσις αὐτοκίνητος κατ' ἀίδιον κίνησιν. The term ἀείζωον for the ἀρχή of Heraclitus, who attributed natural energy to his πῦρ-ἀρχή, appeared simultaneously with an incipient effort to separate original motion from original matter. A fragment occurring in Stobaeus (Flor. 1, 180 a.) and credited to Heraclitus by Diels (Vor. 78) reads: ψυχῆς ἐστι λόγος ἑαυτὸν αὔξων. Anaxagoras, refusing to other things existence ἐφ' ἑαυτῷ, demanded an unmixed and separate character for a νοῦς which was αὐτοκρατής. Aristotle (*De. An.* 404 a. 8) credited the Atomists with κινούμενα καὶ αὐτά as a term for their first principles. The language of all these attempts foreshadows Plato's terms for the definition of ψυχή proper (Cf. Phaedrus 245 C)—τὸ αὐτὸ ἑαυτὸ κινοῦν.

The "natural necessity" explanation, complete only when supplemented by the theory of matter and form, did not satisfy the Greek physicist whose science must be crowned by his cosmology. The first Greek thinkers set the problem in a question which for us would read: To what shall we refer the activity of transient material energy and the immanent principle of animation? This question later widened to include: To what shall we refer the spiritual activity within us which is but extrinsically dependent on its organism? ψυχή activity had from the first demanded Aristotle's μορφή. The connotation of kinetic ψυχή in objective systems which held no adequate notion of immateriality determines, from a certain standpoint, the position of each pre-Socratic philosopher.

The charge that the earliest of these thinkers endowed ἄψυχα with ψυχή (Diog. L. I, 24) is unfair in the sense in which it is made. Out of his wealth of thought and term Aristotle (De. gen. an. 762 a. 18) could guardedly say: πάντα ψυχῆς εἶναι πλήρη.

The subsequent history of Greek philosophy may be written in outline in the words of three men. The true development of the *νοῦς* of Anaxagoras came only in the doctrine, advanced on empirical principles by Socrates, that whatever exists for a useful purpose must be the work of an Intelligence. (Cf. Xen. Mem. 1, 4, 4.)

Plato (Timaeus-29 D) on the way to truth said that *ὁ κόσμος* was *ζῷος ἔμψυχος ἔννους* through the *πρόνοια τοῦ θεοῦ*.

Philosophy made a transition in the words of Aristotle (De Caelo 271 a. 33): *ὁ δὲ θεὸς καὶ ἡ φύσις οὐδὲν μάτην ποιοῦσιν*. There ever remains the *ἀξιοθαυμαστότερος* of Socrates (Mem. 1, 4) regarding the Creator of *ζῷα ἔμφρονα καὶ ἐνεργά*. Nature must seek the source of its laws in God. When the genius of Aristotle, never deserting his position in passing from kingdom to kingdom in philosophy, had contributed a *πρῶτον κινοῦν ἀκίνητον* (Phys. 256 a.) and a *νόησις νοήσεως* (Met. 1071 b. 20), it remained for Christian philosophy to complete this last word of pagan thought with the necessary ideas of the providence and the personality of God. Christian philosophy in turn is complete only when religion binds the world of the physicist and the psychologist back to God, Who has endowed His creature man with a mind having as its object Truth, the First and the Last.

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