

ARISTOTLE

METAPHYSICS

BOOKS I-IX

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INTRODUCTION

I. LIFE OF ARISTOTLE

ARISTOTLE was born in 384 B.C. at Stagira in Chalcidice. His father Nicomachus, who belonged to a clan—the Asclepiadae—in which the medical profession was hereditary, held the post of physician to Amyntas II. of Macedonia. It is reasonable to refer Aristotle's deep interest in biology (which can be seen even in the *Metaphysics*) to his ancestry and early environment. At the age of eighteen he went to Athens to complete his education, and became a member of the Academy, where he spent the next twenty years studying under Plato and prosecuting his own researches. It is probable that he also did some lecturing. Plato regarded him as his most promising pupil, and called him "the mind of the school."

As time went on, however, Aristotle developed more independent views, and it was probably only Plato's personal influence that kept him attached to the Academy. At any rate when Plato died in 347 and was succeeded by Speusippus (who represented the ultra-mathematical side of Platonism), Aristotle left Athens and went to stay with a former fellow-student, Hermias, who had made himself ruler of Atarneus and Assos in Mysia. Here Aris-

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tote lived for some time, and married his friend's niece Pythias ; but after three years the assassination of Hermias caused him to migrate to Mitylene in Lesbos. In 343 he was appointed by Philip of Macedon to supervise the education of the young Alexander, and for the next few years he lived at the Macedonian court—apparently on friendly but not intimate terms with the future world-conqueror.

In 336 Alexander succeeded to the throne, and soon afterwards Aristotle decided to return to Athens. At about the same time the headship of the Academy fell vacant by the death of Speusippus, and possibly Aristotle expected to be appointed in his place. Whether or not he felt any resentment at being passed over in favour of Xenocrates, he never again definitely associated himself with the Academy. Instead he hired some buildings in the grove of Apollo Lyceus, which lay to the north-east of Athens, and there set up an independent school, known to us as the Lyceum. Here he spent his time either in discussion with his friends and more advanced pupils, as they walked up and down in the shaded colonnades (this is the origin of the name " Peripatetics "), or lecturing to more general audiences. To this period almost certainly belongs the composition (in one sense) of Aristotle's treatises, for these are all ^a compilations of lecture notes or drafts for courses of study, written by him for the benefit of his pupils. It was during this time also, as it appears, that he lost his first wife and married a second, Herpyllis, who was like himself a native of Stagira. She bore

^a Except the *Constitution of Athens*.

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him a son, Nicomachus, who afterwards edited the version of the *Ethics* which bears his name.

The death of Alexander in 323 B.C. was followed by a violent outburst of anti-Macedonian feeling, especially at Athens ; and Aristotle's association with the Macedonian court brought him into unpopularity. He was accused of impiety—the usual cloak for political hostility—and anticipated condemnation by committing the charge of the Lyceum to Theophrastus, while he himself retired to Chalcis. He died in the following year at the age of sixty-two.

In character Aristotle appears to have been affectionate and good-natured ; his writings suggest that he was rather impatient, at least intellectually. He is credited with a marked sense of humour and a ready wit. He was handsome, but with small eyes, and had a distinctive taste in dress. There is a tradition that he was bald ; if this is so there is a certain dry whimsicality in the last words of Book V. chap. xxvii.

II. ARISTOTLE AND EARLIER SCHOOLS OF THOUGHT

The " Physicists "

Every creative artist or thinker, however great his originality may be, must start work with the materials which he has inherited from those who have gone before him. For this reason alone it is necessary, if we are to estimate Aristotle's contribution to human thought, that we should examine briefly the development of Greek philosophy before his time ; and the necessity is made still greater by the fact that a large part of the *Metaphysics* is devoted to

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the criticism of earlier theories. It is impossible, in a short space, to give a detailed account of individual systems, except in the case of the most important; for sources of fuller information the reader is referred to the Bibliography.

The birthplace of European philosophy was the city of Miletus, which had been a flourishing centre of trade and culture for hundreds of years before, in the sixth century B.C., it produced a group of men who were moved by the spirit of inquiry to seek a rational explanation of the processes of nature. THALES, the first of this "school," was a man of wide experience and varied accomplishments, but we know little of his speculations (which he did not commit to writing) beyond the fact that he asserted that water is the permanent underlying principle of all things. He was succeeded by ANAXIMANDER, who was the first cartographer and perhaps the first prose writer. He made the great advance of realizing that none of the four "elements"—earth, air, fire and water—could be reasonably regarded as the ultimate material principle; this he described as τὸ ἀπειρον—the Infinite, or Indeterminate; something without bound, form or quality. This was the best conception of "prime matter" that was achieved for two hundred years or more. But it was necessary to explain how things can be derived from this indeterminate substance, and he could only assert vaguely that "hot and cold, wet and dry" (these "contraries" were of course not mere qualities but material in nature) were "separated off." ANAXIMENES, the third and most influential member of the school, returned to the view that the material principle could be identified with one of the elements—in this

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case "air," a term which for the Greeks of his time also covered "mist" or "vapour." All other things were produced from air by condensation and rarefaction. This theory of the process of change was Anaximenes' great achievement; it marked the culminating point of the Milesian school of thought, which was continued but not carried forward by a line of lesser thinkers.

The next impulse (if we pass over Pythagoras and his disciples, who will be considered later) came from HERACLITUS of Ephesus, who "flourished" at the beginning of the fifth century. The Milesians had already noted the constant process of change between "hot" and "cold," "dry" and "wet," and described it as a kind of struggle between conflicting principles. Heraclitus laid still greater stress upon the transience of sensible things, but poured scorn upon the view that it was due to anything erratic or discordant in the natural system. He saw that the contraries were necessary to each other's existence; that they were correlative, and that the organic unity of the universe depended upon the tension between opposite forces, which (although now one and now another might gain a temporary supremacy) were ultimately in equilibrium. This was his λόγος or explanation to account systematically for the variation in the perceptible world. The underlying material principle was Fire, into which and out of which everything must pass in its due turn.

This doctrine of mutability was violently opposed by the Eleatic school, which was "founded" by PARMENIDES of Elea. He appears to have been at first a Pythagorean, but his extremely logical mind revolted against the inconsistencies of that system,

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as also against the Heraclitean theory of change. He asserted that what is, is and as such is one—nothing else can exist or even be conceived, and argued that the universe must be eternal, immobile, finite and spherical. This teaching was developed and expressed in "The Way of Truth"—the first part of his didactic poem "On Nature." The second part, "The Way of Opinion," consisted of a tentative explanation of the phenomena of change, etc., which were inconsistent with his fundamental postulates. The exact relation of the two parts of the poem is very difficult to determine, and the difficulty is heightened by the figurative nature of the language; but it seems quite clear that Parmenides was not a dualist, and it may be true that he is merely contrasting his own view of reality with that of others—perhaps the Pythagoreans, as Burnet maintained.

Aristotle suggests that the Eleatic doctrine was originated by XENOPHANES of Colophon, who was Parmenides' senior by about fifty years. But Xenophanes was in no sense a constructive thinker; his purpose was simply to attack and ridicule the polytheism of his day, and it was in this connexion that he said that the universe is One, and is God.^a

What Parmenides was actually trying to prove is too large a question to be discussed here; but his arguments had the important result of discouraging any fresh monistic theory. About half-way through the fifth century EMPEDOCLES of Acragas propounded the view that the universe is composed of four material principles—earth, air, fire and water; and to account for the phenomena of change which Parmenides had denounced as illogical he further

^a I. v. 12.

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introduced the kinetic principles of Love and Strife. These were not pure forces; such a conception had not yet been reached. They were material (as Aristotle points out in XII. x. 7), but had the property of producing cyclic change in the following manner. The universe was originally a sphere, but not homogeneous like that of Parmenides; it was a unification or mixture of the four elements. This was broken up by the entrance of Strife, whose function it was to separate; and although the unifying influence of Love always had sufficient power to prevent a complete dispersion of the elements, Strife steadily gained ground until the mixture was resolved into four separate and distinct aggregates of earth, air, fire and water respectively. When this stage was reached, Love began to reassert itself, and under its influence Strife was gradually eliminated until the original mixture was restored, whereupon the whole process began again. It is easy to see Empedocles' debt to the Heraclitean doctrine of an ultimate equilibrium of contrary forces. The apparent inconsistency which Aristotle notes (I. iv. 6 *al.*) in respect of the functions of Love and Strife is due to the fact that Love, in combining the unlike, separates the like, and Strife, in separating the unlike, combines the like.

The theory of cycles was a natural concomitant of the belief in metempsychosis, which Empedocles derived from Orphic and Pythagorean sources. His connexion with the latter system is further shown by the importance which he attached to numerical ratios as determining the characteristics of natural objects (*cf.* XIV. v. 8 n.).

ANAXAGORAS of Clazomenae (circa 500-428 B.C.)

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was slightly senior to Empedocles, but his doctrine must be considered as a later stage in the development of Greek thought. He also believed in an original mixture of corporeal particles, but these particles were "homoeomerous"—each one contained portions of all the contraries. From this it followed that nothing has any absolute quality: "even snow contains some blackness"; and Aristotle attacks this doctrine of relativity as implying a denial of the law of contradiction. Instead of Love and Strife Anaxagoras assumed a single "moving cause," *Noûs* or Mind. It was an important advance to recognize an intelligent (although corporeal) principle, but Plato agrees with Aristotle in criticizing the way in which this principle was employed, and it seems clear that Anaxagoras failed to work out a satisfactory system.

The rest of the "Physicists," as Aristotle describes those thinkers who concerned themselves with the explanation of the natural world, will be most conveniently considered in relation to the great religious-scientific society which had a unique influence upon all subsequent Greek thought.

The Pythagoreans

PYTHAGORAS of Samos is one of the most interesting figures of antiquity, but the facts of his life are so obscured by legend that not much can be stated about him with certainty. He left Samos in about 530 B.C. and settled at Croton, where he founded a religious brotherhood which practised some form of Orphism and held a system of prohibitions. Pythagoras was something of a mystic, and was credited with working

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miracles; but he also took a very practical interest in science, especially mathematics, and both Heraclitus (fr. 17) and Herodotus (iv. 95) pay tribute to his ability in this connexion. In point of fact he appears to have been the first to treat mathematics as an abstract science, and the importance which he attached to numbers was upheld, although in different ways, by all his followers.

The main features of the Pythagorean theory in its original form may be summarized as follows. (1) There was the doctrine of transmigration. Each individual soul came in the first place from the Divine nature, which it resembles, and into which it will, when purified from sin in the course of many reincarnations, at last return. (2) This community of nature between God and the human soul implied an analogy between macrocosm and microcosm; the same principle of order constitutes the essential nature of the universe (considered as a living organism) and of the particular creature. (3) It followed that the all-embracing Unity must be finite or limited; otherwise it could not be reproduced analogously in the individual. This is why the Pythagorean principle of order and goodness was identified with Limit, as contrasted with the Unlimited or principle of disorder. (4) The analogy between whole and part consisted in the identical proportion or ratio of their ingredients. This proportion was described as a "harmony" or perfect adjustment, and the conception is clearly traceable to Pythagoras's discovery of the numerical ratios of the octave (2 : 1), fifth (3 : 2) and fourth (4 : 3). Just as the musical scale, which extends indefinitely in either direction, is marked out and defined by these

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fixed ratios, so in all other cases every definite unity is produced by the action of Limit upon the Unlimited, producing a "harmony" which is essentially numerical. It was in this sense that the original Pythagorean school held that numbers are the primary reality. This supremacy of number was mystically expressed by the veneration which they paid to the "Tetractys," a figure consisting of ten pebbles or dots arranged in an equilateral triangle :



The properties of this figure are sufficiently obvious. It is symmetrical, complete (on the decimal system of number) and directly illustrative of the ratios answering to the three principal concords. Further, it symbolizes the position of unity as the starting-point of number, which was the natural view at a time when calculation was effected by means of visible units.

But Unity was the starting-point not only of number, but of all things. From it were derived the principles of Odd and Even, which were identified with Limit and the Unlimited. Two reasons for this identification have been offered. The first is given by Aristotle himself (*Physics* 203 a 13, where see Cornford's note), and may be briefly summarized as follows. The sum of successive odd numbers starting from 1 is always the same definite figure, a square—thus $1+3=4$ or $\begin{matrix} \cdot \\ \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{matrix}$, $1+3+5=9$ or $\begin{matrix} \cdot \\ \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \cdot \end{matrix}$, and so on; but the sum of successive even numbers

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is an oblong of varying shape— $2+4=6$ or $\begin{matrix} \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{matrix}$, $2+4+6=12$ or $\begin{matrix} \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \cdot \cdot \end{matrix}$. The second reason is suggested by Heidel (*Archiv für Gesch. Phil.* xiv. 390 ff.). Even number can be represented by two parallel lines of dots, and the process of division by an arrow passing between these lines thus $\left(\begin{matrix} \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{matrix} \rightarrow \right)$. So long as the whole number is even, the process can continue indefinitely; but it is immediately arrested and limited by the introduction of an odd unit $\left(\begin{matrix} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{matrix} \rightarrow \cdot \right)$.

The difficulty of the Pythagorean system lay in the derivation of two opposite principles from the primary unity, and the arguments of Parmenides seem to have brought about a complete revision of the theory. At any rate, as Cornford has pointed out (*Classical Quarterly*, xvi. 137-150, xvii. 1-12), the criticisms of the Eleatic ZENO, Parmenides' disciple, which were directed against the view that reality is composed of discrete units, presuppose a new development of Pythagoreanism. It seems that the more scientific "wing" of the society abandoned the idea of a unique primary unity, and substituted the theory that not only number but all corporeal reality consists of a plurality of "ones" or units which have spatial magnitude—in other words, a kind of atoms. This is the view to which Aristotle refers when he speaks of things as being *composed* of numbers, and it is clearly quite incompatible with the conception of numbers as causes in the sense of defining ratios. It is hard to believe that any of the Pythagoreans themselves were so foolish as to

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attempt to combine these views ; the inconsistencies noted by Aristotle are surely due to an outsider's failure to distinguish two distinct phases of Pythagorean thought.

But even the later scientific system was vitiated by the obtrusion of mathematical, especially geometrical, considerations. The units were not regarded as eternal ; their generation had to be explained, and this could not be satisfactorily done. It was left for other thinkers to evolve a thorough-going atomic theory.

How far LEUCIPPUS of Miletus (*flor.* 435 ?) and his disciple DEMOCRITUS of Abdera (*flor.* 420) were indebted to this Pythagorean doctrine, it is impossible to say ; but at least it is clear that both systems were the outcome of a controversy between the Pythagorean and Eleatic schools. Leucippus seems to have settled at Elea, and to have studied under Parmenides^a and Zeno^b ; if so he must have known something of the Pythagorean number-atomism which Zeno criticized. But his theory was based upon Eleatic premisses. MELISSUS of Samos (admiral in 441 B.C.) had done much to systematize the teaching of this school. Among other things he showed that reality could not be regarded as a finite sphere (Parmenides' view), since then it must be bounded by void, or " what is not "—a conclusion irreconcilable with the Eleatic creed. What was still more important, he argued that if reality were a plurality, each unit would have to be like the Eleatic One.^c

^a Theophrastus *ap.* Simplicium, *Phys.* xxviii. 4 (Ritter and Preller 185).

^b Diogenes Laertius ix. 30.

^c Fr. 8 Diels ; Ritter and Preller 147.

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Leucippus, prompted perhaps by the suggestions of Pythagoreanism, accepted the challenge of these two arguments. He admitted the existence of void, and so escaped from the conception of a spatially infinite unity ; he admitted plurality, and so was enabled to account for change. Yet his atoms retained the essential characteristics which Parmenides had proved to belong to the ultimate reality. Although spatially extended, they were indivisible, since they contained no void ; they were eternal and themselves immutable, although their rearrangement in fresh combinations accounted for change in the objects which they composed. Variety was rendered possible by the three " differences " of shape, order and position (explained by Aristotle in Book I. iv. 11). The atoms contained in themselves their own motive force, which was natural to them and eternal ; but it is difficult to say what form their motion took, for the evidence is scanty and inconsistent, and perhaps this part of the theory was not clearly stated. Aristotle is rather disdainful in his references to it.

Such in brief outline was the atomic theory of Leucippus and Democritus ; and the theory in its essentials holds good to-day. There was no further development of primary importance in Greek physical speculation ; this was its crowning achievement. We have seen that some at least of the credit was due to the " scientific " Pythagoreans. But it was the original semi-mystical element in the society that influenced Plato, and through Plato the whole of later thought.

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Socrates and Platonism

Hitherto philosophic speculation had been almost entirely scientific and materialistic; but with the growth of interest in rhetoric and dialectic, men began to think in more abstract terms, and the way was prepared for the study of Ethics. It was to this sphere, according to Aristotle, that SOCRATES confined his activity. The exact relation of Socrates to the Platonic Ideal theory is still disputed, and this is no place to dogmatize upon or even to discuss the question. Nevertheless it is perhaps legitimate to say that in the light of Aristotle's explicit testimony the Burnet-Taylor theory appears to be too violent a reaction against the traditional view. In his statements about earlier thinkers Aristotle is generally accurate—it is only when he begins to interpret the views which he attributes to them that he is misled by his own preconceptions—and he cannot have lived for twenty years in close touch with Plato without gaining accurate information about Plato's revered master.

We may take it, then, that it is substantially true that although Socrates prepared the way for the Ideal theory by his method of establishing a general principle or definition from the analogical relation of particular cases, he did not hold the theory in the form in which it was held by Plato and his followers. It is quite clear that in Aristotle's view Socrates was only one of three influences which contributed to the formation of Plato's own theory—the other two being Pythagoreanism and the Heraclitean doctrine of Cratylus.

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From the mystical Pythagorean school Plato derived the conception of a mimetic relationship between the individual and the universe of which he is a part. That relationship consisted in the sharing of a common formula or ratio of adjustment. Socrates showed that the same principle applied in a more abstract form to the particular examples of a given characteristic and to the general definition of that characteristic. The Heraclitean doctrine of "flux," or continuous change, in the sensible world suggested that the permanent realities which are the objects of knowledge are distinct from sensible things. It was partly from each of these three sources that Plato derived the theory that to each class of objects which have a common nature or definition there corresponds a permanent entity, independent of the members of the class, which *is* that absolute characteristic which is imperfectly "imitated" or "shared in" by the several members.

It is quite impossible to form an accurate estimate of the development of the Ideal theory, or even of its exact nature at any given stage, from the Platonic dialogues. They are semi-popular, not technical treatises; and any inferences that we may draw from them must be tested in the light of more direct evidence. On the other hand it cannot be supposed that Plato's thought was static. Such a mind must have been continually revising, modifying, developing earlier opinions; and those who deny any change in the Ideal theory as held by Plato are simply flying in the face of common sense. But we are only concerned with the Ideal theory as described and criticized by Aristotle, and it is obvious that what he has in mind must be the theory in its latest form

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—as held by the Platonists of his own day, but not necessarily by Plato himself.

There is another consideration which makes it still harder to assess the fairness of Aristotle's criticisms. A doctrine which is held by a whole body of contemporary thinkers must always be variously expressed, even if it is not variously understood; and it may even be misrepresented by its professing supporters. We have only to consider the analogy of modern religious bodies to realize how difficult it may be for the acutest observer to grasp accurately the central teaching of a given sect. There may have been Platonists who spoke of the Ideas or Forms as though they were merely "eternal sensibles"; but in view of the identification of the Ideas with numbers (which must have been a late development) this looks like a misapprehension.

The connexion of the Ideas with numbers will be more apparent if we consider the principles from which they were derived. These are variously described as (on the one hand) the One or Unity or the Equal, and (on the other) the Great-and-Small or the Indeterminate Dyad or the Unequal or Plurality. The last term seems to have been peculiar to Speusippus; but the others are clearly only names for different aspects of the Pythagorean Limit and Unlimited. The material principle is simply indeterminate quantity, which extends indefinitely in either direction, is infinitely great and infinitely small. It is determined by the formal principle of Unity, which marks off the scale, as it were, into definite sections. (Unfortunately Aristotle—with what justification it is hard to say—fastens upon the term "dyad" and interprets it as a

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literal duality; either as a kind of 2 or as a "pair of contraries"—the Great *and* the Small. Many of his objections depend entirely upon this misapprehension; e.g., the account of the generation of number in XIII. viii. 15, if this is meant to represent the Platonic method.)

This is a satisfactory account of the derivation of Ideal numbers, but in what sense are the Ideas numbers? If we remember the Pythagorean view, that the essential nature of each thing is determined by the numerical ratio of its parts, we shall easily perceive how it was that the Ideas were conceived of as formulae. Just as the defining principle of unity acts upon the Dyad to produce the Ideas, so they in turn act upon the Dyad to produce sensible things. In both cases the formal principle is a numerical limit, and no doubt this is what led Plato to describe the Ideas as numbers; although Aristotle is right in pointing out that they are not mere numbers but ratios of number. There was some reason for connecting the formulae of lines, planes and solids with the numbers 2, 3 and 4; but the identification of other Ideas with numbers was a fanciful survival of the Pythagorean mysticism.

As regards the more scientifically mathematical side of the theory, Plato was quite justified in positing Ideal numbers, even if he was not justified in identifying these numbers with the Ideas of other things. There is a sense in which the natural numbers (twoness, threeness, etc.) exist independently of the groups of objects which are called after them. But the mathematical numbers which he assumed to exist intermediately between Ideas and sensible things are mere abstractions, as Aristotle sees; although he

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admits their existence, in a sense, while denying that of the Ideas. There is, as Ross points out,^a more reason for assigning a separate existence to the objects of geometry, which do not exist in their perfect form in sensible objects; and perhaps Plato felt that analogy required that the objects of arithmetic should also exist separately. On the other hand he treats Ideal "spatial magnitudes" as posterior to Ideal numbers. They could not very well be identified, like the numbers, with the Ideas of other things; and besides they were obviously more complex products.

The subsequent heads of the Academy, Speusippus and Xenocrates, introduced certain modifications. SPEUSIPPUS was more mathematician than metaphysician, and apparently he abandoned the Ideas altogether and assumed mathematical number as the primary reality.^b Such a view would naturally involve the restatement of the first principles as unity and *plurality*, and the principles of spatial magnitudes as the point and "something similar to plurality" (XIII. ix. 6). XENOCRATES was industrious rather than clear-sighted, and in his attempt to reorganize the Platonic system he laid himself open to grave objections. He identified the Ideas with the objects of mathematics—thus destroying mathematical number, as Aristotle puts it (XIII. viii. 8, ix. 15). He was also the chief exponent of the theory of "indivisible lines," although Aristotle tells us that Plato also held it.

^a Pp. liii-lvi of the Introduction to his edition of the *Metaphysics*.

^b For the arguments in favour of ascribing this view to Speusippus see Ross's Introduction pp. lxxii-lxxiv.

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III. ARISTOTLE'S METAPHYSICAL THEORY

As a thinker Aristotle is essentially logical and analytical; and these qualities are almost inevitably accompanied by the limitations of literal-mindedness and lack of imagination. Both merits and defects can be clearly seen in his criticisms of earlier systems, whose inconsistencies he can ruthlessly unmask, but whose abstruser points he frequently misunderstands; and they are no less apparent in his constructive teaching. We must be careful, however, in framing our judgement of his doctrines. It is true that the Aristotelian treatises are a much more reliable source of evidence than the popular Platonic dialogues, but we must remember that they are for the most part compilations of earlier notes or smaller treatises, written perhaps at different times, and edited in some cases, if not in all, by other hands. It follows that Aristotle is not necessarily responsible for them in the form in which they have come down to us; and we must not lightly assume that he is to blame for the inconsistencies and obscurities which they undoubtedly contain.

The theory of a universal science, as sketched by Plato in the *Republic*, was unsatisfactory to Aristotle's analytical mind. He felt that there must be a regular system of sciences, each concerned with a different aspect of reality. At the same time it was only reasonable to suppose that there is a supreme science which is more ultimate, more exact, more truly Wisdom than any of the others. The discussion of this science—Wisdom, Primary Philosophy or Theology, as it is variously called—and of its scope forms the subject of the *Metaphysics*.

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Clearly this science must be concerned with that which *is* in the strictest sense. Earlier thinkers had failed to distinguish the various senses which the word "is" can have, and this failure had led to grave fallacies in argument. Aristotle quickly disposes of two of these senses. When we say "A is B," we may mean that the predicate B applies to A not essentially but incidentally. This is *accidental* being, and there is no science of the accidental. Or we may be expressing a judgement to the effect that A is B; in which case "is" means "is in truth." This is "being as *truth*," and its study belongs either to logic or to psychology.

But even where "is" represents the copula in a predication denoting the essential nature of a thing, its senses can be further analysed. Aristotle has worked out a list of the widest predicates to which all others can be referred, and these he describes as the "types of predication," or "categories." The full list contains ten types: (1) Substance, *e.g.* "man"; (2) Quality, *e.g.* "white"; (3) Quantity, *e.g.* "six-foot"; (4) Relation, *e.g.* "double"; (5) Time, *e.g.* "to-day"; (6) Place, *e.g.* "indoors"; (7) Activity, *e.g.* "ruling"; (8) Passivity, *e.g.* "ruled"; (9) State, *e.g.* "healthy"; (10) Position, *e.g.* "seated." (9) and (10) are generally, and any of the last seven may be occasionally, omitted from the list. But since of all these predicates substance is the only one which has a separate existence, it is evidently "being" in the sense of substance that is the subject of Wisdom or metaphysics.

The next question is: What constitutes the substantiality of individual things? Aristotle's answer is that it is the essence—the formal or de-

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fining principle of each thing. The other obvious alternatives—substrate, universal, genus—all lack the necessary individuality; moreover the universal has no separate existence apart from its particulars (this is a point upon which Aristotle repeatedly insists in his revolt against the Ideal theory), while to make the substrate or genus substance will involve attributing substantiality to matter, which is indeterminate.

The opposition of matter and form is fundamental to Aristotle's thought, and calls for special notice. It is not an original doctrine; it is merely a more systematic treatment of the same contrasted principles which Plato described as Unity and the Dyad, and the Pythagoreans as Limit and the Unlimited. Matter in the Aristotelian sense is not confined to sensible things. There is matter which is only intelligible; *e.g.*, the genus may be regarded as the matter of the species. And there are different grades of sensible matter: (a) that which admits only of spatial motion; (b) that which admits also of alteration; (c) that which admits also of increase or decrease; (d) that which admits of generation and destruction. Sensible matter implies intelligible matter, and each grade of sensible matter implies all the previous grades.

Moreover, matter and form are always correlative, and (if we except the celestial movers, which belong to the least typically Aristotelian part of the system) never exist apart. For Aristotle matter does not exist as entirely undifferentiated; it passes through successive stages of differentiation, to each of which there is a corresponding form, until it emerges as the proximate matter of the individual substance.

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All this may be regarded as a mere development of the Pythagorean and Platonic view of two contrasted principles ; but Aristotle is not content with two principles only. To explain the existence of any natural or artificial product it is necessary to state not only the material of which it consists and the form which defines it, but also the motive power which initiates the process of growth or construction, and the end or purpose of the process. This gives us the Four Causes : material, formal, efficient and final. Analogy plays an important part in the theory. Whether it was originally conceived in relation to natural or artificial products (the efficient and final causes are certainly more obvious in the latter connexion), Aristotle evidently intended it to apply to all cases ; but he appears to have modified the theory at a later date in view of the difficulties which it involved. At any rate there is a tendency for the formal, final and efficient causes to be merged into a single principle opposed to the material. If we are right in supposing that this represents the ultimate development of Aristotle's thought, the attempt to depart from the Platonic view resulted (as happened in more than one instance) in a return to the original standpoint.

The analysis of the individual substance into the single antithesis of form and matter was confirmed by the parallel analysis into potentiality and actuality. This was a new conception, arrived at from the consideration of the processes of change and generation. If a thing comes to be X, clearly it was not X before. But change or generation cannot proceed from that which *absolutely* does not exist ; there must always have been something which was capable

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of being determined as X. This something, then, although it was not actually X, was potentially X. The antithesis of potentiality and actuality is simply the antithesis of matter and form considered dynamically instead of statically. Unfortunately Aristotle is inconsistent in his use of the term *ἐνέργεια* ; he applies it sometimes to the form itself, sometimes to the process of actualization or realization of the form in the matter, and sometimes to the result of the process, which is more strictly described as *ἐντελέχεια* or "complete reality."

The doctrine of "contraries," which can be found in nearly all the earlier accounts of change, is present in Aristotle's theory also, but in a modified form. He appears to recognize certain natural contraries, such as Being and Not-being, Unity and Plurality, Substance and Not-substance ; but he is careful to distinguish between contrary qualities and matter determined in accordance with those qualities. Change is between contraries in the sense that the material substrate is a potentiality for contrary determinations, of which now one and now the other may be realized in it. But the contrary qualities themselves do not change.

It is from the consideration of change and motion that Aristotle proceeds to develop his theology. The continuity of the processes in the universe presupposes a moving cause by which they are eternally maintained. This cause, or Prime Mover, must itself be eternal and immutable, and must therefore be entirely immaterial. It is pure form and actuality ; and this is Mind or God.

On this view God is in no sense the creator of the universe. His only effect upon it is to excite a con-

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tinuous motion in the outermost celestial sphere or "first heaven" (which in turn imparts motion to the other spheres and ultimately produces the various combinations of form and matter) by arousing in it a desire to imitate the unvarying Divine activity, which is self-contemplation. But the "first heaven," although Aristotle clearly conceives of it as animate, can only imitate this activity by revolving eternally upon its axis. And since the single regular revolution of the "first heaven" will not explain the irregular motions of the heavenly bodies, Aristotle is compelled to assume the existence of a number of other immaterial "movers," or "intelligences," which—themselves moved, presumably, by the prime mover—impart motion to the spheres which make up the rest of the astronomical system.

This part of Aristotle's theory is full of difficulties and inconsistencies; his attempt to give a logical and mechanical explanation of the universe cannot be said to succeed. Indeed he is ultimately driven back to the very standpoint which he derides in Platonism. He is emphatic that form cannot exist in separation from matter; and yet the supreme reality turns out to be a pure form. He blames the Platonists and Pythagoreans for using metaphorical language, and yet when he comes to explain the ultimate method of causation he has to describe it in terms of love or desire. The truth is that Aristotle's thought is always struggling against Platonic influences, which nevertheless generally emerge triumphant in his ultimate conclusions. His great contribution to philosophy was on the side of method; but it was Plato, acknowledged or unacknowledged, who inspired all that was best in the thought of his great disciple.

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IV. THE COMPOSITION AND TEXT OF THE *METAPHYSICS*

We have already noted the fact that Aristotle's extant works (with the exception of the *Constitution of Athens*, which is on a different footing) are really compilations of lecture notes or minor treatises. There is good reason to suppose that the *Metaphysics* was not edited by Aristotle himself; and both Alexander (515. 20) and Asclepius (4. 9) imply that the person responsible was Eudemus. However this may be, the work as it stands does not form a continuous sequence. The evidence bearing upon the interrelation of the several books has been discussed by Jaeger (*Studien zur Entstehungsgeschichte der Metaphysik des Aristoteles*, and *Aristoteles*) and by Ross in the introduction to his edition.

If we consider the books in their present order, the following facts are fairly obvious. Book I. (A) stands in its proper place; it is introductory to the study of *Metaphysics*. Book II. (a) has no connexion with what precedes and follows; it is introductory to the study of philosophy in general, and its Greek title implies that it was added when the corpus was already completed. A scholium records that the book was generally attributed to Pasicles, a nephew of Eudemus; and Jaeger is probably right in regarding it as consisting of notes taken by Pasicles on a lecture or course of lectures by Aristotle. Books III. (B) and IV. (1') should follow immediately after Book I. Book V. (Δ) interrupts the discussion, and some of the terms which it defines have no connexion with *Metaphysics*. It is evidently a separate and earlier treatise. Book VI. (E) should follow

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Book IV., as is clearly shown by the order in which the same subjects are treated in Book XI. Books VII.-IX. (ZHΘ) form a unity and follow on naturally after Book VI. Book X. (I) seems to belong to the main treatise, but it should come at the end after Book XIV. Book XI. (K) down to chap. viii. 9 is a briefer and earlier treatment of the subject matter of III., IV. and VI.; from chap. viii. 10 to the end it consists of extracts from the *Physics*. Book XII. (A) is an independent treatise, probably of earlier date; but the astronomical passage in chap. viii. is inconsistent with its context and must belong to the last stage of Aristotle's thought (*cf.* Jaeger, *Aristoteles* 366-379). This book contains expressions (iii. 1, 2; v. 1) which clearly indicate that it consists of Aristotle's own notes for a course of lectures. Books XIII. and XIV. (M, N) present several problems. The real division comes at XIII. ix. 18, and the latter section represents an earlier criticism than that which is set out in the former. Even apart from this the subject matter of the two books is not very well arranged. Moreover, in Book XIII. chaps. iv. and v. there is an almost exact duplication of Book I. chap. ix. 1-15. The only important difference between the two passages is that in Book I. Aristotle speaks as a Platonist and in Book XIII. as an external critic of the Academy. Evidently the version in Book I. is the earlier; Jaeger suggests that it belongs to the period when Aristotle was living at Assos. In any case it seems clear that after Aristotle had severed himself from the Academy he made use of the same criticism, making only the few slight changes in the language which were dictated by his altered sympathies.

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The general conclusions upon which Ross and Jaeger agree are as follows. The earliest form of Aristotle's metaphysical course is represented by Books I., XI. i-viii. 9, XIII. ix. 18-XIV. *fin.* Later XI. was replaced by III., IV. and VI., and XIII. ix. 18-XIV. *fin.* by XIII. i.-ix. 17; probably Book IX. was added at the same time. The "editor" worked up all this material into a single treatise, adding Books II., IV., XII. and the latter part of XI.

Manuscripts and other sources

Only four of Bekker's mss. have any independent value, and I have followed the example of other recent editors in ignoring the rest. The only other ms. which I have cited is Vindobonensis phil. gr. C, to which Ross has attached the symbol J. These mss. may be classed, in order of individual importance, as follows:

E Parisinus 1853	10th century
A Laurentianus 87. 12	12th "
J Vindobonensis phil. gr. C	10th "
S Laurentianus 81. 1	13th "
T Vaticanus 256	1321 "

Of these J, S and T generally agree with E; A represents a different and probably older archetype.

Other evidence concerning the text is furnished by two Latin translations; one by William of Moerbeke (Γ; late 13th century), and one by Cardinal Bessarion (about 1450). The former is so literal that it almost has the authority of a ms. Besides these there are the commentaries of Alexander (c. A. D. 200)

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on I.-V. and of the pseudo-Alexander on VI.-XIV., and those of Asclepius (6th century), Syrianus (5th century), and Themistius (4th century). Finally there is the Aldine *editio princeps* of 1498, which in some cases helps to determine the true reading.

The text of this edition is based upon that of Bekker (Berlin 1831, Oxford 1837); and I have added critical notes only where I have rejected his readings or consider them to be doubtful. Among more recent scholars to whom I am indebted for various improvements and emendations, Schwegler, Bonitz, Christ and Jaeger call for special mention; and above all Professor W. D. Ross, whose monumental edition has helped me very greatly in the preparation both of my text and of my translation. A complete critical apparatus would have been far too unwieldy for a volume in this series; but I hope that I have noted all the most important variations.

As regards the translation, my chief object has naturally been to make Aristotle's meaning as clear as possible without too great a sacrifice of brevity or literalness; and in pursuing this object I have not scrupled to vary the rendering of the same Greek words in different contexts, even where it was not absolutely necessary to do so. Where the sense of the Greek is really doubtful I have thought it best to be non-committal. In rendering the more difficult passages I have often referred to Professor Ross's translation, which has afforded invaluable guidance.

Finally I wish to express my very real gratitude to my friend and colleague Professor E. S. Forster, who has given me the benefit of his criticism and suggestions throughout nearly the whole of my task.

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ARISTOTLE THE METAPHYSICS

ΑΡΙΣΤΟΤΕΛΟΥΣ
ΤΩΝ ΜΕΤΑ ΤΑ ΦΥΣΙΚΑ Α

ARISTOTLE
THE METAPHYSICS

BOOK I

980 a 22 I. Πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει. σημεῖον δ' ἡ τῶν αἰσθήσεων ἀγάπησις· καὶ γὰρ χωρὶς τῆς χρείας ἀγαπῶνται δι' αὐτάς, καὶ μάλιστα τῶν ἄλλων ἢ διὰ τῶν ὀμμάτων. οὐ γὰρ μόνον ἵνα
25 πράττωμεν ἀλλὰ καὶ μηθὲν μέλλοντες πράττειν τὸ ὄρᾶν αἰρούμεθα ἀντὶ πάντων ὡς εἰπεῖν τῶν ἄλλων. αἴτιον δ' ὅτι μάλιστα ποιεῖ γνωρίζειν τι ἡμᾶς αὕτη τῶν αἰσθήσεων, καὶ πολλὰς δηλοῖ διαφοράς. Φύσει μὲν οὖν αἴσθησιν ἔχοντα γίνεταί τὰ ζῶα, ἐκ δὲ ταύτης¹ τοῖς μὲν αὐτῶν οὐκ ἐγγίγνεται μνήμη
980 b 22 τοῖς δ' ἐγγίγνεται. καὶ διὰ τοῦτο ταῦτα φρονιμώτερα καὶ μαθητικώτερα τῶν μὴ δυναμένων μνημονεύειν ἐστί, φρόνιμα μὲν ἄνευ τοῦ μαθάνειν ὅσα μὴ δύναται τῶν ψόφων ἀκούειν, ὅσον μέλιττα, καὶ εἴ τι τοιοῦτον ἄλλο γένος ζῶων ἐστί· μαθάνει
25 δ' ὅσα πρὸς τῇ μνήμῃ καὶ ταύτῃ ἔχει τὴν αἴσθησιν. Τὰ μὲν οὖν ἄλλα ταῖς φαντασίαις ζῆ καὶ ταῖς μνήμαις, ἐμπειρίας δὲ μετέχει μικρόν· τὸ δὲ τῶν ἀνθρώπων γένος καὶ τέχνη καὶ λογισμοῖς. γί-

I. All men naturally desire knowledge. An indication of this is our esteem for the senses; for apart from their use we esteem them for their own sake, and most of all the sense of sight. Not only with a view to action, but even when no action is contemplated, we prefer sight, generally speaking, to all the other senses. The reason of this is that of all the senses sight best helps us to know things, and reveals many distinctions.

Now animals are by nature born with the power of sensation, and from this some acquire the faculty of memory, whereas others do not. Accordingly the former are more intelligent and capable of learning than those which cannot remember. Such as cannot hear sounds (as the bee, and any other similar type of creature) are intelligent, but cannot learn; those only are capable of learning which possess this sense in addition to the faculty of memory.

Thus the other animals live by impressions and memories, and have but a small share of experience; but the human race lives also by art and reasoning.

¹ ταύτης: τῆς αἰσθήσεως EI' Asclepius.

BOOK I
WHAT IS
META-
PHYSICS?
Universal
desire for
knowledge.

Degrees of
intelligence:
(a) sense-
perception,

(b) memory,

(c) experi-
ence,

980 b γνεται δ' ἐκ τῆς μνήμης ἐμπειρία τοῖς ἀνθρώποις
 981 a αἱ γὰρ πολλαὶ μνήμαι τοῦ αὐτοῦ πράγματος μιᾶς
 ἐμπειρίας δύναμιν ἀποτελοῦσιν. καὶ δοκεῖ σχεδὸν
 ἐπιστήμη καὶ τέχνη ὅμοιον εἶναι ἢ ἐμπειρία,
 ἀποβαίνει δ' ἐπιστήμη καὶ τέχνη διὰ τῆς ἐμπειρίας
 τοῖς ἀνθρώποις· ἢ μὲν γὰρ ἐμπειρία τέχνην ἐποί-
 5 ησεν, ὡς φησὶ Πῶλος, ὀρθῶς λέγων, ἢ δ' ἀπειρία
 τύχην. γίνεταί δὲ τέχνη ὅταν ἐκ πολλῶν τῆς
 ἐμπειρίας ἐννοημάτων μία καθόλου γένηται περὶ
 τῶν ὁμοίων ὑπόληψις. τὸ μὲν γὰρ ἔχειν ὑπόληψιν
 ὅτι Καλλία κάμνοντι τηνδὶ τὴν νόσον τοδὶ συνήνεγκε
 καὶ Σωκράτει καὶ καθ' ἕκαστον οὕτω πολλοῖς,
 10 ἐμπειρίας ἐστίν· τὸ δ' ὅτι πᾶσι τοῖς τοιοῖσδε κατ'
 εἶδος ἐν ἀφορισθεῖσι, κάμνουσι τηνδὶ τὴν νόσον,
 συνήνεγκεν, οἷον τοῖς φλεγματώδεσιν ἢ χολώδεσι
 [ἢ] πυρέττουσι καύσῳ, τέχνης. Πρὸς μὲν οὖν
 τὸ πράττειν ἐμπειρία τέχνης οὐδὲν δοκεῖ διαφέ-
 ρειν, ἀλλὰ καὶ μᾶλλον ἐπιτυχάνοντας ὁρῶμεν τοὺς
 15 ἐμπείρους τῶν ἀνευ τῆς ἐμπειρίας λόγον ἐχόντων.
 αἷτιον δ' ὅτι ἢ μὲν ἐμπειρία τῶν καθόλου, αἱ δὲ πράξεις καὶ
 αἱ γενέσεις πᾶσαι περὶ τὸ καθ' ἕκαστόν εἰσιν· οὐ
 γὰρ ἀνθρωπον ὑγιάζει ὁ ἰατροῦων, πλὴν ἀλλ' ἢ
 κατὰ συμβεβηκός, ἀλλὰ Καλλίαν ἢ Σωκράτην ἢ τῶν
 20 ἄλλων τινᾶ τῶν οὕτω λεγομένων ᾧ συμβέβηκε καὶ
 ἀνθρώπῳ εἶναι. ἐὰν οὖν ἀνευ τῆς ἐμπειρίας ἔχη
 τις τὸν λόγον, καὶ τὸ καθόλου μὲν γνωρίζῃ τὸ
 δ' ἐν τούτῳ καθ' ἕκαστον ἀγνοῇ, πολλάκις δια-
 μαρτήσεται τῆς θεραπείας· θεράπευτὸν γὰρ τὸ καθ'
 ἕκαστον μᾶλλον. ἀλλ' ὅμως τό γε εἰδέναι καὶ τὸ
 25 ἐπαίειν τῇ τέχνῃ τῆς ἐμπειρίας ὑπάρχειν οἰόμεθα

¹ secl. Jackson.

It is from memory that men acquire experience, 4
 because the numerous memories of the same thing
 eventually produce the effect of a single experience.
 Experience seems very similar to science and art,
 but actually it is through experience that men 5
 acquire science and art; for as Polus rightly says, (d) art and
 "experience produces art, but inexperience chance."^a science.
 Art is produced when from many notions of experi-
 ence a single universal judgement is formed with
 regard to like objects. To have a judgement that 6
 when Callias was suffering from this or that disease
 this or that benefited him, and similarly with Socrates
 and various other individuals, is a matter of experi-
 ence; but to judge that it benefits all persons of a
 certain type, considered as a class, who suffer from
 this or that disease (e.g. the phlegmatic or bilious
 when suffering from burning fever) is a matter
 of art. Art the
 result of
 experience.

It would seem that for practical purposes experi- 7
 ence is in no way inferior to art; indeed we see men
 of experience succeeding more than those who have
 theory without experience. The reason of this is 8
 that experience is knowledge of particulars, but art
 of universals; and actions and the effects produced
 are all concerned with the particular. For it is not
 man that the physician cures, except incidentally,
 but Callias or Socrates or some other person similarly
 named, who is incidentally a man as well. So if a 9
 man has theory without experience, and knows the
 universal, but does not know the particular contained
 in it, he will often fail in his treatment; for it is the
 particular that must be treated. Nevertheless we 10
 consider that knowledge and proficiency belong to

^a Plato, *Gorgias* 448 c, 462 b-c.

981 a μᾶλλον, καὶ σοφωτέρους τοὺς τεχνίτας τῶν ἐμπείρων ὑπολαμβάνομεν, ὡς κατὰ τὸ εἰδέναι μᾶλλον ἀκολουθοῦσαν τὴν σοφίαν πᾶσι. τοῦτο δ', ὅτι οἱ μὲν τὴν αἰτίαν ἴσασιν, οἱ δ' οὐκ. οἱ μὲν γὰρ ἐμπειροὶ τὸ ὅτι μὲν ἴσασιν, διότι δ' οὐκ ἴσασιν· οἱ δὲ 30 ἀρχιτέκτονας περὶ ἕκαστον τιμωτέρους καὶ μᾶλλον εἰδέναι νομίζομεν τῶν χειροτεχνῶν καὶ σοφωτέρους, 981 b ὅτι τὰς αἰτίας τῶν ποιουμένων ἴσασιν (τοὺς δ' ὡσπερ καὶ τῶν ἀψύχων ἕνια, ποιεῖν μὲν, οὐκ εἰδότα δὲ ποιεῖν ἃ ποιεῖ, οἷον καίει τὸ πῦρ· τὰ μὲν οὖν ἀψύχα φύσει τιμὴ ποιεῖν τούτων ἕκαστον, 5 τοὺς δὲ χειροτέχνας δι' ἔθος). ὡς οὐ κατὰ τὸ πρακτικούς εἶναι σοφωτέρους ὄντας, ἀλλὰ κατὰ τὸ λόγον ἔχειν αὐτοὺς καὶ τὰς αἰτίας γνωρίζειν.

Ὅλως τε σημεῖον τοῦ εἰδότος καὶ μὴ εἰδότος¹ τὸ δύνασθαι διδάσκειν ἐστίν, καὶ διὰ τοῦτο τὴν τέχνην τῆς ἐμπειρίας ἡγούμεθα² μᾶλλον ἐπιστήμην εἶναι· 10 δύνανται γάρ, οἱ δὲ οὐ δύνανται διδάσκειν. ἔτι δὲ τῶν αἰσθήσεων οὐδεμίαν ἡγούμεθα εἶναι σοφίαν· καίτοι κυριώταταί γ' εἰσὶν αἰσθῆται τῶν καθ' ἕκαστα γνώσεις· ἀλλ' οὐ λέγουσι τὸ διὰ τί περὶ οὐδενός, οἷον διὰ τί θερμὸν τὸ πῦρ, ἀλλὰ μόνον ὅτι θερμόν.

Τὸ δ' μὲν οὖν πρῶτον εἰκὸς τὸν ὁποιοῦν εὐρόντα 15 τέχνην παρὰ τὰς κοινὰς αἰσθήσεις θαυμάζεσθαι ὑπὸ τῶν ἀνθρώπων, μὴ μόνον διὰ τὸ χρήσιμον εἶναι τι τῶν εὐρεθέντων, ἀλλ' ὡς σοφὸν καὶ διαφέροντα τῶν ἄλλων· πλείονων δ' εὐρισκομένων τεχνῶν, καὶ τῶν μὲν πρὸς ἀναγκαῖα, τῶν δὲ πρὸς

¹ καὶ μὴ εἰδότος om. A^bΓ.² οἰόμεθα recce.³ τὸν recce.

art rather than to experience, and we assume that Art is superior to experience, artists are wiser than men of mere experience (which implies that in all cases wisdom depends rather upon knowledge); and this is because the former know the cause, whereas the latter do not. For the experienced know the fact, but not the wherefore; but the artists know the wherefore and the cause. For the same reason we consider that the master craftsmen in every profession are more estimable and know more and are wiser than the artisans, because they know the reasons of the things which are done; but we think that the artisans, like certain inanimate objects, do things, but without knowing what they are doing (as, for instance, fire burns); only whereas inanimate 12 objects perform all their actions in virtue of a certain natural quality, artisans perform theirs through habit. Thus the master craftsmen are superior in wisdom, not because they can do things, but because they possess a theory and know the causes.

In general the sign of knowledge or ignorance is the ability to teach, and for this reason we hold that art rather than experience is scientific knowledge; for the artists can teach, but the others cannot. Further, we do not consider any of the senses to be 13 Wisdom. They are indeed our chief sources of knowledge about particulars, but they do not tell us the reason for anything, as for example why fire is hot, but only that it is hot.

It is therefore probable that at first the inventor 14 of any art which went further than the ordinary sensations was admired by his fellow-men, not merely because some of his inventions were useful, but as development of arts and sciences. being a wise and superior person. And as more and 15 more arts were discovered, some relating to the

981^b

διαγωγῆν οὐσῶν, ἀεὶ σοφωτέρους τοὺς τοιούτους
 20 ἐκείνων ὑπολαμβάνεσθαι,¹ διὰ τὸ μὴ πρὸς χρῆσιν
 εἶναι τὰς ἐπιστήμας αὐτῶν. ὅθεν ἤδη πάντων τῶν
 τοιούτων κατεσκευασμένων αἱ μὴ πρὸς ἡδονὴν
 μηδὲ πρὸς τάναγκαῖα τῶν ἐπιστημῶν εὐρέθησαν,
 καὶ πρῶτον ἐν τούτοις τοῖς τόποις οὐπερ ἐσχόλασαν.
 διὸ περὶ Αἴγυπτον αἱ μαθηματικαὶ πρῶτον τέχναι
 25 συνέστησαν, ἐκεῖ γὰρ ἀφείθη σχολάζειν τὸ τῶν
 ἱερέων ἔθνος. Εἴρηται μὲν οὖν ἐν τοῖς ἠθικοῖς
 τίς διαφορὰ τέχνης καὶ ἐπιστήμης καὶ τῶν ἄλλων
 τῶν ὁμογενῶν· οὐ δ' ἔνεκα νῦν ποιούμεθα τὸν λόγον
 τοῦτ' ἔστιν, ὅτι τὴν ὀνομαζομένην σοφίαν περὶ τὰ
 πρῶτα αἷτια καὶ τὰς ἀρχὰς ὑπολαμβάνουσι πάντες·
 30 ὥστε καθάπερ εἴρηται πρότερον, ὁ μὲν ἔμπειρος
 τῶν ὀπιανούν ἐχόντων αἰσθησιν εἶναι δοκεῖ σοφώ-
 τερος, ὁ δὲ τεχνίτης τῶν ἐμπίρων, χειροτέχνου δὲ
 982^a ἀρχιτέκτων, αἱ δὲ θεωρητικαὶ τῶν ποιητικῶν
 μᾶλλον. ὅτι μὲν οὖν ἡ σοφία περὶ τινὰς ἀρχὰς καὶ
 αἰτίας² ἔστιν ἐπιστήμη, δῆλον.

II. Ἐπεὶ δὲ ταύτην τὴν ἐπιστήμην ζητοῦμεν, τοῦτ'
 5 ἂν εἴη σκεπτέον, ἢ περὶ ποίας αἰτίας καὶ περὶ ποίας
 ἀρχὰς ἐπιστήμη σοφία ἐστίν. εἰ δὲ λάβοι τις τὰς
 ὑπολήψεις ἃς ἔχομεν περὶ τοῦ σοφοῦ, τάχ' ἂν ἐκ
 τούτου φανερὸν γένοιτο μᾶλλον. ὑπολαμβάνομεν
 δὴ πρῶτον μὲν ἐπίστασθαι πάντα τὸν σοφὸν ὡς
 ἐνδέχεται, μὴ καθ' ἕκαστον ἔχοντα ἐπιστήμην
 10 αὐτῶν· εἶτα τὸν τὰ χαλεπὰ γινῶναι δυνάμενον καὶ
 μὴ ῥάδια ἀνθρώπων γινώσκειν, τοῦτον σοφόν (τὸ

¹ ὑπολαμβάνομεν A^b.² ἀρχὰς καὶ αἰτίας: aīrias καὶ ἀρχὰς EF.^a Cf. Plato, *Phaedrus* 274 c, Herodotus ii. 109.^b *Eth. Nic.* vi. 1139 b 14-1141 b 8. ^c i.e. *Metaphysics*.

8

necessities and some to the pastimes of life, the
 inventors of the latter were always considered wiser
 than those of the former, because their branches of
 knowledge did not aim at utility. Hence when all 16
 the discoveries of this kind were fully developed,
 the sciences which relate neither to pleasure nor yet
 to the necessities of life were invented, and first
 in those places where men had leisure. Thus the
 mathematical sciences originated in the neighbour-
 hood of Egypt, because there the priestly class was
 allowed leisure.^a

The difference between art and science and the 17
 other kindred mental activities has been stated in
 the *Ethics*^b; the reason for our present discussion
 is that it is generally assumed that what is called
 Wisdom^c is concerned with the primary causes and
 principles, so that, as has been already stated, the
 man of experience is held to be wiser than the mere
 possessors of any power of sensation, the artist
 than the man of experience, the master craftsman
 than the artisan; and the speculative sciences to be
 more learned than the productive. Thus it is clear
 that Wisdom is knowledge of certain principles and
 causes.

II. Since we are investigating this kind of know-
 ledge, we must consider what these causes and prin-
 ciples are whose knowledge is Wisdom. Perhaps it
 will be clearer if we take the opinions which we hold
 about the wise man. We consider first, then, that 2
 the wise man knows all things, so far as it is possible,
 without having knowledge of every one of them in-
 dividually; next, that the wise man is he who can
 comprehend difficult things, such as are not easy for
 human comprehension (for sense-perception, being

Wisdom is
 the know-
 ledge of
 certain
 causes and
 principles.

What are
 these
 causes?

The wise
 man must
 have (a)
 universal
 knowledge,
 (b) know-
 ledge of
 difficult
 subjects.

9

982 a

γὰρ αἰσθάνεσθαι πάντων κοινόν, διὰ βῆδιον καὶ οὐδὲν σοφόν)· ἔτι τὸν ἀκριβέστερον καὶ τὸν διδασκαλικώτερον τῶν αἰτίων σοφώτερον εἶναι περὶ πᾶσαν ἐπιστήμην· καὶ τῶν ἐπιστημῶν δὲ τὴν αὐτῆς ἕνεκεν καὶ τοῦ εἰδέναι χάριν αἰρετὴν οὐσαν μᾶλλον εἶναι σοφίαν ἢ τὴν τῶν ἀποβαινόντων ἕνεκεν, καὶ τὴν ἀρχικωτέραν τῆς ὑπηρετούσης μᾶλλον¹ σοφίαν· οὐ γὰρ δεῖν ἐπιτάττεσθαι τὸν σοφόν ἀλλ' ἐπιτάττειν, καὶ οὐ τοῦτον ἐτέρῳ πείθεσθαι, ἀλλὰ τούτῳ τὸν ἥττον σοφόν. Τὰς μὲν οὖν ὑπολήψεις τοιαύτας καὶ τοσαύτας ἔχομεν περὶ τῆς σοφίας καὶ τῶν σοφῶν· τούτων δὲ τὸ μὲν πάντα ἐπίστασθαι τῷ μάλιστα ἔχοντι τὴν καθόλου ἐπιστήμην ἀναγκαῖον ὑπάρχειν· οὗτος γὰρ οἶδέ πως πάντα τὰ ὑποκείμενα. σχεδὸν δὲ καὶ χαλεπώτατα ταῦτα γνωρίζειν τοῖς ἀνθρώποις, τὰ μάλιστα καθόλου· πορρωτάτω γὰρ τῶν αἰσθήσεών ἐστιν. ἀκριβέσταται δὲ τῶν ἐπιστημῶν αἱ μάλιστα τῶν πρώτων εἰσίν· αἱ γὰρ ἐξ ἐλαττόνων ἀκριβέστεραι τῶν ἐκ προσθέσεως λεγομένων,² οἷον ἀριθμητικὴ γεωμετρίας. ἀλλὰ μὴν καὶ διδασκαλικὴ γε ἢ τῶν αἰτίων θεωρητικὴ μᾶλλον· οὗτοι γὰρ διδάσκουσιν οἱ τὰς αἰτίας λέγοντες περὶ ἐκάστου.³ τὸ δ' εἰδέναι καὶ τὸ ἐπίστασθαι αὐτῶν ἕνεκα μάλισθ' ὑπάρχει τῇ τοῦ μάλιστα ἐπιστητοῦ ἐπιστήμῃ. ὁ γὰρ τὸ ἐπίστασθαι δι' αὐτὸ αἰρούμενος τὴν μάλιστα

¹ μᾶλλον εἶναι ΕΓ.² λεγομένων: λαμβανομένων Αβ.³ ἐκαστου Αβ.

10

common to all, is easy, and has nothing to do with Wisdom); and further that in every branch of knowledge a man is wiser in proportion as he is more accurately informed and better able to expound the causes. Again among the sciences we consider that that science which is desirable in itself and for the sake of knowledge is more nearly Wisdom than that which is desirable for its results, and that the superior is more nearly Wisdom than the subsidiary; for the wise man should give orders, not receive them; nor should he obey others, but the less wise should obey him.

Such in kind and in number are the opinions which we hold with regard to Wisdom and the wise. Of the qualities there described the knowledge of everything must necessarily belong to him who in the highest degree possesses knowledge of the universal, because he knows in a sense all the particulars which it comprises. These things, viz. the most universal, are perhaps the hardest for man to grasp, because they are furthest removed from the senses. Again, the most exact of the sciences are those which are most concerned with the first principles; for those which are based on fewer principles are more exact than those which include additional principles; e.g., arithmetic is more exact than geometry. Moreover, the science which investigates causes is more instructive than one which does not, for it is those who tell us the causes of any particular thing who instruct us. Moreover, knowledge and understanding which are desirable for their own sake are most attainable in the knowledge of that which is most knowable. For the man who desires knowledge for its own sake will most desire the most perfect knowledge,

He must be (c) more exact, (d) better able to explain

3 causes than other men. Knowledge is more nearly Wisdom in proportion as it is (c) more desirable in

4 itself, (f) superior to other forms of knowledge.

11

982 b ἐπιστήμην μάλιστα αἰρήσεται, τοιαύτη δ' ἐστὶν ἡ τοῦ μάλιστα ἐπιστητοῦ, μάλιστα δὲ ἐπιστητὰ τὰ πρῶτα καὶ τὰ αἷτια· διὰ γὰρ ταῦτα καὶ ἐκ τούτων τὰλλα γνωρίζεται, ἀλλ' οὐ ταῦτα διὰ τῶν ὑποκειμένων.⁵ ἀρχικωτάτη δὲ τῶν ἐπιστημῶν, καὶ μάλλον ἀρχικὴ τῆς ὑπηρετούσης, ἡ γνωρίζουσα τίνος ἕνεκὲν ἐστὶ πρακτέον ἕκαστον· τοῦτο δ' ἐστὶ τὰγαθὸν ἕκαστου, ὅλως δὲ τὸ ἄριστον ἐν τῇ φύσει πάση.

Ἐξ ἀπάντων οὖν τῶν εἰρημένων ἐπὶ τὴν αὐτὴν ἐπιστήμην πίπτει τὸ ζητούμενον ὄνομα· δεῖ γὰρ ταύτην τῶν πρῶτων ἀρχῶν καὶ αἰτιῶν εἶναι θεωρητικήν· καὶ γὰρ τὰγαθὸν καὶ τὸ οὐ ἕνεκα ἐν τῶν αἰτιῶν ἐστίν. Ὅτι δ' οὐ ποιητικὴ, δῆλον καὶ ἐκ τῶν πρῶτων φιλοσοφησάντων. διὰ γὰρ τὸ θαυμάζειν οἱ ἄνθρωποι καὶ νῦν καὶ τὸ πρῶτον ἤρξαντο φιλοσοφεῖν, ἐξ ἀρχῆς μὲν τὰ πρόχειρα τῶν ἀπόρων¹ θαυμάσαντες, εἶτα κατὰ μικρὸν οὕτω προϊόντες,¹⁵ καὶ περὶ τῶν μειζόνων διαπορήσαντες, οἷον περὶ τῶν τῆς σελήνης παθημάτων, καὶ τῶν περὶ τὸν ἥλιον καὶ ἄστρα, καὶ περὶ τῆς τοῦ παντὸς γενέσεως. οἱ δ' ἀπόρων καὶ θαυμάζων οἶεται ἀγνοεῖν (διὸ καὶ ὁ φιλόμυθος φιλόσοφος² πῶς ἐστίν· ὁ γὰρ μῦθος²⁰ σύγκειται ἐκ θαυμασιῶν)· ὥστ' εἶπερ διὰ τὸ φεύγειν τὴν ἀγνοίαν ἐφιλοσόφησαν, φανερόν ὅτι διὰ τὸ εἰδέναι τὸ ἐπίστασθαι ἐδίωκον, καὶ οὐ χρήσεώς τινος ἕνεκεν. μαρτυρεῖ δὲ αὐτὸ τὸ συμβεβηκός· σχεδὸν γὰρ πάντων ὑπαρχόντων τῶν ἀναγκαίων καὶ πρὸς βραστώνην καὶ διαγωγὴν ἡ τοιαύτη φρόνησις ἤρξατο ζητεῖσθαι. δῆλον οὖν ὡς δι'

¹ ἀπόρων: ἀτόπων A^b.

² ὁ φιλόμυθος φιλόσοφος A^b Alexander: φιλόμυθος ὁ φιλόσοφος E Asclepius.

and this is the knowledge of the most knowable, and the things which are most knowable are first principles and causes; for it is through these and from these that other things come to be known, and not these through the particulars which fall under them. And that science is supreme, and superior to the subsidiary, which knows for what end each action is to be done; *i.e.* the Good in each particular case, and in general the highest Good in the whole of nature.

Thus as a result of all the above considerations the term which we are investigating falls under the same science, which must speculate about first principles and causes; for the Good, *i.e.* the *end*, is one of the causes.

This evidence indicates that Wisdom is knowledge of first prin-

That it is not a productive science is clear from a consideration of the first philosophers. It is through wonder that men now begin and originally began to philosophize; wondering in the first place at obvious perplexities, and then by gradual progression raising questions about the greater matters too, *e.g.* about the changes of the moon and of the sun, about the stars and about the origin of the universe. Now he who wonders and is perplexed feels that he is ignorant (thus the myth-lover is in a sense a philosopher, since myths are composed of wonders); therefore if it was to escape ignorance that men studied philosophy, it is obvious that they pursued science for the sake of knowledge, and not for any practical utility. The actual course of events bears witness to this; for speculation of this kind began with a view to recreation and pastime, at a time when practically all the necessities of life were already supplied. Clearly then it is for no extrinsic advantage

principles and causes. It is not a productive but a speculative science.

982 b

25 οὐδεμίαν αὐτὴν ζητοῦμεν χρεῖαν ἑτέραν, ἀλλ' ὥσπερ ἄνθρωπος, φαμέν, ἐλευθερός ὁ αὐτοῦ ἕνεκα καὶ μὴ ἄλλου ὄν, οὕτω καὶ αὐτὴν ὡς μόνην ἐλευθέραν οὖσαν¹ τῶν ἐπιστημῶν· μόνη γὰρ αὕτη² αὐτῆς ἕνεκὲν ἔστιν.

Διὸ καὶ δικαίως ἂν οὐκ ἀνθρωπίνῃ νομίζοιτο αὐτῆς
30 ἡ κτήσις· πολλαχῆ γὰρ ἡ φύσις δούλη τῶν ἀνθρώπων ἔστιν, ὥστε κατὰ Σιμωνίδην θεὸς ἂν μόνος τοῦτ' ἔχοι γέρας, ἄνδρα δ' οὐκ ἄξιον μὴ οὐ ζητεῖν τὴν καθ' αὐτὸν ἐπιστήμην. εἰ δὲ λέγουσί τι οἱ
983 a ποιηταὶ καὶ πέφυκε φθονεῖν τὸ θεῖον, ἐπὶ τούτου συμβῆναι³ μάλιστα εἰκὸς καὶ δυστυχεῖς εἶναι πάντας τοὺς περιττοὺς. ἀλλ' οὔτε τὸ θεῖον φθονερόν ἐνδέχεται εἶναι, ἀλλὰ⁴ κατὰ τὴν παροιμίαν πολλὰ ψεύδονται αἰδοί, οὔτε τῆς τοιαύτης ἄλλην χρῆν νομίζειν τιμωτέραν· ἡ γὰρ θειοτάτη καὶ τιμωτάτη. τοιαύτη δὲ διχῶς ἂν εἴη μόνον· ἦν τε γὰρ μάλιστ' ἂν ὁ θεὸς ἔχοι, θεία τῶν ἐπιστημῶν ἔστί, καὶ εἴ τις τῶν θείων εἴη. μόνη δ' αὕτη τούτων ἀμφοτέρων τετύχηκεν· ὁ τε γὰρ θεὸς δοκεῖ τῶν αἰτίων πᾶσιν εἶναι καὶ ἀρχή τις, καὶ τὴν τοιαύτην
10 ἡ μόνος ἢ μάλιστ' ἂν ἔχοι ὁ θεός. ἀναγκαιότεραι μὲν οὖν πᾶσαι ταύτης, ἀμείνων δ' οὐδεμία. Δεῖ μὲντοι πῶς καταστήναι τὴν κτήσιν αὐτῆς εἰς τούναντίον ἡμῶν τῶν ἐξ ἀρχῆς ζητήσεων. ἄρχονται μὲν γὰρ, ὥσπερ εἶπομεν, ἀπὸ τοῦ θαυμάζειν πάντες εἰ οὕτως ἔχει, καθάπερ <περὶ>⁵ τῶν θαυμάτων ταύ-

15 τόματα ἢ περὶ τὰς τοῦ ἡλίου τροπὰς ἢ τὴν ζῆσιν

¹ αὐτὴν ὡς μόνην ἐλευθέραν οὖσαν: αὕτη μόνη ἐλευθέρα οἷσα E.

² αὕτη: αὕτη A^b.

³ συμβαλεῖν A^b.

⁴ ἀλλὰ καὶ A^b.

⁵ Jaeger.

^a Fragment 3 (Hiller).

^b Cf. Solon, fragment 26 (Hiller); Leutsch and Schneidewin, *Paroemiographi*, i. 371.

that we seek this knowledge; for just as we call a man independent who exists for himself and not for another, so we call this the only independent science, since it alone exists for itself. It is Independent of the other

For this reason its acquisition might justly be supposed to be beyond human power, since in many respects human nature is servile; in which case, as Simonides^a says, "God alone can have this privilege," and man should only seek the knowledge which is within his reach. Indeed if the poets are right and the Deity is by nature jealous, it is probable that in this case He would be particularly jealous, and all those who excel in knowledge unfortunate. But it is impossible for the Deity to be jealous (indeed, as the proverb^b says, "poets tell many a lie"), nor must we suppose that any other form of knowledge is more precious than this; for what is most divine is most precious. Now there are two ways only in which it can be divine. A science is divine if it is peculiarly the possession of God, or if it is concerned with divine matters. And this science alone fulfils both these conditions; for (a) all believe that God is one of the causes and a kind of principle, and (b) God is the sole or chief possessor of this sort of knowledge. Accordingly, although all other sciences are more necessary than this, none is more excellent. 12 sciences. God does not grudge it to us. 13 14

The acquisition of this knowledge, however, must in a sense result in something which is the reverse of the outlook with which we first approached the inquiry. All begin, as we have said, by wondering that things should be as they are, e.g. with regard to marionettes, or the solstices, or the incommensur-

It changes our whole outlook.

983^a διαμέτρου ἀσύμμετρίαν· θαυμαστὸν γὰρ εἶναι δοκεῖ
 πᾶσι τοῖς μήπω τεθεωρηκόσι τὴν αἰτίαν,¹ εἴ τι τῷ
 ἐλαχίστῳ μὴ μετρεῖται. δεῖ δὲ εἰς τοῦναντίον, καὶ
 τὸ ἄμεινον κατὰ τὴν παροιμίαν, ἀποτελεῦσθαι,
 20 ἄν οὕτως θαυμάσειεν ἀνὴρ γεωμετρικὸς ὡς εἰ γέ-
 νοιτο ἢ διάμετρος μετρητῆ. Τίς μὲν οὖν ἢ φύσις
 τῆς ἐπιστήμης τῆς ζητουμένης εἴρηται, καὶ τίς ὁ
 σκοπὸς οὗ δέει τυγχάνειν τὴν ζήτησιν καὶ τὴν ὄλην
 μέθοδον.

III. Ἐπεὶ δὲ φανερόν ὅτι τῶν ἐξ ἀρχῆς αἰτίων δεῖ
 25 λαβεῖν ἐπιστήμην (τότε γὰρ εἶδέναι φαμέν ἕκαστον,
 ὅταν τὴν πρώτην αἰτίαν οἴωμεθα γνωρίζειν), τὰ δ'
 αἰτία λέγεται τετραχῶς, ὧν μίαν μὲν αἰτίαν φαμέν
 εἶναι τὴν οὐσίαν καὶ τὸ τί ἦν εἶναι (ἀνάγεται γὰρ τὸ
 διὰ τί εἰς τὸν λόγον ἔσχατον, αἴτιον δὲ καὶ ἀρχῆ
 30 τὸ διὰ τί πρῶτον), ἑτέραν δὲ τὴν ὕλην καὶ τὸ ὑπο-
 κείμενον, τρίτην δὲ ὅθεν ἢ ἀρχὴ τῆς κινήσεως,
 τετάρτην δὲ τὴν ἀντικειμένην αἰτίαν ταύτη, τὸ
 οὗ ἕνεκα καὶ τὰγαθόν (τέλος γὰρ γενέσεως καὶ
 κινήσεως πάσης τοῦτ' ἔστιν), τεθεώρηται μὲν οὖν
 83^b ἱκανῶς περὶ αὐτῶν ἡμῖν ἐν τοῖς περὶ φύσεως,
 ὅμως δὲ παραλάβωμεν καὶ τοὺς πρότερον ἡμῶν
 εἰς ἐπίσκεψιν τῶν ὄντων ἐλθόντας καὶ φιλοσοφή-
 σαντας περὶ τῆς ἀληθείας. δῆλον γὰρ ὅτι κἀκεῖνοι
 λέγουσιν ἀρχὰς τινὰς καὶ αἰτίας· ἐπελθοῦσιν οὖν

¹ τοῖς . . . αἰτίαν hoc transp. Jaeger, ita ci. Bonitz: habent
 codd. post ταῦτάματα l. 15.

^a i.e. the fact that the diagonal of a square cannot be
 rationally expressed in terms of the side.

^b i.e. δευτέρων ἀμεινῶν ("second thoughts are better").
 Leutsch and Schneidewin i. 62.

ability^a of the diagonal of a square; because it
 seems wonderful to everyone who has not yet per-
 ceived the cause that a thing should not be measur-
 able by the smallest unit. But we must end with 16
 the contrary and (according to the proverb)^b the
 better view, as men do even in these cases when
 they understand them; for a geometrician would
 wonder at nothing so much as if the diagonal were
 to become measurable.

Thus we have stated what is the nature of the
 science which we are seeking, and what is the object
 which our search and our whole investigation must
 attain. *speculative but maybe for practical or not at all*

III. It is clear that we must obtain knowledge of
 the primary causes, because it is when we think that
 we understand its primary cause that we claim to
 know each particular thing. Now there are four
 recognized kinds of cause. Of these we hold that one
 is the essence or essential nature of the thing (since
 the "reason why" of a thing is ultimately reducible
 to its formula, and the ultimate "reason why" is a
 cause and principle); another is the matter or sub-
strate; the third is the source of motion; and the
 fourth is the cause which is opposite to this, namely
 the purpose or "good"; for this is the end of every
 2 generative or motive process. We have investigated
 these sufficiently in the *Physics*^c; however, let us
 avail ourselves of the evidence of those who have
 before us approached the investigation of reality and
 philosophized about Truth. For clearly they too
 recognize certain principles and causes, and so it
 will be of some assistance to our present inquiry if

^c *Physics* II. iii., vii.

983^b

ἔσται τι προὔργου τῇ μεθόδῳ τῇ νῦν· ἢ γὰρ ἕτερόν τι γένος εὐρήσομεν αἰτίας, ἢ ταῖς νῦν λεγομένας μᾶλλον πιστεύσομεν. Τῶν δὴ πρώτων φιλοσοφησάντων οἱ πλείστοι τὰς ἐν ἕλης εἶδει μόνας ᾤθησαν ἀρχὰς εἶναι πάντων· ἐξ οὗ γὰρ ἔστιν ἅπαντα τὰ ὄντα, καὶ ἐξ οὗ γίνεται πρώτου

10 καὶ εἰς ὃ φθείρεται τελευταῖον, τῆς μὲν οὐσίας ὑπομενούσης, τοῖς δὲ πάθει μεταβαλλούσης, τοῦτο στοιχείον καὶ ταύτην ἀρχὴν φασιν εἶναι τῶν ὄντων, καὶ διὰ τοῦτο οὔτε γινεσθαι οὐθὲν οἴονται οὔτε ἀπόλλυσθαι, ὡς τῆς τοιαύτης φύσεως αἰεὶ σωζομένης, ὥσπερ οὐδὲ τὸν Σωκράτην φαμὲν οὔτε

15 γίνεσθαι ἀπλῶς ὅταν γίνηται καλὸς ἢ μουσικὸς οὔτε ἀπόλλυσθαι ὅταν ἀποβάλλῃ ταύτας τὰς ἕξεις, διὰ τὸ ὑπομένειν τὸ ὑποκείμενον τὸν Σωκράτην αὐτόν, οὕτως οὐδὲ τῶν ἄλλων οὐδέν· αἰεὶ γὰρ εἶναι τινὰ φύσιν ἢ μίαν ἢ πλείους μῆς, ἐξ ὧν γίνεται τᾶλλα σωζομένης ἐκείνης. τὸ μέντοι πλῆθος καὶ

20 τὸ εἶδος τῆς τοιαύτης ἀρχῆς οὐ τὸ αὐτὸ πάντες λέγουσιν, ἀλλὰ Θαλῆς μὲν ὁ τῆς τοιαύτης ἀρχηγὸς φιλοσοφίας ὕδωρ φησὶν εἶναι (διὸ καὶ τὴν γῆν ἐφ' ὕδατος ἀπεφήνατο εἶναι), λαβῶν ἴσως τὴν ὑπόληψιν ταύτην² ἐκ τοῦ πάντων ὄραν τὴν τροφὴν ὑγρὰν οὔσαν καὶ αὐτὸ τὸ θερμὸν ἐκ τούτου γιγνόμενον καὶ

25 τοῦτω ζῶν (τὸ δ' ἐξ οὗ γίνεται, τοῦτ' ἔστιν ἀρχὴ πάντων), διὰ τε δὴ τοῦτο τὴν ὑπόληψιν λαβῶν ταύτην, καὶ διὰ τὸ πάντων τὰ σπέρματα τὴν φύσιν ὑγρὰν ἔχειν, τὸ δ' ὕδωρ ἀρχὴν τῆς φύσεως εἶναι

¹ αἰεὶ Bywater, δεῖν Wirth: δεῖ codd.

² ταύτην om. recs.

^o Thales of Miletus, fl. 585 B.C.

^b That of the Ionian monists, who sought a single material principle of everything.

we study their teaching; because we shall either discover some other kind of cause, or have more confidence in those which we have just described.

Most of the earliest philosophers conceived only 3 of material principles as underlying all things. That of which all things consist, from which they first come and into which on their destruction they are ultimately resolved, of which the essence persists although modified by its affections—this, they say, is an element and principle of existing things. Hence they believe that nothing is either generated or destroyed, since this kind of primary entity always persists. Similarly we do not say that Socrates comes into being *absolutely* when he becomes handsome or cultured, nor that he is destroyed when he loses these qualities; because the substrate, Socrates himself, persists. In the same way nothing else is 4 generated or destroyed; for there is some one entity (or more than one) which always persists and from which all other things are generated. All are not 5 agreed, however, as to the number and character of these principles. Thales,^a the founder of this school of philosophy,^b says the permanent entity is water (which is why he also propounded that the earth floats on water). Presumably he derived this assumption from seeing that the nutriment of everything is moist, and that heat itself is generated from moisture and depends upon it for its existence (and that from which a thing is generated is always its first principle). He derived his assumption, then, from this; and also from the fact that the seeds of everything have a moist nature, whereas water is the first principle of the nature of moist things.

The earliest thinkers recognized only the material cause.

Thales identified it with water.

983 b τοῖς ὑγροῖς. Εἰσὶ δὲ τινες οἱ καὶ τοὺς παμπαλαίους
καὶ πολὺ πρὸ τῆς νῦν γενέσεως καὶ πρώτους
30 θεολογήσαντας οὕτως οἴονται περὶ τῆς φύσεως
ὑπολαβεῖν. Ὀκεανὸν τε γὰρ καὶ Τηθὺν ἐποίησαν
τῆς γενέσεως πατέρας, καὶ τὸν ὄρκον τῶν θεῶν
ὑδωρ, τὴν καλουμένην ὑπ' αὐτῶν Στύγα [τῶν
ποιητῶν].¹ τιμώτατον μὲν γὰρ τὸ πρεσβύτατον,
984 a ὄρκος δὲ τὸ τιμώτατόν ἐστιν. εἰ μὲν οὖν ἀρχαία
τις αὕτη καὶ παλαιὰ τετύχηκεν οὕσα περὶ τῆς
φύσεως ἢ δόξα, τάχ' ἂν ἄδηλον εἴη, Θαλῆς μὲντοι
λέγεται οὕτως ἀποφήνασθαι περὶ τῆς πρώτης
αἰτίας. Ἴππωνα γὰρ οὐκ ἂν τις ἀξιόσειε θείναι
5 μετὰ τούτων, διὰ τὴν εὐτέλειαν αὐτοῦ τῆς διανοίας.
Ἀναξιμένης δὲ ἀέρα καὶ Διογένης πρότερον ὕδατος
καὶ μάλιστ' ἀρχὴν τιθέασι τῶν ἀπλῶν σωματίων,
Ἴππασος δὲ πῦρ ὁ Μεταποντῖνος καὶ Ἡράκλειτος
ὁ Ἐφέσιος, Ἐμπεδοκλῆς δὲ τὰ τέτταρα, πρὸς τοῖς
εἰρημένους γῆν προστιθεῖς τέταρτον· ταῦτα γὰρ αἰεὶ
10 διαμένειν καὶ οὐ γίνεσθαι ἀλλ' ἢ πλήθει καὶ ὀλι-
γότητι, συγκρινόμενα καὶ διακρινόμενα εἰς ἓν τε
καὶ ἐξ ἑνός. Ἀναξαγόρας δὲ ὁ Κλαζομένιος, τῆ
μὲν ἡλικία πρότερος ὢν τούτου, τοῖς δ' ἔργοις
ὑστερος, ἀπείρους εἶναι φησι τὰς ἀρχάς· σχεδὸν
γὰρ ἅπαντα τὰ ὁμοιομερῆ, καθάπερ ὑδωρ ἢ πῦρ,

¹ Christ.

^a Cf. Plato, *Cratylus* 402 b, *Theaetetus* 152 e, 180 c, d.

^b Cf. Homer, *Iliad*, xiv. 201, 246.

^c Cf. Homer, *Iliad*, ii. 755, xiv. 271, xv. 37.

^d Hippo of Samos, a medical writer and eclectic philosopher who lived in the latter half of the fifth century B.C. Cf. *De Anima* 405 b 2.

There are some ^a who think that the men of very 6 ancient times, long before the present era, who first speculated about the gods, also held this same opinion about the primary entity. For they ^b represented Oceanus and Tethys to be the parents of creation, and the oath of the gods to be by water—Styx,^c as they call it. Now what is most ancient is most revered, and what is most revered is what we swear by. Whether this view of the primary entity ⁷ is really ancient and time-honoured may perhaps be considered uncertain; however, it is said that this was Thales' opinion concerning the first cause. (I say nothing of Hippo,^d because no one would presume to include him in this company, in view of the paltriness of his intelligence.)

Anaximenes ^e and Diogenes ^f held that air is prior 8 to water, and is of all corporeal elements most truly the first principle. Hippasus ^g of Metapontum and Heraclitus ^h of Ephesus hold this of fire; and Empedocles ⁱ—adding earth as a fourth to those already mentioned—takes all four. These, he says, always persist, and are only generated in respect of multitude and paucity, according as they are combined into unity or differentiated out of unity.^j

Anaxagoras of Clazomenae—prior to Empedocles 9 in point of age, but posterior in his activities—says that the first principles are infinite in number. For he says that as a general rule all things which are,

^a The third Milesian monist; fl. circa 545 B.C.

^f Diogenes of Apollonia, an eclectic philosopher roughly contemporary with Hippo.

^g A Pythagorean, probably slightly junior to Heraclitus.

^h Fl. about 500 B.C.

ⁱ Of Acragas; fl. 450 B.C.

^j Cf. frag. 17 (Diels), R.P. 166; Burnet, *E.G.P.* 108-109.

Other views
about the
material
cause.

984 a

15 οὕτω γίνεσθαι καὶ ἀπόλλυσθαι φησι, συγκρίσει καὶ διακρίσει μόνον, ἄλλως δ' οὔτε γίνεσθαι οὔτ' ἀπόλλυσθαι, ἀλλὰ διαμένειν αἴδια. Ἐκ μὲν οὖν

τούτων μόνην τις αἰτίαν νομίσειεν ἂν τὴν ἐν ὕλης εἶδει λεγομένην· προϋόντων δ' οὕτως, αὐτὸ τὸ πρᾶγμα ὡδοποίησεν αὐτοῖς καὶ συνηγάκασε ζητεῖν·

20 εἰ γὰρ ὅτι μάλιστα πᾶσα γένεσις καὶ φθορὰ¹ ἔκ τινος ἐνὸς ἢ καὶ πλειόνων ἐστίν, διὰ τί τοῦτο συμβαίνει, καὶ τί τὸ αἴτιον; οὐ γὰρ δὴ τό γε ὑποκείμενον αὐτὸ ποιεῖ μεταβάλλειν ἑαυτό· λέγω δ' οἶον οὔτε τὸ ξύλον οὔτε ὁ χαλκὸς αἴτιος τοῦ μεταβάλλειν ἑκάτερον αὐτῶν, οὐδὲ ποιεῖ τὸ μὲν ξύλον

25 κλίην ὁ δὲ χαλκὸς ἀνδριάντα, ἀλλ' ἕτερόν τι τῆς μεταβολῆς αἴτιον. τὸ δὲ τοῦτο ζητεῖν ἐστὶ τὸ τὴν ἑτέραν ἀρχὴν ζητεῖν, ὡς ἂν ἡμεῖς φαίμεν, ὅθεν ἢ ἀρχὴ τῆς κινήσεως. Οἱ μὲν οὖν πάμπαν ἐξ ἀρχῆς ἀψάμενοι τῆς μεθόδου τῆς τοιαύτης καὶ ἐν

φάσκοντες εἶναι τὸ ὑποκείμενον οὐθὲν ἐδυσχέραναν

30 ἑαυτοῖς, ἀλλ' ἔνιοί γε τῶν ἐν λεγόντων, ὥσπερ ἠττηθέντες ὑπὸ ταύτης τῆς ζητήσεως, τὸ ἐν ἀκίνητόν φασι εἶναι καὶ τὴν φύσιν ὅλην οὐ μόνον κατὰ γένεσιν καὶ φθορὰν (τοῦτο μὲν γὰρ ἀρχαῖόν τε καὶ πάντες ὠμολόγησαν), ἀλλὰ καὶ κατὰ τὴν ἄλλην

984 b μεταβολὴν πᾶσαν· καὶ τοῦτο αὐτῶν ἰδιόν ἐστιν.

Τῶν μὲν οὖν ἐν φασκόντων εἶναι τὸ πᾶν οὐθενὶ συνέβη τὴν τοιαύτην συνιδεῖν αἰτίαν, πλὴν εἰ ἄρα

¹ γένεσις καὶ φθορὰ: φθορὰ καὶ γένεσις EI'.

^a This is Aristotle's illustration; apparently Anaxagoras did not regard the "elements" as homoeomerous (i.e. 22

like fire and water,^a homoeomerous, are generated and destroyed in this sense only, by combination and differentiation; otherwise they are neither generated nor destroyed, but persist eternally.^b

From this account it might be supposed that the 10 only cause is of the kind called "material." But as ^{The need for an efficient cause.} men proceeded in this way, the very circumstances of the case led them on and compelled them to seek further; because if it is really true that all generation and destruction is out of some one entity or even more than one, *why* does this happen, and what is the cause? It is surely not the substrate itself 11 which causes itself to change. I mean, e.g., that neither wood nor bronze is responsible for changing itself; wood does not make a bed, nor bronze a statue, but something else is the cause of the change. Now to investigate this is to investigate the second type of cause: the *source of motion*, as we should say.

Those who were the very first to take up this 12 inquiry, and who maintained that the substrate is one thing, had no misgivings on the subject; but ^{Some thinkers denied motion and change.} some of those^c who regard it as one thing, being baffled, as it were, by the inquiry, say that that one thing (and indeed the whole physical world) is immovable in respect not only of generation and destruction (this was a primitive belief and was generally admitted) but of all other change. This belief is peculiar to them.

None of those who maintained that the universe 13 is a unity achieved any conception of this type of ^{Early views of the} composed of parts which are similar to one another and to the whole). Cf. *De Caelo* 302 a 28, *De Gen. et Corr.* 314 a 24.

^b Cf. frag. 4 (Diels); and see Burnet, *E.G.P.* 130.

^c i.e. the Eleatic school.

984 b

Παρμενίδῃ, καὶ τούτῳ κατὰ τοσοῦτον ὅσον οὐ μόνον ἐν ἀλλὰ καὶ δύο πως τίθησιν αἰτίας εἶναι. 5 τοῖς δὲ δὴ πλείω ποιουσι μᾶλλον ἐνδέχεται λέγειν, ὅλον τοῖς θερμὸν καὶ ψυχρὸν ἢ πῦρ καὶ γῆν· χρώνται γὰρ ὡς κινητικὴν ἔχοντι τῷ πυρὶ τὴν φύσιν, ὕδατι δὲ καὶ γῆ καὶ τοῖς τοιούτοις τούναντίον. Μετὰ δὲ τούτους καὶ τὰς τοιαύτας ἀρχάς, ὡς οὐχ ἰκανῶν οὐσῶν γεννηῆσαι τὴν τῶν ὄντων φύσιν, πάλιν 10 ὑπ' αὐτῆς τῆς ἀληθείας, ὥσπερ εἵπομεν, ἀναγκαζόμενοι τὴν ἐχομένην ἐξήτησαν ἀρχὴν. τοῦ γὰρ εὖ καὶ καλῶς τὰ μὲν ἔχειν τὰ δὲ γίνεσθαι τῶν ὄντων ἴσως οὔτε πῦρ οὔτε γῆν οὔτ' ἄλλο τῶν τοιούτων οὐθὲν οὔτ' εἰκὸς αἴτιον εἶναι οὔτ' ἐκείνους οἰηθῆναι· οὐδ' αὖ τῷ αὐτομάτῳ καὶ τύχῃ τοσοῦτον ἐπι- 15 τρέψαι πρᾶγμα καλῶς εἶχεν. νοῦν δὴ τις εἰπὼν ἐνεῖναι, καθάπερ ἐν τοῖς ζώοις, καὶ ἐν τῇ φύσει τὸν αἴτιον τοῦ κόσμου καὶ τῆς τάξεως πάσης οἶον νήφων ἐφάνη παρ' εἰκῆ λέγοντας τοὺς πρότερον· φανερώς μὲν οὖν Ἀναξαγόραν ἴσμεν ἀψάμενον τούτων τῶν λόγων, αἰτίαν δ' ἔχει πρότερον Ἐρ- 20 μότιμος ὁ Κλαζομένιος εἰπεῖν. οἱ μὲν οὖν οὕτως ὑπολαμβάνοντες ἅμα τοῦ καλῶς τὴν αἰτίαν ἀρχὴν εἶναι τῶν ὄντων ἔθεσαν, καὶ τὴν τοιαύτην ὅθεν ἡ κίνησις ὑπάρχει τοῖς οὖσιν.

IV. Ὑποπεύσειε δ' ἂν τις Ἡσίοδον πρῶτον ζητῆσαι τὸ τοιοῦτον, κὰν εἴ τις ἄλλος ἔρωτα ἢ 25 ἐπιθυμίαν ἐν τοῖς οὖσιν ἔθηκεν ὡς ἀρχὴν, οἶον καὶ

^a Founder of the above; fl. about 475.

^b i.e. in the Δ3ξα. Fr. 8 (Diels); R.P. 121.

^c Aristotle is probably thinking of Empedocles. Cf. iv. 8.

cause, except perhaps Parmenides ^a; and him only in so far as he admits, in a sense, not one cause only but two.^b But those who recognize more than one 14 entity, e.g. hot and cold, or fire and earth, are better as quasi-material, able to give a systematic explanation, because they avail themselves of fire as being of a kinetic nature, and of water, earth, etc., as being the opposite.^c

After these thinkers and the discovery of these causes, since they were insufficient to account for the generation of the actual world, men were again compelled (as we have said) by truth itself to investigate the next first principle. For presumably it 15 is unnatural that either fire or earth or any other such element should cause existing things to be or become well and beautifully disposed; or indeed that those thinkers should hold such a view. Nor again was it satisfactory to commit so important a matter to spontaneity and chance. Hence when 16 someone^d said that there is Mind in nature, just as in animals, and that this is the cause of all order and arrangement, he seemed like a sane man in contrast with the haphazard statements of his predecessors.^e We know definitely that Anaxagoras adopted this 17 view; but Hermotimus^f of Clazomenae is credited with having stated it earlier. Those thinkers, then, who held this view assumed a principle in things which is the cause of beauty, and the sort of cause by which motion is communicated to things.

IV. It might be inferred that the first person to consider this question was Hesiod, or indeed anyone else who assumed Love or Desire as a first principle although the idea can be traced back to

^d Anaxagoras.

^e Cf. Plato, *Phaedo* 97 b-98 b.

^f A semi-mythical person supposed to have been a pre-incarnation of Pythagoras.

984^b Παρμενίδης· καὶ γὰρ οὗτος κατασκευάζων τὴν
τοῦ παντός γένεσιν

πρώτιστον μὲν (φησιν) ἔρωτα θεῶν μητίσατο
πάντων,

Ἡσίοδος δὲ

πάντων μὲν πρώτιστα χάος γένετ', αὐτὰρ ἔπειτα
γαί' εὐρύστερνος, — —
ἦδ' ἔρος, ὃς πάντεσσι μεταπρέπει ἀθανάτοισιν,

30 ὡς δέον ἐν τοῖς οὐσιν ὑπάρχειν τιν' αἰτίαν ἣτις
κινήσει καὶ συνάξει τὰ πράγματα. Τούτους μὲν
οὖν πῶς χρὴ διανεῖμαι περὶ τοῦ τίς πρώτος, ἐξέστω
κρίνειν ὕστερον· ἐπεὶ δὲ καὶ τὰναντία τοῖς ἀγαθοῖς
ἐνόντα ἐφαίνεται ἐν τῇ φύσει, καὶ οὐ μόνον τάξις καὶ

985^a τὸ καλὸν ἀλλὰ καὶ ἀταξία καὶ τὸ αἰσχρὸν, καὶ πλείω
τὰ κακὰ τῶν ἀγαθῶν καὶ τὰ φαῦλα τῶν καλῶν,
οὕτως ἄλλος τις φιλίαν εἰσήνεγκε καὶ νεῖκος, ἐκάτε-
ρον ἐκατέρων αἴτιον τούτων. εἰ γὰρ τις ἀκολουθοῖη
5 καὶ λαμβάνοι πρὸς τὴν διάνοιαν καὶ μὴ πρὸς ἃ ψελ-
λίξεται λέγων Ἐμπεδοκλῆς, εὐρήσει τὴν μὲν φιλίαν
αἰτίαν οὖσαν τῶν ἀγαθῶν, τὸ δὲ νεῖκος τῶν κακῶν·
ὥστ' εἴ τις φαίη τρόπον τινα καὶ λέγειν καὶ πρώτων
λέγειν τὸ κακὸν καὶ τὸ ἀγαθὸν ἀρχὰς Ἐμπεδοκλέα,
τάχ' ἂν λέγοι καλῶς, εἴπερ τὸ τῶν ἀγαθῶν ἀπάν-
10 των αἴτιον αὐτὸ τὰγαθὸν ἐστι [καὶ τῶν κακῶν τὸ
κακόν].¹ οὗτοι μὲν οὖν, ὥσπερ λέγομεν, καὶ μέχρι
τούτου δυοῖν αἰτίαν² ὧν ἡμεῖς διωρίσαμεν ἐν τοῖς
περὶ φύσεως ἡμιμένοι φαίνονται,³ τῆς τε ὕλης καὶ

¹ om. A^b comm.

² αἰτίαν ἐφήσαντο ΕΓ.

³ ἡμίμενοι φαίνονται om. ΕΓ.

^a Probably Aphrodite (so Simplicius, Plutarch).

in things; e.g. Parmenides. For he says, where he is describing the creation of the universe, earlier times.

Love she^a created first of all the gods.^b

And Hesiod says,^c

First of all things was Chaos made, and then
Broad-bosomed Earth . . .
And Love, the foremost of immortal beings,

thus implying that there must be in the world some cause to move things and combine them.

The question of arranging these thinkers in order 2 of priority may be decided later. Now since it was apparent that nature also contains the opposite of what is good, i.e. not only order and beauty, but disorder and ugliness; and that there are more bad and common things than there are good and beautiful: in view of this another thinker introduced Love and Strife^d as the respective causes of these things —because if one follows up and appreciates the 3 statements of Empedocles with a view to his real meaning and not to his obscure language, it will be found that Love is the cause of good, and Strife of evil. Thus it would perhaps be correct to say that Empedocles in a sense spoke of evil and good as first principles, and was the first to do so—that is, if the cause of all good things is absolute good. Empedocles introduced

These thinkers then, as I say, down to the time of 4 Empedocles, seem to have grasped two of the causes which we have defined in the *Physics*^e: the material an efficient cause of evil as well. As yet these causes were not properly

^b Fr. 13 (Diels).

^c *Theogony* 116-20. The quotation is slightly inaccurate.

^d Fr. 17, 26 (Diels); R.P. 166. Cf. Burnet, *E.G.P.* 108 ff.

^e *Phys.* II. iii., vii.

985 a τοῦ ὄθεν ἢ κίνησις, ἀμυδρῶς μέντοι καὶ οὐθὲν
 σαφῶς, ἀλλ' οἷον ἐν ταῖς μάχαις οἱ ἀγύμναστοι
 15 ποιοῦσιν· καὶ γὰρ ἐκεῖνοι περιφερόμενοι τύπτουσι
 πολλάκις καλὰς πληγὰς, ἀλλ' οὔτε ἐκεῖνοι ἀπὸ
 ἐπιστήμης οὔτε οἱτοὶ εὐόκασιν εἰδέναι¹ ὅτι λέγουσιν·
 σχεδὸν γὰρ οὐθὲν χρώμενοι φαίνονται τούτοις ἀλλ'
 ἢ κατὰ μικρόν. Ἀναξαγόρας τε γὰρ μηχανῆ
 χρήται τῷ νῷ πρὸς τὴν κοσμοποιίαν, καὶ ὅταν
 20 ἀπορήσῃ διὰ τίν' αἰτίαν ἐξ ἀνάγκης ἐστί, τότε
 πάρελκει αὐτόν, ἐν δὲ τοῖς ἄλλοις πάντα μᾶλλον
 αἰτιατὰ τῶν γιγνομένων ἢ νοῦν, καὶ Ἐμπεδοκλῆς
 ἐπὶ πλεόν μὲν τούτου χρήται τοῖς αἰτίοις, οὐ μὴν
 οὔθ' ἱκανῶς, οὔτ' ἐν τούτοις εὐρίσκει τὸ ὁμολο-
 γούμενον. πολλαχοῦ γοῦν αὐτῷ ἢ μὲν φιλία δια-
 25 κρίνει τὸ δὲ νεῖκος συγκρίνει. ὅταν μὲν γὰρ εἰς τὰ
 στοιχεῖα διῴστηται τὸ πᾶν ὑπὸ τοῦ νεῖκου, τότε τὸ²
 πῦρ εἰς ἐν συγκρίνεται καὶ τῶν ἄλλων στοιχείων
 ἕκαστον· ὅταν δὲ πάλιν³ ὑπὸ τῆς φιλίας συνίωσιν
 εἰς τὸ ἓν, ἀναγκαῖον ἐξ ἑκάστου τὰ μόρια δια-
 κρίνεσθαι πάλιν. Ἐμπεδοκλῆς μὲν οὖν παρὰ τοὺς
 30 πρότερον πρῶτος τὸ τὴν αἰτίαν διελεῖν⁴ εἰσήνεγκεν,
 οὐ μίαν ποιήσας τὴν τῆς κινήσεως ἀρχὴν ἀλλ'
 ἑτέρας τε καὶ ἐναντίας. ἔτι δὲ τὰ ὡς ἐν ὕλης εἶδει
 λεγόμενα στοιχεῖα τέτταρα πρῶτος εἶπεν· οὐ μὴν
 985 b χρήται γε τέτταρσιν, ἀλλ' ὡς δυσὶν οὐσι μόνοις,
 πυρὶ μὲν καθ' αὐτό, τοῖς δ' ἀντικειμένοις ὡς μιᾷ
 φύσει, γῆ τε καὶ ἀέρι καὶ ὕδατι· λάβοι δ' ἂν τις

¹ εἰδέναι: εἰδῶσιν λέγειν ΕΓ.

² τότε τὸ: τὸ τε Αῃ.

³ πάλιν πάντα recce.

⁴ τὸ . . . διελεῖν: ταύτην . . . διελῶν ΕΓ Asclepius.

cause and the source of motion; but only vaguely ^{understood} and indefinitely. They are like untrained soldiers in ^{or applied.} a battle, who rush about and often strike good blows, but without science; in the same way these thinkers do not seem to understand their own statements, since it is clear that upon the whole they seldom or never apply them. Anaxagoras avails himself of 5 Mind as an artificial device for producing order, and drags it in whenever he is at a loss to explain some necessary result; but otherwise he makes anything rather than Mind the cause of what happens.^a Again, Empedocles does indeed use causes to a greater degree than Anaxagoras, but not sufficiently; nor does he attain to consistency in their use. At 6 any rate Love often differentiates and Strife combines: because whenever the universe is differentiated into its elements by Strife, fire and each of the other elements are agglomerated into a unity; and whenever they are all combined together again by Love, the particles of each element are necessarily again differentiated.

Empedocles, then, differed from his predecessors 7 in that he first introduced the division of this cause, ^{Empedocles} making the source of motion not one but two con- ^{was the first} trary forces. Further, he was the first to maintain 8 ^{Pluralist} that the so-called material elements are four—not that he uses them as four, but as two only, treating fire on the one hand by itself, and the elements opposed to it—earth, air and water—on the other, as a single nature.^b This can be seen from a study

^a Cf. Plato, *Phaedo* 98 b, *Laws* 967 b; also *infra*, vii. 5.

^b Cf. iii. 14.

985 b

αὐτὸ θεωρῶν ἐκ τῶν ἐπῶν. οὗτος μὲν οὖν, ὥσπερ λέγομεν, οὕτω τε καὶ τοσαύτας εἴρηκε τὰς ἀρχάς.
 5 Λεύκιππος δὲ καὶ ὁ ἐταῖρος αὐτοῦ Δημόκριτος στοιχεῖα μὲν τὸ πλήρες καὶ τὸ κενὸν εἶναι φασί, λέγοντες τὸ μὲν ὄν τὸ δὲ μὴ ὄν, τούτων δὲ τὸ μὲν πλήρες καὶ στερεὸν τὸ ὄν, τὸ δὲ κενόν τε² καὶ μακρόν τὸ μὴ ὄν (διὸ καὶ οὐθὲν μᾶλλον τὸ ὄν τοῦ μὴ ὄντος εἶναι φασί, ὅτι οὐδὲ τοῦ κενοῦ τὸ
 10 σῶμα³), αἷτια δὲ τῶν ὄντων ταῦτα ὡς ὕλην. καὶ καθάπερ οἱ ἐν ποιοῦντες τὴν ὑποκειμένην οὐσίαν τᾶλλα τοῖς πάθεσιν αὐτῆς γεννώσι, τὸ μακρόν καὶ τὸ πυκνὸν ἀρχὰς τιθέμενοι τῶν παθημάτων, τὸν αὐτὸν τρόπον καὶ οὗτοι τὰς διαφορὰς αἰτίας τῶν ἄλλων εἶναι φασί. ταύτας μέντοι τρεῖς εἶναι
 15 λέγουσι, σχῆμά τε καὶ τάξιν καὶ θέσιν· διαφέρειν γὰρ φασί τὸ ὄν ῥυσμῶ καὶ διαθιγῆ καὶ τροπῆ μόνον· τούτων δὲ ὁ μὲν ῥυσμός σχῆμά ἐστιν, ἡ δὲ διαθιγῆ τάξις, ἡ δὲ τροπὴ θέσις· διαφέρει γὰρ τὸ μὲν Α τοῦ Ν σχήματι, τὸ δὲ ΑΝ τοῦ ΝΑ τάξει, τὸ δὲ Ζ τοῦ Η⁴ θέσει. περὶ δὲ κινήσεως, ὅθεν ἡ
 20 πῶς ὑπάρχει τοῖς οὔσι, καὶ οὗτοι παραπλησίως τοῖς ἄλλοις ῥαθύμως ἀφείσαν. περὶ μὲν οὖν τῶν δύο αἰτιῶν, ὥσπερ λέγομεν, ἐπὶ τοσοῦτον ἔοικεν ἐξηγήσθαι παρὰ τῶν πρότερον.

V. Ἐν δὲ τούτοις καὶ πρὸ τούτων οἱ καλούμενοι

¹ τὰς om. recc.

² γε recc.

³ τοῦ κενοῦ τὸ σῶμα Schwegler: τὸ κενὸν τοῦ σώματος.

⁴ Ζ τοῦ Η Wilamowitz (on the ground that Ζ was the symbol for Z in Aristotle's time): Ζ τοῦ Ν.

^a e.g. fr. 62 (Diels).

^b Of Miletus; *fl. circ.* 440 (?) B.C. See Burnet, *E.G.P.* 171 ff.

^c Of Abdera; *fl. circ.* 420 B.C. *E.G.P. loc. cit.*

of his writings.^a Such, then, as I say, is his account of the nature and number of the first principles.

Leucippus,^b however, and his disciple Democritus^c hold that the elements are the Full and the Void—calling the one “what is” and the other “what is not.”^d Of these they identify the full or solid with “what is,” and the void or rare with “what is not” (hence they hold that what is not is no less real than what is,^e because Void is as real as Body); and they say that these are the material causes of things. And just as those who make the underlying substance a unity generate all other things by means of its modifications, assuming rarity and density as first principles of these modifications, so these thinkers hold that the “differences”^e are the causes of everything else. These differences, they say, are three: shape, arrangement, and position; because they hold that what is differs only in *contour*, *inter-contact*, and *inclination*.^f (Of these contour means shape, inter-contact arrangement, and inclination position.) Thus, e.g., A differs from N in shape, AN from NA in arrangement, and Z from N^g in position. As for motion, whence and how it arises in things, they casually ignored this point, very much as the other thinkers did. Such, then, as I say, seems to be the extent of the inquiries which the earlier thinkers made into these two kinds of cause.

V. At the same time, however, and even earlier

The Pythagoreans

^d For the probable connexion between the Atomists and the Eleatics see *E.G.P.* 173, 175, and cf. *De Gen. et Corr.* 324 b 35-325 a 32.

^e i.e., of the atoms.

^f Cf. *R.P.* 194.

^g These letters will convey Aristotle's point better to the English reader, but see critical note.

985^b Πυθαγόρειοι τῶν μαθημάτων ἀψάμενοι πρῶτοι
 25 ταῦτά τε¹ προήγαγον, καὶ ἐντραφέντες ἐν αὐτοῖς
 τὰς τούτων ἀρχὰς τῶν ὄντων ἀρχὰς ᾗθήθησαν εἶναι
 πάντων. ἐπεὶ δὲ τούτων οἱ ἀριθμοὶ φύσει πρῶτοι,
 ἐν δὲ τούτοις² ἐδόκουν θεωρεῖν ὁμοιώματα πολλὰ
 τοῖς οὐσι καὶ γιγνομένοις, μᾶλλον ἢ ἐν πυρὶ καὶ γῆ
 καὶ ὕδατι, ὅτι τὸ μὲν τοιονδὶ τῶν ἀριθμῶν πάθος
 30 δικαιοσύνη, τὸ δὲ τοιονδὶ ψυχῆ καὶ νοῦς, ἕτερον δὲ
 καιρὸς, καὶ τῶν ἄλλων ὡς εἰπεῖν ἕκαστον ὁμοίως·
 ἔτι δὲ τῶν ἀρμονικῶν ἐν ἀριθμοῖς ὀρώντες τὰ πάθη
 καὶ τοὺς λόγους, ἐπεὶ δὴ³ τὰ μὲν ἄλλα τοῖς ἀριθμοῖς
 986^a ἐφαίνοντο⁴ τὴν φύσιν ἀφωμοιωῖσθαι πᾶσαν, οἱ δ'
 ἀριθμοὶ πάσης τῆς φύσεως πρῶτοι, τὰ τῶν ἀρι-
 θμῶν στοιχεῖα τῶν ὄντων στοιχεῖα πάντων ὑπ-
 ἔλαβον εἶναι,⁵ καὶ τὸν ὅλον οὐρανὸν ἀρμονίαν εἶναι
 καὶ ἀριθμόν· καὶ ὅσα εἶχον ὁμολογούμενα δεικνύναι
 5 ἐν τε τοῖς ἀριθμοῖς καὶ ταῖς ἀρμονίαις πρὸς τὰ
 τοῦ οὐρανοῦ πάθη καὶ μέρη καὶ πρὸς τὴν ὅλην δια-
 κόσμωσιν, ταῦτα συνάγοντες ἐφήρμοττον. κἄν εἴ
 τί που διέλειπε, προσεγλίχοντο τοῦ συνειρομένην
 πᾶσαν αὐτοῖς εἶναι τὴν πραγματείαν. λέγω δ' οἶον,
 ἐπειδὴ τέλειον ἢ δεκάς εἶναι δοκεῖ καὶ πᾶσαν
 10 περιελιφέναι τὴν τῶν ἀριθμῶν φύσιν, καὶ τὰ
¹ τε om. E. ² τούτοις: τοῖς ἀριθμοῖς EΓ Asclepius.
³ ἐπεὶ δὴ Christ: ἐπειδὴ. ⁴ ἐφαίνετο E.
⁵ εἶναι ὑπέλαβον EΓ.

^a Aristotle seems to have regarded Pythagoras as a legendary person.

^b Pythagoras himself (*fl.* 532 B.C.) is said by Aristoxenus (*ap. Stobaeus* i. 20. 1) to have been the first to make a theoretical study of arithmetic.

^c For the meaning of this statement see *Introd.* p. xvi.

^d Cf. XIV. vi. ff.

^e Apparently (*cf. infra*, l. 17) they identified these con-

the so-called^a Pythagoreans applied themselves to ^{connected numbers with things, and derived everything from the} mathematics, and were the first to develop this science^b; and through studying it they came to believe that its principles are the principles of everything.^c And since *numbers* are by nature first² among these principles, and they fancied that they ^{elements of numbers.} could detect in numbers, to a greater extent than in fire and earth and water, many analogues^d of what is and comes into being—such and such a property of number being *justice*,^e and such and such *soul* or *mind*, another *opportunity*, and similarly, more or less, with all the rest—and since they saw further that the properties and ratios of the musical scales are based on numbers,^f and since it seemed clear that all other things have their whole nature modelled upon numbers, and that numbers are the ultimate things in the whole physical universe, they assumed the elements of numbers to be the elements of everything, and the whole universe to be a proportion^g or number. Whatever analogues to the processes and parts of the heavens and to the whole order of the universe they could exhibit in numbers and proportions, these they collected and correlated; and if there was any deficiency anywhere, they made³ haste to supply it, in order to make their system a connected whole. For example, since the decad^h is considered to be a complete thing and to comprise

not only with properties of number but with numbers themselves. Thus justice (properly = squareness) = 4, the first square number; soul or mind = 1, opportunity = 7 (Alexander).

^f Pythagoras himself is credited with having discovered the ratios of the octave (2 : 1), the fifth (3 : 2) and the fourth (4 : 3). Burnet, *E.G.P.* 51.

^g Or "harmony." Cf. *De Caelo*, II. ix., and *E.G.P.* 152.

^h On the number 10 and the "tetraktys" see *Introd.* p. xvi.

986 a

φερόμενα κατὰ τὸν οὐρανὸν δέκα μὲν εἶναι φασιν, ὅτων δὲ ἐννέα μόνον τῶν φανερῶν διὰ τοῦτο δεκάτην τὴν ἀντίχθονα ποιοῦσιν. διώρισται δὲ περὶ τούτων ἐν ἑτέροις ἡμῖν ἀκριβέστερον. ἀλλ' οὐδὲν χάριν ἐπερχόμεθα, τοῦτό ἐστιν ὅπως λάβω-
 15 μεν καὶ παρὰ τούτων τίνας εἶναι τιθέασι τὰς ἀρχὰς καὶ πῶς εἰς τὰς εἰρημένας ἐμπίπτουσιν αἰτίας. φαίνονται δὲ καὶ οὗτοι τὸν ἀριθμὸν νομίζοντες ἀρχὴν εἶναι καὶ ὡς ὕλην τοῖς οὐσι καὶ ὡς πάθη τε καὶ ἕξεις, τοῦ δὲ ἀριθμοῦ στοιχεῖα τό τε ἄρτιον καὶ τὸ περιττόν, τούτων δὲ τὸ μὲν πεπερασμένον τὸ δὲ
 20 ἄπειρον, τὸ δ' ἐν ἑξ' ἀμφοτέρων εἶναι τούτων (καὶ γὰρ ἄρτιον εἶναι καὶ περιττόν), τὸν δ' ἀριθμὸν ἐκ τοῦ ἐνός, ἀριθμοὺς δέ, καθάπερ εἴρηται, τὸν ὅλον οὐρανόν.

Ἐτεροι δὲ τῶν αὐτῶν τούτων τὰς ἀρχὰς δέκα λέγουσιν εἶναι τὰς κατὰ συστοιχίαν λεγομένας, πέρασ ἀπειρον, περιττόν ἄρτιον, ἐν πλήθος, δεξιὸν
 25 ἀριστερόν, ἄρρεν θῆλυ, ἡρεμοῦν κινούμενον, εὐθὺ καμπύλον, φῶς σκότος, ἀγαθὸν κακόν, τετράγωνον ἐτερόμηκες· ὄνπερ τρόπον ἔοικε καὶ Ἀλκμαίων ὁ Κροτωνιάτης ὑπολαβεῖν, καὶ ἦτοι οὗτος παρ' ἐκείνων ἢ ἐκείνοι παρὰ τούτου παρέλαβον τὸν λόγον
 30 τοῦτον. καὶ γὰρ [ἐγένετο τὴν ἡλικίαν]¹ Ἀλκμαίων

¹ om. A^b.

^a Earth, sun, moon, five planets, and the sphere of the fixed stars.

^b *i.e.* "counter-earth"; a planet revolving round the "central fire" in such a way as to be always in opposition to the earth.

^c In the lost work *On the Pythagoreans*; but *cf.* *De Caelo*, II. xiii.

the whole essential nature of the numerical system, they assert that the bodies which revolve in the heavens are ten; and there being only nine^a that are visible, they make the "antichthon"^b the tenth. We have treated this subject in greater detail elsewhere^c; but the object of our present review is to discover from these thinkers too what causes they assume and how these coincide with our list of causes. Well, it is obvious that these thinkers too consider^d number to be a first principle, both as the material^e They regarded Number both as a material and as a formal principle. of things and as constituting their properties and states.^e The elements of number, according to them, are the Even and the Odd. Of these the former is limited and the latter unlimited; Unity consists of both (since it is both odd and even)^f; number is derived from Unity; and numbers, as we have said, compose the whole sensible universe.^g

Others^h of this same school hold that there are 6 ten principles, which they enunciate in a series of corresponding pairs: (i.) Limit and the Unlimited; Some recognized as principles of ten pairs of contraries. (ii.) Odd and Even; (iii.) Unity and Plurality; (iv.) Right and Left; (v.) Male and Female; (vi.) Rest and Motion; (vii.) Straight and Crooked; (viii.) Light and Darkness; (ix.) Good and Evil; (x.) Square and Oblong. Apparently Alcmaeon of Croton speculated⁷ along the same lines, and either he derived the theory from them or they from him; for [Alcmaeon

^d See *Intro.* p. xvii, and Burnet. *E.G.P.* 143-146.

^e *i.e.*, as a formal principle. *Cf.* Ross *ad loc.*, and see *Intro.* p. xvi.

^f Either because by addition it makes odd numbers even and even odd (Alexander, Theo Smyrnaeus) or because it was regarded as the principle of both odd and even numbers (Heath). ^g See *Intro.* pp. xv-xvii.

^h Zeller attributes the authorship of this theory to Philolaus.

986 a [ἐπὶ γέροντι Πυθαγόρα,]¹ ἀπεφήνατο [δὲ]^a παρα-
 30 πλησίως τούτοις· φησὶ γὰρ εἶναι δύο τὰ πολλὰ τῶν
 ἀνθρωπίνων, λέγων τὰς ἐναντιότητας οὐχ ὥσπερ
 οὔτοι διωρισμένας ἀλλὰ τὰς τυχεύσας, οἷον λευκὸν
 μέλαν, γλυκὺ πικρὸν, ἀγαθὸν κακόν, μέγα μικρόν.²
 986 b οὗτος μὲν οὖν ἀδιορίστως ἐπέρριψε περὶ τῶν λοιπῶν,
 οἱ δὲ Πυθαγόρειοι καὶ πόσαι καὶ τίνες αἱ ἐναντιώ-
 σεις ἀπεφήναντο. παρὰ μὲν οὖν τούτων ἀμφοῖν
 τοσοῦτον ἔστι λαβεῖν, ὅτι τὰναντία ἀρχαὶ τῶν
 ὄντων· τὸ δ' ὅσαι παρὰ τῶν ἐτέρων, καὶ τίνες
 5 αὐταὶ εἰσιν. πῶς μέντοι πρὸς τὰς εἰρημένας αἰτίας
 ἐνδέχεται συναγεῖν, σαφῶς μὲν οὐ διηρθρωται παρ'
 ἐκείνων, εἰκόασι δ' ὡς ἐν ὕλης εἶδει τὰ στοιχεῖα
 τάπτεται· ἐκ τούτων γὰρ ὡς ἐνυπαρχόντων συν-
 εστάναι καὶ πεπλάσθαι φασι τὴν οὐσίαν. Τῶν μὲν
 οὖν παλαιῶν καὶ πλείων λεγόντων τὰ στοιχεῖα τῆς
 10 φύσεως ἐκ τούτων ἰκανόν ἐστι θεωρῆσαι τὴν διά-
 νοιαν· εἰσὶ δὲ τινες οἱ περὶ τοῦ παντός ὡς ἂν μιᾶς
 οὐσης φύσεως ἀπεφήναντο, τρόπον δὲ οὐ τὸν αὐτὸν
 πάντες οὔτε τοῦ καλῶς οὔτε τοῦ κατὰ τὴν φύσιν.
 εἰς μὲν οὖν τὴν νῦν σκέψιν τῶν αἰτίων οὐδαμῶς
 συναρμόττει περὶ αὐτῶν ὁ λόγος· οὐ γὰρ ὥσπερ
 15 ἔνοιοι τῶν φυσιολόγων ἐν ὑποθέμενοι τὸ ὄν ὁμῶς
 γεννῶσιν ὡς ἐξ ὕλης τοῦ ἐνός, ἀλλ' ἕτερον τρόπον
 οὔτοι λέγουσιν· ἐκείνοι μὲν γὰρ προστιθέασιν κίνη-
 σιν, γεννῶντές γε τὸ πᾶν, οὔτοι δὲ ἀκίνητον εἶναι

¹ om. A^b.² μέγα μικρόν] μικρόν μέγα E Asclepius.^a This statement is probably true, but a later addition.^b He was generally regarded as a Pythagorean.^c The section of Pythagoreans mentioned in § 6, and Alcmaeon.

was contemporary with the old age of Pythagoras, and]^a his doctrines were very similar to theirs.^b He says that the majority of things in the world of men are in pairs; but the contraries which he mentions are not, as in the case of the Pythagoreans, carefully defined, but are taken at random, e.g. white and black, sweet and bitter, good and bad, great and small. Thus Alcmaeon only threw out vague hints^c with regard to the other instances of contrariety, but the Pythagoreans pronounced how many and what the contraries are. Thus from both these authorities^c we can gather thus much, that the contraries are first principles of things; and from the former, how many and what the contraries are. How these can⁹ be referred to our list of causes is not definitely expressed by them, but they appear to reckon their elements as material; for they say that these are the original constituents of which Being is fashioned and composed.

From this survey we can sufficiently understand¹⁰ the meaning of those ancients who taught that the elements of the natural world are a plurality. Others, however, theorized about the universe as though it were a single entity; but their doctrines are not all alike either in point of soundness or in respect of conformity with the facts of nature. For the purposes¹¹ of our present inquiry an account of their teaching is quite irrelevant, since they do not, while assuming a unity, at the same time make out that Being is generated from the unity as from matter, as do some physicists, but give a different explanation; for the physicists assume motion also, at any rate when explaining the generation of the universe; but these thinkers hold that it is immovable. Nevertheless

They seem to have regarded these as material causes.

The views of the Eleatics do not bear upon our inquiry.

Parmenides alone.

986 b

φασιν· οὐ μὴν ἀλλὰ τοσοῦτόν γε οἰκεῖόν ἐστι τῇ
 νῦν σκέψει. Παρμενίδης μὲν γὰρ ἔοικε τοῦ κατὰ
 20 τὸν λόγον ἐνὸς ἄπτεσθαι, Μελίσσος δὲ τοῦ κατὰ
 τὴν ὕλην (διὸ καὶ ὁ μὲν πεπερασμένον, ὁ δ' ἄπειρόν
 φησιν εἶναι αὐτό). Ξενοφάνης δὲ πρῶτος τούτων
 ἐνίσας (ὁ γὰρ Παρμενίδης τούτου λέγεται γενέ-
 σθαι¹ μαθητῆς) οὐθὲν διεσαφῆνισεν, οὐδὲ τῆς φύσεως
 τούτων οὐδετέρας ἔοικε θίγειν, ἀλλ' εἰς τὸν ὄλον
 οὐρανὸν ἀποβλέψας τὸ ἐν εἶναι φησι τὸν θεόν.
 25 οἱ μὲν οὖν, καθάπερ εἵπομεν, ἀφετέοι πρὸς τῇ
 νῦν² ζήτησιν, οἱ μὲν δύο καὶ πάνπαν ὡς ὄντες
 μικρὸν ἀγροικότεροι, Ξενοφάνης καὶ Μελίσσος·
 Παρμενίδης δὲ μᾶλλον βλέπων ἔοικέ που λέγειν·
 παρὰ γὰρ τὸ ὄν τὸ μὴ ὄν οὐθὲν ἀξιῶν εἶναι, ἐξ
 30 ἀνάγκης ἐν οἷεται εἶναι τὸ ὄν, καὶ ἄλλο οὐθὲν (περὶ
 οὗ σαφέστερον ἐν τοῖς περὶ φύσεως εἰρήκαμεν),
 ἀναγκαζόμενος δ' ἀκολουθεῖν τοῖς φαινομένοις,
 καὶ τὸ ἐν μὲν κατὰ τὸν λόγον, πλείω δὲ κατὰ τὴν
 αἴσθησιν ὑπολαμβάνων εἶναι, δύο τὰς αἰτίας καὶ
 δύο τὰς ἀρχὰς πάλιν τίθησι, θερμὸν καὶ ψυχρόν,
 987 a οἷον πῦρ καὶ γῆν λέγων· τούτων δὲ κατὰ μὲν τὸ
 ὄν τὸ θερμὸν τάττει, θάτερον δὲ κατὰ τὸ μὴ ὄν.

¹ Ἐκ μὲν οὖν τῶν εἰρημένων καὶ παρὰ τῶν συν-

¹ om. EI.

² νῦν παρούσαν Αβ.

^a His argument was "Everything that is is one, if 'what is' has one meaning" (πάντα ἐν, εἰ τὸ ὄν ἐν σημαίνει, *Phys.* 187 a 1); but he probably believed, no less than Melissus, in the material unity of reality. Cf. fr. 8 (Diels). It has been suggested, however (by the Rev. C. F. Angus), that he was simply trying to convey in figurative language a conception of absolute existence.

thus much is pertinent to our present inquiry. It 12
 appears that Parmenides conceived of the Unity as
 one in definition,^a but Melissus^b as materially one.
 Hence the former says that it is finite,^c and the latter
 that it is infinite.^d But Xenophanes,^e the first
 exponent of the Unity (for Parmenides is said to
 have been his disciple), gave no definite teaching,
 nor does he seem to have grasped either of these
 conceptions of unity; but regarding the whole
 material universe he stated that the Unity is God.
 This school then, as we have said, may be dis- 13
 regarded for the purposes of our present inquiry;
 two of them, Xenophanes and Melissus, may be
 completely ignored, as being somewhat too crude
 in their views. Parmenides, however, seems to
 speak with rather more insight. For holding as
 he does that Not-being, as contrasted with Being,
 is nothing, he necessarily supposes that Being is
 one and that there is nothing else (we have dis-
 cussed this point in greater detail in the *Physics*^f);
 but being compelled to accord with phenomena, and
 assuming that Being is one in definition but many
 in respect of sensation, he posits in his turn two
 causes, i.e. two first principles, Hot and Cold; or in
 other words, Fire and Earth. Of these he ranks Hot
 under Being and the other under Not-being.^g

From the account just given, and from a con- 14
 sideration of those thinkers who have already

^b Of Samos; defeated the Athenian fleet in 441 B.C.

^c Fr. 8, ll. 32-3, 42-3.

^d Fr. 3.

^e Of Colophon, b. 565 (?) B.C. Criticized and ridiculed most of the views of his day, especially the anthropomorphic conception of the gods. Burnet, *E.G.P.* 55 ff., esp. 61-62. Cf. fr. 23 (Diels).

^f *Phys.* I. iii.

^g Cf. note on iii. 13.

987 a ηδρευκότων ἤδη τῷ λόγῳ σοφῶν ταῦτα¹ παρειλή-
 φαμεν, παρὰ μὲν τῶν πρώτων σωματικὴν τε τὴν
 5 ἀρχὴν (ὔδωρ γὰρ καὶ πῦρ καὶ τὰ τοιαῦτα σώματα
 ἔστιν), καὶ τῶν μὲν μίαν τῶν δὲ πλείους τὰς² ἀρχὰς
 τὰς σωματικάς, ἀμφοτέρων μέντοι ταύτας ὡς ἐν
 ὕλης εἶδει τιθέντων, παρὰ δὲ τινῶν ταύτην τε τὴν
 αἰτίαν τιθέντων καὶ πρὸς ταύτην τὴν ὄθεν ἢ κίνησις,
 καὶ ταύτην παρὰ τῶν μὲν μίαν παρὰ τῶν δὲ δύο.
 10 μέχρι μὲν οὖν τῶν Ἰταλικῶν καὶ χωρὶς ἐκείνων
 μορυχώτερον³ εἰρήκασιν οἱ ἄλλοι περὶ αὐτῶν, πλὴν
 ὡς περ εἶπομεν δυοῖν τε αἰτίαιν τυγχάνουσι κεχηρη-
 μένοι, καὶ τούτων τὴν ἑτέραν οἱ μὲν μίαν οἱ δὲ
 δύο ποιοῦσι, τὴν ὄθεν ἢ κίνησις· οἱ δὲ Πυθαγό-
 ρεῖοι δύο μὲν τὰς ἀρχὰς κατὰ τὸν αὐτὸν εἰρήκασιν
 15 τρόπον, τοσοῦτον δὲ προσεπέθεσαν, ὃ καὶ ἴδιόν
 ἔστιν αὐτῶν, ὅτι τὸ πεπερασμένον καὶ τὸ ἄπειρον
 [καὶ τὸ ἐν]⁴ οὐχ ἑτέρας τινὰς ᾤθησαν εἶναι φύσεις,
 οἷον πῦρ ἢ γῆν ἢ τι τοιοῦτον ἕτερον, ἀλλ' αὐτὸ τὸ
 ἄπειρον καὶ αὐτὸ τὸ ἐν οὐσίαν εἶναι τούτων ὧν
 κατηγοροῦνται, διὸ καὶ ἀριθμὸν εἶναι τὴν οὐσίαν
 20 πάντων.⁵ περὶ τε τούτων οὖν τοῦτον ἀπεφήναντο
 τὸν τρόπον, καὶ περὶ τοῦ τί ἐστιν ἤρξαντο μὲν
 λέγειν καὶ ὀρίζεσθαι, λίαν δ' ἀπλῶς ἐπραγματεύ-
 θησαν. ὠρίζοντό τε γὰρ ἐπιπολαίως, καὶ ᾧ πρώτῳ
 ὑπάρξειεν ὁ λεχθεὶς ὄρος, τοῦτ' εἶναι τὴν οὐσίαν
 τοῦ πράγματος ἐνόμιζον, ὡς περ εἴ τις οἴοιτο ταύ-
 25 τὸν εἶναι διπλάσιον καὶ τὴν δυάδα διότι πρώτον
 ὑπάρχει τοῖς δυοῖν τὸ διπλάσιον. ἀλλ' οὐ ταῦτον
 ἴσως ἐστὶ τὸ εἶναι διπλασίῳ καὶ δυάδι· εἰ δὲ μή,

¹ τοσαῦτα A^b.² τὰς om. E.³ μορυχώτερον Ross ex Alexandro; μαλακώτερον A^b; μετριώ-
 τερον E Bekker. ⁴ καὶ τὸ ἐν A^b; om. cet. ⁵ ἀπαντων E.

debated this question, we have acquired the following Summary
of chapters
iii. and iv. information. From the earliest philosophers we have
 learned that the first principle is corporeal (since
 water and fire and the like are bodies); some of them
 assume one and others more than one corporeal
 principle, but both parties agree in making these
 principles material. Others assume in addition to
 this cause the *source of motion*, which some hold to
 be one and others two. Thus down to and apart ¹⁵
 from the Italian^a philosophers the other thinkers
 have expressed themselves vaguely on the subject,
 except that, as we have said, they actually employ
 two causes, and one of these—the source of motion
 —some regard as one and others as two. The
 Pythagoreans, while they likewise spoke of two
 principles, made this further addition, which is
 peculiar to them: they believed, not that the
 Limited and the Unlimited are separate entities,
 like fire or water or some other such thing, but that
 the Unlimited itself and the One itself are the
 essence of those things of which they are predicated,
 and hence that number is the essence of all things.
 Such is the nature of their pronouncements on this ¹⁶
 subject. They also began to discuss and define the
 “what” of things; but their procedure was far too
 simple. They defined superficially, and supposed
 that the essence of a thing is that to which the term
 under consideration first applies—*e.g.* as if it were
 to be thought that “double” and “2” are the same,
 because 2 is the first number which is double another.
 But presumably “to be double a number” is not the ¹⁷
 same as “to be the number 2.” Otherwise, one

^a The Pythagoreans; so called because Pythagoras
 founded his society at Croton.

987^a

πολλά τὸ ἐν ἔσται, δὲ κἀκείνοις συνέβαιεν. παρὰ μὲν οὖν τῶν πρότερον καὶ τῶν ἄλλων τοσαῦτα ἔσται λαβεῖν.

VI. Μετὰ δὲ τὰς εἰρημένας φιλοσοφίας ἡ Πλάτωνος ἐπεγένετο πραγματεία, τὰ μὲν πολλὰ τούτοις ἀκολουθοῦσα, τὰ δὲ καὶ ἴδια παρὰ τὴν τῶν Ἰταλικῶν ἔχουσα φιλοσοφίαν. ἐκ νέου τε γὰρ συνήθης γενόμενος πρῶτον Κρατύλῳ καὶ ταῖς Ἡρακλειτείοις δόξαις, ὡς ἀπάντων τῶν αἰσθητῶν αἰεὶ ῥέοντων καὶ ἐπιστήμης περὶ αὐτῶν οὐκ οὔσης, ταῦτα 987^b μὲν καὶ ὕστερον οὕτως ὑπέλαβεν· Σωκράτους δὲ περὶ μὲν τὰ ἠθικὰ πραγματευομένου, περὶ δὲ τῆς ὅλης φύσεως οὐθέν, ἐν μέντοι τούτοις τὸ καθόλου ζητοῦντος καὶ περὶ ὀρισμῶν ἐπιστήσαντος πρῶτου τὴν διάνοιαν, ἐκείνον ἀποδεξάμενος διὰ τὸ τοιοῦτον ὑπέλαβεν ὡς περὶ ἐτέρων τοῦτο γιγνόμενον καὶ οὐ τῶν αἰσθητῶν¹. ἀδύνατον γὰρ εἶναι τὸν κοινὸν ὄρον τῶν αἰσθητῶν τινός, αἰεὶ γε μεταβαλλόντων. οὗτος οὖν τὰ μὲν² τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσε, τὰ δ' αἰσθητὰ παρὰ ταῦτα καὶ κατὰ ταῦτα λέγεσθαι πάντα· κατὰ μέθεξιν γὰρ εἶναι τὰ πολλὰ τῶν συνωνύμων [τοῖς εἶδεσι].³ (τὴν δὲ μέθεξιν τοῦνομα

¹ αἰσθητῶν: αἰσθητῶν τινος E Alexander.

² οὖν τὰ μὲν: μὲν οὖν τὰ recc.

³ τοῖς εἶδεσι secl. Gillespie: συνωνύμων ὁμώνυμα τοῖς εἶδεσι E.

^a i.e., the same number might be the first to which each of several definitions applied; then that number would be each of the concepts so defined.

^b See Introd. p. xx, and with the whole of §§ 1-2 compare XIII. iv. 2-5.

^c Cf. IV. v. 18.

thing will be many—a consequence which actually followed in their system.^a This much, then, can be learned from other and earlier schools of thought.

VI. The philosophies described above were succeeded by the system of Plato,^b which in most respects accorded with them, but contained also certain peculiar features distinct from the philosophy of the Italians. In his youth Plato first became acquainted 2 with Cratylus^c and the Heraclitean doctrines—that the whole sensible world is always in a state of flux,^d and that there is no scientific knowledge of it—and in after years he still held these opinions. And when Socrates, disregarding the physical universe and confining his study to moral questions,^e sought in this sphere for the universal and was the first to concentrate upon definition, Plato followed him and assumed that the problem of definition is concerned not with any sensible thing but with entities of another kind; for the reason that there can be no general definition of sensible things which are always changing. These entities he called "Ideas,"^f and 3 held that all sensible things are named after^g them and in virtue of their relation to them; for the plurality of things which bear the same name as the Forms^h exist by participation in them. (With

^a Plato, *Cratylus* 402 A (fr. 41 Bywater).

^b See Introd. p. xx.

^c I have translated *ιδέα* by Idea and *εἶδος* by Form wherever Aristotle uses the words with reference to the Platonic theory. Plato apparently uses them indifferently, and so does Aristotle in this particular connexion, but he also uses *εἶδος* in the sense of form in general. For a discussion of the two words see Taylor, *Varia Socratica*, 178-267, and Gillespie, *Classical Quarterly*, vi. 179-203.

^d For this interpretation of *παρὰ ταῦτα* see Ross's note *ad loc.*

Plato. Sources of the Ideal theory: (i.) Pythagoreanism;

(ii.) The Heraclitean flux; (iii.) Socratic definition.

The Ideas are the objects of definition and the causes of particular

sensible things.

987 b

μόνον μετέβαλεν· οἱ μὲν γὰρ Πυθαγόρειοι μίμησει τὰ ὄντα φασὶν εἶναι τῶν ἀριθμῶν, Πλάτων δὲ μέθεξι, τοῦνομα μεταβαλὼν· τὴν μέντοι γε μέθεξιν ἢ τὴν μίμησιν ἥτις ἂν εἴη [τῶν εἰδῶν],¹ ἀφείσαν ἐν 15 κοινῷ ζητεῖν.) "Ἐπι δὲ παρὰ τὰ αἰσθητὰ καὶ τὰ εἶδη τὰ μαθηματικὰ τῶν πραγμάτων εἶναι φησι μεταξύ, διαφέροντα τῶν μὲν αἰσθητῶν τῷ ἀίδια καὶ ἀκίνητα εἶναι, τῶν δ' εἰδῶν τῷ τὰ μὲν πόλλ' ἄττα ὁμοια εἶναι τὸ δὲ εἶδος αὐτὸ ἐν ἕκαστον μόνον.

'Ἐπεὶ δ' αἷτια τὰ εἶδη τοῖς ἄλλοις, τὰ κείνων στοι- 20 χεῖα πάντων ὥθη τῶν ὄντων εἶναι στοιχεῖα. ὡς μὲν οὖν ὕλην τὸ μέγα καὶ τὸ μικρὸν εἶναι ἀρχάς, ὡς δ' οὐσίαν τὸ ἐν· ἐξ ἐκείνων γὰρ κατὰ μέθεξιν τοῦ ἐνός [τὰ εἶδη]² εἶναι τοὺς ἀριθμούς. τὸ μέντοι γε ἐν οὐσίαν εἶναι, καὶ μὴ ἔτερον γέ τι ὄν λέγεσθαι ἔν, παραπλησίως τοῖς Πυθαγορείοις ἔλεγε, καὶ τὸ 25 τοὺς ἀριθμοὺς αἰτίους εἶναι τοῖς ἄλλοις τῆς οὐσίας ὡσαύτως ἐκείνοις· τὸ δὲ ἀντὶ τοῦ ἀπείρου ὡς ἐνός δυάδα ποιῆσαι τὸ δ'³ ἀπείρον ἐκ μεγάλου καὶ μικροῦ, τοῦτ' ἴδιον. καὶ ἔτι⁴ ὁ μὲν τοὺς ἀριθμούς παρὰ τὰ αἰσθητὰ, οἱ δ' ἀριθμούς εἶναι φασὶν αὐτὰ τὰ πράγματα, καὶ τὰ μαθηματικὰ μεταξύ τούτων 30 οὐ τιθέασιν. τὸ μὲν οὖν τὸ ἐν καὶ τοὺς ἀριθμούς παρὰ τὰ πράγματα ποιῆσαι, καὶ μὴ ὥσπερ οἱ Πυθαγόρειοι, καὶ ἡ τῶν εἰδῶν εἰσαγωγή διὰ τὴν ἐν τοῖς λόγοις ἐγένετο σκέψιν (οἱ γὰρ πρότεροι διαλεκτικῆς οὐ μετεἶχον), τὸ δὲ δυάδα ποιῆσαι τὴν

¹ Gillespie.² Zeller.³ τὸ δ' : καὶ τὸ Α^b Γ.⁴ ἔτι : ὅτι Α^b Asclepius.^a i.e. arithmetical numbers and geometrical figures.^b See IV. ii. 19-20, and cf. XIII. iv. 4.

regard to the "participation," it was only the term that he changed; for whereas the Pythagoreans say that things exist by imitation of numbers, Plato says that they exist by participation—merely a change of term. As to what this "participation" or "imitation" may be, they left this an open question.)

Further, he states that besides sensible things and the Forms there exists an intermediate class, the *objects of mathematics*,^a which differ from sensible things in being eternal and immutable, and from the Forms in that there are many similar objects of mathematics, whereas each Form is itself unique.

The objects of mathematics are intermediate between Ideas and sensible things.

Now since the Forms are the causes of everything else, he supposed that their elements are the elements of all things. Accordingly the material principle is the "Great and Small," and the essence (or formal principle) is the One, since the numbers are derived from the "Great and Small" by participation in the One. In treating the One as a substance instead of a 6 predicate of some other entity, his teaching resembles that of the Pythagoreans, and also agrees with it in stating that the numbers are the causes of Being in everything else; but it is peculiar to him to posit a duality instead of the single Unlimited, and to make the Unlimited consist of the "Great and Small." He is also peculiar in regarding the numbers as distinct from sensible things, whereas they hold that things themselves *are* numbers, nor do they posit an intermediate class of mathematical objects. His distinction of the One and the numbers from 7 ordinary things (in which he differed from the Pythagoreans) and his introduction of the Forms were due to his investigation of logic (the earlier thinkers were strangers to Dialectic)^b; his concep-

Material principle: the Great and Small. Formal principle: the One.

987^b ἔτεραν φύσιν διὰ τὸ τοὺς ἀριθμοὺς ἕξω τῶν πρώτων
 988^a εὐφύως ἐξ αὐτῆς γεννάσθαι, ὥσπερ ἕκ τινος ἐκμα-
 γείου. καίτοι συμβαίνει γ' ἐναντίως· οὐ γὰρ εὐλο-
 γον οὕτως. οἱ μὲν γὰρ ἐκ τῆς ὕλης πολλὰ ποιοῦσιν,
 τὸ δ' εἶδος ἅπαξ γεννᾷ μόνον, φαίνεται δ' ἐκ μιᾶς
 ὕλης μία τράπεζα, ὃ δὲ τὸ εἶδος ἐπιφέρων εἰς ὧν
 5 πολλὰς ποιεῖ. ὁμοίως δ' ἔχει καὶ τὸ ἄρρεν πρὸς τὸ
 θῆλυ· τὸ μὲν γὰρ¹ ὑπὸ μιᾶς πληροῦται ὀχείας, τὸ δ'
 ἄρρεν πολλὰ πληροῖ· καίτοι ταῦτα μιμήματα τῶν
 ἀρχῶν ἐκείνων ἐστίν.

Πλάτων μὲν οὖν περὶ τῶν ζητουμένων οὕτως
 διώρισεν· φανερόν δ' ἐκ τῶν εἰρημένων ὅτι δυοῖν
 10 αἰτίαι μόνον κέχρηται, τῇ τε τοῦ τί ἐστὶ καὶ
 τῇ κατὰ τὴν ὕλην (τὰ γὰρ εἶδη τοῦ τί ἐστὶν
 αἰτία τοῖς ἄλλοις, τοῖς δ' εἶδεσι τὸ ἔν), καὶ τίς
 ἢ ὕλη ἢ ὑποκειμένη καθ' ἧς τὰ εἶδη μὲν ἐπὶ τῶν

¹ γὰρ θῆλυ A^b.

^a ἕξω τῶν πρώτων is very difficult, but it can hardly be a gloss, and no convincing emendation has been suggested. Whatever the statement means, it is probably (as the criticism which follows is certainly) based upon a misunderstanding. From Plato, *Parmenides* 143 c-144 a, it might be inferred that the Great and Small (the Indeterminate Dyad) played no part in the generation of numbers; but there the numbers are not Ideal, as here they must be. In any case Aristotle is obsessed with the notion that the Dyad is a duplicative principle (XIII. viii. 14), which if true would imply that it could generate no odd number. Hence Heinze proposed reading *περιττῶν* (odd) for *πρώτων* (which may be right, although the corruption is improbable) and Alexander tried to extract the meaning of "odd" from *πρώτων* by understanding it as "prime to 2." However, as Ross points out (note *ad loc.*), we may keep *πρώτων* in the sense of "prime" if we suppose Aristotle to be referring either (a) to the numbers within the decad (XIII. viii. 17) and forgetting 9—

tion of the other principle as a duality to the belief that numbers other than primes^a can be readily generated from it, as from a matrix.^b The fact,⁸ however, is just the reverse, and the theory is illogical; for whereas the Platonists derive multiplicity from matter although their Form generates only once,^c it is obvious that only one table can be made from one piece of timber, and yet he who imposes the form upon it, although he is but one, can make many tables. Such too is the relation of male to female: the female is impregnated in one coition, but one male can impregnate many females. And these relations are analogues of the principles referred to.

This, then, is Plato's verdict upon the question 9 which we are investigating. From this account it is clear that he only employed two causes^d: that of the essence, and the material cause; for the Forms are the cause of the essence in everything else, and the One is the cause of it in the Forms. He also 10 tells us what the material substrate is of which the Forms are predicated in the case of sensible things,

Thus Plato employs only two causes: for he ascribes

the causation of good and evil to

the other odd numbers being primes; or (b) to numbers in general, and forgetting the entire class of compound odd numbers. Neither of these alternatives is very satisfactory, but it seems better to keep the traditional text.

^b For a similar use of the word *ἐκμαγείον* cf. Plato, *Timaeus* 50 c.

^c Aristotle's objection is that it is unreasonable that a single operation of the formal upon the material principle should result in more than one product; i.e. that the material principle should be in itself duplicative.

^d Plato refers several times in the dialogues to an efficient cause (e.g. the Demiurgus, *Sophist* 265 b-d, *Timaeus* 28 c ff.) and a final cause (e.g. *Philebus* 20 d, 53 e, *Timaeus* 29 d ff.); but Aristotle does not seem to take these allusions seriously.

988 a αἰσθητῶν τὸ δ' ἐν ἐν τοῖς εἶδεσι λέγεται, ὅτι αὐτῆ
 δυάς ἐστι, τὸ μέγα καὶ τὸ μικρόν. ἔτι δὲ τὴν τοῦ
 15 εὔ καὶ τοῦ κακῶς αἰτίαν τοῖς στοιχείοις ἀπέδωκεν
 ἑκατέροις ἑκατέραν, ὥσπερ φαμέν καὶ τῶν προ-
 τέρων ἐπιζητήσαι τινας φιλοσόφων, οἷον Ἐμπε-
 δοκλέα καὶ Ἀναξαγόραν.

VII. Συντόμως μὲν οὖν καὶ κεφαλαιωδῶς ἐπ-
 εληλύθαμεν τίνες τε καὶ πῶς τυγχάνουσιν εἰρηκότες
 20 περὶ τε τῶν ἀρχῶν καὶ τῆς ἀληθείας· ὁμοῦς δὲ
 τοσοῦτόν γ' ἔχομεν ἐξ αὐτῶν, ὅτι τῶν λεγόντων
 περὶ ἀρχῆς καὶ αἰτίας οὐθεὶς ἕξω τῶν ἐν τοῖς περὶ
 φύσεως ἡμῖν διωρισμένων εἴρηκεν, ἀλλὰ πάντες
 ἀμυδρῶς μὲν ἐκείνων δὲ πῶς φαίνονται θιγγά-
 25 ἄν τε μίαν ἂν τε πλείους ὑποθῶσι, καὶ ἑάν τε σῶμα
 ἑάν τε ἀσώματον τοῦτο¹ τιθῶσι (οἷον Πλάτων μὲν
 τὸ μέγα καὶ τὸ μικρόν λέγων, οἱ δ' Ἴταλικοὶ τὸ
 ἀπειρον, Ἐμπεδοκλῆς δὲ πῦρ καὶ γῆν καὶ ὕδωρ καὶ
 ἀέρα, Ἀναξαγόρας δὲ τὴν τῶν ὁμοιομερῶν ἀπει-
 ρίαν· οὗτοί τε δὴ πάντες τῆς τοιαύτης αἰτίας
 30 ἡμιμένοι εἰσὶ, καὶ ἔτι ὅσοι ἀέρα ἢ πῦρ ἢ ὕδωρ ἢ
 πυρὸς μὲν πυκνότερον ἀέρος δὲ λεπτότερον· καὶ
 γὰρ τοιοῦτόν τινας εἰρήκασιν εἶναι τὸ πρῶτον
 στοιχείον)—οὗτοι μὲν οὖν ταύτης τῆς αἰτίας
 ἤψαντο μόνον, ἕτεροι δὲ τινας ὅθεν ἢ ἀρχὴ τῆς
 κινήσεως (οἷον ὅσοι φιλίαν καὶ νεῖκος ἢ νοῦν ἢ
 35 ἔρωτα ποιοῦσιν ἀρχήν)· τὸ δὲ τί ἦν εἶναι καὶ τὴν
 οὐσίαν σαφῶς μὲν οὐθεὶς ἀποδέδωκε,² μάλιστα δ'

¹ om. Bekker.² ἀπέδωκε recs.^a Cf. *Philæbus* 25 E-26 B.^b iii. 17; iv. 3.^c *Physics* II. iii.^d See note on v. 15.^e The various references in Aristotle to material principles

and the One in that of the Forms—that it is this the Formal and Material causes. Further, he assigned to these two elements respectively the causation of good^a and of evil; a problem which, as we have said,^b had also been considered by some of the earlier philosophers, e.g. Empedocles and Anaxagoras.

VII. We have given only a concise and summary No thinker has suggested any type of cause apart from the four which we have stated. account of those thinkers who have expressed views about the causes and reality, and of their doctrines. Nevertheless we have learned thus much from them: that not one of those who discuss principle or cause has mentioned any other type than those which we have distinguished in the *Physics*.^c Clearly it is after these types that they are groping, however uncertainly. Some speak of the first principle as 2 material, whether they regard it as one or several, as corporeal or incorporeal: e.g. Plato speaks of the "Great and Small"; the Italians^d of the Unlimited; Empedocles of Fire, Earth, Water and Air; Anaxagoras of the infinity of homoeomerics. All 3 these have apprehended this type of cause; and all those too who make their first principle air or water or "something denser than fire but rarer than air"^e (for some have so described the primary element). These, then, apprehended this cause only, but others apprehended the *source of motion*—e.g. all such as make Love and Strife, or Mind, or Desire a first principle. As for the *essence or essential nature*, nobody 4 has definitely introduced it; but the inventors of

intermediate between certain pairs of "elements" have been generally regarded as applying to Anaximander's ἀπειρον or Indeterminate; but the references are so vague (cf. viii. 6, *Physics* 187 a 14, 189 b 3, 203 a 18) that it seems better to connect them with later and minor members of the Milesian school. Cf. Ross's note *ad loc.*

988^b οἱ τὰ εἶδη τιθέντες λέγουσιν (οὔτε γὰρ ὡς ὕλην τοῖς αἰσθητοῖς τὰ εἶδη καὶ τὸ ἐν¹ τοῖς εἶδεσιν, οὐθ' ὡς ἐντεῦθεν τὴν ἀρχὴν τῆς κινήσεως γιγνομένην ὑπολαμβάνουσιν—ἀκινήσιος γὰρ αἴτια² μᾶλλον καὶ τοῦ
 5 ἐν ἡμεῖς εἶναι φασιν—ἀλλὰ τὸ τί ἦν εἶναι ἐκάστω τῶν ἄλλων τὰ εἶδη παρέχονται, τοῖς δ' εἶδεσι τὸ ἐν). τὸ δ' οὐδ' ἕνεκα αἰ πράξεις καὶ αἰ μεταβολαὶ καὶ αἰ κινήσεις, τρόπον μὲν τινὰ λέγουσιν αἴτιον, οὕτω δὲ οὐ λέγουσιν, οὐδ' ὄνπερ πέφυκεν. οἱ μὲν γὰρ νοῦν λέγοντες ἢ φιλίαν ὡς ἀγαθὸν μὲν³ ταύτας τὰς
 10 αἰτίας τιθέασιν, οὐ μὴν ὡς ἕνεκά γε τούτων ἢ ὄν ἢ γιγνόμενόν τι τῶν ὄντων, ἀλλ' ὡς ἀπὸ τούτων τὰς κινήσεις οὔσας λέγουσιν· ὡς δ' αὐτῶς καὶ οἱ τὸ ἐν ἢ τὸ ὄν φάσκοντες εἶναι τὴν τοιαύτην φύσιν, τῆς μὲν οὐσίας αἰτιὸν φασιν εἶναι, οὐ μὴν τούτου γε ἕνεκα ἢ εἶναι ἢ γίγνεσθαι· ὥστε λέγειν τε καὶ μὴ
 15 λέγειν πῶς συμβαίνει αὐτοῖς τὰγαθὸν αἴτιον· οὐ γὰρ ἀπλῶς ἀλλὰ κατὰ συμβεβηκὸς λέγουσιν. ὅτι μὲν οὖν ὀρθῶς διώρισται περὶ τῶν αἰτίων, καὶ πόσα καὶ ποῖα, μαρτυρεῖν εὐόκασιν ἡμῖν καὶ οὗτοι πάντες, οὐ δυνάμενοι θίγειν ἄλλης αἰτίας· πρὸς δὲ τούτοις, ὅτι ζητητέαι αἱ ἀρχαὶ ἢ οὕτως ἅπασαι ἢ τινὰ τρόπον
 20 τοιοῦτον,⁴ δῆλον. Πῶς δὲ τούτων ἕκαστος εἴρηκε, καὶ πῶς ἔχει περὶ τῶν ἀρχῶν, τὰς ἐνδεχομένας ἀπορίας μετὰ τοῦτο διέλωμεν περὶ αὐτῶν.

VIII. Ὅσοι μὲν οὖν ἐν τε τὸ πᾶν καὶ μίαν τιὰ φύσιν ὡς ὕλην τιθέασιν, καὶ ταύτην σωματικὴν καὶ μέγεθος ἔχουσαν, δῆλον ὅτι πολλαχῶς ἀμαρτάνουσιν.

¹ τὸ ἐν Bonitz: τὰ ἐν.

² αἰτίαν A^b.

³ μὲν τι E.

⁴ τοιοῦτον Bywater: τούτων.

° Cf. iii. 17.

the Forms express it most nearly. For they do not conceive of the Forms as the *matter* of sensible things (and the One as the matter of the Forms), nor as producing the *source of motion* (for they hold that they are rather the cause of immobility and tranquillity); but they adduce the Forms as the *essential nature* of all other things, and the One as that of the Forms. The *end* towards which actions, changes and
 5 motions tend they do in a way treat as a cause, but not in this sense, *i.e.* not in the sense in which it is naturally a cause. Those who speak of Mind or Love assume these causes as being something *good*; but nevertheless they do not profess that anything exists or is generated *for the sake* of them, but only that motions originate from them.^a Similarly also
 6 those who hold that Unity or Being is an entity of this kind state that it is the cause of existence, but not that things exist or are generated for the sake of it. So it follows that in a sense they both assert and deny that the Good is a cause; for they treat it as such not absolutely, but incidentally. It appears,
 7 then, that all these thinkers too (being unable to arrive at any other cause) testify that we have classified the causes rightly, as regards both number and nature. Further, it is clear that all the principles must be sought either along these lines or in some similar way.

Let us next examine the possible difficulties arising out of the statements of each of these thinkers, and out of his attitude to the first principles.

VIII. All those who regard the universe as a unity, and assume as its matter some one nature, and that corporeal and extended, are clearly mistaken in many
 Criticism of the systems of earlier thinkers.

988 b

25 τῶν γὰρ σωμάτων τὰ στοιχεῖα τιθέασι μόνον, τῶν
 δ' ἄσωμάτων οὐ, ὄντων καὶ ἄσωμάτων. καὶ περὶ
 γενέσεως καὶ φθορᾶς ἐπιχειροῦντες τὰς αἰτίας
 λέγειν, καὶ περὶ πάντων φυσιολογῶντες, τὸ τῆς
 κινήσεως αἴτιον ἀναιροῦσι. ἔτι δὲ τῶ¹ τὴν οὐσίαν
 μηθενὸς αἰτίαν τιθέναι, μηδὲ τὸ τί ἐστὶ, καὶ πρὸς
 30 τούτοις τῶ¹ ῥαδίως τῶν ἀπλῶν σωμάτων λέγειν
 ἀρχὴν ὅτιοῦν πλὴν γῆς, οὐκ ἐπισκεψάμενοι τὴν ἐξ
 ἀλλήλων γένεσιν πῶς ποιοῦνται, λέγω δὲ πῦρ καὶ
 ὕδωρ καὶ γῆν καὶ ἀέρα. τὰ μὲν γὰρ συγκρίσει, τὰ
 δὲ διακρίσει ἐξ ἀλλήλων γίνεσθαι. τοῦτο δὲ πρὸς
 τὸ πρότερον εἶναι καὶ ὕστερον διαφέρει πλείστον.
 35 τῇ μὲν γὰρ ἂν δόξειε στοιχειωδέστατον εἶναι πάντων
 989 a ἐξ οὗ γίνονται συγκρίσει πρώτου, τοιοῦτον δὲ τὸ
 μικρομερέστατον καὶ λεπτότατον ἂν εἴη τῶν
 σωμάτων. διόπερ ὅσοι πῦρ ἀρχὴν τιθέασι, μά-
 λιστα ὁμολογουμένως ἂν τῶ λόγῳ τούτῳ λέγοιεν.
 τοιοῦτον δὲ καὶ τῶν ἄλλων ἕκαστος ὁμολογεῖ τὸ
 5 στοιχεῖον εἶναι τὸ τῶν σωμάτων. οὐθεὶς γοῦν
 ἤξιωσε τῶν² ἐν λεγόντων γῆν εἶναι στοιχεῖον,
 δηλονότι διὰ τὴν μεγαλομέρειαν, τῶν δὲ τριῶν
 ἕκαστον στοιχείων³ εἰληφέ τινα κριτήν⁴. οἱ μὲν γὰρ
 πῦρ, οἱ δ' ὕδωρ, οἱ δ' ἀέρα τοῦτ' εἶναί φασι (καίτοι
 διὰ τί ποτ' οὐ καὶ τὴν γῆν λέγουσιν, ὥσπερ οἱ
 10 πολλοὶ τῶν ἀνθρώπων; πάντα γὰρ εἶναί φασι γῆν,
 φησὶ δὲ καὶ Ἡσίοδος τὴν γῆν πρώτην γενέσθαι
 τῶν σωμάτων· οὕτως ἀρχαίαν καὶ δημοτικὴν
 συμβέβηκεν εἶναι τὴν ὑπόληψιν). κατὰ μὲν οὖν
 τοῦτον τὸν λόγον οὗτ' εἶ τις τούτων τι λέγει πλὴν

¹ τῶ Bywater: τὸ.² ἤξιωσε τῶν: τῶν ὕστερον ἤξιωσε καὶ E Asclepius.³ στοιχείων ἕκαστον *recc.*⁴ κριτήν τινα E.

respects. They only assume elements of corporeal (1.) The
 things, and not of incorporeal ones, which also exist. Monists.
 They attempt to state the causes of generation and
 destruction, and investigate the nature of everything;
 and at the same time do away with the cause of
 motion. Then there is their failure to regard the 2
 essence or formula as a cause of anything; and
 further their readiness to call any one of the simple
 bodies—except earth—a first principle, without in-
 quiring how their reciprocal generation is effected.
 I refer to fire, water, earth and air. Of these some
 are generated from each other by combination and
 others by differentiation; and this difference is of 3
 the greatest importance in deciding their relative
 priority. In one way it might seem that the most
 elementary body is that from which first other bodies
 are produced by combination; and this will be that
 body which is rarest and composed of the finest
 particles. Hence all who posit Fire as first principle 4
 will be in the closest agreement with this theory.
 However, even among the other thinkers everyone
 agrees that the primary corporeal element is of this
 kind. At any rate none of the Monists thought
 earth likely to be an element—obviously on account
 of the size of its particles—but each of the other three 5
 has had an advocate; for some name fire as the
 primary element, others water, and others air.^a And
 yet why do they not suggest earth too, as common
 opinion does? for people say “Everything is
 earth.” And Hesiod too says^b that earth was 6
 generated first of corporeal things—so ancient and
 popular is the conception found to be. Thus accord-
 ing to this theory anyone who suggests any of these

^a Cf. iii. 5, 8.^b Cf. iv. 1.

989 a πυρός, οὐτ' εἴ τις ἀέρος μὲν πυκνότερον τοῦτο
 15 τίθησιν ὕδατος δὲ λεπτότερον, οὐκ ὀρθῶς ἂν λέγοι.
 εἰ δ' ἔστι τὸ τῆ γενέσει ὕστερον τῆ φύσει πρότερον,
 τὸ δὲ πεπεμμένον καὶ συγκεκριμένον ὕστερον τῆ
 γενέσει, τούναντίον ἂν εἴη τούτων, ὕδωρ μὲν ἀέρος
 πρότερον, γῆ δὲ ὕδατος. περὶ μὲν οὖν τῶν μίαν
 τιθεμένων αἰτίαν οἷαν εἴπομεν, ἔστω ταῦτ' εἰρη-
 20 μένα· τὸ δ' αὐτὸ κἂν εἴ τις ταῦτα πλείω τίθησιν,
 οἷον Ἐμπεδοκλῆς τέτταρά φησιν εἶναι σώματα τῆν
 ὕλην. καὶ γὰρ τούτῳ τὰ μὲν ταῦτὰ τὰ δ' ἴδια
 συμβαίνειν ἀνάγκη. γιγνόμενά τε γὰρ ἐξ ἀλλήλων
 ὀρώμεν ὡς οὐκ αἰεὶ διαμένοντος πυρός καὶ γῆς τοῦ
 αὐτοῦ σώματος (εἴρηται δὲ ἐν τοῖς περὶ φύσεως
 25 περὶ αὐτῶν): καὶ περὶ τῆς τῶν κινουμένων αἰτίας,
 πότερον ἐν ἢ δύο θετέον, οὐτ' ὀρθῶς οὔτε εὐλόγως
 οἰητέον εἰρησθαι παντελῶς. ὅλως τε ἀλλοίωσιν
 ἀναιρεῖσθαι ἀνάγκη τοῖς οὕτω λέγουσιν· οὐ γὰρ
 ἐκ θερμοῦ ψυχρὸν οὐδὲ ἐκ ψυχροῦ θερμὸν ἔσται.
 τί¹ γὰρ αὐτὰ ἂν² πάσχοι τάναντία, καὶ τίς³ εἴη ἂν⁴
 30 μία φύσις ἢ γιγνομένη πῦρ καὶ ὕδωρ, ὃ ἐκείνος
 οὐ φησιν. Ἀναξαγόραν δ' εἴ τις ὑπολάβοι δύο
 λέγειν στοιχεῖα, μάλιστ' ἂν ὑπολάβοι κατὰ λόγον,
 ὃν ἐκεῖνος αὐτὸς μὲν οὐ διήρθρωσεν, ἠκολούθησε
 μέντ' ἂν ἐξ ἀνάγκης τοῖς ἐπάγουσιν αὐτόν. ἀτόπου
 γὰρ ὄντος καὶ ἄλλως τοῦ φάσκειν μεμίχθαι τῆν
 989 b ἀρχὴν πάντα, καὶ διὰ τὸ συμβαίνειν ἄμικτα δεῖν

¹ τι Asclepius: τι.

² ἂν αὐτὰ recc.

³ τίς Asclepius: τίς.

⁴ ἂν εἴη recc.

^a Cf. vii. 3 n.

^b De Caelo, iii. 7; De Gen. et Corr. ii. 6.

^c Cf. iv. 6.

^d Mind, and the "mixture" of homoeomerous particles.

bodies other than fire, or who assumes something "denser than air but rarer than water,"^a will be wrong. On the other hand if what is posterior in 7 generation is prior in nature, and that which is developed and combined is posterior in generation, then the reverse will be the case; water will be prior to air, and earth to water. So much for those who posit one cause such as we have described.

The same will apply too if anyone posits more than one, as e.g. Empedocles says that matter consists of four bodies; objections must occur in his case also, 8 some the same as before, and some peculiar to him. First, we can see things being generated from each other in a way which shows that fire and earth do not persist as the same corporeal entity. (This subject has been treated in my works on Natural Science.^b) Again with regard to the cause of motion in things, whether one or two should be assumed, it must not be thought that his account is entirely correct or even reasonable.^c And in general those 9 who hold such views as these must of necessity do away with qualitative alteration; for on such a theory cold will not come from hot nor hot from cold, because to effect this there must be something which actually takes on these contrary qualities: some single element which becomes both fire and water—which Empedocles denies.

If one were to infer that Anaxagoras recognized 10 two^d elements, the inference would accord closely with a view which, although he did not articulate it himself, he must have accepted as developed by others. To say that originally everything was a 11 mixture is absurd for various reasons, but especially since (a) it follows that things must have existed

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προϋπάρχειν, καὶ διὰ τὸ μὴ πεφυκέναι τῷ τυχόντι
 μίγνυσθαι τὸ τυχόν, πρὸς δὲ τούτοις ὅτι τὰ πάθη
 καὶ τὰ συμβεβηκότα χωρίζοιτ' ἂν τῶν οὐσιῶν
 (τῶν γὰρ αὐτῶν μίξις ἐστὶ καὶ χωρισμός), ὅμως εἴ
 5 τις ἀκολουθήσειε συνδιαρθρῶν ἃ βούλεται λέγειν,
 ἴσως ἂν φανείη καινοπρεπεστέρως λέγων. ὅτε
 γὰρ οὐθὲν ἦν ἀποκεκριμένον, δηλὸν ὡς οὐθὲν ἦν
 ἀληθὲς εἰπεῖν κατὰ τῆς οὐσίας ἐκείνης, λέγω δ'
 οἶον ὅτι οὔτε λευκὸν οὔτε μέλαν ἢ φαιὸν ἢ ἄλλο
 10 χρῶμα, ἀλλὰ ἄχρων ἦν ἐξ ἀνάγκης· εἶχε γὰρ ἂν τι
 τούτων τῶν χρωμάτων. ὁμοίως δὲ καὶ ἄχυμον
 τῷ¹ αὐτῷ λόγῳ τούτῳ, οὐδὲ ἄλλο² τῶν ὁμοίων
 οὐθέν· οὔτε γὰρ ποῖόν τι οἶον τε αὐτὸ εἶναι οὔτε
 ποσὸν οὔτε τί. τῶν γὰρ ἐν μέρει τι λεγομένων
 εἰδῶν ὑπῆρχεν ἂν αὐτῷ, τοῦτο δὲ ἀδύνατον μεμιγ-
 μένων γε πάντων· ἤδη γὰρ ἂν ἀπεκέκριτο, φησὶ
 15 δ' εἶναι μεμιγμένα πάντα πλὴν τοῦ νοῦ, τοῦτον δὲ
 ἀμιγῆ μόνον καὶ καθαρὸν. ἐκ δὴ τούτων συμ-
 βαίνει λέγειν αὐτῷ τὰς ἀρχὰς τό τε ἐν (τοῦτο γὰρ
 ἀπλοῦν καὶ ἀμιγές) καὶ θάτερον, οἶον τίθεμεν τὸ
 ἀόριστον πρὶν ὀρισθῆναι καὶ μετασχεῖν εἴδους τινός,
 ὥστε λέγει³ μὲν οὔτε ὀρθῶς οὔτε σαφῶς, βούλεται
 20 μέντοι τι παραπλήσιον τοῖς τε ὕστερον λέγουσι
 καὶ τοῖς νῦν φαινόμενοις μάλλον. Ἄλλα γὰρ
 οὗτοι μὲν τοῖς περὶ γένεσιν λόγοις καὶ φθορὰν καὶ
 κίνησιν οἰκείοι τυγχάνουσι μόνον (σχεδὸν γὰρ περὶ
 τῆς τοιαύτης οὐσίας καὶ τὰς ἀρχὰς καὶ τὰς αἰτίας
 ζητοῦσι μόνως⁴). ὅσοι δὲ περὶ μὲν ἀπάντων τῶν

¹ τῷ: καὶ τῷ A^b.² ἄλλο: ἄλλο τι A^b.³ λέγεται E.⁴ μόνον E.

previously in an unmixed state; (b) it is contrary to nature for *anything* to mix with *anything*; (c) moreover affections and attributes would then be separable from their substances (because what is mixed can also be separated). At the same time, if one were to follow his doctrine carefully and interpret its meaning, perhaps it would be seen to be more up-to-date; because when nothing was yet 12 differentiated, obviously nothing could be truly predicated of that substance—e.g. that it was white or black or buff or any other colour. It must necessarily have been colourless, since otherwise it would have had one of these colours. Similarly by the same 13 argument it had no taste or any other such attribute; for it cannot have had any quality or magnitude or individuality. Otherwise some particular form would have belonged to it; but this is impossible on the assumption that everything was mixed together, for then the form would have been already differentiated, whereas he says that everything was mixed together except Mind, which alone was pure and unmixed.^a It follows from this that he recognizes 14 as principles the One (which is simple and unmixed) and the Other, which is such as we suppose the Indeterminate to be before it is determined and partakes of some form. Thus his account is neither correct nor clear, but his meaning approximates to more recent theories and what is now more obviously true.

However, these thinkers are really concerned only 15 with the theories of generation and destruction and motion (for in general it is only with reference to this aspect of reality that they look for their principles and causes). Those, however, who make their study 16

^a Fr. 12 (Diels).

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25 ὄντων ποιούνται τὴν θεωρίαν, τῶν δ' ὄντων τὰ μὲν αἰσθητὰ τὰ δ' οὐκ αἰσθητὰ τιθέασι, δῆλον ὡς περὶ ἀμφοτέρων τῶν γενῶν ποιούνται τὴν ἐπίσκεψιν· διὸ μᾶλλον ἂν τις ἐνδιατρίβειε περὶ αὐτῶν, τί καλῶς ἢ μὴ καλῶς λέγουσιν εἰς τὴν τῶν νῦν ἡμῖν προκειμένων σκέψιν. Οἱ μὲν οὖν καλού-
 30 μνοι Πυθαγόρειοι ταῖς μὲν ἀρχαῖς καὶ τοῖς στοι-
 χείοις ἐκτοπωτέροις¹ χρῶνται τῶν φυσιολόγων (τὸ δ' αἴτιον ὅτι παρέλαβον αὐτὰς οὐκ ἐξ αἰσθητῶν· τὰ γὰρ μαθηματικὰ τῶν ὄντων ἄνευ κινήσεως ἐστίν, ἔξω τῶν περὶ τὴν ἀστρολογίαν), διαλέγονται μέντοι καὶ πραγματεύονται περὶ φύσεως πάντα·
 990 a γεννώσι τε γὰρ τὸν οὐρανόν, καὶ περὶ τὰ τούτου μέρη καὶ τὰ πάθη καὶ τὰ ἔργα διατηροῦσι τὸ συμβαῖνον, καὶ τὰς ἀρχὰς καὶ τὰ αἴτια εἰς ταῦτα καταναλίσκουσιν, ὡς ὁμολογοῦντες τοῖς ἄλλοις φυσιολόγοις ὅτι τό γε ὄν τοῦτ' ἐστὶν ὅσον αἰσθητόν
 5 ἐστὶ καὶ περιεῖληφεν ὁ καλούμενος οὐρανός. τὰς δ' αἰτίας καὶ τὰς ἀρχάς, ὥσπερ εἵπομεν, ἰκανὰς λέγουσιν ἐπαναβῆναι καὶ ἐπὶ τὰ ἀνωτέρω τῶν ὄντων, καὶ μᾶλλον ἢ τοῖς περὶ φύσεως λόγοις ἀρμοστούσας. ἐκ τίνος μέντοι τρόπου κινήσις ἐστὶ πέρατος καὶ ἀπέρου μόνων² ὑποκειμένων
 10 καὶ περιττοῦ καὶ ἀρτίου, οὐθὲν λέγουσιν, ἢ πῶς δυνατόν ἄνευ κινήσεως καὶ μεταβολῆς γένεσιν εἶναι καὶ φθορὰν ἢ τὰ τῶν φερομένων ἔργα κατὰ τὸν οὐρανόν. ἔτι δὲ εἴτε δοίη τις αὐτοῖς ἐκ τούτων

¹ Alexander, Bonitz: ἐκτοπωτέρος.² μόνων ΑὐΓ.

cover the whole of reality, and who distinguish between sensible and non-sensible objects, clearly give their attention to both kinds; hence in their case we may consider at greater length what contributions, valuable or otherwise, they make to the inquiry which is now before us.

The so-called Pythagoreans employ abstruser 17 principles and elements than the physicists. The (iv.) The Pythagoreans. They assume abstract reason is that they did not draw them from the sensible world; for mathematical objects, apart from those which are connected with astronomy, are devoid of motion. Nevertheless all their discussions 18 and investigations are concerned with the physical world. They account for the generation of the sensible universe, and observe what happens in respect of its parts and affections and activities, and they use up their principles and causes in this connexion, as though they agreed with the others—the physicists—that reality is just so much as is sensible and is contained in the so-called "heavens." All the same, as we have said,^a the causes and prin- 19 ciples which they describe are capable of application to the remoter class of realities as well, and indeed are better fitted to these than to their physical theories. But as to how there is to be motion, if all 20 that is premised is Limit and the Unlimited, and Odd and Even, they do not even hint; nor how, without motion and change, there can be generation and destruction, or the activities of the bodies which traverse the heavens. And further, assuming that 21 it be granted to them or proved by them that mag-

^a § 17 *supra*.

990^a εἶναι¹ μέγεθος εἴτε δειχθείη τοῦτο, ὅμως τίνα
 τρόπον ἔσται τὰ μὲν κοῦφα, τὰ δὲ βάρους ἔχοντα
 15 τῶν σωμάτων; ἐξ ὧν γὰρ ὑποτίθενται καὶ λέ-
 γουσιν, οὐθὲν μᾶλλον περὶ τῶν μαθηματικῶν
 λέγουσι σωμάτων ἢ² τῶν αἰσθητῶν· διὸ περὶ
 πυρὸς ἢ γῆς ἢ τῶν ἄλλων τῶν τοιούτων σωμάτων
 οὐδ' ὀτιοῦν εἰρήκασιν, ἅτε οὐθὲν περὶ τῶν αἰσθητῶν
 οἶμαι λέγοντες ἴδιον. ἔτι δὲ πῶς δεῖ λαβεῖν αἴτια
 20 μὲν εἶναι τὰ τοῦ ἀριθμοῦ πάθη καὶ τὸν ἀριθμὸν
 τῶν κατὰ τὸν οὐρανὸν ὄντων καὶ γιγνομένων καὶ
 ἐξ ἀρχῆς καὶ νῦν, ἀριθμὸν δ' ἄλλον μηθένα εἶναι
 παρὰ τὸν ἀριθμὸν τοῦτον ἐξ οὗ συνέστηκεν ὁ
 κόσμος; ὅταν γὰρ ἐν τῷ μὲν τῷ μέρει δόξα καὶ
 καιρὸς αὐτοῖς ἦ, μικρὸν δὲ ἄνωθεν ἢ κάτωθεν
 ἀδικία καὶ κρίσις ἢ μίξις, ἀπόδειξις δὲ λέγωσιν
 25 ὅτι τούτων μὲν³ ἕκαστον ἀριθμὸς ἔστι, συμβαίνει
 δὲ κατὰ τὸν τρόπον τοῦτον ἤδη πλῆθος εἶναι τῶν
 συνισταμένων μεγεθῶν διὰ τὸ τὰ πάθη ταῦτα
 ἀκολουθεῖν τοῖς τόποις ἑκάστοις, πότερον οὗτος
 ὁ αὐτὸς ἔστω ἀριθμὸς ὁ ἐν τῷ οὐρανῷ, ὃν δεῖ
 λαβεῖν ὅτι τούτων ἕκαστόν ἐστιν, ἢ παρὰ τοῦτον
 30 ἄλλος; ὁ μὲν γὰρ Πλάτων ἔτερον εἶναι φησιν·

¹ εἶναι τὸ A^b.

² ἢ περὶ E.

³ μὲν Alexander: μὲν ἐν E: ἐν A^b Bonitz.

^a Aristotle uses the word *μέγεθος* both of magnitude in general and of spatial magnitude or extension. Here the meaning seems to be the former. Numbers obviously have magnitude, and might be regarded as causing it; but (except on the Number-Atomism theory, for which see *Introd.* p. xvii) they are no more the cause of extension than that of gravity.

^b *i.e.*, how can number be both reality and the cause of reality?

nitude^a is composed of these factors, yet how is it to be explained that some bodies are light, and others have weight? For in their premisses and statements they are speaking just as much about sensible as about mathematical objects; and this is why they have made no mention of fire or earth or other similar bodies, because, I presume, they have no separate explanation of sensible things. Again,²² how are we to understand that number and the modifications of number are the causes of all being and generation, both in the beginning and now, and at the same time that there is no other number than the number of which the universe is composed?^b Because when they make out that Opinion and²³ Opportunity are in such and such a region, and a little above or below them Injustice and Separation or Mixture, and when they state as proof of this that each of these abstractions is a number; and that also in this region there is already a plurality of the magnitudes composed of number, inasmuch as these modifications of number correspond to these several regions,—is the number which we must understand each of these abstractions to be the same number which is present in the sensible universe, or another kind of number?^c Plato at least says that²⁴

^c The point seems to be this. The Pythagoreans say that Opinion is a number, 3 (or 2, according to another version), and is located in a certain region of the universe because that region is proper to a corporeal magnitude composed of the number 3 (air was so composed according to Syrianus). Are we to understand, says Aristotle, that the abstract number identified with Opinion is the same as the concrete number of which air consists? The difficulty is probably due to an attempt to combine two different Pythagorean views of number. See *Introd.* p. xvii.

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καίτοι κάκεινος ἀριθμούς οἶεται καὶ ταῦτα εἶναι
καὶ τὰς τούτων αἰτίας, ἀλλὰ τοὺς μὲν νοητοὺς
αἰτίους, τούτους δὲ αἰσθητοὺς.

IX. Περὶ μὲν οὖν τῶν Πυθαγορείων ἀφείσθω τὰ
νῦν ἱκανὸν γὰρ αὐτῶν ἀφασθαι τοσοῦτον. οἱ δὲ τὰς
990 b ἰδέας αἰτίας τιθέμενοι πρῶτον μὲν ζητοῦντες τῶν δι
τῶν ὄντων λαβεῖν τὰς αἰτίας ἕτερα τούτους ἴσα τὸν
ἀριθμὸν ἐκόμισαν, ὥσπερ εἴ τις ἀριθμῆσαι βουλό-
μενος ἐλαττόνων μὲν ὄντων οἴοιτο μὴ δυνήσεσθαι,
πλείω δὲ ποιήσας ἀριθμοῖν· σχεδὸν γὰρ ἴσα ἢ οὐκ
5 ἐλάττω ἐστὶ τὰ εἶδη¹ τούτους² περὶ ὧν ζητοῦντες
τὰς αἰτίας ἐκ τούτων ἐπ' ἐκείνα προήλθον· καθ'
ἕκαστον γὰρ ὁμόνυμον τι ἔστι καὶ παρὰ τὰς
ουσίας, τῶν τε ἄλλων ἔστιν ἐν ἐπὶ πολλῶν, καὶ ἐπὶ
τοῖσδε καὶ ἐπὶ τοῖς αἰδίοις. Ἔτι δὲ καὶ καθ'
οὓς τρόπους δείκνυμεν ὅτι ἔστι τὰ εἶδη, κατ' οὐθ-
10 ἓνα φαίνεται τούτων· ἐξ ἐνίων μὲν γὰρ οὐκ ἀνάγκη
γίγνεσθαι συλλογισμόν, ἐξ ἐνίων δὲ καὶ οὐχ ὧν
οἰόμεθα τούτων εἶδη γίγνεται. κατὰ τε γὰρ τοὺς
λόγους τοὺς ἐκ τῶν ἐπιστημῶν εἶδη ἔσται πάντων
ὄσων ἐπιστῆμαι εἰσί, καὶ κατὰ τὸ ἐν ἐπὶ πολλῶν
καὶ τῶν ἀποφάσεων, κατὰ δὲ τὸ νοεῖν τι φθαρέν-

¹ τὰ εἶδη ἐστὶ E Asclepius.

² τούτων E Asclepius.

^o For a discussion of the Ideal theory and Aristotle's conception of it see *Introd.* p. xxi; and with the whole contents of ch. ix. 1-15 *cf.* XIII. iv. 6-v.

^b An Idea which represents their common denominator.

^c The heavenly bodies.

^d Aristotle is here speaking as a Platonist. Contrast the language of XIII. iv. 7 ff., and see *Introd.* p. xxxii.

^e Scientific knowledge must have a permanent object (*cf.* vi. 2).

^f Including artificial products; *cf.* 15 *infra*.

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it is another. It is true that he too supposes that numbers are both these magnitudes and their causes; but in his view the causative numbers are intelligible and the others sensible.

IX. The Pythagoreans, then, may be dismissed for the present, for it is enough to touch upon them thus briefly. As for those who posit the Forms as causes, in the first place in their attempt to find the causes of things in our sensible world, they introduced an equal number of other entities—as though a man who wishes to count things should suppose that it would be impossible when they are few, and should attempt to count them when he has added to them. For the Forms are as many as, or not fewer than, the things in search of whose causes these thinkers were led to the Forms; because corresponding to each thing there is a synonymous entity apart from the substances (and in the case of non-substantial things there is a One over the Many^b), both in our everyday world and in the realm of eternal entities.^c

Again, not one of the arguments by which we^d try to prove that the Forms exist demonstrates our point: from some of them no necessary conclusion follows, and from others it follows that there are Forms of things of which we hold that there are no Forms. For according to the arguments from the sciences^e there will be Forms of all things of which there are sciences^f; and according to the "One-over-Many" argument,^g of negations too; and according to the argument that "we have some conception of what has perished," of perishable things;

^g The fact that several particulars can have a common quality or nature implies a single Idea of which they all partake (*Republic* 596 Δ).

(v.) The Platonic Ideal theory. (a.) The assumption of the ideas doubles the number of things to be explained.

(b.) The arguments supposed to support the theory

Prove either nothing or too much; or else they imply consequences inconsistent

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15 τος τῶν φθαρτῶν· φάντασμα γάρ τι τούτων ἔστιν.
 ἔτι δὲ οἱ ἀκριβέστεροι τῶν λόγων οἱ μὲν τῶν πρὸς
 τι ποιούσιν ιδέας, ὧν οὐ φαμεν εἶναι καθ' αὐτό
 γένος, οἱ δὲ τὸν τρίτον ἀνθρωποῦν λέγουσιν. ὅλως
 τε ἀναιροῦσιν οἱ περὶ τῶν εἰδῶν λόγοι ἃ μᾶλλον
 εἶναι βουλόμεθα¹ [οἱ λέγοντες εἶδη]² τοῦ τὰς
 20 ιδέας εἶναι· συμβαίνει γὰρ μὴ εἶναι τὴν δυάδα
 πρώτην ἀλλὰ τὸν ἀριθμὸν, καὶ τὸ πρὸς τι τοῦ
 καθ' αὐτό, καὶ πάνθ' ὅσα τινὲς ἀκολουθήσαντες
 ταῖς περὶ τῶν ιδεῶν δόξαις ἠναντιώθησαν ταῖς
 ἀρχαῖς.

Ἔτι³ κατὰ μὲν τὴν ὑπόληψιν καθ' ἣν εἶναι
 φαμεν τὰς ιδέας, οὐ μόνον τῶν οὐσιῶν ἔσται
 25 εἶδη ἀλλὰ πολλῶν καὶ ἐτέρων (καὶ γὰρ τὸ νόημα
 ἐν οὐ μόνον περὶ τὰς οὐσίας ἀλλὰ καὶ κατὰ
 τῶν ἄλλων ἐστὶ, καὶ ἐπιστήμαι οὐ μόνον τῆς
 οὐσίας εἰσὶν ἀλλὰ καὶ ἐτέρων, καὶ ἄλλα δὲ
 μυρία συμβαίνει τοιαῦτα)· κατὰ δὲ τὸ ἀναγκαῖον
 καὶ τὰς δόξας τὰς περὶ αὐτῶν, εἰ ἔστι μεθεκτὰ
 τὰ εἶδη, τῶν οὐσιῶν ἀναγκαῖον ιδέας εἶναι μόνον·
 30 οὐ γὰρ κατὰ συμβεβηκὸς μετέχονται, ἀλλὰ δεῖ
 ταύτην ἐκάστου μετέχειν, ἣ μὴ καθ' ὑποκειμένου
 λέγεται. λέγω δ' οἷον εἴ τι αὐτοδιπλασίον

¹ βουλόμεθα E Asclepius: βούλονται.

² Blass. ³ ἔτι δὲ E Asclepius.

^o The theory always admitted Ideas of perishable things, e.g. "man." The objection here is that if the memory of dead men establishes the Idea of "man," the memory of a dead individual establishes an Idea of that (perishable) individual.

^o *Phaedo* 74 A-77 A, *Republic* 479 A-480 A.

^o Several arguments bore this name. Here the reference is probably to the following: If X is a man because he re-

because we have a mental picture of these things.^o with the principles of the theory.
 Again, of Plato's more exact arguments some establish Ideas of relations,^b which we do not hold to form a separate genus; and others state the "Third Man."^c And in general the arguments for the Forms do away with things which are more important to us exponents of the Forms than the existence of the Ideas; for they imply that it is not the Dyad that is primary, but Number^d; and that the relative is prior to the absolute^e; and all the other conclusions in respect of which certain persons, by following up the views held about the Ideas, have gone against the principles of the theory.

Again, according to the assumption by which we hold that the Ideas exist, there will be Forms not only of substances but of many other things (since the concept is one not only in the case of substances, but also in the case of all other things; and there are sciences not only of substances but of other things as well; and there are a thousand other similar consequences); but according to logical necessity, and from the views generally held about them, it follows that if the Forms are participated in, then there can only be Ideas of substances. For they are not participated in *qua* accidents; each Form can only be participated in in so far as it is not predicated of a subject. I mean, e.g., that if anything participates

6 sembles the Idea of Man, there must be a third "man" in whom the humanity of these two is united. Cf. *Parmenides* 132 A-133 A.

^d The Indeterminate Dyad, being to Aristotle a glorified 2, falls under the Idea of Number, which is therefore prior to it.

^e This seems to be a development of the same objection. Number, which is relative, becomes prior to the supposedly self-subsistent Dyad.

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μετέχει, τοῦτο καὶ αἰδίου μετέχει, ἀλλὰ κατὰ συμβεβηκός· συμβεβηκε γὰρ τῷ διπλασίῳ αἰδίῳ εἶναι. ὥστ' ἔσται οὐσία τὰ εἶδη· ταῦτα δὲ ἐνταῦθα οὐσίαν σημαίνει κάκει· ἢ τί ἔσται τὸ εἶναι φάναι τι παρὰ ταῦτα, τὸ ἐν ἐπὶ πολλῶν; καὶ εἰ μὲν ταῦτο εἶδος τῶν ἰδεῶν καὶ τῶν μετεχόντων, ἔσται τι κοινόν· τί γὰρ μᾶλλον ἐπὶ τῶν φθαρτῶν δυάδων, καὶ τῶν πολλῶν μὲν αἰδίων δέ, τὸ δυὰς σημαίνει¹ ἐν καὶ ταῦτόν, ἢ ἐπὶ τ' αὐτῆς² καὶ τῆς τιός; εἰ δὲ μὴ τὸ αὐτὸ εἶδος, ὁμώνυμα ἂν εἴη, καὶ ὁμοιον ὥσπερ ἂν εἴ τις καλοῖ ἄνθρωπον τὸν τε Καλλίαν καὶ τὸ ξύλον, μηδεμίαν κοινωνίαν ἐπιβλέψας αὐτῶν.

Πάντων δὲ μάλιστα διαπορήσειεν ἂν τις, τί ποτε συμβάλλεται τὰ εἶδη τοῖς αἰδίοις τῶν αἰσθητῶν ἢ τοῖς γιγνομένοις καὶ φθειρομένοις· οὔτε γὰρ κινήσεως οὔτε μεταβολῆς οὐδεμιᾶς ἔστιν αἴτια αὐτοῖς. ἀλλὰ μὴν οὔτε πρὸς τὴν ἐπιστήμην οὔθ' ἐν βοήθει τῶν ἄλλων (οὐδὲ γὰρ οὐσία ἐκεῖνα τούτων· ἐν τούτοις γὰρ ἂν ἦν), οὔτε εἰς τὸ εἶναι, μὴ ἐνυπάρχοντά γε τοῖς μετέχουσιν· οὔτα μὲν γὰρ ἂν ἴσως αἴτια δόξειεν εἶναι ὡς τὸ λευκὸν μεμιγμένον τῷ λευκῷ, ἀλλ' οὗτος μὲν ὁ λόγος

¹ σημαίνει Bywater: εἶναι.

² τ' αὐτῆς Bonitz: ταύτης.

^a Sensible double things are not eternal; therefore they do not, in the proper sense of "participation," participate in the Idea of Doubleness *qua* having the accidental attribute "eternal." Therefore Ideas, *qua* participated in, are not attributes but substances.

^b *i.e.* pairs of sensible objects.

^c *i.e.* mathematical 2's.

^d The argument of §§ 7-8 is: Ideas are substances. The common name which an Idea shares with its particulars must mean the same of both; otherwise "participation"

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in "absolute Doubleness" it participates also in "eternal," but only accidentally; because it is an *accident* of Doubleness to be eternal.^a Thus the ⁷ Forms must be substance. But the same names denote substance in the sensible as in the Ideal world; otherwise what meaning will there be in saying that something exists beside the particulars, *i.e.* the unity comprising their multiplicity? If the form of the Ideas and of the things which participate in them is the same, they will have something in common (for why should Duality mean one and the same thing in the case of perishable "twos"^b and the "twos" which are many but eternal,^c and not in the case of the Idea of Duality and a particular "two"?); but if the form is not the same, they will simply be homonyms; just as though one were to call both Callias and a piece of wood "man," without remarking any property common to them.^d

Above all we might examine the question what ⁹ on earth the Forms contribute to sensible things, whether eternal or subject to generation and decay; ^{(d) What do the Ideas contribute to sensible things?} for they are not the cause of any motion or change in them. Again, they are no help towards the ¹⁰ knowledge of other things^e (for they are not the substance of things, otherwise they would be *in* things), nor to their *existence*, since they are not present in the things which partake of them. If they were, it might perhaps seem that they are causes, in the sense in which the admixture of white causes a thing to be white; but this theory, which ¹¹ is merely homonymy. But as applied to Ideas it denotes substance; therefore particulars must be substances.

^e This objection, like the next, is chiefly directed against the transcendence of the Ideas. It is anticipated by Plato in *Parmenides* 134 d.

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991^a λiαν εὐκίνητος, ὃν Ἀναξαγόρας μὲν πρῶτος
 Εὐδόξος δ' ὕστερον καὶ ἄλλοι τινὲς ἔλεγον· ῥᾶδιον
 γὰρ συναγαγεῖν πολλὰ καὶ ἀδύνατα πρὸς τὴν
 τοιαύτην δόξαν. ἀλλὰ μὴν οὐδ' ἐκ τῶν εἰδῶν
 20 ἔστι τᾶλλα κατ' οὐθένα τρόπον τῶν εἰωθῶτων
 λέγεσθαι. τὸ δὲ λέγειν παραδείγματα αὐτὰ
 εἶναι καὶ μετέχειν αὐτῶν τᾶλλα κενολογεῖν ἔστι
 καὶ μεταφορὰς λέγειν ποιητικὰς. τί γὰρ ἔστι
 τὸ ἐργαζόμενον πρὸς τὰς ἰδέας ἀποβλέπον; ἐν-
 δέχεται τε καὶ εἶναι καὶ γίνεσθαι ὅμοιον ὁμοῖον
 25 καὶ μὴ εἰκαζόμενον πρὸς ἐκεῖνο, ὥστε καὶ
 ὄντος Σωκράτους καὶ μὴ ὄντος γένοιτ' ἂν οἰός-
 περ Σωκράτης (ὁμοίως δὲ δῆλον ὅτι κἂν εἴ ἦν ὁ
 Σωκράτης αἰδῖος). ἔσται τε πλείω παραδείγματα
 τοῦ αὐτοῦ, ὥστε καὶ εἶδη, οἷον τοῦ ἀνθρώπου τὸ
 ζῶον καὶ τὸ δίπουν, ἅμα δὲ καὶ τὸ αὐτοάνθρωπος.
 30 ἔτι οὐ μόνον τῶν αἰσθητῶν παραδείγματα τὰ εἶδη,
 ἀλλὰ καὶ αὐτῶν,¹ οἷον τὸ γένος ὡς γένος εἰδῶν.
 991^b ὥστε τὸ αὐτὸ ἔσται παράδειγμα καὶ εἰκῶν.
 ἔτι δόξειεν ἂν ἀδύνατον εἶναι χωρὶς τὴν οὐσίαν
 καὶ οὐ ἡ οὐσία· ὥστε πῶς ἂν αἱ ἰδέαι οὐσίαι τῶν
 πραγμάτων οὐσαι χωρὶς εἶεν; ἐν δὲ τῷ Φαίδωνι
 οὕτω λέγεται, ὡς καὶ τοῦ εἶναι καὶ τοῦ γίνεσθαι
 5 αἴτια τὰ εἶδη ἔστιν. καίτοι τῶν εἰδῶν ὄντων ὁμως
 οὐ γίνεται τὰ μετέχοντα ἂν μὴ ἦ τὸ κινήσον,

¹ αὐτῶν τῶν ἰδεῶν recc.

^a Fr. 12 ad fin.

^b See note on XII. viii. 9. Apparently he was a Platonist who regarded the Ideas as immanent in particulars.

^c Plato says "the Demiurgus"; *Timaeus* 28 c, 29 a.

was first stated by Anaxagoras^a and later by existence
 Eudoxus^b and others, is very readily refutable, for of things.
 it is easy to adduce plenty of impossibilities against
 such a view. Again, other things are not in any
 accepted sense *derived* from the Forms. To say that 12
 the Forms are patterns, and that other things parti- To say that
 cipate in them, is to use empty phrases and poetical the Ideas
 metaphors; for what is it that fashions things on are "pat-
 the model of the Ideas^c? Besides, anything may terns" does
 not help
 both be and become like something else without the theory,
 being imitated from it; thus a man may become just
 like Socrates whether Socrates exists or not, and 13
 even if Socrates were eternal, clearly the case would
 be the same. Also there will be several "patterns," it only
 and hence Forms, of the same thing; e.g. "animal" raises
 and "two-footed" will be patterns of "man," and further
 difficulties.
 and so too will the Idea of Man.^d Further, the Forms
 will be patterns not only of sensible things but of
 themselves (e.g. genus in the sense of genus of
 species), and thus the same thing will be both pattern
 and copy.^e Further, it would seem impossible that 14
 the substance and the thing of which it is the sub-
 stance exist in separation; hence how can the Ideas,
 if they are the substances of things, exist in separa-
 tion from them? It is stated in the *Phaedo*^f that
 the Forms are the causes both of existence and of
 generation. Yet, assuming that the Forms exist, 15
 still the things which participate in them are not
 generated unless there is something to impart causing ex-
 istence and
 generation,

^d Why this consequence is objectionable is not quite clear. Perhaps it is on the ground that to "account for appearances" in this way is not economical.

^e The species will be the "pattern" of individuals, and the genus of the species.

^f Cf. 10 supra.

^g *Phaedo* 100 d.

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καὶ πολλὰ γίνεταί ἕτερα, οἷον οἰκία καὶ δακτύλιος, ὧν οὐ φαμεν εἶδη εἶναι. ὥστε δῆλον ὅτι ἐνδέχεται καὶ τᾶλλα καὶ εἶναι καὶ γίνεσθαι διὰ τοιαύτας αἰτίας οἷας καὶ τὰ ρηθέντα νῦν. Ἔτι
 10 εἴπερ εἰσὶν ἀριθμοὶ τὰ εἶδη, πῶς αἴτιοι ἔσονται; πρότερον ὅτι ἕτεροι ἀριθμοὶ εἰσὶ τὰ ὄντα, οἷον ὀδὴ μὲν [ἀριθμὸς]¹ ἀνθρώπος, ὀδὴ δὲ Σωκράτης, ὀδὴ δὲ Καλλίας; τί οὖν ἐκείνοι τούτοις αἰτιοὶ εἰσιν; οὐδὲ γὰρ εἰ οἱ μὲν αἰδίοι οἱ δὲ μὴ, οὐδὲν διοίσει. εἰ δ' ὅτι λόγοι ἀριθμῶν τάνταῦθα, οἷον ἡ συμφωνία, δῆλον ὅτι ἔστιν ἐν γέ τι ὧν εἰσὶ λόγοι.
 15 εἰ δὴ τοῦτο,² ἡ ὕλη, φανερόν ὅτι καὶ αὐτοὶ οἱ ἀριθμοὶ λόγοι τινὲς ἔσονται ἑτέρου πρὸς ἕτερον. λέγω δ' οἷον, εἰ ἔστιν ὁ Καλλίας λόγος ἐν ἀριθμοῖς πυρὸς καὶ γῆς καὶ ὕδατος καὶ ἀέρος, καὶ³ ἄλλων τινῶν ὑποκειμένων ἔσται καὶ ἡ ἰδέα ἀριθμὸς· καὶ αὐτοάνθρωπος, εἴτ' ἀριθμὸς τις ὧν
 20 εἴτε μὴ, ὅμως ἔσται λόγος ἐν ἀριθμοῖς τινῶν, καὶ οὐκ ἀριθμὸς, οὐδ' ἔσται τις <ἰδέα>⁴ διὰ ταῦτα ἀριθμὸς. Ἔτι ἐκ πολλῶν ἀριθμῶν εἰς ἀριθμὸς γίνεταί, ἐξ εἰδῶν δὲ ἐν εἶδος πῶς; εἰ δὲ μὴ ἐξ αὐτῶν ἀλλ' ἐκ τῶν ἐναρίθμων, οἷον ἐν τῇ μυριάδι, πῶς ἔχουσιν αἱ μονάδες; εἴτε γὰρ ὁμοειδεῖς, πολλὰ συμβήσεται ἄτοπα, εἴτε μὴ ὁμο-
 25 ειδεῖς, μήτε αἱ αὐταὶ ἀλλήλαις μήτε αἱ ἄλλαι

¹ ἀριθμὸς seclusi.
² omi. recc.

³ τοῦτο: τι τοῦτο E.
⁴ Jaeger.

^a Introd. p. xxii.

^b The point, which is not very clearly expressed, is that the Ideas will not be pure numerical expressions or ratios, but will have a substrate just as particulars have.

motion; while many other things are generated (e.g. house, ring) of which we hold that there are no Forms. Thus it is clearly possible that all other things may both exist and be generated for the same causes as the things just mentioned. but this cannot be true.

Further, if the Forms are numbers,^a in what sense will they be causes? Is it because things are other numbers, e.g. such and such a number Man, such and such another Socrates, such and such another Callias? then why are those numbers the causes of these? Even if the one class is eternal and the other not, it will make no difference. And if it is because the things of our world are ratios of numbers (e.g. a musical concord), clearly there is some one class of things of which they are ratios. Now if there is this something, i.e. their matter, clearly the numbers themselves will be ratios of one thing to another. I mean, e.g., that if Callias is a numerical ratio of fire, earth, water and air, the corresponding Idea too will be a number of certain other things which are its substrate. The Idea of Man, too, whether it is in a sense a number or not, will yet be an arithmetical ratio of certain things, and not a mere number; nor, on these grounds, will any Idea be a number.^b (e) If the Ideas are numbers, (f.) if things are numbers, this does not explain why the Ideas are their causes; (ii.) if things are not numbers but ratios,

Again, one number can be composed of several numbers, but how can one Form be composed of several Forms? And if the one number is not composed of the other numbers themselves, but of their constituents (e.g. those of the number 10,000), what is the relation of the units? If they are specifically alike, many absurdities will result, and also if they are not (whether (a) the units in a given number are unlike, or (b) the units in each number are they composed?) (f) If Ideas are numbers, how are they composed?

991^b πᾶσαι πάσαι· τίνη γὰρ διοίσουσιν ἀπαθείς οὐσαι; οὔτε γὰρ εὐλόγα ταῦτα οὔτε ὁμολογούμενα τῇ νοήσει. "Ἐτι δ' ἀναγκαῖον ἕτερον¹ γένος ἀριθμοῦ κατασκευάζειν, περὶ δ' ἢ ἀριθμητικῆ, καὶ πάντα τὰ μεταξὺ λεγόμενα ὑπὸ τινων· ἂ πῶς² ἢ ἐκ τίνων
 30 ἐστὶν ἀρχῶν; ἢ διὰ τί³ μεταξὺ τῶν δευρὸ τ' ἔσται καὶ αὐτῶν; ἔτι αἱ μονάδες αἱ ἐν τῇ δυάδι
 992^a ἑκάτερα ἕκ τινος προτέρας δυάδος· καίτοι ἀδύνατον.
 "Ἐτι διὰ τί ἐν ὁ ἀριθμὸς συλλαμβανόμενος; ἔτι δὲ πρὸς τοῖς εἰρημένοις, εἴπερ εἰσὶν αἱ μονάδες διάφοροι, ἐχρῆν οὕτω λέγειν ὥσπερ καὶ ὅσοι τὰ στοιχεῖα τέτταρα ἢ δύο λέγουσιν· καὶ γὰρ τούτων
 5 ἕκαστος οὐ τὸ κοινὸν λέγει στοιχείον, οἷον τὸ σῶμα, ἀλλὰ πῦρ καὶ γῆν, εἴτ' ἔστι τι κοινόν, τὸ σῶμα, εἴτε μή. νῦν δὲ λέγεται ὡς ὄντος τοῦ ἐνός ὥσπερ πυρὸς ἢ ὕδατος ὁμοιομεροῦς· εἰ δ' οὕτως, οὐκ ἔσονται οὐσίαι οἱ ἀριθμοί, ἀλλὰ δηλὸν ὅτι, εἴπερ ἐστὶ τι ἐν αὐτὸ καὶ τοῦτό ἐστιν ἀρχή, πλεο-
 10 ναχῶς λέγεται τὸ ἐν· ἄλλως γὰρ ἀδύνατον. Βου-
 λόμενοι δὲ τὰς οὐσίας ἀνάγειν εἰς τὰς ἀρχὰς μήκη

¹ ἕτερον τι EJ Asclepius.

² τινων· ἂ πῶς: τινων ἀπλῶς: EF Alexander.

³ τί τὰ EF.

^a That the words in brackets give the approximate sense seems clear from XIII. vi. 2-3, vii. 15; but it is difficult to get it out of the Greek.

^b Cf. vi. 4.

^c *i.e.*, if 2 is derived from a prior 2 (the Indeterminate Dyad; Aristotle always regards this as a number 2), and at the same time consists of two units or 1s, 2 will be prior both to itself and to 1.

are unlike those in every other number).^a For in what can they differ, seeing that they have no qualities? Such a view is neither reasonable nor compatible with our conception of units.

Further, it becomes necessary to set up another 20 kind of number (with which calculation deals), and all the objects which are called "intermediate" ^{(g) The- theory necessitates a third class of numbers, which has also to be explained.} by some thinkers.^b But how or from what principles can these be derived? or on what grounds are they to be considered intermediate between things *here* and Ideal numbers? Further, each of the units in the number 2 comes from a prior 2; but this is impossible.^c

Further, why should a number <of units>, taken 21 together, be one thing? And further, in addition ^{(h) The units in the Ideal Numbers present further difficulties.} to the above objections, if the units are unlike, they should be treated as the thinkers who assume two or four elements treat those elements; for not one of them applies the term "element" to the common substrate, *e.g.* body, but to fire and earth—whether there is a common substrate (*i.e.* body) or not.^d As it is, the One is spoken of as though it 22 were homogeneous, like fire or water. But if this is so, the numbers will not be substances. And if there is an absolute One which is a principle, clearly the term "one" is ambiguous; otherwise this is impossible.^e

When we wish to refer substances to their prin- 23

^d In the *De Gen. et Corr.* 320 b 23 Aristotle says that there is not.

^e This last sentence shows that in what goes before A. has been regarding the Platonic One as a unit. If this is so, he says, substance cannot be composed of it. If on the other hand the One is something different from the unit, they ought to make this clear.

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μὲν τίθεμεν ἐκ βραχέος καὶ μακροῦ,¹ ἐκ τινος
 μικροῦ καὶ μεγάλου, καὶ ἐπίπεδον ἐκ πλατέος καὶ
 στενοῦ, σῶμα δ' ἐκ βαθέος καὶ ταπεινοῦ. καίτοι
 πῶς ἕξει ἢ τὸ ἐπίπεδον γραμμῆν, ἢ τὸ στερεὸν
 15 γραμμῆν καὶ ἐπίπεδον; ἄλλο γὰρ γένος τὸ πλατὺ
 καὶ² στενὸν καὶ βαθὺ καὶ ταπεινόν· ὥσπερ οὖν
 οὐδ' ἀριθμὸς ὑπάρχει ἐν αὐτοῖς, ὅτι τὸ πολὺ καὶ
 ὀλίγον ἕτερον τούτων, δῆλον ὅτι οὐδ' ἄλλο οὐθὲν
 τῶν ἄνω ὑπάρξει τοῖς κάτω. ἀλλὰ μὴν οὐδὲ
 γένος τὸ πλατὺ τοῦ βαθέος· ἦν γὰρ ἂν ἐπίπεδόν
 20 τι τὸ σῶμα. ἔτι αἱ στιγμαὶ ἐκ τίνος ἐνυπάρξουσιν;
 τούτῳ μὲν οὖν τῷ γένει καὶ διεμάχето Πλάτων
 ὡς ὄντι γεωμετρικῶ δόγματι, ἀλλ' ἐκάλει ἀρχὴν
 γραμμῆς (τοῦτο δὲ πολλακίς ἐτίθει, τὰς ἀτόμους
 γραμμῆς). καίτοι ἀνάγκη τούτων εἶναι τι πέρασ·
 ὥστ' ἐξ οὗ λόγου γραμμῆ ἔστι, καὶ στιγμῆ ἔστιν.
 25 Ὅλως δὲ ζητούσης τῆς σοφίας περὶ τῶν φανερῶν
 τὸ αἴτιον, τοῦτο μὲν εἰάκαμεν (οὐθὲν γὰρ λέγομεν
 περὶ τῆς αἰτίας ὅθεν ἢ ἀρχὴ τῆς μεταβολῆς), τὴν
 δ' οὐσίαν οἰόμενοι λέγειν αὐτῶν ἑτέρας μὲν
 οὐσίας εἶναι φαιμέν, ὅπως δὲ ἐκείναι τούτων
 οὐσίαι διὰ κενῆς λέγομεν· τὸ γὰρ μετέχειν, ὥσπερ
 καὶ πρότερον εἵπομεν, οὐθὲν ἔστιν. οὐδὲ δὴ ὅπερ

¹ μακροῦ καὶ βραχέος F. Asclepius.

² καὶ τὸ E.

^a The lines, planes and solids here discussed are probably the Ideal lines, etc., which are immediately posterior to the Idea-Numbers. Cf. § 30, XIII. vi. 10, ix. 2, and see *Introductio*. p. xxiv.

^b Lines, planes and solids are generated from varieties of the Great and Small, but points cannot be, having no magnitude; how, then, can the latter be present in the former?

ciples we derive lines^a from "Long and Short,"⁽ⁱ⁾ So do the Lines, Planes and Solids.
 a kind of "Great and Small"; and the plane from
 "Wide and Narrow," and the solid body from "Deep
 and Shallow." But in this case how can the plane
 contain a line, or the solid a line and a plane? for
 24 "Wide and Narrow" and "Deep and Shallow"
 are different genera. Nor is Number contained in
 these objects (because "Many and Few" is yet
 another class); and in the same way it is clear that
 none of the other higher genera will be contained
 in the lower. Nor, again, is the Broad the genus
 of which the Deep is a species; for then body would
 be a kind of plane. Further, how will it be possible
 25 for figures to contain points?^b Plato steadily
 rejected this class of objects as a geometrical fiction,^(j) The nature of the Point involves further contradictions.
 but he recognized "the beginning of a line," and he
 frequently assumed this latter class, i.e. the "ir-
 divisible lines."^c But these must have some limit;
 and so by the same argument which proves the exist-
 ence of the line, the point also exists.^d

In general, although Wisdom is concerned with
 26 the cause of visible things, we have ignored this
 question (for we have no account to give of the cause
 from which change arises),^e and in the belief that we
 are accounting for their substance we assert the
 existence of other substances; but as to *how* the
 latter are the substances of the former, our explana-
 tion is worthless—for "participation," as we have
 said before,^f means nothing. And as for that which 27

^e That Plato denied the existence of the point and asserted that of indivisible lines is not directly stated elsewhere, but the same views are ascribed to Xenocrates, and were attacked in the treatise *De lineis insecabilibus*. See Ross *ad loc.*

^d Sc. if the point is the limit of the line.

^e Cf. vii. 5 and § 9 *supra*.

^f § 12.

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30 ταῖς ἐπιστήμαις ὁρῶμεν ὄν αἴτιον, δι' ὃ καὶ πᾶς νοῦς καὶ πᾶσα φύσις ποιεῖ, οὐδὲ ταύτης τῆς αἰτίας ἦν φαμέν εἶναι μίαν τῶν ἀρχῶν, οὐθὲν ἄπτεται τὰ εἶδη, ἀλλὰ γέγονε τὰ μαθήματα τοῖς

992 b νῦν ἢ φιλοσοφία, φασκόντων ἄλλων¹ χάριν αὐτὰ δεῖν πραγματεύεσθαι. Ἔτι δὲ τὴν ὑποκειμένην

οὐσίαν ὡς ὕλην μαθηματικωτέραν ἂν τις ὑπολάβοι, καὶ μᾶλλον κατηγορεῖσθαι καὶ διαφορὰν εἶναι τῆς οὐσίας καὶ τῆς ὕλης ἢ ὕλην, οἷον τὸ μέγα

5 καὶ τὸ μικρὸν, ὥσπερ καὶ οἱ φυσιολόγοι φασὶ τὸ μανὸν καὶ τὸ πυκνόν, πρῶτας τοῦ ὑποκειμένου φάσκοντες εἶναι διαφορὰς ταύτας· ταῦτα γὰρ ἔστιν ὑπεροχὴ τις καὶ ἔλλειψις. περὶ τε κινήσεως, εἰ μὲν ἔσται ταῦτα κινήσεις, δῆλον ὅτι κινήσεται τὰ εἶδη· εἰ δὲ μή, πόθεν ἦλθεν; ὅλη γὰρ ἢ περὶ

10 φύσεως ἀνήρηται σκέψις. ὃ τε δοκεῖ ῥάδιον εἶναι, τὸ δεῖξαι ὅτι ἐν ἅπαντα, οὐ γίνεταί· τῇ γὰρ ἐκθέσει οὐ γίνεταί πάντα ἐν, ἀλλ' αὐτό τι ἐν, ἂν διδῶ τις πάντα· καὶ οὐδὲ τοῦτο, εἰ μὴ γένος δώσει τὸ καθόλου εἶναι· τοῦτο δ' ἐν ἐνόις ἀδύνατον.

οὐθένα δ' ἔχει λόγον οὐδὲ τὰ μετὰ τοὺς ἀριθμοὺς μήκη τε καὶ ἐπίπεδα καὶ στερεά, οὔτε ὅπως ἔστιν

15 ἢ ἔσται, οὔτε² τίνα ἔχει δύναμιον· ταῦτα γὰρ οὔτε

¹ ἄλλων: τῶν ἄλλων A^b.

² οὐτ' εἰ E. Asclepius.

^a The final cause. Cf. vi. 9-10.

^b e.g. Speusippus, for whom see VII. ii. 4.

^c Cf. Plato, *Republic* 531 c-b.

^d Cf. iv. 10.

^e The word ἐκθεσις has various technical meanings. The process referred to here apparently consisted in taking, e.g., particular men, and reducing them with reference to their common nature to a single unit or universal, "man"; then taking "man," "horse," "dog," etc. and treating them in 76

we can see to be the cause in the sciences, and through which all mind and all nature works—this cause^a which we hold to be one of the first principles—the Forms have not the slightest bearing upon it either. Philosophy has become mathematics for modern thinkers,^b although they profess^c that mathematics is only to be studied as a means to some other end.

Further, one might regard the substance which 28 they make the material substrate as too mathe-^(l) The Great and Small is too abstract a material principle, and does not explain motion. matical, and as being a predicate and differentia of substance or matter rather than as matter itself. I mean the "Great and Small," which is like the "Rare and Dense" of which the physicists speak,^d holding that they are the primary differentiae of the substrate; because these qualities are a species of excess and defect. Also with regard to motion, if 29 the "Great and Small" is to constitute motion, obviously the Forms will be moved; if not, whence did it come? On this view the whole study of physics is abolished. And what is supposed to be easy, to prove that everything is One, does not follow; because from their exposition^e it does not follow, even if you grant them all their assumptions, that everything is One, but only that there is an absolute One—and not even this, unless you grant 30 that the universal is a class; which is impossible in some cases.^f Nor is there any explanation of the lines, planes and solids which "come after" the Numbers^g: neither as to how they exist or can exist, nor as to what their importance is. They the same way, until a unit is reached which embraces everything (Alexander).

^(m) The theory does not prove that all things are One, but only that there is an absolute One. there is an absolute One.

^f Probably those of relative or negative terms. Cf. § 3.

^g See note on § 23.

992 b

εἶδη οἷόν τε εἶναι (οὐ γάρ εἰσιν ἀριθμοί) οὔτε τὰ μεταξὺ (μαθηματικά γὰρ ἐκεῖνα) οὔτε τὰ φθαρτά, ἀλλὰ πάλιν τέταρτον ἄλλο φαίνεται τοῦτό τι γένος.

“Ὅλως τε τὸ τῶν ὄντων ζητεῖν στοιχεῖα μὴ διεκλόν-
 20 τας, πολλαχῶς λεγομένων, ἀδύνατον εὐρεῖν, ἄλλως τε καὶ τοῦτον τὸν τρόπον ζητοῦντας ἐξ οἷων ἐστὶ στοιχείων. ἐκ τίνων γὰρ τὸ ποιεῖν ἢ πάσχειν, ἢ τὸ εὐθύ, οὐκ ἐστὶ δῆπου λαβεῖν, ἀλλ’ εἴπερ, τῶν οὐσιῶν μόνον ἐνδέχεται. ὥστε τὸ τῶν ὄντων ἀπάντων τὰ στοιχεῖα ἢ ζητεῖν ἢ οἶεσθαι ἔχειν οὐκ ἀληθές. πῶς δ’ ἂν τις καὶ μάθοι τὰ τῶν πάντων
 25 στοιχεῖα; δῆλον γὰρ ὡς οὐθὲν οἷόν τε προὔπ-
 ἀρχεῖν γνωρίζοντα πρότερον. ὥσπερ γὰρ τῷ γεω-
 μετρεῖν μαθάνοντι ἄλλα μὲν ἐνδέχεται προειδέναί, ὧν δὲ ἢ ἐπιστήμη καὶ περὶ ὧν μέλλει μαθάνειν οὐθὲν προγιγνώσκει, οὔτω δὴ καὶ ἐπὶ τῶν ἄλλων. ὥστ’ εἴ τις τῶν πάντων ἐστὶν ἐπιστήμη, οἷαν δὴ¹
 30 τινές φασιν, οὐθὲν ἂν προὔπαρχοι γνωρίζων οὗτος. καίτοι πᾶσα μάθησις διὰ προγιγνωσκομένων ἢ πάντων ἢ τινῶν ἐστὶ, καὶ ἢ² δι’ ἀποδείξεως <καί> ἢ³ δι’ ὀρισμῶν· δεῖ γὰρ ἐξ ὧν ὁ ὀρισμὸς προειδέναί καὶ εἶναι γνώριμα. ὁμοίως δὲ καὶ ἢ δι’ ἐπαγωγῆς.
 993 a ἀλλὰ μὴν εἰ καὶ τυγχάνοι⁴ συμφutos οὕσα, θαυμαστὸν πῶς λανθάνομεν ἔχοντες τὴν κρατίστην τῶν ἐπιστημῶν. ἔτι πῶς τις γνωριεῖ ἐκ τίνων ἐστὶ, καὶ πῶς ἔσται δῆλον; καὶ γὰρ τοῦτ’ ἔχει

¹ οἷαν δὴ: ὡς EF Asclepius.

² ἢ Bonitz: ἢ. ³ <καί> ἢ Bonitz: ἢ.

⁴ καὶ εἰ τυγχάνει E Asclepius.

^a e.g. Plato's *Dialectic*.

^b Cf. the doctrine of ἀνάμνησις (recollection), Plato, *Meno* 81 c, *Phaedo* 72 ε.

cannot be Forms (since they are not numbers) or Intermediates (which are the objects of mathematics) or perishables; clearly they form yet another fourth class.

In general, to investigate the elements of existing 31 things without distinguishing the various senses in which things are said to exist is a hopeless task; especially when one inquires along these lines into the nature of the elements of which things are composed. For (a) we cannot surely conceive of the elements of activity or passivity or straightness; this is possible, if at all, only in the case of substances. Hence to look for, or to suppose that one has found, the elements of *everything* that exists, is a mistake. (b) How can one apprehend the elements 32 of *everything*? Obviously one could not have any previous knowledge of anything; because just as a man who is beginning to learn geometry can have previous knowledge of other facts, but no previous knowledge of the principles of that science or of the things about which he is to learn, so it is in the case of all other branches of knowledge. Hence 33 if there is a science which embraces everything^a (as some say), the student of it can have no previous knowledge at all. But all learning proceeds, wholly or in part, from what is already known; whether it is through demonstration or through definition—since the parts of the definition must be already known and familiar. The same is true of induction. On the other hand, assuming that this knowledge 34 should turn out to be innate,^b it is astonishing that we should possess unawares the most important of the sciences. Further, how is one to *know* of what elements things consist? how is it to be established?

(a) To suppose that all existing things have the same elements is absurd. (1) Things exist in different senses. (2) To apprehend the

elements of everything implies that one has no previous knowledge of anything (whereas all

knowledge proceeds from the known); or that we know everything without knowing it.

993^a ἀπορίαν· ἀμφισβητήσῃσι γὰρ ἂν τις, ὥσπερ καὶ
 5 περὶ ἐνίας συλλαβᾶς· οἱ μὲν γὰρ τὸ ζα¹ ἐκ τοῦ
 σ καὶ δ² καὶ α φασὶν εἶναι, οἱ δὲ τινες ἕτερον
 φθόγγον φασὶν εἶναι, καὶ οὐθένα τῶν γνωρίμων.

Ἔτι δὲ ὧν ἐστὶν αἰσθησις, ταῦτα πῶς ἂν τις μὴ
 ἔχων τὴν αἴσθησιν γνοίῃ; καίτοι ἔδει, εἴγε πάντων
 ταῦτά³ στοιχεῖά ἐστιν ἐξ ὧν, ὥσπερ αἱ σύνθετοι
 10 φωναὶ εἰσιν ἐκ τῶν οἰκείων στοιχείων.

X. Ὅτι μὲν οὖν τὰς εἰρημένους ἐν τοῖς φυσικοῖς
 αἰτίας ζητεῖν εὐόκασι πάντες, καὶ τούτων ἐκτὸς
 οὐδεμίαν ἔχομεν ἂν εἰπεῖν, δῆλον καὶ ἐκ τῶν
 πρότερον εἰρημένων· ἀλλ' ἀμυδρῶς ταύτας, καὶ
 τρόπον μὲν τινα πᾶσαι πρότερον εἴρηνται, τρό-
 15 πον δὲ τινα οὐδαμῶς. ψελλιζομένη γὰρ εὐοικεν ἢ
 πρώτη φιλοσοφία περὶ πάντων, ἅτε νέα τε καὶ⁴
 κατ' ἀρχᾶς οὐσα [καὶ τὸ πρῶτον],⁵ ἐπεὶ καὶ Ἐμ-
 πεδοκλήης ὅσπου τῷ λόγῳ φησὶν εἶναι, τοῦτο δ'
 ἐστὶ τὸ τί ἦν εἶναι καὶ ἡ οὐσία τοῦ πράγματος.
 20 ἀλλὰ μὴν ὁμοίως ἀναγκαῖον καὶ σάρκας⁶ καὶ τῶν
 ἄλλων ἕκαστον⁷ εἶναι τὸν λόγον, ἢ μηδὲ εἶν⁸.
 διὰ τοῦτο γὰρ καὶ σὰρξ καὶ ὅσπου ἐστὶ καὶ
 τῶν ἄλλων ἕκαστον, καὶ οὐ διὰ τὴν ὕλην, ἢν

¹ ζα Bonitz: σμα. ² δ Bonitz: μ.

³ Bessarion, comm.: ταῦτα codd.

⁴ καὶ om. EA^b Asclepius.

⁵ Ross: om. Bessarion, Alexander.

⁶ σάρκας A^b Bonitz: σαρκός.

⁷ ἕκαστον: ἐκάστου Γ, Bekker.

⁸ μηδὲ ἐν: μηθένος A^b Alexander.

^a στοιχείων means both "an element" and "a letter of the alphabet"; hence letters are often used as analogues of the material elements. The point here is: Is Z (or rather the Greek ζ) a στοιχείων, or is it further analysable? Since

Even this presents a difficulty, because the facts 35
 might be disputed, as happens in the case of certain (3) The
 syllables—for some say that ZA is composed of S, elements
 D and A, while others say that it is a distinct sound themselves
 and not any one of those which are familiar to us. may always
 be disputed.

Further, how can one gain knowledge of the ob- 36
 jects of a particular sense-perception without pos- (4) If all
 sessing that sense? Yet it should be possible, that sense-
 is if the elements of which all things consist, as objects had
 composite sounds consist of their peculiar^b elements, are the same elements,
 the same. sight would
 enable us
 to know
 sounds; but
 this is not so.

X. Thus it is obvious, from the statements of earlier
 thinkers also, that all inquiry is apparently directed
 towards the causes described in the *Physics*,^c and
 that we cannot suggest any other cause apart from
 these. They were, however, only vaguely conceived; and
 although in one sense they have all been stated
 before, in another they have not been stated at all.
 For the earliest philosophy speaks falteringly, as it 2
 were, on all subjects; being new and in its infancy. primary
 Even Empedocles says that bone exists by virtue of causes.
 its ratio,^d which is the definition or essence of a
 thing. But by similar reasoning both flesh and every 3
 other thing, or else nothing at all, must be ratio;
 for it must be because of this, and not because of
 their matter—which he calls fire, earth, water and

this can be disputed, we must expect differences of opinion
 about the elements in general.

^b Peculiar to them as sounds, not as individual sounds.
 If sights and sounds had the same elements, sight, which
 knows those elements as composing sights, would know
 them as composing sounds; *i.e.*, we could see sounds.

^c *Phys.* II. iii., vii.

^d *Frr.* 96, 98 (Diels), Ritter and Preller 175. Aristotle
 says that Empedocles had some idea of the essence or formal
 cause, but did not apply it generally.

993^a ἐκεῖνος λέγει πῦρ καὶ γῆν καὶ ὕδωρ καὶ ἀέρα.
 ἀλλὰ ταῦτα ἄλλου μὲν λέγοντος συνέφησεν ἂν ἐξ
 ἀνάγκης, σαφῶς δὲ οὐκ εἴρηκεν. Περὶ μὲν οὖν
 25 τούτων¹ δεδήλωται καὶ πρότερον. ὅσα δὲ περὶ
 τῶν αὐτῶν τούτων ἀπορήσειεν ἂν τις, ἐπανεέλθω-
 μεν πάλιν· τάχα γὰρ ἂν ἐξ αὐτῶν εὐπορήσαιμὲν
 τι πρὸς τὰς ὕστερον ἀπορίας.

¹ τούτων: τῶν τοιούτων E Alexandri lemma.

air—that flesh and bone and every other thing exists. If anyone else had stated this, he would⁴ necessarily have agreed, but his own statement was not clear.

These and similar points have been explained already. We will now return to the difficulties which might be raised about these same questions, for they may throw some light upon subsequent difficulties.⁶

⁶ The reference is to Book III. See Introd. p. xxxi.

A ELATTON

993 a

30 I. Ἡ περὶ τῆς ἀληθείας θεωρία τῇ μὲν χαλεπῇ
τῇ δὲ ῥαδία. σημεῖον δὲ τὸ μήτ' ἀξίως μηδένα
993 b δύνασθαι θιγεῖν¹ αὐτῆς, μήτε πάντας ἀποτυγχάνειν,
ἀλλ' ἕκαστον λέγειν τι περὶ τῆς φύσεως, καὶ
καθ' ἓνα μὲν μηθὲν ἢ μικρὸν ἐπιβάλλειν αὐτῇ, ἐκ
πάντων δὲ συναθροισμένων γίνεσθαι τι μέγεθος.
ὥστ' εἴπερ ἔοικεν ἔχειν καθάπερ τυγχάνομεν παροι-
5 μαζόμενοι, τίς ἂν θύρας ἀμάρτοι; ταύτη μὲν
ἂν εἴη ῥαδία· τὸ δ' ὄλον τι ἔχειν καὶ μέρος μὴ
δύνασθαι δηλοῖ τὸ χαλεπὸν αὐτῆς. ἴσως δὲ καὶ
τῆς χαλεπότητος οὐσῆς κατὰ δύο τρόπους, οὐκ ἐν
τοῖς πράγμασι ἀλλ' ἐν ἡμῖν τὸ αἴτιον² αὐτῆς.
ὥσπερ γὰρ³ τὰ τῶν νυκτερίδων ὄμματα πρὸς τὸ
10 φέγγος ἔχει τὸ μεθ' ἡμέραν, οὕτω καὶ τῆς ἡμετέρας
ψυχῆς ὁ νοῦς πρὸς τὰ τῇ φύσει φανερώτατα πάντων.
Οὐ μόνον δὲ χάριν ἔχειν δίκαιον τούτοις ὧν ἂν τις
κοινώσαιο ταῖς δόξαις, ἀλλὰ καὶ τοῖς ἐπιπολαιό-
τερον⁴ ἀποφηναμένοις· καὶ γὰρ οὗτοι συνεβάλοντό τι-
15 τῆν γὰρ ἔξω προήσκησαν ἡμῶν. εἰ μὲν γὰρ Τιμό-
θεος μὴ ἐγένετο, πολλὴν ἂν μελοποιίαν οὐκ εἴχομεν

¹ θιγεῖν: τυχεῖν E Asclepius.

² αἴτιον ἔστω A^b.

³ γὰρ καὶ recc.

⁴ ἐπιπολαιότερος E Asclepius.

BOOK II

I. THE study of Truth is in one sense difficult, in another
easy. This is shown by the fact that whereas no one
person can obtain an adequate grasp of it, we cannot
all fail in the attempt; each thinker makes some
statement about the natural world, and as an indi-
vidual contributes little or nothing to the inquiry;
but a combination of all conjectures results in some-
thing considerable. Thus in so far as it seems that 2
Truth is like the proverbial door which no one can
miss,^a in this sense our study will be easy; but the
fact that we cannot, although having some grasp of
the whole, grasp a particular part, shows its difficulty.
However, since difficulty also can be accounted for
in two ways, its cause may exist not in the objects
of our study but in ourselves: just as it is with bats' 3
eyes in respect of daylight, so it is with our mental
intelligence in respect of those things which are by
nature most obvious.

It is only fair to be grateful not only to those whose
views we can share but also to those who have ex-
pressed rather superficial opinions. They too have
contributed something; by their preliminary work
they have formed our mental experience. If there 4
had been no Timotheus,^b we should not possess much
but some-

BOOK II.

THE STUDY
OF REALITY

We cannot
entirely
miss the
truth about
reality,
although it
is hard to

find the
truth about
any given
point.

The cause of
the diffi-

culty is the
weakness of
our reason.

Even the
most super-
ficial
thinkers
have contri-

but some-

^a Leutsch and Schneidewin, *Paroemiographi*, ii. 678.

^b Of Miletus, 446 (?)–357 B.C.

993 b

εἰ δὲ μὴ Φρῦνις, Τιμόθεος οὐκ ἂν ἐγένετο. τὸν αὐτὸν δὲ τρόπον καὶ <ἐπὶ>¹ τῶν περὶ τῆς ἀληθείας ἀποφηγαμένων· παρὰ μὲν γὰρ ἐνίων παρειλήφασιν τινὰς δόξας, οἱ δὲ τοῦ γενέσθαι τούτους αἰτίου γεγόνασιν.

20 Ὁρθῶς δ' ἔχει καὶ τὸ καλεῖσθαι τὴν φιλοσοφίαν ἐπιστήμην τῆς ἀληθείας. θεωρητικῆς μὲν γὰρ τέλος ἀλήθεια, πρακτικῆς δ' ἔργον· καὶ γὰρ ἂν τὸ πῶς ἔχει σκοπῶσιν, οὐ τὸ αἰδίων ἀλλὰ πρὸς τι καὶ νῦν θεωροῦσιν οἱ πρακτικοί. οὐκ ἴσμεν δὲ τὸ ἀληθὲς ἄνευ τῆς αἰτίας· ἕκαστον δὲ μάλιστα

25 αὐτὸ τῶν ἄλλων καθ' ὃ καὶ τοῖς ἄλλοις ὑπάρχει τὸ συνώνυμον (οἷον τὸ πῦρ θερμότατον· καὶ γὰρ τοῖς ἄλλοις τὸ αἴτιον τοῦτο τῆς θερμότητος)· ὥστε καὶ ἀληθέστατον τὸ τοῖς ὑστέροις αἴτιον τοῦ ἀληθέσιν εἶναι. διὸ τὰς τῶν αἰεὶ ὄντων ἀρχὰς ἀναγκαῖον αἰεὶ εἶναι ἀληθεστάτας· οὐ γὰρ ποτε

30 ἀληθεῖς, οὐδ' ἐκείναις αἰτίον τί ἐστι τοῦ εἶναι, ἀλλ' ἐκείναι τοῖς ἄλλοις, ὥσθ' ἕκαστον ὡς ἔχει τοῦ εἶναι, οὕτω καὶ τῆς ἀληθείας.

994 a II. Ἀλλὰ μὴν ὅτι γ' ἐστὶν ἀρχή τις, καὶ οὐκ ἄπειρα τὰ αἴτια τῶν ὄντων οὐτ' εἰς εὐθυωρίαν οὔτε κατ' εἶδος, δῆλον. οὔτε γὰρ ὡς ἐξ ὕλης, τόδ' ἐκ τοῦδε δυνατὸν εἶναι εἰς ἄπειρον (οἷον σάρκα μὲν ἐκ γῆς, 5 γῆν δ' ἐξ ἀέρος, ἀέρα δ' ἐκ πυρός, καὶ τοῦτο μὴ ἴστασθαι), οὔτε ὅθεν ἢ ἀρχὴ τῆς κινήσεως (οἷον τὸν μὲν ἄνθρωπον ὑπὸ τοῦ ἀέρος κινήθηαι,

¹ Jaeger.

^a Of Mitylene; he is referred to as still alive in Aristophanes, *Clouds* 971. Both Phrynus and Timotheus are criticized in the fragment of Pherecrates' *Chiron* translated by Rogers in the appendix to his ed. of the *Clouds*.

of our music; and if there had been no Phrynus,^a there would have been no Timotheus. It is just the same in the case of those who have theorized about reality: we have derived certain views from some of them, and they in turn were indebted to others.

Moreover, philosophy is rightly called a knowledge of Truth. The object of theoretic knowledge is truth, while that of practical knowledge is action; for even when they are investigating *how* a thing is so, practical men study not the eternal principle but the relative and immediate application. But we cannot know the truth apart from the cause. Now every thing through which a common quality is communicated to other things is itself of all those things in the highest degree possessed of that quality (e.g. fire is hottest, because it is the cause of heat in everything else); hence that also is most true which causes all subsequent things to be true. Therefore in every case the first principles of things must necessarily be true above everything else—since they are not merely *sometimes* true, nor is anything the cause of their existence, but they are the cause of the existence of other things,—and so as each thing is in respect of existence, so it is in respect of truth.

II. Moreover, it is obvious that there is some first principle, and that the causes of things are not infinitely many either in a direct sequence or in kind. For the material generation of one thing from another cannot go on in an infinite progression (e.g. flesh from earth, earth from air, air from fire, and so on without a stop); nor can the source of motion (e.g. man

thing to our knowledge.

The object of practical knowledge is action, but the

6 object of theoretical knowledge is truth. To know the truth we must know the first

7 principles and causes, which are themselves most true.

Causes cannot (i.) form an infinite chain; (ii.) be infinitely various. (i.) Not one of the four kinds of cause can form an infinite chain

994 a τοῦτον δ' ὑπὸ τοῦ ἡλίου, τὸν δὲ ἡλίον ὑπὸ τοῦ
 νείκους, καὶ τούτου μηδὲν εἶναι πέρας)· ὁμοίως
 δὲ οὐδὲ τὸ οὐ ἔνεκα εἰς ἄπειρον οἶόν τε ἰέναι,
 10 τὴν δ' εὐδαιμονίαν ἄλλου, καὶ οὕτως αἰεὶ ἄλλο
 ἄλλου ἔνεκεν εἶναι· καὶ ἐπὶ τοῦ¹ τί ἦν εἶναι δ'
 ὡσαύτως. τῶν γὰρ μέσων, ὧν ἐστὶν ἕξω τι
 ἔσχατον καὶ πρότερον, ἀναγκαῖον εἶναι τὸ πρό-
 15 γαρ δὴ τό γ' ἔσχατον, οὐδενὸς γὰρ τὸ τελευταῖον·
 ἄλλα μὴν οὐδὲ τὸ μέσον, ἐνὸς γάρ. οὐθὲν δὲ δια-
 φέρει ἐν ἡ πλείω εἶναι, οὐδ' ἄπειρα ἢ πεπερασμένα.
 τῶν δὲ ἀπείρων τοῦτον τὸν τρόπον καὶ ὅλως τοῦ
 ἀπείρου πάντα τὰ μόρια μέσα ὁμοίως μέχρι τοῦ
 νῦν· ὥστ' εἴπερ μὴθὲν ἐστὶ πρῶτον, ὅλως αἴτιον
 20 οὐθὲν ἐστίν. Ἄλλα μὴν οὐδ' ἐπὶ τὸ κάτω οἶόν τε
 εἰς ἄπειρον ἰέναι, τοῦ ἄνω ἔχοντος ἀρχήν, ὥστ'
 ἐκ πυρός μὲν ὕδωρ, ἐκ δὲ τούτου γῆν, καὶ οὕτως
 αἰεὶ ἄλλο τι γίνεσθαι γένος. διχῶς γὰρ γίνεται
 τότε ἐκ τοῦδε, μὴ³ ὡς τότε λέγεται μετὰ τότε,
 οἶον ἐξ Ἰσθμίων Ὀλύμπια, ἀλλ' ἢ ὡς⁴ ἐκ παιδός
 25 ἀνήρ μεταβάλλοντος, ἢ ὡς⁵ ἐξ ὕδατος ἀήρ. ὡς

¹ τοῦ: τῶν recd.

² τί Bessarion, comm.: τι codd.

³ μὴ: ἢ A^b, fecit E.

⁴ ἀλλ' ἢ ὡς Ross: ἢ οὐχ οὕτως ἀλλ' ὡς ἢ A^b et scripsit Bekker (ἢ alt. omissio).

⁵ ὡς A^b: om. cet.

^a Aristotle is evidently thinking of Empedocles' system.

^b ἐκ means not only "from" but "after"; Aristotle dis-
 misses this latter meaning. The Isthmian fell alternately in
 the same year as the Olympic festival; when this happened

be moved by air, air by the sun, the sun by Strife,^a
 with no limit to the series). In the same way neither 2
 can the Final Cause recede to infinity—walking ^{in the upward direction.}
 having health for its object, and health happiness,
 and happiness something else: one thing always
 being done for the sake of another. And it is just 3
 the same with the Formal Cause. For in the case of
 all intermediate terms of a series which are contained
 between a first and last term, the prior term is
 necessarily the cause of those which follow it; be-
 cause if we had to say which of the three is the cause,
 we should say "the first." At any rate it is not the
 last term, because what comes at the end is not the
 cause of anything. Neither, again, is the intermediate
 term, which is only the cause of one (and it makes 4
 no difference whether there is one intermediate
 term or several, nor whether they are infinite or
 limited in number). But of series which are infinite
 in this way, and in general of the infinite, all the
 parts are equally intermediate, down to the present
 moment. Thus if there is no first term, there is no
 cause at all.

On the other hand there can be no infinite pro- 5
 gression downwards (where there is a beginning in ^{The same is true in the downward direction.}
 the upper direction) such that from fire comes water,
 and from water earth, and in this way some other
 kind of thing is always being produced. There are ^{Of the two proper senses of derivation, one implies the development, and}
 two senses in which one thing "comes from" another
 —apart from that in which one thing is said to come
 after another, e.g. the Olympian "from" ^b the
 Isthmian games—either as a man comes from a child
 as it develops, or as air comes from water. Now we 6

the former was held in the spring and the latter in the
 summer. Cf. V. xxiv. 5.

994 a μὲν οὖν ἐκ παιδὸς ἄνδρα γίνεσθαι φάμεν, ὡς ἐκ τοῦ γιγνομένου τὸ γεγονὸς ἢ ἐκ τοῦ ἐπιτελουμένου τὸ τετελεσμένον (ἀεὶ γὰρ ἐστὶ μεταξύ, ὥσπερ τοῦ εἶναι καὶ μὴ εἶναι γένεσις, οὕτω καὶ τὸ γιγνόμενον τοῦ ὄντος καὶ μὴ ὄντος· ἐστὶ γὰρ¹ ὁ μανθάνων γιγνόμενος ἐπιστήμων, καὶ τοῦτ' ἐστὶν ὃ λέγεται, 30 ὅτι γίγνεται ἐκ μανθάνοντος ἐπιστήμων). τὸ δ' ὡς ἐξ ἀέρος ὕδωρ, φθειρομένου θατέρου. διὸ ἐκεῖνα μὲν οὐκ ἀνακάμπει εἰς ἄλληλα (οὐδὲ γίγνεται ἐξ 994 b ἀνδρὸς παῖς· οὐ γὰρ γίγνεται ἐκ τῆς γενέσεως τὸ γιγνόμενον, ἀλλ' <δ>² ἐστὶ μετὰ τὴν γένεσιν. οὕτω γὰρ καὶ ἡμέρα ἐκ τοῦ πρωῆ, ὅτι μετὰ τοῦτο· διὸ οὐδὲ τὸ πρωῆ ἐξ ἡμέρας), θάτερα δὲ ἀνακάμπει. ἀμφοτέρως δὲ ἀδύνατον εἰς ἄπειρον ἵεναι τῶν μὲν 5 γὰρ ὄντων μεταξύ ἀνάγκη τέλος εἶναι, τὰ δὲ εἰς ἄλληλα ἀνακάμπει· ἢ γὰρ θατέρου φθορὰ θατέρου ἐστὶ γένεσις. ἅμα δὲ καὶ ἀδύνατον τὸ πρῶτον αἰδίου ὄν φθαρῆναι· ἐπεὶ γὰρ οὐκ ἄπειρος ἡ γένεσις ἐπὶ τὸ ἄνω, ἀνάγκη ἐξ οὗ φθαρέντος πρώτου τι ἐγένετο μὴ αἰδίου εἶναι. Ἔτι δὲ τὸ οὐ ἔνεκα τέλος, 10 τοιοῦτον δὲ ὁ μὴ ἄλλου ἔνεκα, ἀλλὰ τὰλλα ἐκείνου· ὥστ' εἰ μὲν ἔσται τοιοῦτόν τι³ ἔσχατον, οὐκ ἔσται ἄπειρον· εἰ δὲ μὴθὲν τοιοῦτον, οὐκ ἔσται τὸ οὐ ἔνεκα, ἀλλ' οἱ τὸ ἄπειρον ποιοῦντες λανθάνουσιν

¹ γὰρ A^b Alexander (?): δέ.

² Christ. ³ τι Bonitz: τὸ.

^a The argument is elliptical and confused. The meaning is this: Since there is an upward limit, there is a first cause which is eternal, being independent of any other cause. Therefore this cause cannot cause other things by its destruction, in the manner just described.

say that a man "comes from" a child in the sense that that which *has* become something comes from that which *is* becoming: *i.e.* the perfect from the imperfect. (For just as "becoming" is always intermediate between being and not-being, so is that which is becoming between what is and what is not. The learner is becoming informed, and that is the meaning of the statement that the informed person "comes from" the learner.) On the other 7 hand A comes from B in the sense that water comes from air by the destruction of B. Hence the former class of process is not reversible (*e.g.* a child cannot come from a man, for the result of the process of becoming is not the thing which is becoming, but that which exists after the process is complete. So day comes from early dawn, because it is after dawn; and hence dawn does not come from day). But the other class is reversible. In both cases progression 8 to infinity is impossible; for in the former the intermediate terms must have an end, and in the second the process is reversible, for the destruction of one member of a pair is the generation of the other. At the same time the first cause, being eternal, cannot be destroyed; because, since the process of generation is not infinite in the upper direction, that cause which first, on its destruction, became something else, cannot possibly be eternal.^a

Further, the Final cause of a thing is an *end*, and 9 is such that it does not happen for the sake of something else, but all other things happen for its sake. So if there is to be a last term of this kind, the series will not be infinite; and if there is no such term, there will be no Final cause. Those who introduce infinity do not realize that they are abolishing the

the other the destruction of that which already exists.

The former class of process is not reversible;

the latter is.

In neither case can the chain be infinite. The first cause, being eternal, cannot be liable to destruction.

The theory of an infinite chain is inconsistent with the existence of an ultimate final cause.

994^b ἔξαιρούντες τὴν τοῦ ἀγαθοῦ φύσιν (καίτοι οὐθείς ἂν ἐγχειρήσειεν οὐθέν πράττειν, μὴ μέλλων ἐπὶ πέρας
 15 ἤξειν). οὐδ' ἂν εἴη νοῦς ἐν τοῖς οὖσι.¹ Ἔνεκα γὰρ τινος αἰὲν πράττει ὁ γε νοῦν ἔχων, τοῦτο δέ² ἐστὶ πέρας· τὸ γὰρ τέλος πέρας ἐστίν. Ἄλλὰ μὴν οὐδὲ τὸ τί ἦν εἶναι ἐνδέχεται ἀνάγεσθαι εἰς ἄλλον ὀρισμὸν πλεονάζοντα τῷ λόγῳ. αἰεὶ τε γὰρ ἔστιν ὁ ἔμπροσθεν μᾶλλον, ὁ δ' ὕστερος οὐκ ἔστιν· οὐδ' δέ
 20 τὸ πρῶτον μὴ ἔστιν, οὐδὲ τὸ ἐχόμενον.³ ἔτι τὸ ἐπίστασθαι ἀναιρούσιν οἱ οὕτω λέγοντες, οὐ γὰρ οἶόν τε εἰδέναι πρὶν ἢ εἰς τὰ άτομα ἐλθεῖν· καὶ τὸ γινώσκειν οὐκ ἔστιν, τὰ γὰρ οὕτως ἄπειρα πῶς ἐνδέχεται νοεῖν; οὐ γὰρ ὅμοιον ἐπὶ τῆς γραμμῆς, ἢ κατὰ τὰς διαιρέσεις μὲν οὐχ ἴσονται, νοῆσαι δ'
 25 οὐκ ἔστι μὴ στήσαντα (διόπερ οὐκ ἀριθμῆσει τὰς τομὰς ὁ τὴν ἄπειρον διεξιῶν), ἀλλὰ καὶ τὴν ὕλην ἐν⁴ κινουμένῳ νοεῖν ἀνάγκη· καὶ ἀπείρῳ οὐδενὶ ἔστιν εἶναι· εἰ δὲ μή, οὐκ ἄπειρόν γ' ἐστὶν τὸ ἀπείρω εἶναι. Ἄλλὰ μὴν καὶ εἰ ἀπειρά γ' ἦσαν πληθῆι τὰ εἶδη τῶν αἰτιῶν, οὐκ ἂν ἦν οὐδ' οὕτω τὸ
 30 γινώσκειν· τότε γὰρ εἰδέναι οἰόμεθα, ὅταν τὰ αἷτια

¹ οὖσιν A^b; τοιούτοις.

² δέ A^b, Christ: γάρ.

³ ἐχόμενον ἐστὶν EJ.

⁴ ὕλην ἐν: ὄλην οὐ Ross.

^a i.e. infinitely divisible.

^b It does not follow that we can apprehend that which is infinite because we can apprehend a line which is infinitely divisible. We can only really apprehend the line by setting a limit to its divisibility and regarding it simply as divisible into a very great (but not infinite) number of sections. An infinite number of sections can neither be apprehended nor counted.

nature of the Good (although no one would attempt to do anything if he were not likely to reach some limit); nor would there be any intelligence in the 10 world, because the man who has intelligence always acts for the sake of something, and this is a limit, because the *end* is a limit.

Nor again can the Formal cause be referred back 11 to another fuller definition; for the prior definition is always closer, and the posterior is not; and where the original definition does not apply, neither does the subsequent one. Further, those who hold such a view do away with scientific knowledge, for on this view it is impossible to know anything until one comes to terms which cannot be analysed. Under- 12 standing, too, is impossible; for how can one conceive of things which are infinite in this way? It is different in the case of the line, which, although in respect of divisibility it never stops, yet cannot be conceived of unless we make a stop (which is why, in examining an infinite^a line, one cannot count the sections).^b Even matter has to be conceived under 13 the form of something which changes,^c and there can be nothing which is infinite.^d In any case the concept of infinity is not infinite.^e

Again, if the kinds of causes were infinite in 14 number it would still be impossible to acquire knowledge; for it is only when we have become acquainted with the causes that we assume that we

^c Matter too, which is infinite in its varieties, can only be apprehended in the form of concrete sensible objects which are liable to change. This seems to be the meaning of the text, but Ross's reading and interpretation may be right; see his note *ad loc.*

^d i.e. not actually, but only potentially.

^e Cf. note b.

994 b

γνωρίσωμεν· τὸ δ' ἄπειρον κατὰ τὴν πρόσθεσιν οὐκ ἔστιν ἐν πεπερασμένῳ διεξελεθῆναι.

III. Αἱ δ' ἀκροάσεις κατὰ τὰ ἔθη συμβαίνουσιν·
 995 a ὡς γὰρ εἰώθαμεν, οὕτως ἀξιούμεν λέγεσθαι, καὶ τὰ παρὰ ταῦτα οὐχ ὅμοια φαίνεται ἀλλὰ διὰ τὴν ἀσυνήθειαν ἀγνωστότερα καὶ ξενικώτερα· τὸ γὰρ σύνηθες γνώριμον.¹ ἥλικην δὲ ἰσχὺν ἔχει τὸ σύνηθες οἱ νόμοι δηλοῦσιν, ἐν οἷς τὰ μυθώδη καὶ
 5 παιδαριώδη μείζον ἰσχύει τοῦ γινώσκειν περὶ αὐτῶν διὰ τὸ ἔθος. οἱ μὲν οὖν, ἐὰν μὴ μαθηματικῶς λέγη τις, οὐκ ἀποδέχονται τῶν λεγόντων, οἱ δ', ἂν μὴ παραδειγματικῶς, οἱ δὲ μάρτυρα ἀξιούσιν ἐπάγεσθαι ποιητὴν. καὶ οἱ μὲν πάντα ἀκριβῶς, τοὺς δὲ λυπεῖ τὸ ἀκριβές ἢ διὰ τὸ μὴ
 10 δύνασθαι συνείρειν ἢ διὰ τὴν μικρολογίαν· ἔχει γάρ τι τὸ ἀκριβές τοιοῦτον, ὥστε καθάπερ ἐπὶ τῶν συμβολαίων, καὶ ἐπὶ τῶν λόγων ἀνελεύθερον εἶναι τισι δοκεῖ. διὸ δεῖ πεπαιδευθῆναι πῶς ἕκαστα ἀποδεκτέον, ὡς ἄτοπον ἅμα ζητεῖν ἐπιστήμην καὶ
 15 λαβεῖν. τὴν δ' ἀκριβολογίαν τὴν μαθηματικὴν οὐκ ἐν ἅπασιν ἀπαιτητέον, ἀλλ' ἐν τοῖς μὴ ἔχουσιν ὕλην. διόπερ οὐ φυσικὸς ὁ τρόπος· ἅπαντα γὰρ ἕως ἣ φύσις ἔχει ὕλην. διὸ σκεπτέον πρῶτον τί ἐστὶν ἡ φύσις· οὕτω γὰρ καὶ περὶ τίνων³ ἡ φυσικὴ δῆλον ἔσται [καὶ εἰ μᾶς ἐπιστήμης ἢ πλειόνων τὰ αἷτια
 20 καὶ τὰς ἀρχὰς θεωρήσαι ἐστίν].⁴

¹ γνωριμώτερον E.J.² A^b Alexander: οὐδέτερον.³ τίνος E.J. Asclepius.⁴ καὶ . . . ἐστίν om. Alexander.

^a These words have evidently been inserted to form a kind of link with the subject matter of the *Metaphysics*. The book is almost certainly part of a quite independent treatise; see *Introd.* p. xxxi.

know a thing; and we cannot, in a finite time, go completely through what is additively infinite.

III. The effect of a lecture depends upon the habits of the listener; because we expect the language to which we are accustomed, and anything beyond this seems not to be on the same level, but somewhat strange and unintelligible on account of its unfamiliarity; for it is the familiar that is intelligible. The powerful effect of familiarity is clearly shown by the laws, in which the fanciful and puerile survivals prevail, through force of habit, against our recognition of them. Thus some people will not accept the statements of a speaker unless he gives a mathematical proof; others will not unless he makes use of illustrations; others expect to have a poet adduced as witness. Again, some require exactness in everything, while others are annoyed by it, either because they cannot follow the reasoning or because of its pettiness; for there is something about exactness which seems to some people to be mean, no less in an argument than in a business transaction.

Hence one must have been already trained how³ to take each kind of argument, because it is absurd to seek simultaneously for knowledge and for the method of obtaining it; and neither is easy to acquire. Mathematical accuracy is not to be demanded in everything, but only in things which do not contain matter. Hence this method is not that of natural science, because presumably all nature is concerned with matter. Hence we should first inquire what nature is; for in this way it will become clear what the objects of natural science are [and whether it belongs to one science or more than one to study the causes and principles of things].^a

able, and so there would be no knowledge. The effect of a lecture depends upon the mental attitude of the listener.

Hence we must be trained in method before we begin our course of study.

If we ask what nature is, we shall find out what are the objects of natural science.

I. Ἄνάγκη πρὸς τὴν ἐπιζητουμένην¹ ἐπιστήμην
 25 ἐπελθεῖν ἡμᾶς πρῶτον περὶ ὧν ἀπορήσαι δεῖ πρῶ-
 τον· ταῦτα δ' ἐστὶν ὅσα τε περὶ αὐτῶν ἄλλως ὑπ-
 ειλήφασί τινες, κὰν εἴ τι χωρὶς τούτων τυγχάνει²
 παρεωραμένον. ἔστι δὲ τοῖς εὐπορῆσαι βουλο-
 μένοις προὔργου τὸ διαπορῆσαι καλῶς· ἢ γὰρ
 ὕστερον εὐπορία λύσις τῶν πρότερον ἀπορουμένων
 30 ἐστί, λύειν δ' οὐκ ἔστιν ἀγνοοῦντας τὸν δεσμόν,
 ἀλλ' ἢ τῆς διανοίας ἀπορία δηλοῖ τοῦτο περὶ τοῦ
 πράγματος· ἢ γὰρ ἀπορεῖ, ταύτη παραπλήσιον
 πέπονθε τοῖς δεδεμένοις· ἀδύνατον γὰρ ἀμφοτέρως
 προελθεῖν εἰς τὸ πρόσθεν. διὸ δεῖ τὰς δυσχερείας
 θεωρηκέναι πάσας πρότερον, τούτων τε χάριν
 35 καὶ διὰ τὸ τοὺς ζητοῦντας ἄνευ τοῦ διαπορῆσαι
 πρῶτον ὁμοίους εἶναι τοῖς ποῖ δεῖ βαδίζειν ἀγνοοῦσι,
 995 b καὶ πρὸς τούτοις οὐδ' εἴ ποτε τὸ ζητούμενον
 εὔρηκεν ἢ μὴ γινώσκειν· τὸ γὰρ τέλος τούτῳ μὲν
 οὐ δῆλον, τῷ δὲ προηπορηκότι δῆλον. ἔτι δὲ
 βέλτιον ἀνάγκη ἔχειν πρὸς τὸ κρίναι τὸν ὡσπερ
 ἀντιδίκων καὶ τῶν ἀμφισβητούντων λόγων ἀκη-
 κοότα πάντων.

¹ ζητουμένην A^b Asclepius.

² τυγχάνοι recc.

I. IT is necessary, with a view to the science which
 we are investigating, that we first describe the
 questions which should first be discussed. These con-
 sist of all the divergent views which are held about
 the first principles; and also of any other view apart
 from these which happens to have been overlooked.
 Now for those who wish to get rid of perplexities it 2
 is a good plan to go into them thoroughly; for the
 subsequent certainty is a release from the previous
 perplexities, and release is impossible when we do not
 know the knot. The perplexity of the mind shows
 that there is a "knot" in the subject; for in its
 perplexity it is in much the same condition as men
 who are fettered: in both cases it is impossible to
 make any progress. Hence we should first have 3
 studied all the difficulties, both for the reasons given
 and also because those who start an inquiry without
 first considering the difficulties are like people who
 do not know where they are going; besides, one
 does not even know whether the thing required has
 been found or not. To such a man the end is not
 clear; but it is clear to one who has already faced the
 difficulties. Further, one who has heard all the con- 4
 flicting theories, like one who has heard both sides
 in a lawsuit, is necessarily more competent to judge.

BOOK III.
 THE MAIN
 PROBLEMS
 OF META-
 PHYSICS.
 We must
 first state
 the primary

problems
 which the
 student of
 Metaphysics
 has to face.

995 b

5 "Ἔστι δ' ἀπορία πρώτη μὲν περὶ ὧν ἐν τοῖς πεφρομισασμένοις διηπορήσαμεν, πότερον μίας ἢ πολλῶν ἐπιστημῶν θεωρῆσαι τὰς αἰτίας, καὶ πότερον τὰς τῆς οὐσίας ἀρχὰς τὰς πρώτας ἐστὶ τῆς ἐπιστήμης ἰδεῖν μόνον, ἢ καὶ περὶ τῶν ἀρχῶν ἐξ ὧν δεικνύουσι πάντες,¹ ὅσον πότερον
10 ἐνδέχεται ταῦτό καὶ ἐν ἅμα φάναι καὶ ἀποφάναι ἢ οὐ, καὶ περὶ τῶν ἄλλων τῶν τοιούτων· εἴ τ'² ἐστὶ περὶ τὴν οὐσίαν, πότερον μία περὶ πάσας ἢ πλείονές εἰσι, κἂν³ εἰ πλείονες, πότερον ἅπασαι συγγενεῖς, ἢ τὰς μὲν σοφίας τὰς δὲ ἄλλο τι λεκτέον αὐτῶν. καὶ τοῦτο δ' αὐτὸ τῶν ἀναγκαίων ἐστὶ ζητῆσαι,
15 πότερον τὰς αἰσθητὰς οὐσίας εἶναι μόνον φατέον ἢ καὶ παρὰ ταύτας ἄλλας, καὶ πότερον μοναχῶς ἢ πλείονα γένη τῶν οὐσιῶν, ὅσον οἱ ποιοῦντες τὰ τε εἶδη καὶ τὰ μαθηματικὰ μεταξὺ τούτων τε καὶ τῶν αἰσθητῶν. περὶ τε τούτων οὖν, καθάπερ φαμέν, ἐπισκεπτέον, καὶ πότερον περὶ τὰς οὐσίας
20 ἢ θεωρία μόνον ἐστὶν ἢ καὶ περὶ τὰ συμβεβηκότα καθ' αὐτὰ ταῖς οὐσίαις. πρὸς δὲ τούτοις περὶ ταύτου καὶ ἑτέρου καὶ ὁμοίου καὶ ἀνομοίου καὶ ἐναντιότητος, καὶ περὶ προτέρου καὶ ὑστέρου καὶ τῶν ἄλλων ἀπάντων τῶν τοιούτων, περὶ ὧσιν οἱ διαλεκτικοὶ πειρῶνται σκοπεῖν ἐκ τῶν ἐνδόξων
25 μόνων⁵ ποιοῦμενοι τὴν σκέψιν, τίνας ἐστὶ θεωρῆσαι περὶ πάντων. ἔτι δὲ τούτοις αὐτοῖς ὅσα καθ' αὐτὰ συμβέβηκεν· καὶ μὴ μόνον τί ἐστὶ τούτων

¹ ἅπαντες E.J.² εἴτ' uulgo.³ κἂν; καὶ E.⁴ καὶ; καὶ ταυτότητος καὶ recc.⁵ μόνον E.J.^a The principles and causes referred to in Book I.^b The problem is discussed ii. 1-10, and answered IV. i.^c Discussed ii. 10-15; answered IV. iii.

The first difficulty is concerned with the subjects^a 5 which we discussed in our prefatory remarks. (i.) Does the study of the causes belong to one science or to more than one?^b (ii.) Has that science only to contemplate the first principles of substance, or is it also concerned with the principles which all use for demonstration—*e.g.* whether it is possible at the same time to assert and deny one and the same thing, and other similar principles?^c And if it is 6 concerned with substance, (iii.) is there one science which deals with all substances, or more than one; and if more than one, are they all cognate, or should we call some of them "kinds of Wisdom" and others something different?^d This too is a question which 7 demands inquiry: (iv.) should we hold that only sensible substances exist, or that there are others besides? And should we hold that there is only one class of non-sensible substances, or more than one (as do those who posit the Forms and the mathematical objects as intermediate between the Forms and sensible things)?^e These questions, then, as I 8 say, must be considered; and also (v.) whether our study is concerned only with substances, or also with the essential attributes of substance; and further, 9 with regard to Same and Other, and Like and Unlike and Contrariety, and Prior and Posterior, and all other such terms which dialecticians try to investigate, basing their inquiry merely upon popular opinions; we must consider whose province it is to study all of these. Further, we must consider all 10 the essential attributes of these same things, and

^d Discussed ii. 15-17; answered IV. ii. 9-10, VI. i.^e Discussed ii. 20-30; answered XII. vi.-x., and also by the refutation of the Platonic Ideas and Intermediates in XIII. and XIV.

(i.) Does the study of the causes belong to one science? (ii.) Should the same science study the principles

of demonstration as well as those of substance?

(iii.) Is there one science of all substances, or more than one? If the latter, are they all akin?

(iv.) How many kinds

of non-sensible substances are there, if any?

(v.) Is our study con-

cerned also with the

995 b ἕκαστον, ἀλλὰ καὶ ἄρα ἐν ἐνὶ ἐναντίον· καὶ πότερον αἱ ἀρχαὶ καὶ τὰ στοιχεῖα τὰ γένη ἐστὶν ἢ εἰς ἃ διαίρειται ἐνυπάρχοντα ἕκαστον· καὶ εἰ τὰ γένη, 30 πότερον ὅσα ἐπὶ τοῖς ἀτόμοις λέγεται τελευταῖα ἢ τὰ πρῶτα, οἷον πότερον ζῶων ἢ ἄνθρωπος ἀρχὴ τε καὶ μᾶλλον ἔστι παρὰ τὸ καθ' ἕκαστον. Μάλιστα δὲ ζητητέον καὶ πραγματευτέον, πότερον ἔστι τι παρὰ τὴν ὕλην αἴτιον καθ' αὐτὸ ἢ οὐ, καὶ τοῦτο χωριστὸν ἢ οὐ, καὶ πότερον ἐν ἢ πλείω τὸν ἀριθμὸν, 35 καὶ πότερον ἔστι τι παρὰ τὸ σύνολον (λέγω δὲ τὸ σύνολον, ὅταν κατηγορηθῆ τι τῆς ὕλης) ἢ οὐθέν, ἢ τῶν μὲν τῶν δ' οὐ, καὶ ποῖα τοιαῦτα¹ τῶν ὄντων. 996 a ἔτι αἱ ἀρχαὶ πότερον ἀριθμῶ ἢ εἶδει ὠρισμένα, καὶ αἱ ἐν τοῖς λόγοις καὶ αἱ ἐν τῷ ὑποκειμένῳ· καὶ πότερον τῶν φθαρτῶν καὶ ἀφθάρτων αἱ αὐταὶ ἢ ἕτεραι· καὶ πότερον ἀφθαρτοὶ πᾶσαι, ἢ τῶν 5 φθαρτῶν φθαρταί. ἔτι δὲ τὸ πάντων χαλεπώτατον καὶ πλείστην ἀπορίαν ἔχον, πότερον τὸ ἐν καὶ τὸ ὄν, καθάπερ οἱ Πυθαγόρειοι καὶ Πλάτων ἔλεγον, οὐχ ἕτερόν τι ἐστὶν ἀλλ' οὐσία τῶν ὄντων, ἢ οὐ, ἀλλ' ἕτερόν τι τὸ ὑποκείμενον, ὡσπερ Ἐμπεδοκλῆς φησὶ φιλίαν, ἄλλος δὲ τις πῦρ, ὁ δὲ ὕδωρ ἢ² ἀέρα·

¹ τοιαῦτα: ταῦτα recc.

² ἢ: ὁ δὲ Ab.

^a Discussed ii. 18-19; answered IV. ii. 8-25.

^b Discussed ch. iii.; answered VII. x., xii.-xiii.

^c Discussed iv. 1-8. For answers to these questions see VII. viii., xiii.-xiv.; XII. vi.-x.; XIII. x.

^d Discussed iv. 8-10; answered XII. iv.-v., XIII. x.

^e Discussed iv. 11-23; for Aristotle's general views on the subject see VII. vii.-x., XII. i.-vii.

^f Discussed iv. 24-34; answered VII. xvi. 3-4, X. ii.

^g Actually Love was no more the universal substrate than was any other of Empedocles' elements; Aristotle appears to select it on account of its unifying function.

not merely what each one of them is, but also whether each one has one opposite^a; and (vi.) whether the first principles and elements of things are the genera under which they fall or the pre-existent parts into which each thing is divided; and if the genera, whether they are those which are predicated ultimately of individuals, or the primary genera—e.g., whether "animal" or "man" is the first principle and the more independent of the individual.^b

Above all we must consider and apply ourselves to the question (vii.) whether there is any other cause *per se* besides matter, and if so whether it is dissociable from matter, and whether it is numerically one or several; and whether there is anything apart from the concrete thing (by the concrete thing I mean matter together with whatever is predicated of it) or nothing; or whether there is in some cases but not in others; and what these cases are.^c Further, (viii.) we must ask whether the first principles are limited in number or in kind^d—both those in the definitions and those in the substrate—and (ix.) whether the principles of perishable and of imperishable things are the same or different; and whether all are imperishable, or those of perishable things are perishable.^e Further, there is the hardest

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^h Heraclitus.

ⁱ Anaximenes.

^j Thales.

10 καὶ πότερον αἱ ἀρχαὶ καθόλου εἰσὶν ἢ ὡς τὰ καθ' ἕκαστα τῶν πραγμάτων, καὶ δυνάμει ἢ ἐνεργείᾳ· ἔτι πότερον ἄλλως ἢ κατὰ κίνησιν· καὶ γὰρ ταῦτα ἀπορίαν ἂν παράσχοι πολλήν. πρὸς δὲ τούτοις πότερον οἱ ἀριθμοὶ καὶ τὰ μήκη καὶ τὰ σχήματα καὶ αἱ στιγμαὶ οὐσίαι τινές εἰσιν ἢ οὐ, κἂν εἰ 15 οὐσίαι, πότερον κεχωρισμένοι τῶν αἰσθητῶν, ἢ ἐνυπάρχουσαι ἐν τούτοις. περὶ γὰρ τούτων ἀπάντων οὐ μόνον χαλεπὸν τὸ εὐπορηῆσαι τῆς ἀληθείας, ἀλλ' οὐδὲ τὸ διαπορηῆσαι τῷ λόγῳ ῥάδιον καλῶς.

II. Πρῶτον μὲν οὖν περὶ ὧν πρῶτον εἶπομεν, πότερον μιᾶς ἢ πλείονων ἐστὶν ἐπιστημῶν θεωρησάσαι 20 πάντα τὰ γένη τῶν αἰτίων. μιᾶς μὲν γὰρ ἐπιστήμης πῶς ἂν εἴη μὴ ἐναντίας οὐσας τὰς ἀρχὰς γνωρίζει; ἔτι δὲ πολλοῖς τῶν ὄντων οὐχ ὑπάρχουσι πᾶσαι· τίνα γὰρ τρόπον οἶόν τε κινήσεως ἀρχὴν εἶναι τοῖς ἀκινήτοις ἢ τὴν ἀγαθοῦ φύσιν, εἴπερ ἅπαν ὃ ἂν ἢ ἀγαθὸν καθ' αὐτὸ καὶ διὰ τὴν 25 αὐτοῦ φύσιν τέλος ἐστὶν καὶ οὕτως αἴτιον ὅτι ἐκείνου ἕνεκα καὶ γίγνεται καὶ ἔστι τᾶλλα, τὸ δὲ τέλος καὶ τὸ οὐ ἕνεκα πράξεώς τινός ἐστι τέλος, αἱ δὲ πράξεις πᾶσαι μετὰ κινήσεως; ὥστ' ἐν τοῖς ἀκινήτοις οὐκ ἂν ἐνδέχοιτο ταύτην εἶναι τὴν ἀρχὴν οὐδ' εἶναι τι αὐτοάγαθον. διὸ καὶ ἐν τοῖς 30 μαθήμασιν οὐθὲν δέικνυται διὰ ταύτης τῆς αἰτίας, οὐδ' ἔστιν ἀπόδειξις οὐδεμία διότι βέλτιον ἢ χείρον, ἀλλ' οὐδὲ τὸ παράπαν μέμνηται οὐθεὶς οὐθεὶός

^a Discussed vi. 7-9; for the answer see VII. xiii.-xv., XIII. x.

^b Discussed vi. 5-6; for the relation of potentiality to actuality see IX. i.-ix.; for actuality and motion see XII. vi.-vii.

principles are universal or like individual things ^a; and (xii.) whether they exist potentially or actually; and further whether their potentiality or actuality depends upon anything other than motion ^b; for these questions may involve considerable difficulty. Moreover we must ask (xiii.) whether numbers and 15 lines and figures and points are substances in any sense, or not; and if they are, whether they are separate from sensible things or inherent in them. ^c With regard to these problems not only is it difficult to attain to the truth, but it is not even easy to state all the difficulties adequately. ^d

II. (i.) Firstly, then, with respect to the first point raised: whether it is the province of one science or of more than one to study all the kinds of causes. How can one science comprehend the first principles unless they are contraries? Again, in many things they are not all present. How can a principle of motion 2 be in immovable things? or the "nature of the Good"? for everything which is good in itself and of its own nature is an *end* and thus a cause, because for its sake other things come to be and exist; and the *end* and *purpose* is the end of some action, and all actions involve motion; thus it would be impossible either for this principle to exist in motionless things or for there to be any *absolute* Good. Hence in 3 mathematics too nothing is proved by means of this cause, nor is there any demonstration of the kind "because it is better or worse"; indeed no one takes any such consideration into account. And so 4

^a Discussed ch. v.; answered XIII. i.-iii., vi.-ix.; XIV. i.-iii., v., vi.

^d For another statement of the problems sketched in this chapter see XI. i., ii.

996^a τῶν τοιούτων, ὥστε διὰ ταῦτα τῶν σοφιστῶν τινὲς
 οἶον Ἀρίστιππος προεπηλάκιζεν αὐτάς· ἐν μὲν
 γὰρ ταῖς ἄλλαις τέχναις, καὶ ταῖς βαναύσοις, οἶον
 35 ἐν τεκτονικῇ καὶ σκυτικῇ, διότι βέλτιον ἢ χεῖρον
 996^b λέγεσθαι πάντα, τὰς δὲ μαθηματικὰς οὐθένα
 ποιεῖσθαι λόγον περὶ ἀγαθῶν καὶ κακῶν. Ἄλλα
 μὴν εἴ γε πλείους ἐπιστῆμαι τῶν αἰτίων εἰσὶ καὶ
 ἑτέρα¹ ἑτέρας ἀρχῆς, τίνα τούτων φατέον εἶναι
 τὴν ζητουμένην, ἢ τίνα μάλιστα τοῦ πράγματος
 5 τοῦ ζητουμένου ἐπιστήμηνα τῶν ἐχόντων αὐτάς;
 ἐνδέχεται γὰρ τῷ αὐτῷ πάντας τοὺς τρόπους
 τοὺς² τῶν αἰτίων ὑπάρχειν, οἶον οἰκίας ὅθεν μὲν
 ἡ κίνησις ἢ τέχνη καὶ ὁ οἰκοδόμος, οὗ δ' ἕνεκα τὸ
 ἔργον, ὕλη δὲ γῆ καὶ λίθοι, τὸ δ' εἶδος ὁ λόγος.
 ἐκ μὲν οὖν τῶν πάλαι διωρισμένων τίνα χρὴ καλεῖν
 10 τῶν ἐπιστημῶν σοφίαν ἔχει λόγον ἑκάστην προσ-
 αγορεύειν. ἢ μὲν γὰρ ἀρχικωτάτη καὶ ἡγεμονικω-
 τάτη, καὶ ἢ ὥσπερ δούλας οὐδ' ἀντειπεῖν τὰς
 ἄλλας ἐπιστήμας δίκαιον, ἢ τοῦ τέλους καὶ ἀγαθοῦ
 τοιαύτη (τούτου γὰρ ἕνεκα τὰλλα), ἢ δὲ τῶν πρώ-
 των αἰτίων καὶ τοῦ μάλιστα ἐπιστητοῦ διωρίσθη
 εἶναι, ἢ τῆς οὐσίας ἀν' εἴῃ τοιαύτη. πολλαχῶς
 15 γὰρ ἐπισταμένων τὸ αὐτὸ μᾶλλον μὲν εἰδέναι
 φαιμέν τὸν τῷ εἶναι γνωρίζοντα τί τὸ πρᾶγμα ἢ
 τῷ μὴ εἶναι, αὐτῶν δὲ τούτων ἕτερον ἑτέρον
 μᾶλλον, καὶ μάλιστα τὸν τί ἐστίν, ἀλλ' οὐ τὸν

¹ ἑτεραι A^b.² τοὺς om. recc.^a Founder of the Cyrenaic school in the early fourth century.^b For a defence of mathematics see XIII. iii. 10-12.^c Cf. I. ii. 5-6.

for this reason some of the sophists, e.g. Aristippus,^a spurned mathematics, on the ground that in the other arts, even the mechanical ones such as carpentry and cobbling, all explanation is of the kind "because it is better or worse," while mathematics takes no account of good and bad.^b

On the other hand if there are several sciences of 5 the causes, and a different one for each different principle, which of them shall we consider to be the one which we are seeking, or whom of the masters of these sciences shall we consider to be most learned in the subject which we are investigating? For it 6 is possible for all the kinds of cause to apply to the same object; e.g. in the case of a house the source of motion is the art and the architect; the final cause is the function; the matter is earth and stones, and the form is the definition. Now to judge from our discussion some time ago^c as to which of the sciences should be called Wisdom, there is some case for applying the name to each of them. Inasmuch as 7

Wisdom is the most sovereign and authoritative kind of knowledge, which the other sciences, like slaves, may not contradict, the knowledge of the *end* and of the *Good* resembles Wisdom (since everything else is for the sake of the *end*); but inasmuch as it has been defined as knowledge of the first principles and of the most knowable, the knowledge of the essence will resemble Wisdom. For while there are many 8 ways of understanding the same thing, we say that the man who recognizes a thing by its being something knows more than he who recognizes it by its not being something; and even in the former case one knows more than another, and most of all he who knows *what* it is, and not he who knows its size

If there is more than one science of the causes, which is

Wisdom? Each cause except the material, has some claim to be considered the object of Wisdom.

996 b πόσον ἢ ποῖον ἢ τί ποιεῖν ἢ πάσχειν πέφυκεν. ἔτι
 δὲ καὶ ἐν τοῖς ἄλλοις τὸ εἰδέναι ἕκαστον, καὶ
 20 ὧν ἀποδείξεις εἰσὶ, τὸτ' οἰόμεθα ὑπάρχειν ὅταν
 εἰδῶμεν τί ἐστὶν (οἶον τί ἐστὶ τὸ τετραγωνίζειν,
 ὅτι μέσης εὐρεσις· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων),
 περὶ δὲ τὰς γενέσεις καὶ τὰς πράξεις καὶ περὶ
 πᾶσαν¹ μεταβολὴν ὅταν εἰδῶμεν τὴν ἀρχὴν τῆς
 κινήσεως· τοῦτο δ' ἕτερον καὶ ἀντικείμενον τῷ
 25 τέλει. ὥστ' ἄλλης ἂν δόξειεν ἐπιστήμης εἶναι τὸ
 θεωρῆσαι τῶν αἰτίων τούτων ἕκαστον.

Ἄλλὰ μὴν καὶ περὶ τῶν ἀποδεικτικῶν ἀρχῶν,
 πότερον μιᾶς ἐστὶν ἐπιστήμης ἢ πλειόνων, ἀμφισβη-
 τήσιμόν ἐστι. λέγω δὲ ἀποδεικτικὰς τὰς κοινὰς
 δόξας ἐξ ὧν ἅπαντες δεικνύουσιν, οἶον ὅτι πᾶν
 30 ἀναγκαῖον ἢ φάναι ἢ ἀποφάναι, καὶ ἀδύνατον ἅμα
 εἶναι καὶ μὴ εἶναι, καὶ ὅσα ἄλλαι τοιαῦται προτάσεις,
 —πότερον μία τούτων ἐπιστήμη καὶ τῆς οὐσίας ἢ
 ἑτέρα, κἂν εἰ μὴ μία, ποτέραν χρῆ προσαγορεύειν
 τὴν ζητουμένην νῦν. Μιᾶς μὲν οὖν οὐκ εὐλογον
 εἶναι· τί γὰρ μᾶλλον γεωμετρίας ἢ ὅποιασούν περὶ
 35 τούτων ἐστὶν ἴδιον τὸ ἐπαίειν; εἴπερ οὖν ὁμοίως μὲν
 997 a ὅποιασούν ἐστίν, ἀπασῶν δὲ μὴ ἐνδέχεται, ὥσπερ
 οὐδὲ τῶν ἄλλων οὕτως οὐδὲ τῆς γνωρίζουσης τὰς
 οὐσίας ἴδιόν ἐστι τὸ γινώσκειν περὶ αὐτῶν.
 ἅμα δὲ καὶ τίνα τρόπον ἐστὶ αὐτῶν ἐπιστήμη;
 τί μὲν γὰρ ἕκαστον τούτων τυγχάνει ὄν καὶ νῦν
 5 γνωρίζομεν (χρῶνται γοῦν ὡς γινωσκομένοις
 αὐτοῖς καὶ ἄλλαι τέχνηαι). εἰ δὲ ἀποδεικτικὴ περὶ

¹ ἅπασαν E.J.

^a See IV. i.

^b sc. the science which studies the four causes.

^c Cf. i. 5.

^d sc. and so there can be no science which defines them.

or quality or natural capacity for acting or being acted upon. Further, in all other cases too, even ⁹ in such as admit of demonstration, we consider that we know a particular thing when we know *what* it is (e.g. what is the squaring of a rectangle? answer, the finding of a mean proportional to its sides; and similarly in other instances); but in the case of generations and actions and all kinds of change, when we know the source of motion. This is distinct from ¹⁰ and opposite to the *end*. Hence it might be supposed that the study of each of these causes pertained to a different science.^a

(ii.) Again, with respect to the demonstrative prin- (ii.) Does the science which
 ciples as well, it may be disputed whether they too are the objects of one science ^b or of several.^c By ¹¹ demonstrative I mean the axioms from which all studies the four causes also study the axioms
 demonstration proceeds, e.g. "everything must be either affirmed or denied," and "it is impossible at once to be and not to be," and all other such premisses. Is there one science both of these principles and of substance, or two distinct sciences? and if there is not one, which of the two should we consider to be the one which we are now seeking?

It is not probable that both subjects belong to one ¹² science; for why should the claim to understand these principles be peculiar to geometry rather than to any other science? Then if it pertains equally to any science, and yet cannot pertain to all, comprehension of these principles is no more peculiar to the science which investigates substances than to any other science. Besides, in what sense can there ¹³ be a science of these principles? We know already just what each of them is; at any rate other sciences employ them as being known to us.^d If, however, (a) The study of axioms belongs to no special science.
 (b) How can there be a science of axioms?

997 a αὐτῶν ἐστί, δεήσει τι γένος εἶναι ὑποκείμενον, καὶ τὰ μὲν πάθη τὰ δ' ἀξιώματ' αὐτῶν (περὶ πάντων γὰρ ἀδύνατον ἀποδείξιν εἶναι), ἀνάγκη γὰρ ἕκ τινων εἶναι καὶ περὶ τι καὶ τινων τὴν ἀποδείξιν·
 10 ὥστε συμβαίνει πάντων εἶναι γένος ἔν τι τῶν δεικνυμένων, πᾶσι γὰρ αἱ ἀποδεικτικαὶ χρώνται τοῖς ἀξιώμασιν. Ἄλλὰ μὴν εἰ ἕτερα ἢ τῆς οὐσίας καὶ ἢ περὶ τούτων, ποτέρα κυριώτερα καὶ προτέρα πέφυκεν αὐτῶν; καθόλου γὰρ μάλιστα καὶ πάντων ἀρχαὶ τὰ ἀξιώματά ἐστιν· εἴ τ'¹ ἐστὶ μὴ τοῦ φιλοσόφου, τίνος ἔσται περὶ αὐτῶν ἄλλου τὸ
 15 θεωρῆσαι τὸ ἀληθὲς καὶ² ψεῦδος; Ὅλως τε τῶν οὐσιῶν ποτέρον μία πασῶν ἐστὶν ἢ πλείους ἐπιστήμη; εἰ μὲν οὖν μὴ μία, ποίας οὐσίας θετέον τὴν ἐπιστήμην ταύτην; τὸ δὲ μίαν πασῶν οὐκ εὐλογον· καὶ γὰρ ἂν ἀποδεικτικὴ μία περὶ πάντων εἴη τῶν συμβεβηκότων, εἴπερ πᾶσα ἀποδεικτικὴ
 20 περὶ τι ὑποκείμενον θεωρεῖ τὰ καθ' αὐτὰ συμβεβηκότα ἐκ τῶν κοινῶν δοξῶν. περὶ οὖν τὸ αὐτὸ γένος τὰ συμβεβηκότα καθ' αὐτὰ τῆς αὐτῆς ἐστὶ θεωρῆσαι ἐκ τῶν αὐτῶν δοξῶν. περὶ τε γὰρ δ'³ μᾶς, καὶ ἐξ ὧν μᾶς, εἴτε τῆς αὐτῆς εἴτε ἄλλης· ὥστε καὶ τὰ συμβεβηκότα, εἴτ' <αὐταῖ> αὐταῖ⁴
 25 θεωροῦσιν⁵ εἴτ' ἐκ τούτων μία. Ἐπι δὲ ποτέρον περὶ τὰς οὐσίας μόνον ἢ θεωρία ἐστὶν ἢ καὶ περὶ

¹ εἴ τ' Γ: εἴτ'.² καὶ τὸ Α^b.³ δ Α^b: τὸ δτι.⁴ αὐταῖ αὐται scripsi; αὐται Α^bΓ Alexander Syrianus; αὐταῖ ΕJ: αἱ αὐταῖ Aselepius γρ. Alexander.⁵ θεωροῦσιν Α^b Alexander: θεωρήσουσιν.^a For the answer see IV. iii.^b Cf. i. 6.^c For the answer see IV. ii. 9-10, VI. i.

there is a demonstrative science of them, there will have to be some underlying genus, and some of the principles will be derived from axioms, and others will be unproved (for there cannot be demonstration 14 of everything), since demonstration must proceed from something, and have some subject matter, and prove something. Thus it follows that there is some one genus of demonstrable things; for all the demonstrative sciences employ axioms.

On the other hand, if the science of substance is distinct from the science of these principles, which is of its own nature the more authoritative and ultimate? The axioms are most universal, and are the first principles of everything. And whose province will it be, if not the philosopher's, to study truth and error with respect to them?^a

(iii.) And in general, is there one science of all substances, or more than one?^b If there is not one, with what sort of substance must we assume that this science is concerned? On the other hand, it is not 16 probable that there is one science of all substances; for then there would be one demonstrative science of all attributes—assuming that every demonstrative science proceeds from accepted beliefs and studies the essential attributes concerned with some definite subject matter. Thus to study the essential attributes connected with the same genus is the province of the same science proceeding from the same beliefs. For the subject matter belongs to one science, and so do the axioms, whether to the same science or to a different one; hence so do the attributes, whether they are studied by these sciences themselves or by one derived from them.^c

(v.) Further, is this study concerned only with sub- 18

Yet if there are two sciences, which is

15

the more authoritative, and who is to study the axioms?

(iii.) If Wisdom does not study all

16

substances, what kind does it study? Yet one science can hardly study all

17

substances, because then there will be one demonstrative science of all attributes.

997 a τὰ συμβεβηκότα ταύταις; λέγω δ' οἶον, εἰ τὸ
 στερεὸν οὐσία τίς ἐστὶ καὶ γραμμαὶ καὶ ἐπίπεδα,
 πότερον τῆς αὐτῆς ταῦτα γνωρίζειν ἐστὶν¹ ἐπιστή-
 μης καὶ τὰ συμβεβηκότα περὶ ἕκαστον γένος περὶ
 30 ὧν αἱ μαθηματικαὶ δεικνύουσιν, ἢ ἄλλης; εἰ μὲν
 γὰρ τῆς αὐτῆς, ἀποδεικτική τις ἂν εἴη καὶ ἡ τῆς
 οὐσίας· οὐ δοκεῖ δὲ τοῦ τί ἐστὶν ἀπόδειξις εἶναι·
 εἰ δ' ἑτέρας, τίς ἐστὶ ἡ θεωροῦσα περὶ τὴν οὐσίαν
 τὰ συμβεβηκότα; τοῦτο γὰρ ἀποδοῦναι παγ-
 χάλεπον.

"Ἐτι δὲ πότερον τὰς αἰσθητὰς οὐσίας μόνας εἶναι
 35 φατέον ἢ καὶ παρὰ ταύτας ἄλλας; καὶ πότερον
 997 b μοναχῶς ἢ πλείω γένη τετύχηκεν ὄντα τῶν οὐσιῶν,
 οἶον οἱ λέγοντες τὰ τε εἶδη καὶ τὰ μεταξύ, περὶ ἃ
 τὰς μαθηματικὰς εἶναι φασὶν ἐπιστήμης; ὡς μὲν
 οὖν λέγομεν τὰ εἶδη αἰτία τε καὶ οὐσίας εἶναι καθ'
 5 εαυτὰς εἴρηται ἐν τοῖς πρώτοις λόγοις περὶ αὐτῶν·
 πολλαχῆ δὲ ἐχόντων δυσκολίαν, οὐθενὸς ἤττον
 ἄτοπον τὸ φάναι μὲν εἶναι τινὰ φύσεις παρὰ τὰς
 ἐν τῷ οὐρανῷ, ταύτας δὲ τὰς αὐτὰς φάναι τοῖς
 αἰσθητοῖς πλὴν ὅτι τὰ μὲν αἰδία τὰ δὲ φθαρτά.
 αὐτὸ γὰρ ἀνθρωπὸν φασὶν εἶναι καὶ ἵππον καὶ
 10 ὑγίειαν, ἄλλο δ' οὐδέν, παραπλήσιον ποιούντες
 τοῖς θεοῖς μὲν εἶναι φάσκουσιν, ἀνθρωποειδεῖς δέ·

¹ om. E.J.

^a Cf. i. 8-10.

^b This problem, together with the appendix to it stated in
 i. 9-10, is answered in IV. ii. 8-25.

^c I. vi.

stances, or with their attributes as well?^a I mean, (τ.) If
 e.g., if the solid is a kind of substance, and so too
 lines and planes, is it the province of the same science
 to investigate both these and their attributes, in
 every class of objects about which mathematics
 demonstrates anything, or of a different science?
 If of the same, then the science of substance too
 would be in some sense demonstrative; but it does
 not seem that there is any demonstration of the
 "what is it?" And if of a different science, what
 will be the science which studies the attributes of
 substance? This is a very difficult question to
 answer.^b

(iv.) Further, are we to say that only sensible
 substances exist, or that others do as well? and is
 there really only one kind of substance, or more than
 one (as they hold who speak of the Forms and the
 Intermediates, which they maintain to be the objects
 of the mathematical sciences)? In what sense we
 Platonists hold the Forms to be both causes and
 independent substances has been stated^c in our
 original discussion on this subject. But while they
 involve difficulty in many respects, not the least
 absurdity is the doctrine that there are certain
 entities apart from those in the sensible universe, and
 that these are the same as sensible things except in
 that the former are eternal and the latter perish-
 able.^d For Platonists say nothing more or less than
 that there is an absolute Man, and Horse, and
 Health; in which they closely resemble those who
 state that there are Gods, but of human form; for

^d As it stands this is a gross misrepresentation; but
 Aristotle's objection is probably directed against the con-
 ception of Ideas existing independently of their particulars.
 See Introd. pp. xxi f.

997^b

οὔτε γὰρ ἐκείνοι οὐθὲν ἄλλο ἐποίουν ἢ ἀνθρώπους
 αἰδίους, οὔθ' οὔτοι τὰ εἶδη ἄλλ'¹ ἢ αἰσθητὰ αἰδία.
 Ἔτι δὲ εἴ τις παρὰ τὰ εἶδη καὶ τὰ αἰσθητὰ τὰ μεταξὺ
 θήσεται, πολλὰς ἀπορίας ἔξει. δῆλον γὰρ ὡς
 15 ὁμοίως γραμμαί τε παρὰ τ' αὐτὰς² καὶ τὰς αἰ-
 σθητὰς ἔσονται καὶ ἕκαστον τῶν ἄλλων γενῶν·
 ὡστ' ἐπεὶ ἡ ἀστρολογία μία τούτων ἐστίν,
 ἔσται τις καὶ οὐρανὸς παρὰ τὸν αἰσθητὸν οὐρανόν
 καὶ ἥλιός τε³ καὶ σελήνη καὶ τᾶλλα ὁμοίως τὰ
 κατὰ τὸν οὐρανόν. καίτοι πῶς δεῖ πιστεῦσαι
 τούτοις; οὐδὲ γὰρ ἀκίνητον εὐλογον εἶναι, κινού-
 20 μενον δὲ καὶ παντελῶς ἀδύνατον. ὁμοίως δὲ καὶ
 περὶ ὧν ἡ ὀπτική πραγματεύεται καὶ ἡ ἐν τοῖς
 μαθήμασι ἁρμονική· καὶ γὰρ ταῦτα ἀδύνατον
 εἶναι παρὰ τὰ αἰσθητὰ διὰ τὰς αὐτὰς αἰτίας· ἐγ'
 γὰρ ἔστιν αἰσθητὰ μεταξὺ καὶ αἰσθήσεις, δῆλον
 ὅτι καὶ ζῶα ἔσονται μεταξὺ αὐτῶν τε καὶ τῶν
 φθαρτῶν.

25 Ἀπορήσειε δ' ἂν τις καὶ περὶ ποῖα τῶν ὄντων
 δεῖ ζητεῖν ταύτας τὰς ἐπιστήμας. εἰ γὰρ τούτῳ
 διοίσει τῆς γεωδαισίας ἢ γεωμετρίας μόνον, ὅτι
 ἡ μὲν τούτων ἐστίν ὧν αἰσθανόμεθα ἢ δ' οὐκ
 αἰσθητῶν, δῆλον ὅτι καὶ παρ' ἰατρικὴν ἔσται τις
 ἐπιστήμη (καὶ παρ' ἐκάστην τῶν ἄλλων) μεταξὺ
 30 αὐτῆς τε ἰατρικῆς καὶ τῆσδε τῆς ἰατρικῆς· καίτοι

¹ Christ: ἀλλ' codd.: ἄλλο Alexander, ci. Bonitz.

² τ' αὐτὰς ut uid. Alexander: ταύτας A^b: αὐτὰς E^J.

³ om. J.

^a sc. of objects of mathematical sciences.

^b The reference is to the supposed "intermediate" heaven. A "heaven" (including heavenly bodies) without motion is unthinkable; but a non-sensible heaven can have no motion.

as the latter invented nothing more or less than eternal men, so the former simply make the Forms eternal sensibles.

Again, if anyone posits Intermediates distinct from If Inter-
 Forms and sensible things, he will have many diffi- mediates
 culties; because obviously not only will there be 23
 lines apart from both Ideal and sensible lines, but
 it will be the same with each of the other classes.^a exist in the
 Thus since astronomy is one of the mathematical case of one
 sciences, there will have to be a heaven besides mathematical
 the sensible heaven, and a sun and moon, and all science, why not in
 the other heavenly bodies. But how are we to the case of
 believe this? Nor is it reasonable that the heaven others?
 should be immovable; but that it should move is 24
 utterly impossible.^b It is the same with the objects
 of optics and the mathematical theory of harmony;
 these too, for the same reasons, cannot exist apart
 from sensible objects. Because if there are inter-
 mediate objects of sense and sensations, clearly there
 will also be animals intermediate between the Ideal
 animals and the perishable animals.^c

One might also raise the question with respect to 25
 what kind of objects we are to look for these sciences. This implies
 For if we are to take it that the only difference that there
 between mensuration and geometry is that the one will be "inter-
 is concerned with things which we can perceive and mediate"
 the other with things which we cannot, clearly there sciences
 will be a science parallel to medicine (and to those which
 of the other sciences), intermediate between Ideal we know;
 medicine and the medicine which we know. Yet 26 but this is
 absurd.

^c If there are "intermediate," i.e. non-sensible, sights and sounds, there must be "intermediate" faculties of sight and hearing, and "intermediate" animals to exercise these faculties; which is absurd.

997^b πῶς τοῦτο δυνατόν; καὶ γὰρ ἂν ὑγιέν' ἅττα εἴη
 παρὰ τὰ αἰσθητὰ καὶ αὐτὸ τὸ ὑγιεινόν. ἅμα δὲ
 οὐδὲ τοῦτο ἀληθές, ὡς ἡ γεωδαισία τῶν αἰσθητῶν
 ἐστὶ μεγεθῶν καὶ φθαρτῶν· ἐφθείρετο γὰρ ἂν
 φθειρομένων. ἀλλὰ μὴν οὐδὲ τῶν αἰσθητῶν ἂν
 35 εἴη μεγεθῶν οὐδὲ περὶ τὸν οὐρανὸν ἢ ἀστρολογία
 998^a τόνδε· οὔτε γὰρ αἱ αἰσθηταὶ γραμμαὶ τοιαῦται
 εἰσιν οἷας λέγει ὁ γεωμέτρης (οὐθὲν γὰρ εὐθὺ τῶν
 αἰσθητῶν οὕτως οὐδὲ στρογγύλον· ἄπτεται γὰρ
 τοῦ κανόνος οὐ κατὰ στιγμήν ὁ κύκλος, ἀλλ'
 ὡσπερ Πρωταγόρας ἔλεγεν ἐλέγχων τοὺς γεω-
 5 μέτρας), οὔθ' αἱ κινήσεις καὶ ἔλικες τοῦ οὐρανοῦ
 ὁμοιαὶ, περὶ ὧν ἡ ἀστρολογία ποιεῖται τοὺς
 λόγους, οὔτε τὰ σημεῖα τοῖς ἀστροῖς τὴν αὐτὴν
 ἔχει φύσιν. Εἰσὶ δὲ τινες οἳ φασιν εἶναι μὲν τὰ
 μεταξὺ ταῦτα λεγόμενα τῶν τε εἰδῶν καὶ τῶν
 αἰσθητῶν, οὐ μὴν χωρὶς γε τῶν αἰσθητῶν ἀλλ'
 ἐν τούτοις· οἷς τὰ συμβαίνοντα ἀδύνατα πάντα
 10 μὲν πλείονος λόγου διελθεῖν, ἱκανὸν δὲ καὶ τὰ
 τοιαῦτα θεωρῆσαι. οὔτε γὰρ ἐπὶ τούτων εὐλογον
 ἔχει οὕτω μόνον, ἀλλὰ δῆλον ὅτι καὶ τὰ εἶδη
 ἐνδέχουσι⁹ ἂν ἐν τοῖς αἰσθητοῖς εἶναι· τοῦ γὰρ
 αὐτοῦ λόγου ἀμφοτέρα ταῦτά ἐστιν· ἔτι δὲ δύο
 στερεὰ ἐν τῷ αὐτῷ ἀναγκαῖον εἶναι τόπῳ, καὶ μὴ
 15 εἶναι ἀκίνητα ἐν κινουμένοις γε ὄντα τοῖς αἰσθητοῖς.
 ὅλως δὲ τίνος ἔνεκ' ἂν τις θεῖη εἶναι μὲν αὐτά,
 εἶναι δ' ἐν τοῖς αἰσθητοῖς; ταῦτά γὰρ συμβήσεται
 ἀτοπα τοῖς προειρημένοις· ἔσται γὰρ οὐρανός τις

how is this possible? for then there would be a class of healthy things apart from those which are sensible and from the Ideally healthy. Nor, at the same time, is it true that mensuration is concerned with sensible and perishable magnitudes; for then it would perish as they do. Nor, again, can astronomy be concerned with sensible magnitudes or with this heaven of ours; for as sensible lines are not like those of 27 which the geometrician speaks (since there is nothing sensible which is straight or curved in that sense; the circle^a touches the ruler not at a point, but <along a line> as Protagoras used to say in refuting the geometers), so the paths and orbits of our heaven are not like those which astronomy discusses, nor have the symbols of the astronomer the same nature as the stars.

Some, however, say that these so-called Inter-28 mediates between Forms and sensibles do exist: It is no less absurd to suppose that intermediates exist not indeed separately from the sensibles, but in them. It would take too long to consider in detail all the impossible consequences of this theory, but it will be sufficient to observe the following. On 29 this view it is not logical that only this should be so; in sensible things. clearly it would be possible for the Forms also to be in sensible things; for the same argument applies to both. Further, it follows necessarily that two solids must occupy the same space; and that the Forms cannot be immovable, being present in sensible things, which move. And in general, what is the 30 object of assuming that Intermediates exist, but only in sensible things? The same absurdities as before will result: there will be a heaven besides

it is geometrically imperfect; thus they touch at more than one point.

^a i.e., the visible circle which we draw. Like the ruler,

998 a παρὰ τὸν οὐρανόν, πλήν γ' οὐ χωρίς, ἀλλ' ἐν τῷ αὐτῷ τόπῳ· ὅπερ ἐστὶν ἀδυνατώτερον.

20 III. Περὶ τε τούτων οὐκ ἀπορία πολλή πῶς δεῖ θέμενον τυχεῖν τῆς ἀληθείας, καὶ περὶ τῶν ἀρχῶν πότερον δεῖ τὰ γένη στοιχεῖα καὶ ἀρχὰς ὑπολαμβάνειν ἢ μᾶλλον ἐξ ὧν ἐνυπαρχόντων ἐστὶν ἕκαστον πρῶτων,¹ οἷον φωνῆς στοιχεῖα καὶ ἀρχαὶ δοκοῦσιν

25 εἶναι ταῦτ' ἐξ ὧν σύγκεινται αἱ φωναὶ πᾶσαι πρῶτων, ἀλλ' οὐ τὸ κοινὸν ἢ φωνή· καὶ τῶν διαγραμμάτων ταῦτα στοιχεῖα λέγομεν, ὧν αἱ ἀποδείξεις ἐνυπαρχοῦσιν ἐν ταῖς τῶν ἄλλων² ἀποδείξεσιν ἢ πάντων ἢ τῶν πλείστων. ἔτι δὲ τῶν σωμάτων καὶ οἱ πλείω λέγοντες εἶναι στοιχεῖα καὶ οἱ ἔν, ἐξ ὧν σύγκειται καὶ ἐξ ὧν συνέστηκεν

30 ἀρχὰς λέγουσιν εἶναι, οἷον Ἐμπεδοκλῆς πῦρ καὶ ὕδωρ καὶ τὰ μετὰ τούτων στοιχεῖά φησιν εἶναι ἐξ ὧν ἐστὶ τὰ ὄντα ἐνυπαρχόντων, ἀλλ' οὐχ ὡς γένη

998 b λέγει ταῦτα τῶν ὄντων. πρὸς δὲ τούτοις καὶ τῶν ἄλλων εἴ τις ἐθέλει τὴν φύσιν ἀθρεῖν, οἷον κλίνην ἐξ ὧν μορίων συνέστηκε καὶ πῶς συγκεκμημένων, τότε γνωρίζει τὴν φύσιν αὐτῆς. ἐκ μὲν οὖν τούτων τῶν λόγων οὐκ ἂν εἴησαν αἱ ἀρχαὶ τὰ γένη τῶν ὄντων· ἢ δ' ἕκαστον μὲν γνωρίζομεν διὰ τῶν ὀρισμῶν, ἀρχαὶ δὲ τὰ γένη τῶν ὀρισμῶν εἰσὶν, ἀνάγκη καὶ τῶν ὀριστῶν ἀρχὰς εἶναι τὰ γένη· κἂν εἰ ἐστὶ τὴν τῶν ὄντων λαβεῖν ἐπιστήμην τὸ

¹ πρῶτων E²Γ Alexander: πρῶτων.

² τῶν ἄλλων: τούτων A^b.

^a The problem is dealt with partly in XII. vi.-x., where Aristotle describes the eternal moving principles, and partly in XIII. and XIV., where he argues against the Platonic non-sensible substances. Cf. V. iii. 3.

the sensible one, only not apart from it, but in the same place; which is still more impossible.^a

III. Thus it is very difficult to say, not only what (vi.) Analogy suggests that the elements of things are their simplest constituent parts. view we should adopt in the foregoing questions in order to arrive at the truth, but also in the case of the first principles (vi.) whether we should assume that the genera, or the simplest constituents of each particular thing, are more truly the elements and first principles of existing things. E.g., it is generally agreed that the elements and first principles of speech are those things of which, in their simplest form, all speech is composed; and not the common term "speech"; and in the case of geometrical propositions we call those the "elements"^b whose proofs are embodied in the proofs of all or most of the rest. Again, in the case of bodies, both those 2 who hold that there are several elements and those who hold that there is one call the things of which bodies are composed and constituted first principles. E.g., Empedocles states that fire and water and the other things associated with them are the elements which are present in things and of which things are composed; he does not speak of them as genera of things. Moreover in the case of other things too, 3 if a man wishes to examine their nature he observes, e.g., of what parts a bed consists and how they are put together; and then he comprehends its nature. Thus to judge from these arguments the first principles will not be the genera of things.

But from the point of view that it is through definitions that we get to know each particular thing, and that the genera are the first principles of definitions, the genera must also be the first principles of the things defined. And if to gain scientific know- 4

Yet logically the first principles of things should be the genera which are

998 b

τῶν εἰδῶν λαβεῖν καθ' ἃ λέγονται τὰ ὄντα, τῶν
 γε εἰδῶν ἀρχαί¹ τὰ γένη εἰσί. φαίνονται δέ τινες
 10 καὶ τῶν λεγόντων στοιχεῖα τῶν ὄντων τὸ ἐν ἢ τὸ
 ὄν ἢ τὸ μέγα καὶ² μικρὸν ὡς γένεσιν αὐτοῖς χρη-
 σθαι. Ἄλλὰ μὴν οὐδὲ ἀμφοτέρως γε οἷόν τε
 λέγειν τὰς ἀρχάς. ὁ μὲν γὰρ λόγος τῆς οὐσίας εἰς
 ἕτερος δ' ἔσται ὁ διὰ τῶν γενῶν ὀρισμὸς καὶ ὁ
 15 λέγων ἐξ ὧν ἔστιν ἐνυπαρχόντων. Πρὸς δὲ τού-
 τοις εἰ καὶ ὅτι μάλιστα ἀρχαὶ τὰ γένη εἰσί, πότερον
 δεῖ νομίζειν τὰ πρῶτα τῶν γενῶν ἀρχάς ἢ τὰ ἔσχατα
 κατηγορούμενα ἐπὶ τῶν ἀτόμων; καὶ γὰρ τοῦτο
 ἔχει ἀμφισβήτησιν. εἰ μὲν γὰρ αἰεὶ³ τὰ καθόλου
 μᾶλλον ἀρχαί, φανερόν ὅτι τὰ ἀνωτάτω τῶν γενῶν
 20 ταῦτα γὰρ λέγεται κατὰ πάντων. τοσαῦται οὖν
 ἔσονται ἀρχαὶ τῶν ὄντων ὅσαπερ τὰ πρῶτα γένη,
 ὥστ' ἔσται τό τε ὄν καὶ τὸ ἐν ἀρχαὶ καὶ οὐσῖαι.
 ταῦτα γὰρ κατὰ πάντων μάλιστα λέγεται τῶν
 ὄντων. οὐχ οἷόν τε δὲ τῶν ὄντων ἐν εἶναι γένος⁴
 οὔτε τὸ ἐν οὔτε τὸ ὄν· ἀνάγκη μὲν γὰρ τὰς δια-
 φορὰς ἐκάστου γένους καὶ εἶναι καὶ μίαν εἶναι
 25 ἐκάστην, ἀδύνατον δὲ κατηγορεῖσθαι ἢ τὰ εἶδη τοῦ
 γένους ἐπὶ τῶν οἰκείων διαφορῶν, ἢ τὸ γένος ἄνευ
 τῶν αὐτοῦ εἰδῶν· ὥστε ἕπερ τὸ ἐν γένος ἢ τὸ ὄν,
 οὐδεμία διαφορὰ οὔτε ὄν οὔτε ἐν ἔσται. ἀλλὰ μὴν
 εἰ μὴ γένη, οὐδ' ἀρχαὶ ἔσονται, εἴπερ ἀρχαὶ τὰ
 γένη. ἔτι καὶ τὰ μεταξὺ συλλαμβανόμενα μετὰ

¹ ἀρχαὶ post τὰ γένη A^b.² καὶ τὸ recc.³ αἰεὶ Alexander: ὅτι.⁴ ἐν εἶναι γένος κτλ.] ὅτι τὸ ἐν οὔτε τὸ ὄν εἶναι γένος A^b.^a The Pythagoreans and Plato.^b i.e., each differentia must have Being and Unity pre-
 dicated of it.

ledge of things is to gain it of the species after which
 things are named, the genera are first principles of ^{the first}
 the species. And apparently some even of those ^{principles}
 who call Unity or Being or the Great and Small ^{of their}
 elements of things treat them as genera. ^{definitions.}

Nor again is it possible to speak of the first prin- ^{The two}
 ciples in both senses. The formula of substance is ⁵
 one; but the definition by genera will be different ^{views can-}
 from that which tells us of what *parts* a thing is ^{not be}
 composed. ^{combined.}

Moreover, assuming that the genera are first ^{If we assume}
 principles in the truest sense, are we to consider the ^{that genera}
primary genera to be first principles, or the final ^{are first}
 terms predicated of individuals? This question too ^{principles,}
 involves some dispute. For if universals are always ^{it cannot be}
 more truly first principles, clearly the answer will be ⁶
 "the highest genera," since these are predicated of ^{the highest}
 everything. Then there will be as many first prin- ^{genera that}
 ciples of things as there are primary genera, and so ^{are such.}
 both Unity and Being will be first principles and ⁷
 substances, since they are in the highest degree ⁸
 predicated of all things. But it is impossible for ⁹
 either Unity or Being to be one genus of existing ¹⁰
 things. For there must *be* differentiae of each genus,
 and each differentia must be *one*^b; but it is im-
 possible either for the species of the genus to be
 predicated of the specific differentiae, or for the
 genus to be predicated without its species.^c Hence
 if Unity or Being is a genus, there will be no differ-
 entia Being or Unity. But if they are not genera, ^g
 neither will they be first principles, assuming that
 it is the genera that are first principles. And further,
 the intermediate terms, taken together with the

^c The reasons are given in *Topica*, 144 a 36-b 11.

998^b
 30 τῶν διαφορῶν ἔσται γένη μέχρι τῶν ἀτόμων· νῦν δὲ τὰ μὲν δοκεῖ, τὰ δ' οὐ δοκεῖ. πρὸς δὲ τοῦτοις ἔτι μᾶλλον αἱ διαφοραὶ ἀρχαὶ ἢ τὰ γένη· εἰ δὲ καὶ αὐταὶ ἀρχαί, ἄπειροι ὡς εἰπεῖν ἀρχαὶ γίνονται,
 999^a ἄλλως τε κἂν τις τὸ πρῶτον γένος ἀρχὴν τιθῇ.
 Ἄλλα μὴν καὶ εἰ μᾶλλον γε ἀρχοειδὲς τὸ ἐν ἔστω, ἐν δὲ τὸ ἀδιαίρετον, ἀδιαίρετον δὲ ἅπαν ἢ κατὰ τὸ ποσὸν ἢ κατ' ¹ εἶδος, πρότερον δὲ τὸ κατ' εἶδος, τὰ δὲ γένη διαιρετὰ εἰς εἶδη, μᾶλλον ἂν ἐν
 5 τὸ ἔσχατον εἴη κατηγορούμενον· οὐ γάρ ἐστι γένος ὁ ἄνθρωπος τῶν τινῶν ἀνθρώπων. ἔτι ἐν οἷς τὸ πρότερον καὶ ὕστερόν ἐστω, οὐχ οἶόν τε τὸ ἐπὶ τούτων εἶναι τι παρὰ ταῦτα (οἶον εἰ πρώτη τῶν ἀριθμῶν ἢ δυάς, οὐκ ἔσται τις ἀριθμὸς παρὰ τὰ εἶδη τῶν ἀριθμῶν· ὁμοίως δὲ οὐδὲ σχῆμα παρὰ τὰ
 10 εἶδη τῶν σχημάτων. εἰ δὲ μὴ τούτων, σχολῇ τῶν γε ἄλλων ἔσται τὰ γένη παρὰ τὰ εἶδη· τούτων γὰρ δοκεῖ μάλιστα εἶναι γένη)· ἐν δὲ τοῖς ἀτόμοις οὐκ ἔστι τὸ μὲν πρότερον τὸ δ' ὕστερον. ἔτι ὅπου τὸ μὲν βέλτιον τὸ δὲ χεῖρον, αἰεὶ τὸ βέλτιον πρότερον· ὥστ' οὐδὲ τούτων ἂν εἴη γένος. Ἐκ μὲν
 15 οὖν τούτων μᾶλλον φαίνεται τὰ ἐπὶ τῶν ἀτόμων κατηγορούμενα ἀρχαὶ εἶναι τῶν γενῶν· πάλιν δὲ πῶς αὐ δεῖ ταύτας ἀρχὰς ὑπολαβεῖν, οὐ ῥάδιον εἰπεῖν. τὴν μὲν γὰρ ἀρχὴν δεῖ καὶ τὴν αἰτίαν

¹ κατ' : κατὰ τὸ EJ.² οὐδὲν recs.^o sc. but the species.

differentiae, will be genera, down to the individuals ; but in point of fact, although some are thought to be such, others are not. Moreover the differentiae are more truly principles than are the genera ; and if they also are principles, we get an almost infinite number of principles, especially if one makes the ultimate genus a principle.

Moreover, if Unity is really more of the nature of ⁹ a principle, and the indivisible is a unity, and every-thing indivisible is such either in quantity or in kind, and the indivisible in kind is prior to the divisible, and the genera are divisible into species, then it is rather the lowest predicate that will be a unity (for "man" is not the genus ^a of individual men). Further, in the case of things which admit of priority ¹⁰ and posteriority, that which is predicated of the things cannot exist apart from them. *E.g.*, if 2 is the first number, there will be no Number apart from the species of number ; and similarly there will be no Figure apart from the species of figures. But if the genera do not exist apart from the species in these cases, they will scarcely do so in others ; because it is assumed that genera are most likely to exist in these cases. In individuals, however, there ¹¹ is no priority and posteriority. Further, where there is a question of better or worse, the better is always prior ; so there will be no genus in these cases either.

From these considerations it seems that it is the terms predicated of individuals, rather than the genera, that are the first principles. But again on ¹² the other hand it is not easy to say in what sense we are to understand these to be principles ; for the first principle and cause must be apart from the

It seems rather that the lowest species must be the first principles.

Yet the principle must exist apart from that of

999 a εἶναι παρὰ τὰ πράγματα ὧν ἀρχή, καὶ δύνασθαι
εἶναι χωριζομένην αὐτῶν· τοιοῦτον δέ τι παρὰ τὸ
20 καθ' ἕκαστον εἶναι διὰ τί ἂν τις ὑπολάβοι, πλὴν
ὅτι καθόλου κατηγορεῖται καὶ κατὰ πάντων;
ἀλλὰ μὴν εἰ διὰ τοῦτο, τὰ μᾶλλον καθόλου μᾶλλον
θετέον ἀρχάς· ὥστε ἀρχαὶ τὰ πρῶτ' ἂν εἴησαν
γένη.

IV. Ἔστι δ' ἐχομένη τε τούτων ἀπορία καὶ πασῶν
25 χαλεπωτάτη καὶ ἀναγκαιοτάτη θεωρησαί, περὶ
ἧς ὁ λόγος ἐφέστηκε νῦν. εἴτε γὰρ μὴ ἔστι τι
παρὰ τὰ καθ' ἕκαστα, τὰ δὲ καθ' ἕκαστα ἀπειρα,
τῶν δ' ἀπείρων πῶς ἐνδέχεται λαβεῖν ἐπιστήμην;
ἢ γὰρ ἔν τι καὶ ταῦτόν, καὶ ἢ καθόλου τι ὑπάρχει,
ταύτη πάντα γνωρίζομεν. ἀλλὰ μὴν εἰ τοῦτο
30 ἀναγκαῖον ἔστι, καὶ δεῖ τι εἶναι παρὰ τὰ καθ'
ἕκαστα, ἀναγκαῖον ἂν εἴη τὰ γένη εἶναι παρὰ τὰ
καθ' ἕκαστα,¹ ἢτοι τὰ ἔσχατα ἢ τὰ πρῶτα· τοῦτο
δ' ὅτι ἀδύνατον ἄρτι διηπορήσαμεν. Ἔτι εἰ ὅτι
μάλιστα ἔστι τι παρὰ τὸ σύνολον ὅταν κατηγο-
ρηθῆ τι τῆς ὕλης, πότερον, εἰ ἔστι,² παρὰ πάντα δεῖ
εἶναι τι, ἢ παρὰ μὲν ἕνια εἶναι, παρὰ δ' ἕνια μὴ
999 b εἶναι, ἢ παρ' οὐδέν; εἰ μὲν οὖν μηθέν ἔστι παρὰ
τὰ καθ' ἕκαστα, οὐδὲν ἂν εἴη νοητὸν ἀλλὰ πάντα
αἰσθητὰ καὶ ἐπιστήμη οὐθενός, εἰ μὴ τις εἶναι
λέγει τὴν αἰσθησιν ἐπιστήμην. ἔτι δ' οὐδ' αἰδιον
οὐθὲν οὐδὲ ἀκίνητον· τὰ γὰρ αἰσθητὰ πάντα φθεί-
5 ρεται καὶ ἐν κινήσει ἔστιν· ἀλλὰ μὴν, εἴ γε αἰδιον
μηθέν³ ἔστιν, οὐδὲ γένεσιν εἶναι δυνατὸν· ἀνάγκη

¹ ἀναγκαῖον ἂν . . . τὰ καθ' ἕκαστα om. E, Bekker.

² εἰ ἔστι] εἰ ἔστιν εἰδός τι recc. ³ οὐδὲν A^b Alexander.

^a For partial solutions to the problem see VII. x., xii.-xiii.

^b In ch. iii.

things of which it is a principle, and must be able to which it is a principle; and a class-name can so exist only as being universally predicated.
exist when separated from them. But why should we assume that such a thing exists alongside of the individual, except in that it is predicated universally and of all the terms? And indeed if this is a sufficient reason, it is the more universal concepts that should rather be considered to be principles; and so the primary genera will be the principles.^a

IV. In this connexion there is a difficulty which is the hardest and yet the most necessary of all to investigate, and with which our inquiry is now concerned. (vii.) If nothing exists apart from individual things, and these are infinite in number, how is it possible to obtain knowledge of the numerically infinite? For we acquire our knowledge of all things only in so far as they contain something universal, some one and identical characteristic. But if this is essential, and there must be something apart from individual things, it must be the genera; either the lowest or the highest; but we have just concluded that this is impossible.^b

Further, assuming that when something is predicated of matter there is in the fullest sense something apart from the concrete whole, if there is something, must it exist apart from all concrete wholes, or apart from some but not others, or apart from none? If nothing exists apart from individual things, nothing will be intelligible; everything will be sensible, and there will be no knowledge of anything—unless it be maintained that sense-perception is knowledge. Nor again will anything be eternal and in motion. Again, if nothing is eternal, even generation is impossible; for there must be some-
If there is nothing apart from the concrete thing, there will be no knowledge, eternity, immobility or generation.

999 b γὰρ εἶναι τι τὸ γιγνόμενον καὶ ἐξ οὗ γίγνεται
καὶ τούτων τὸ ἔσχατον ἀγέννητον,¹ εἴπερ ἴσασται
τε καὶ ἐκ μὴ ὄντος γενέσθαι ἀδύνατον. ἔτι δὲ
γενέσεως οὐσης καὶ κινήσεως ἀνάγκη καὶ πέρασ
10 εἶναι· οὔτε γὰρ ἄπειρός ἐστιν οὐδεμία κίνησις
ἀλλὰ πάσης ἔστι τέλος, γίγνεσθαι τε οὐχ οἶόν
τε τὸ ἀδύνατον γενέσθαι· τὸ δὲ γεγονός ἀνάγκη
εἶναι ὅτε πρῶτον γέγονεν. ἔτι δ' εἴπερ ἡ ὕλη
ἔστι διὰ τὸ ἀγέννητος² εἶναι, πολὺ ἔτι μᾶλλον
εὐλογον εἶναι τὴν οὐσίαν, ὃ ποτε³ ἐκείνη γίγνεται.
15 εἰ γὰρ μήτε τοῦτο ἔσται μήτε ἐκείνη, οὐθὲν
ἔσται τὸ παράπαν. εἰ δὲ τοῦτο ἀδύνατον, ἀνάγκη
τι εἶναι παρὰ τὸ σύνολον, τὴν μορφήν καὶ τὸ εἶδος.
Εἰ δ' αὖ τις τοῦτο θήσῃ, ἀπορία ἐπὶ τίνων τε
θήσῃ τοῦτο καὶ ἐπὶ τίνων οὐ. ὅτι μὲν γὰρ ἐπὶ
πάντων οὐχ οἶόν τε, φανερόν· οὐ γὰρ ἂν θείημεν
20 εἶναι τινα οἰκίαν παρὰ τὰς τινὰς οἰκίας. πρὸς
δὲ τούτοις πότερον ἡ οὐσία μία πάντων ἔσται,
οἶον τῶν ἀνθρώπων; ἀλλ' ἄτοπον· ἐν γὰρ ἅπαντα
ᾧν ἡ οὐσία μία. ἀλλὰ πολλὰ καὶ διάφορα; ἀλλὰ
καὶ τοῦτο ἄλογον. ἅμα δὲ καὶ πῶς γίγνεται ἡ
ὕλη τούτων ἐκάστον καὶ ἔστι τὸ σύνολον ἄμφω
ταῦτα;
25 Ἔτι δὲ περὶ τῶν ἀρχῶν καὶ τόδε ἀπορήσειεν
ἂν τις. εἰ μὲν γὰρ εἶδει εἰσὶν ἓν, οὐθὲν ἔσται
ἀριθμῶ ἓν, οὐδ' αὐτὸ τὸ ἓν καὶ τὸ ὄν· καὶ τὸ

¹ ἀγέννητον A^b.² ἀγέννητος recc.³ ὃ ποτε E comm.: ὁπότε.

thing which becomes something, *i.e.* out of which something is generated, and of this series the ultimate term must be ungenerated; that is if there is any end to the series and generation cannot take place out of nothing. Further, if there is generation 5 and motion, there must be limit too. For (a) no motion is infinite, but every one has an end; (b) that which cannot be completely generated cannot begin to be generated, and that which has been generated must be as soon as it has been generated. Further, if matter exists apart in virtue of being un- 6 generated, it is still more probable that the substance, *i.e.* that which the matter is at any given time becoming, should exist. And if neither one nor the other exists, nothing will exist at all. But if this is impossible, there must be something, the shape or form, apart from the concrete whole.

Generation implies an ultimate ungenerated material,

and must have a limit

Thus if anything is to exist, the form must exist separately.

But again, if we assume this, there is a difficulty : 7 in what cases shall we, and in what shall we not, assume it? Clearly it cannot be done in all cases; for we should not assume that a particular house exists apart from particular houses. Moreover, are we to regard the essence of all things, *e.g.* of men, as one? This is absurd; for all things whose essence is one are one. Then is it many and diverse? This 8 too is illogical. And besides, how does the matter become each individual one of these things, and how is the concrete whole both matter and form? ^a

(viii.) Further, the following difficulty might be raised about the first principles. If they are one in kind, none of them will be one in number, not even the Idea of Unity or of Being. And how can there

(viii.) If the first principles are one in kind, none of them will

^a For answers to these questions see VII. viii., xiii.-xiv.; XII. vi.-x.; XIII. x.

999 b

ἐπίστασθαι πῶς ἔσται, εἰ μή τι ἔσται ἐν ἐπὶ πάντων; ἀλλὰ μὴν εἰ ἀριθμῶ ἐν καὶ μία ἐκάστη τῶν ἀρχῶν, καὶ μὴ ὡς περ ἐπὶ τῶν αἰσθητῶν ἄλλαι ἄλλων (οἷον τῆσδε τῆς συλλαβῆς τῶ εἶδει τῆς αὐτῆς οὔσης καὶ αἱ ἀρχαὶ εἶδει αἱ αὐταί· καὶ γὰρ αὐταὶ ὑπάρχουσιν ἀριθμῶ ἕτεραι),—εἰ δὲ μὴ οὕτως, ἀλλ' αἱ τῶν ὄντων ἀρχαὶ ἀριθμῶ ἐν εἰσιν, οὐκ ἔσται παρὰ τὰ στοιχεῖα οὐθέν ἕτερον· τὸ γὰρ ἀριθμῶ ἐν ἢ τὸ καθ' ἕκαστον λέγειν διαφέρει οὐθέν·

1000 a

οὕτω γὰρ λέγομεν τὸ καθ' ἕκαστον, τὸ ἀριθμῶ ἐν, καθόλου δὲ τὸ ἐπὶ τούτων. ὡς περ οὖν εἰ τὰ τῆς φωνῆς ἀριθμῶ ἦν στοιχεῖα ὠρισμένα, ἀναγκαῖον ἦν τοσαῦτα εἶναι τὰ πάντα γράμματα ὅσα περ τὰ στοιχεῖα, μὴ ὄντων γε δύο τῶν αὐτῶν, μηδὲ πλειόνων.

5 Οὐθενὸς δ' ἐλάττων ἀπορία παραλέλειπται καὶ τοῖς νῦν καὶ τοῖς πρότερον, πότερον αἱ αὐταὶ τῶν φθαρτῶν καὶ τῶν ἀφθάρτων ἀρχαὶ εἰσιν ἢ ἕτεραι. εἰ μὲν γὰρ αἱ αὐταί,¹ πῶς τὰ μὲν φθαρτὰ τὰ δὲ ἀφθαρτα, καὶ διὰ τίν' αἰτίαν; οἱ μὲν περὶ Ἡσίοδον καὶ πάντες
10 ὅσοι θεολόγοι μόνον ἐφρόντισαν τοῦ πιθανοῦ τοῦ πρὸς αὐτούς,² ἡμῶν δ' ὠλιγώρησαν· θεοὺς γὰρ ποιοῦντες τὰς ἀρχὰς καὶ ἐκ θεῶν γεγονέναι, τὰ μὴ γευσάμενα τοῦ νέκταρος καὶ τῆς ἀμβροσίας θνητὰ γενέσθαι φασίν, δῆλον ὡς ταῦτα τὰ ὀνόματα γνώριμα λέγοντες αὐτοῖς· καίτοι περὶ αὐτῆς τῆς

¹ αὐταὶ εἰσι E.J.² Christ: αὐτοῖς.

^a If the principles are one in *kind* only, particular things cannot be referred to the same principle but only to like principles; *i.e.*, there will be no universal terms, without which there can be no knowledge.

^b Or "letters of the alphabet." Cf. I. ix. 36 n.

be knowledge unless there is some universal term? ^a be one in
On the other hand if they are numerically one, and ⁹
each of the principles is one, and not, as in the case
of sensible things, different in different instances
(*e.g.* since a given syllable is always the same in kind,
its first principles are always the same in kind, but
only in kind, since they are essentially different in
number)—if the first principles are one, not in this
sense, but numerically, there will be nothing else
apart from the elements; for "numerically one"
and "individual" are identical in meaning. This is
what we mean by "individual": the numerically
one; but by "universal" we mean what is predicable
of individuals. Hence just as, if the elements of ¹⁰
language ^b were limited in number, the whole of litera-
ture would be no more than those elements—that
is, if there were not two nor more than two of the
same <so it would be in the case of existing things
and their principles>.^c

(ix.) There is a difficulty, as serious as any, which ¹¹
has been left out of account both by present thinkers
and by their predecessors: whether the first prin-
ciples of perishable and imperishable things are the
same or different. For if they are the same, how
is it that some things are perishable and others
imperishable, and for what cause? The school of ¹²
Hesiod, and all the cosmologists, considered only
what was convincing to themselves, and gave no
consideration to us. For they make the first prin-
ciples Gods or generated from Gods, and say that
whatever did not taste of the nectar and ambrosia
became mortal—clearly using these terms in a sense
significant to themselves; but as regards the actual ¹³

number, and there will be no knowledge. If they are one in number, there will be nothing but the elements.

(ix.) If the first principles of all things are the same, why are some things

perishable and others not? The statements of the cosmologists mean nothing to us.

^c For the answer to the problem see XII. iv.-v., XIII. x.

1000 a

15 προσφορᾶς τῶν αἰτίων τούτων ὑπὲρ ἡμᾶς εἰρήκασιν·
εἰ μὲν γὰρ χάριν ἡδονῆς αὐτῶν θυγγάνουσι, οὐθὲν
αἷτια τοῦ εἶναι τὸ νέκταρ καὶ ἡ ἀμβροσία· εἰ δὲ
τοῦ εἶναι, πῶς ἂν εἴεν αἰδιοὶ δεόμενοι τροφῆς;

Ἄλλὰ περὶ μὲν τῶν μυθικῶς σοφίζομένων οὐκ
ἄξιον μετὰ σπουδῆς σκοπεῖν· παρὰ δὲ τῶν δι'
20 ἀποδείξεως λεγόντων δεῖ πυνθάνεσθαι διερωτῶν-
τας τί δὴ ποτ' ἐκ τῶν αὐτῶν ὄντα τὰ μὲν αἰδία
τὴν φύσιν ἐστὶ τὰ δὲ φθείρεται τῶν ὄντων. ἐπεὶ
δὲ οὔτε αἷτια λέγουσι οὔτε εὐλογον οὕτως ἔχειν,
δῆλον ὡς οὐχ αἰ αὐταὶ ἀρχαὶ οὐδὲ αἷτια αὐτῶν ἂν
25 εἴεν. καὶ γὰρ ὄνπερ οἰηθεὶς λέγειν ἂν τις μάλιστα
ὁμολογουμένως αὐτῶ, Ἐμπεδοκλῆς, καὶ οὗτος
ταῦτον πέποιθεν· τίθησι μὲν γὰρ ἀρχὴν τινα
αἷτια τῆς φθορᾶς τὸ νεῖκος, δόξειε δ' ἂν οὐθὲν
ἦττον καὶ τοῦτο γεννᾶν ἔξω τοῦ ἐνός· ἅπαντα γὰρ
ἐκ τούτου τᾶλλά ἐστι πλὴν ὁ θεός. λέγει γοῦν

30 ἐξ ὧν πάνθ' ὅσα τ' ἦν ὅσα τ' ἔσθ' ὅσα τ' ἔσται
ὀπίσω,
δένδρεά τ' ἐβλάσθησε καὶ ἀνέρες ἠδὲ γυναῖκες,
θῆρες τ' οἰωνοὶ τε καὶ ὕδατοθρέμμοι ἰχθύς,
καὶ τε θεοὶ δολιχαίωνες.

1000 b Καὶ χωρὶς δὲ τούτων δῆλον· εἰ γὰρ μὴ ἦν¹ ἐν
τοῖς πράγμασιν, ἐν ἃν ἦν ἅπαντα, ὡς φησὶν·
ὅταν γὰρ συνέλθῃ, "τότε δ' ἔσχατον ἴστατο νεῖκος."
διὸ καὶ συμβαίνει αὐτῶ τὸν εὐδαιμονέστατον θεὸν
5 ἦττον φρόνιμον εἶναι τῶν ἄλλων· οὐ γὰρ γνωρίζει

¹ ἦν: ἦν τὸ νεῖκος A^{be}.

^a The expressions "the One" and "God" refer to Empedocles' Sphere: the universe as ordered and united by Love. Cf. frs. 26-29 (Diels).

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application of these causes their statements are beyond our comprehension. For if it is for pleasure that the Gods partake of them, the nectar and ambrosia are in no sense causes of their existence; but if it is to support life, how can Gods who require nourishment be eternal?

However, it is not worth while to consider seriously 14 the subtleties of mythologists; we must ascertain by cross-examining those who offer demonstration of their statements why exactly things which are derived from the same principles are some of an eternal nature and some perishable. And since these thinkers state no reason for this view, and it is 15 unreasonable that things should be so, obviously the causes and principles of things cannot be the same. Even the thinker who might be supposed to speak most consistently, Empedocles, is in the same case; for he posits Strife as a kind of principle which is the cause of destruction, but none the less Strife would seem to produce everything except the One; for everything except God^a proceeds from it. At any rate he says

Nor can the physicists offer any explanation.

Even Empedocles is inconsistent.

16

From which grew all that was and is and shall be
In time to come: the trees, and men and women,
The beasts and birds and water-nurtured fish,
And the long-living Gods.^b

And it is obvious even apart from this; for if there 17 had not been Strife in things, all things would have been one, he says; for when they came together "then Strife came to stand outermost."^c Hence it follows on his theory that God, the most blessed being, is less wise than the others, since He does not

^b Fr. 21. 9-12.

^c Fr. 36. 7.

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ἅπαντα¹. τὸ γὰρ νεῖκος οὐκ ἔχει, ἣ δὲ γνώσις τοῦ
ὁμοίου τῶ ὁμοίῳ.

γαίῃ, μὲν γὰρ (φησί) γαῖαν ὁπώπαμεν, ὕδατι
δ' ὕδωρ,
αἰθέρι δ' αἰθέρα διον, ἀτὰρ πυρὶ πῦρ αἰδηλον,
στοργὴν δὲ στοργῇ, νεῖκος δέ τε νεῖκεῖ λυγρῶ.

Ἄλλ' ὅθεν δὴ ὁ λόγος, τοῦτό γε φανερόν, ὅτι
10 συμβαίνει αὐτῶ τὸ νεῖκος μῆθὲν μᾶλλον φθορᾶς
ἢ τοῦ εἶναι αἴτιον. ὁμοίως δὲ οὐδ' ἡ φιλοσύνης τοῦ
εἶναι· συνάγουσα γὰρ εἰς τὸ ἐν φθείρει τᾶλλα. καὶ
ἅμα δὲ αὐτῆς τῆς μεταβολῆς αἴτιον οὐθὲν λέγει ἄλλ'
ἢ ὅτι οὕτως πέφυκεν·

ἄλλ' ὅτε δὴ μέγα νεῖκος ἐνὶ μελέεσσιν ἐθρέφθη,
15 εἰς τιμᾶς τ' ἀνόρουσε τελειομένοιο χρόνοιο,
ὅς σφιν ἀμοιβαῖος πλατέος παρ' ἐλήλαται²
ὄρκου,

ὡς ἀναγκαῖον μὲν ὄν μεταβάλλειν· αἰτίαν δὲ τῆς
ἀνάγκης οὐδεμίαν δηλοῦ. ἀλλ' ὅμως τοσοῦτόν γε
μόνον λέγει ὁμολογουμένως· οὐ γὰρ τὰ μὲν
φθαρτὰ τὰ δὲ ἀφθαρτὰ ποιεῖ τῶν ὄντων, ἀλλὰ
20 πάντα φθαρτὰ πλὴν τῶν στοιχείων. ἣ δὲ νῦν
λεγομένη ἀπορία ἐστὶ διὰ τί τὰ μὲν τὰ δ' οὐ, εἴπερ
ἐκ τῶν αὐτῶν ἐστίν. Ὅτι μὲν οὖν οὐκ ἂν
εἴησαν αἱ αὐταὶ ἀρχαί, τοσαῦτα εἰρήσθω· εἰ δὲ
ἕτεραι ἀρχαί, μία μὲν ἀπορία πότερον ἀφθαρτοὶ καὶ
αὐταὶ³ εἶναι ἢ φθαρταί. εἰ μὲν γὰρ φθαρταί,
25 δῆλον ὡς ἀναγκαῖον καὶ ταύτας ἐκ τιῶν εἶναι

¹ ἅπαντα: τὰ στοιχεῖα πάντα E.J.

² παρ' ἐλήλαται Sturz: παρελήλαται.

³ αὐταὶ J Asc.: αἱ αὐταὶ Ab.

know all the elements ; for He has no Strife in Him,
and knowledge is of like by like :

By earth (he says) we earth perceive, by water water, 18
By air bright air, by fire consuming fire,
Love too by love, and strife by grievous strife.^a

But—and this is the point from which we started—
thus much is clear : that it follows on his theory that
Strife is no more the cause of destruction than it
is of Being. Nor, similarly, is Love the cause of
Being ; for in combining things into one it destroys
everything else.^b Moreover, of the actual process 19
of change he gives no explanation, except that it is
so by nature :

But when Strife waxing great among the members^c
Sprang up to honour as the time came round
Appointed them in turn by a mighty oath,^d

as though change were a necessity ; but he exhibits
no cause for the necessity. However, thus much of 20
his theory is consistent : he does not represent some
things to be perishable and others imperishable, but
makes everything perishable except the elements.
But the difficulty now being stated is why some things
are perishable and others not, assuming that they are
derived from the same principles.

He is con-
sistent in
that he
makes only
the elements
imperish-
able ; but
this is irrele-
vant to our
inquiry.

The foregoing remarks may suffice to show that
the principles cannot be the same. If however they 21
are different, one difficulty is whether they too are
to be regarded as imperishable or as perishable. For
if they are perishable, it is clearly necessary that
they too must be derived from something else, since

If the prin-
ciples are
different, are
they perish-
able or not?
They cannot
be perish-
able,

^a Fr. 109.

^b Cf. I. iv. 6.

^c i.e., of the Sphere.

^d Fr. 30.

1000^b (πάντα¹ γὰρ φθείρεται εἰς ταῦτ' ἐξ ὧν ἔστιν), ὥστε
 συμβαίνει τῶν ἀρχῶν ἑτέρας ἀρχὰς εἶναι προτέρας·
 τοῦτο δ' ἀδύνατον, καὶ εἰ ἴσταται καὶ εἰ βαδίζει
 εἰς ἀπειρον· ἔτι δὲ πῶς ἔσται τὰ φθαρτά, εἰ αἱ
 30 ἀρχαὶ ἀναιρεθῆσονται; εἰ δὲ ἀφθαρτοὶ, διὰ τί
 ἐκ μὲν τούτων ἀφθάρτων οὐσῶν φθαρτά ἔσται, ἐκ
 δὲ τῶν ἑτέρων ἀφθαρτα; τοῦτο γὰρ οὐκ εὐλογον,
 ἀλλ' ἢ ἀδύνατον ἢ πολλοῦ λόγου δέεται. ἔτι
 1001^a δὲ οὐδ' ἐγκεχείρηκεν οὐδεὶς ἑτέρας,² ἀλλὰ τὰς
 αὐτὰς ἀπάντων λέγουσιν ἀρχὰς. ἀλλὰ τὸ πρῶτον
 ἀπορηθὲν ἀποτρώγουσιν ὡσπερ τοῦτο μικρὸν τι
 λαμβάνοντες.

Πάντων δὲ καὶ θεωρῆσαι χαλεπώτατον καὶ
 5 πρὸς τὸ γνῶναι τάληθές ἀναγκαιότατον, πότερον
 ποτε τὸ ὄν καὶ τὸ ἐν οὐσίαι τῶν ὄντων εἰσί, καὶ
 ἑκάτερον αὐτῶν οὐχ ἕτερόν τι ὄν τὸ μὲν ἐν τὸ δὲ
 ὄν ἐστίν, ἢ δεῖ ζητεῖν τί ποτ' ἔστι τὸ ὄν καὶ τὸ
 ἐν ὡς ὑποκειμένης ἄλλης φύσεως. οἱ μὲν γὰρ
 ἐκείνως, οἱ δ' οὕτως οἰοῦνται τὴν φύσιν ἔχειν.
 10 Πλάτων μὲν γὰρ καὶ οἱ Πυθαγόρειοι οὐχ ἕτερόν
 τι τὸ ὄν οὐδὲ τὸ ἐν, ἀλλὰ τοῦτο αὐτῶν τὴν φύσιν
 εἶναι, ὡς οὐσης τῆς οὐσίας αὐτοῦ τοῦ ἐν εἶναι
 καὶ ὄντι· οἱ δὲ περὶ φύσεως, οἷον Ἐμπεδοκλεῆς,
 ὡς εἰς γνωριμώτερον ἀνάγων λέγει ὅ τι⁴ τὸ ἐν⁵
 ἐστίν· δόξειε γὰρ ἂν λέγειν τοῦτο τὴν φιλίαν εἶναι·
 15 αἰτία γοῦν ἐστὶν αὕτη τοῦ ἐν εἶναι πᾶσιν ἕτεροι

¹ ἅπαντα E.J.

² ἑτέρας λέγειν A^b.

³ αὐτοῦ τοῦ ἐν εἶναι καὶ ὄντι Christ: αὐτοῦ (αὐτὸ Bekker) τὸ
 ἐν εἶναι καὶ ὄν τι A^b: ταῦτὸ ἐν εἶναι καὶ ὄντι E.J.

⁴ Brandis: ὄτι.

⁵ ἐν: ἐν ὄν E.J.

^a i.e., whether all things have the same principles.

everything passes upon dissolution into that from
 which it is derived. Hence it follows that there are
 other principles prior to the first principles; but 22
 this is impossible, whether the series stops or pro-
 ceeds to infinity. And further, how can perishable
 things exist if their principles are abolished? On
 the other hand if the principles are imperishable,
 why should some imperishable principles produce
 perishable things, and others imperishable things?
 This is not reasonable; either it is impossible or it
 requires much explanation. Further, no one has so
 23 much as attempted to maintain different principles;
 they maintain the same principles for everything.
 But they swallow down the difficulty which we raised
 first^a as though they took it to be trifling.^b

(x.) But the hardest question of all to investigate, 24
 and also the most important with a view to the
 discovery of the truth, is whether after all Being and
 Unity are substances of existing things, and each of
 them is nothing else than Being and Unity respect-
 ively, or whether we should inquire what exactly
 Being and Unity are, there being some other nature
 underlying them. Some take the former, others 25
 the latter view of the nature of Being and Unity.
 Plato and the Pythagoreans hold that neither Being
 nor Unity is anything else than itself, and that this
 is their nature, their essence being simply Being and
 Unity. But the physicists, e.g. Empedocles, explain 26
 what Unity is by reducing it to something, as it were,
 more intelligible—for it would seem that by Love
 Empedocles means Unity; at any rate Love is
 the cause of Unity in all things. Others identify

^b For Aristotle's views about the principles of perishable
 and imperishable things see VII. vii.-x., XII. i.-vii.

1001^a δὲ πῦρ, οἱ δ' ἀέρα φασὶν εἶναι τὸ ἐν τούτῳ καὶ τὸ ὄν, ἐξ οὗ τὰ ὄντα εἶναι τε καὶ γεγονέναι. ὡς δ' αὐτως καὶ οἱ πλείω τὰ στοιχεῖα τιθέμενοι ἀνάγκη γὰρ καὶ τούτοις τοσαῦτα λέγειν τὸ ἐν καὶ τὸ ὄν
 20 ὅσας περ ἀρχὰς εἶναι φασι. συμβαίνει δέ, εἰ μὲν τις μὴ θήσεται εἶναι τινα οὐσίαν τὸ ἐν καὶ τὸ ὄν, μηδὲ τῶν ἄλλων εἶναι τῶν καθόλου μηθέν· ταῦτα γὰρ ἐστὶ καθόλου μάλιστα πάντων. εἰ δὲ μὴ ἐστὶ τι ἐν αὐτῷ μηδ' αὐτὸ ὄν, σχολῆ τῶν γε ἄλλων τι ἂν εἴη παρὰ τὰ λεγόμενα καθ' ἕκαστα.
 25 ἐτι δὲ μὴ ὄντος τοῦ ἐνός οὐσίας, δῆλον ὅτι οὐδ' ἂν ἀριθμὸς εἴη ὡς κεχωρισμένη τις φύσις τῶν ὄντων· ὁ μὲν γὰρ ἀριθμὸς μονάδες, ἡ δὲ μονὰς ὅπερ ἐν τὶ ἐστίν. Εἰ δ' ἐστὶ τι αὐτὸ ἐν καὶ ὄν, ἀναγκαῖον οὐσίαν εἶναι τὸ ἐν καὶ τὸ ὄν· οὐ γὰρ ἕτερόν τι καθόλου κατηγορεῖται, ἀλλὰ ταῦτα αὐτά.
 30 ἀλλὰ μὴν εἴ γ' ἔσται τι αὐτὸ ὄν καὶ αὐτὸ ἐν, πολλὴ ἀπορία πῶς ἔσται τι παρὰ ταῦτα ἕτερον, λέγω δὲ πῶς ἔσται πλείω ἐνός τὰ ὄντα. τὸ γὰρ ἕτερον τοῦ ὄντος οὐκ ἔστιν, ὥστε κατὰ τὸν Παρμενίδου συμβαίνειν ἀνάγκη λόγον¹ ἐν ἅπαντα εἶναι τὰ ὄντα
 1001^b καὶ τούτου εἶναι τὸ ὄν. Ἀμφοτέρως δὲ δύσκολον· ἂν τε γὰρ μὴ ἦ τὸ ἐν οὐσία ἂν τε ἦ τι αὐτὸ ἐν, ἀδύνατον τὸν ἀριθμὸν οὐσίαν εἶναι. εἰ μὲν οὖν μὴ ἦ, εἴρηται πρότερον δι' ὅ· εἰ δὲ ἦ, ἡ αὐτῆ ἀπορία καὶ περὶ τοῦ ὄντος. ἐκ τίνος γὰρ
 5 παρὰ τὸ ἐν ἔσται αὐτὸ ἄλλο ἐν; ἀνάγκη γὰρ

¹ συμβαίνειν ἀνάγκη λόγον: λόγον συμβαίνειν ἀνάγκη Γ, Bekker.

^a By τὸ ἐν Parmenides meant "what is," i.e. the real universe, which he proved to be one thing because anything else must be "what is not," or non-existent. The Platonists

fire and others air with this Unity and Being of which things consist and from which they have been generated. Those who posit more numerous elements also hold the same view; for they too must identify Unity and Being with all the principles which they recognize. And it follows that unless one assumes Unity and Being to be substance in some sense, no other universal term can be substance; for Unity and Being are the most universal of all terms, and if there is no absolute Unity or absolute Being, no other concept can well exist apart from the so-called particulars. Further, if Unity is not substance, clearly number cannot be a separate characteristic of things; for number is units, and the unit is simply a particular kind of one.

On the other hand, if there is absolute Unity and Being, their substance must be Unity and Being; for no other term is predicated universally of Unity and Being, but only these terms themselves. Again, if there is to be absolute Being and absolute Unity, it is very hard to see how there can be anything else besides these; I mean, how things can be more than one. For that which is other than what is, is not; and so by Parmenides' argument^a it must follow that all things are one, i.e. Being.

In either case there is a difficulty; for whether Unity is not a substance or whether there is absolute Unity, number cannot be a substance. It has already been stated why this is so if Unity is not a substance; and if it is, there is the same difficulty as about Being. For whence, if not from the absolute One or Unity, can there be another one? It must be not-one; but

meant by it "being" in the abstract. Aristotle ignores this distinction.

1001 b

μη ἐν εἶναι· ἅπαντα δὲ τὰ ὄντα ἢ ἐν ἢ πολλά,
 ὧν ἐν ἕκαστον. ἔτι εἰ ἀδιαίρετον αὐτὸ τὸ ἐν, κατὰ
 μὴν τὸ Ζήνωνος ἀξίωμα οὐθέν ἂν εἴη. ὁ γὰρ
 μήτε προστιθέμενον μήτε ἀφαιρούμενον ποιῶ
 μείζον μηδὲ ἔλαττον, οὐ φησιν εἶναι τοῦτο τῶν
 10 ὄντων, ὡς δηλονότι ὄντος μεγέθους τοῦ ὄντος·
 καὶ εἰ μέγεθος, σωματικόν· τοῦτο γὰρ πάντῃ ὄν.
 τὰ δὲ ἄλλα πῶς μὲν προστιθέμενα ποιήσει μείζον,
 πῶς δ' οὐθέν, οἷον ἐπίπεδον καὶ γραμμὴ· στιγμή
 δὲ καὶ μονὰς οὐδαμῶς. ἀλλ' ἐπειδὴ οὗτος θεωρεῖ
 15 φορτικῶς, καὶ ἐνδέχεται εἶναι ἀδιαίρετόν τι ὥστε
 [καὶ οὕτως]¹ καὶ πρὸς ἐκεῖνόν τι² ἀπολογίαν ἔχει
 (μείζον μὲν γὰρ οὐ ποιήσει, πλείον δὲ προστιθέ-
 μενον τὸ τοιοῦτον)· ἀλλὰ πῶς δὴ ἐξ ἐνὸς τοιού-
 του ἢ πλειόνων τοιούτων ἔσται μέγεθος; ὁμοιον
 γὰρ καὶ τὴν γραμμὴν ἐκ στιγμῶν εἶναι φάσκειν.
 ἀλλὰ μὴν καὶ εἰ τις οὕτως ὑπολαμβάνει ὥστε
 20 γένεσθαι (καθίπερ λέγουσιν τινες) ἐκ τοῦ ἐνὸς
 αὐτοῦ καὶ ἄλλου μὴ ἐνὸς τινος τὸν ἀριθμόν, οὐθέν
 ἦντον ζητητέον διὰ τί καὶ πῶς ὅτε μὲν ἀριθμὸς
 ὅτε δὲ μέγεθος ἔσται τὸ γενόμενον, εἴπερ τὸ μὴ
 ἐν ἢ ἀνισότης καὶ ἡ αὐτὴ φύσις ἦν. οὔτε γὰρ
 25 ὅπως ἐξ ἐνὸς καὶ ταύτης, οὔτε ὅπως ἐξ ἀριθμοῦ
 τινὸς καὶ ταύτης γένοιτ' ἂν τὰ μεγέθη, δῆλον.

V. Τούτων δ' ἐχομένη ἀπορία, πότερον οἱ ἀριθμοὶ
 καὶ τὰ σώματα καὶ τὰ ἐπίπεδα καὶ αἱ στιγμαὶ
 οὐσίαι τινές εἰσιν ἢ οὐ. εἰ μὲν² γὰρ μή εἰσιν,

¹ Ross.² μὲν om. E.^a Cf. fr. 2, and see Burnet, *E.G.P.* §§ 157 ff.^b e.g., a point is indivisible and has no magnitude, yet added to other points it increases their number.^c The reference is to the Platonists. Cf. XIV. i. 5, 6; ii. 13, 14.

all things are either one, or many of which each is
 one. Further, if absolute Unity is indivisible, by If Unity is
 Zeno's axiom it will be nothing. For that which 32
 neither when added makes a thing greater nor
 when subtracted makes it smaller is not an existent
 thing, he says^a; clearly assuming that what exists is
 spatial magnitude. And if it is a spatial magnitude
 it is corporeal, since the corporeal exists in all dimen-
 sions, whereas the other magnitudes, e.g. the plane
 or line, when added to a thing in one way will in-
 crease it, but when added in another will not; and
 the point or unit will not increase a thing in any way
 whatever. But since Zeno's view is unsound, and 33
 it is possible for a thing to be indivisible in such a
 way that it can be defended even against his argument
 (for such a thing^b when added will increase a thing in
 number though not in size)—still how can a magnitude
 be composed of one or more such indivisible things?
 It is like saying that the line is composed of points.
 Moreover, even if one supposes the case to be such 34
 that number is generated, as some say, from the
 One itself and from something else which is not one,
 we must none the less inquire why and how it is that
 the thing generated will be at one time number and
 at another magnitude, if the not-one was inequality
 and the same principle in both cases.^c For it is not
 clear how magnitude can be generated either from
 One and this principle, or from a number and this
 principle.^d

V. (xiii.) Out of this arises the question whether
 numbers, bodies, planes and points are substances
 or not. If not, the question of what Being is, and
 points are

^d For the answer to this problem see VII. xvi. 3, 4; X. ii.; and cf. XIII. viii.

1001 b διαφεύγει τί τὸ ὄν καὶ τίνες αἱ οὐσίαι τῶν ὄντων.
 30 τὰ μὲν γὰρ πάθη καὶ αἱ κινήσεις καὶ τὰ πρὸς τι
 καὶ αἱ διαθέσεις καὶ οἱ λόγοι οὐθενὸς δοκοῦσιν
 οὐσίαν σημαίνειν· λέγονται γὰρ πάντα καθ' ὑπο-
 κειμένου τινός, καὶ οὐθὲν τόδε τι. ἃ δὲ μάλιστ' ἂν
 1002 a καὶ ἄηρ, ἐξ ὧν τὰ σύνθετα σώματα συνέστηκε, καὶ τὰ
 τούτων θερμότητες μὲν καὶ ψυχρότητες καὶ τὰ
 τοιαῦτα πάθη, οὐκ οὐσίαι, τὸ δὲ σῶμα τὸ ταῦτα
 πεπονθὸς μόνον ὑπομένει ὡς ὄν τι καὶ οὐσία τις
 οὐσα. ἀλλὰ μὴν τό γε σῶμα ἦττον οὐσία τῆς
 5 ἐπιφανείας, καὶ αὕτη τῆς γρημμῆς, καὶ αὕτη τῆς
 μονάδος καὶ τῆς στιγμῆς· τούτοις γὰρ ὄρισται
 τὸ σῶμα, καὶ τὰ μὲν ἄνευ σώματος ἐνδέχθησθαι
 δοκεῖ εἶναι, τὸ δὲ σῶμα ἄνευ τούτων¹ ἀδύνατον.
 διόπερ οἱ μὲν πολλοὶ καὶ οἱ πρότερον τὴν οὐσίαν
 10 καὶ τὸ ὄν ὥοντο τὸ σῶμα εἶναι, τὰ δὲ ἄλλα τούτου
 πάθη, ὥστε καὶ τὰς ἀρχὰς τὰς τῶν σωμάτων τῶν
 ὄντων εἶναι ἀρχὰς· οἱ δ' ὕστερον καὶ σοφώτεροι
 τούτων εἶναι δόξαντες ἀριθμούς. Καθάπερ οὖν
 εἶπομεν, εἰ μὴ ἔστιν οὐσία ταῦτα, ὅλως οὐδεμία
 ἔστιν οὐσία, οὐδὲ ὄν οὐθέν· οὐ γὰρ δὴ τὰ γε
 15 συμβεβηκότα τούτοις ἄξιον ὄντα καλεῖν. ἀλλὰ
 μὴν εἰ τοῦτο μὲν ὁμολογεῖται, ὅτι μᾶλλον οὐσία
 τὰ μήκη τῶν σωμάτων καὶ αἱ στιγμαί, ταῦτα
 δὲ μὴ ὀρώμεν ποίων ἂν εἶεν σωμάτων (ἐν γὰρ
 τοῖς αἰσθητοῖς ἀδύνατον εἶναι), οὐκ ἂν εἴη
 οὐσία οὐδεμία. ἔτι δὲ φαίνεται ταῦτα πάντα
 διαιρέσεις ὄντα τοῦ σώματος, τὸ μὲν εἰς πλάτος
 20 τὸ δ' εἰς βάθος τὸ δ' εἰς μήκος. πρὸς δὲ τούτοις

¹ αὕτη: ἡ γραμμὴ Λ^b.

² τούτων εἶναι rccc.

what the substances of things are, baffles us; for not substance, what are modifications and motions and relations and dis- positions and ratios do not seem to indicate the substances? what are the substance of anything; they are all predicated of a substrate, and none of them is a definite thing. As 2 for those things which might be especially supposed tions, motions, relations, etc., to indicate substance—water, earth, fire and air, of which composite bodies are composed—their heat require a substrate. and cold and the like are modifications, not sub- The corporeal elements seem stances; and it is only the body which undergoes these modifications that persists as something real more likely and a kind of substance. Again, the body is less 3 truly substance than the plane, and the plane than to be substances; but the line, and the line than the unit or point; for it body is less is by these that the body is defined, and it seems that substantial than that they are possible without the body, but that the body cannot exist without them. This is why the vulgar 4 and the earlier thinkers supposed that substance and Being are Body, and everything else the modi- which defines it. fications of Body; and hence also that the first Hence later thinkers regard principles of bodies are the first principles of existing numbers, etc., as things; whereas later thinkers with a greater re- substance putation for wisdom supposed that substance and Being are numbers.

As we have said, then, if these things are not 5 substance, there is no substance or Being at all; for the attributes of these things surely have no right to be called existent things. On the other hand, if it be agreed that lines and points are more truly substance than bodies are, yet unless we can see to what kind of bodies they belong (for they cannot be in sensible bodies) there will still be no substance. Further, it is apparent that all these lines are divisions 6 of Body, either in breadth or in depth or in length. they belong?

1002^a ὁμοίως ἔνεστιν¹ ἐν τῷ στερεῷ ὁποιοῦν σχῆμα².
 ὥστ' εἰ μὴδ' ἐν τῷ λίθῳ Ἑρμῆς, οὐδὲ τὸ ἥμισυ
 τοῦ κύβου ἐν τῷ κύβῳ οὕτως ὡς ἀφωρισμένον.
 οὐκ ἄρα οὐδ' ἐπιφάνεια· εἰ γὰρ ὁποιοῦν, κἂν
 25 αὕτη ἂν ἦν ἡ ἀφορίζουσα τὸ ἥμισυ. ὁ δ' αὐτὸς
 λόγος καὶ ἐπὶ γραμμῆς καὶ στιγμῆς καὶ μονάδος.
 ὥστ' εἰ μάλιστα μὲν οὐσία τὸ σῶμα, τούτου δὲ
 μᾶλλον ταῦτα, μὴ ἔστι δὲ ταῦτα μηδὲ οὐσίαι τινές,
 διαφεύγει τί τὸ ὄν καὶ τίς ἡ οὐσία τῶν ὄντων.
 πρὸς γὰρ τοῖς εἰρημένοισι καὶ τὰ περὶ τὴν γένεσιν
 30 καὶ τὴν φθορὰν συμβαίνει ἄλογα. δοκεῖ μὲν γὰρ
 ἡ οὐσία, εἰ μὴ οὐσα πρότερον νῦν ἦ, ἢ πρότερον
 οὐσα ὕστερον μὴ ἦ, μετὰ τοῦ γίγνεσθαι καὶ
 φθεῖρεσθαι ταῦτα πάσχειν· τὰς δὲ στιγμὰς καὶ
 τὰς γραμμὰς καὶ τὰς ἐπιφανείας οὐκ ἐνδέχεται
 οὔτε γίγνεσθαι οὔτε φθεῖρεσθαι, ὅτε μὲν οὐσας
 1002^b ὅτε δὲ οὐκ οὐσας· ὅταν γὰρ ἄπτηται ἢ διαιρῆται
 τὰ σώματα, ἅμα ὅτε μὲν μία ἀπτομένων, ὅτε δὲ
 δύο διαιρουμένων γίνονται· ὥστ' οὔτε συγκει-
 μένων ἔστιν ἀλλ' ἐφθαρται, διηρημένων τέ εἰσιν
 αἰ πρότερον οὐκ οὐσαι (οὐ γὰρ δὴ ἦ γε ἀδιαι-
 ρετος στιγμῆ διηρέθη εἰς δύο), εἴ τε γίνονται καὶ
 5 φθεῖρονται, ἐκ τίνος³ γίνονται; παραπλησίως δ'
 ἔχει καὶ περὶ τὸ νῦν τὸ ἐν τῷ χρόνῳ· οὐδὲ γὰρ
 τοῦτο ἐνδέχεται γίγνεσθαι καὶ φθεῖρεσθαι, ἀλλ'
 ὁμῶς ἕτερον αἰεὶ δοκεῖ εἶναι, οὐκ οὐσία τις οὐσα.
 ὁμοίως δὲ δῆλον ὅτι ἔχει καὶ περὶ τὰς στιγμὰς

¹ ἔνεστιν: ἔν ἐστιν recc.² σχῆμα ἢ οὐδέν A^b.³ Ross: τίνος.^a Apparently a proverbial expression.

Moreover every kind of shape is equally present in a solid, so that if "Hermes is not in the stone,"^a neither is the half-cube in the cube as a determinate shape. Hence neither is the plane; for if any kind of plane⁷ were in it, so would that plane be which defines the half-cube. The same argument applies to the line and to the point or unit. Hence however true it may be that body is substance, if planes, lines and points are more truly substance than Body is, and these are not substance in any sense, the question of what Being is and what is the substance of things baffles us. Because, in addition to the above argu-⁸ments, absurd results follow from a consideration of generation and destruction; for it seems that if substance, not having existed before, now exists, or having existed before, subsequently does not exist, it suffers these changes in the process of generation and destruction. But points, lines and planes, although they exist at one time and at another do not, cannot be in process of being either generated or destroyed; for whenever bodies are⁹ joined or divided, at one time, when they are joined, one surface is instantaneously produced, and at another, when they are divided, two. Thus when the bodies are combined the surface does not exist, but has perished; and when they are divided, surfaces exist which did not exist before. (The indivisible point is of course never divided into two.) And if they *are* generated and destroyed, from what¹⁰ are they generated? It is very much the same with "the present moment" in time. This too cannot be generated and destroyed; but nevertheless it seems always to be different, not being a substance. And obviously it is the same with points, lines and

They are mere divisions of body; but if

they are not substance, what is?

Yet substance is generated and destroyed, whereas points, lines and planes are not.

If they are

generated, from what are they generated?

1002 b

10 καὶ τὰς γραμμὰς καὶ τὰ ἐπίπεδα· ὁ γὰρ αὐτὸς λόγος· ἅπαντα γὰρ ὁμοίως ἢ πέρατα ἢ διαιρέσεις εἰσίν.

VI. Ὅλως δ' ἀπορήσειεν ἂν τις διὰ τί καὶ δεῖ ζητεῖν ἄλλ' ἅττα παρά τε τὰ αἰσθητὰ καὶ τὰ μεταξύ, οἷον ἂ τίθεμεν εἶδη. εἰ γὰρ διὰ τοῦτο, ὅτι τὰ
 15 μὲν μαθηματικὰ τῶν δευρο ἄλλω μὲν τινι διαφέρει, τῷ δὲ πόλλ' ἅττα ὁμοειδῆ εἶναι οὐθὲν διαφέρει, ὥστ' οὐκ ἔσονται αὐτῶν αἱ ἀρχαὶ ἀριθμῷ ἀφωρισμένοι (ὥσπερ οὐδὲ τῶν ἐνταῦθα γραμμάτων ἀριθμῷ μὲν πάντων οὐκ εἰσίν αἱ ἀρχαὶ ὠρισμένοι,
 20 εἶδει δέ—ἐὰν μὴ λαμβάνῃ τις τησδι τῆς συλλαβῆς ἢ τησδι τῆς φωνῆς· τούτων δ' ἔσονται καὶ ἀριθμῷ ὠρισμένοι—ὁμοίως δὲ καὶ ἐπὶ τῶν μεταξύ· ἅπειρα γὰρ κακεῖ τὰ ὁμοειδῆ), ὥστ' εἰ μὴ ἔστι παρά τὰ αἰσθητὰ καὶ τὰ μαθηματικὰ ἕτερ' ἅττα οἷα λέγουσι τὰ εἶδη τινές, οὐκ ἔσται μία ἀριθμῷ καὶ
 25 εἶδει οὐσία, οὐδ' αἱ ἀρχαὶ τῶν ὄντων ἀριθμῷ ἔσονται ποσαὶ τινες ἀλλὰ εἶδει. εἰ οὖν τοῦτο ἀναγκαῖον, καὶ τὰ εἶδη ἀναγκαῖον διὰ τοῦτο εἶναι τιθέναί. καὶ γὰρ εἰ μὴ καλῶς διαρθροῦσιν οἱ λέγοντες, ἀλλ' ἔστι γε τοῦθ' ὁ βούλονται, καὶ ἀνάγκη ταῦτα λέγειν αὐτοῖς, ὅτι τῶν εἰδῶν οὐσία
 30 τις ἕκαστόν ἐστι, καὶ οὐθὲν κατὰ συμβεβηκός. ἀλλὰ μὴν εἴ γε θήσομεν τὰ τε εἶδη εἶναι, καὶ ἐν ἀριθμῷ τὰς ἀρχὰς ἀλλὰ μὴ εἶδει, εἰρήκαμεν ἂ συμβαίνειν ἀναγκαῖον ἀδύνατα. Σύνεγγυς δὲ τούτων ἔστι τὸ διαπορῆσαι πότερον δυνάμει ἔστι

^a For arguments against the substantiality of numbers and mathematical objects see XIII. i.-iii., vi.-ix.; XIV. i.-iii., v., vi.

^b Cf. ch. ii. 20 seqq.

^c Ch. iv. 9, 10.

^d This problem is not stated in ch. i., but is akin to problems v. and viii., which see.

planes, for the argument is the same; they are all similarly either limits or divisions.^a

VI. In general one might wonder why we should seek for other entities apart from sensible things and the Intermediates:^b e.g., for the Forms which we Platonists assume. If it is for the reason that the 2 objects of mathematics, while differing from the things in our world in another respect, resemble them in being a plurality of objects similar in form, so that their principles cannot be numerically determined (just as the principles of all language in this world of ours are determinate not in number but in kind—unless one takes such and such a particular syllable or sound, for the principles of these are determinate in number too—and similarly with the 3 Intermediates, for in their case too there is an infinity of objects similar in form), then if there is not another set of objects apart from sensible and mathematical objects, such as the Forms are said to be, there will be no substance which is one both in kind and in number, nor will the principles of things be determinate in number, but in kind only. Thus if this 4 is necessarily so, it is necessary for this reason to posit the Forms also. For even if their exponents do not articulate their theory properly, still this is what they are trying to express, and it must be that they maintain the Forms on the ground that each of them is a substance, and none of them exists by accident. On the other hand, if we are to assume that the Forms 5 exist, and that the first principles are one in number but not in kind, we have already stated^c the impossible consequences which must follow.^d

(xii.) Closely connected with these questions is the problem whether the elements exist potentially

All these things are limits or divisions.

Should we suppose that the Forms exist? If the principles of sensible and mathematical objects are limited only in kind and not in number,

and if the principles must be limited in number, then there must be Forms.

But we have seen the impossibilities involved if the principles are limited in number.

1002 b τὰ στοιχεῖα ἢ τιν¹ ἕτερον τρόπον. εἰ μὲν γὰρ
 1003 a ἄλλως πως,² πρότερόν τι ἔσται τῶν ἀρχῶν ἄλλο.
 πρότερον γὰρ ἢ δύναμις ἐκείνης τῆς αἰτίας, τὸ
 δὲ δυνατόν οὐκ ἀναγκαῖον ἐκείνως πᾶν ἔχειν. εἰ
 δ' ἔστι δυνάμει τὰ στοιχεῖα, ἐνδέχεται μὴθὲν εἶναι
 τῶν ὄντων· δυνατόν γὰρ εἶναι καὶ τὸ μήπω ὄν·
 5 γίγνεται μὲν γὰρ τὸ μὴ ὄν, οὐθὲν δὲ γίγνεται τῶν
 εἶναι ἀδυνάτων. Ταύτας τε οὖν τὰς ἀπορίας
 ἀναγκαῖον ἀπορῆσαι περὶ τῶν ἀρχῶν, καὶ πότερον
 καθόλου εἰσὶν ἢ ὡς λέγομεν τὰ καθ' ἕκαστα. εἰ
 μὲν γὰρ καθόλου, οὐκ ἔσονται οὐσίαι· οὐθὲν γὰρ
 τῶν κοινῶν τόδε τι σημαίνει, ἀλλὰ τοιόνδε, ἢ δ'
 10 οὐσία τόδε τι. εἰ δ' ἔσται τόδε τι καὶ ἐν θέσθαι³
 τὸ κοινῇ κατηγορούμενον, πολλὰ ἔσται ζῶα ὁ
 Σωκράτης, αὐτός τε καὶ ὁ ἄνθρωπος καὶ τὸ ζῶον,
 εἴπερ σημαίνει ἕκαστον τόδε τι καὶ ἐν. εἰ μὲν
 οὖν καθόλου αἱ ἀρχαί, ταῦτα συμβαίνει· εἰ δὲ μὴ
 καθόλου, ἀλλ' ὡς τὰ καθ' ἕκαστα, οὐκ ἔσονται
 15 ἐπιστήται· καθόλου γὰρ ἢ ἐπιστήμη⁴ πάντων.
 ὥστ' ἔσονται ἀρχαί ἕτεραι πρότεραι τῶν ἀρχῶν
 αἱ καθόλου κατηγορούμεναι, ἄνπερ μέλλῃ ἔσεσθαι
 αὐτῶν ἐπιστήμη.

¹ τιν' recc.² πῶς EA^b.³ ἐν θέσθαι Richards: ἐκθέσθαι.⁴ αἱ ἐπιστήμαι E.J.

° For the relation of potentiality to actuality see IX. i.-ix.

or in some other sense. If in some other sense, there 6
 will be something else prior to the first principles. (xii.) If the
 For the potentiality is prior to the actual cause, and elements
 the potential need not necessarily always become exist.
 actual. On the other hand, if the elements exist otherwise
 potentially, it is possible for nothing to exist; for than poten-
 even that which does not yet exist is capable of tially, there
 existing. That which does not exist may come to will be some-
 be, but nothing which cannot exist comes to be.^a thing prior
 to the first
 principle. If
 potentially,

(xi.) Besides the foregoing problems about the 7
 first principles we must also raise the question whether it is possible
 they are universal or such as we describe the partic- for nothing
 ulars to be. For if they are universal, there will be to exist.
 no substances; for no common term denotes an (xi.) If the
 individual thing, but a type; and substance is an principles
 are
 individual thing. But if the common predicate be 8
 hypostatized as an individual thing, Socrates will they cannot
 be several beings: himself, and Man, and Animal— be sub-
 that is, if each predicate denotes one particular thing. stances.
 These then are the consequences if the principles 9
 are universal. If on the other hand they are not If they are
 universal but like particulars, they will not be know- individuals,
 able; for the knowledge of everything is universal. they cannot
 Hence there will have to be other universally pre- be known.
 dicated principles prior to the first principles, if there
 is to be any knowledge of them.^b

The second point raised in this connexion in ch. i. is not dis-
 cussed here; for actuality and motion see XII. vi., vii.

^b For the answer to this problem see VII. xiii.-xv., XIII. x.

1003 a

I. Ἔστιν ἐπιστήμη τις ἣ θεωρεῖ τὸ ὄν ἢ ὄν καὶ τὰ τούτῳ ὑπάρχοντα καθ' αὐτό. αὕτη δ' ἐστὶν οὐδεμιᾶ τῶν ἐν μέρει λεγομένων ἢ αὐτῆ· οὐδεμία γὰρ τῶν ἄλλων ἐπισκοπεῖ καθόλου περὶ τοῦ ὄντος 25 ἢ ὄν, ἀλλὰ μέρος αὐτοῦ τι ἀποτεμόμεναι περὶ τούτου θεωροῦσι τὸ συμβεβηκός, οἷον αἱ μαθηματικαὶ τῶν ἐπιστημῶν. ἐπεὶ δὲ τὰς ἀρχὰς καὶ τὰς ἀκροτάτας αἰτίας ζητοῦμεν, δῆλον ὡς φύσεώς τινος αὐτὰς ἀναγκαῖον εἶναι καθ' αὐτήν. εἰ ὄν καὶ οἱ τὰ στοιχεῖα τῶν ὄντων ζητοῦντες ταύτας 30 τὰς ἀρχὰς ἐζήτουν, ἀνάγκη καὶ τὰ στοιχεῖα τοῦ ὄντος εἶναι μὴ κατὰ συμβεβηκός, ἀλλ' ἢ ὄν¹. διὸ καὶ ἡμῖν τοῦ ὄντος ἢ ὄν τὰς πρώτας αἰτίας ληπτέον.

II. Τὸ δὲ ὄν λέγεται μὲν πολλαχῶς, ἀλλὰ πρὸς ἐν καὶ μίαν τινὰ φύσιν, καὶ οὐχ ὁμωνύμως ἀλλ' 35 ὡσπερ καὶ τὸ ὑγιεινὸν ἅπαν πρὸς ὑγίειαν, τὸ μὲν τῷ φυλάττειν, τὸ δὲ τῷ ποιεῖν, τὸ δὲ τῷ σημείον 1003 b εἶναι τῆς ὑγείας, τὸ δ' ὅτι δεκτικὸν αὐτῆς· καὶ τὸ ἰατρικὸν πρὸς ἰατρικὴν (τὸ μὲν γὰρ τῷ ἔχειν τὴν ἰατρικὴν λέγεται ἰατρικόν, τὸ δὲ τῷ εὐφύες εἶναι πρὸς αὐτήν, τὸ δὲ τῷ ἔργον εἶναι τῆς ἰατρικῆς), ὁμοιοτρόπως δὲ καὶ ἄλλα ληψόμεθα λεγόμενα 5 τούτοις. οὕτω δὲ καὶ τὸ ὄν λέγεται πολλαχῶς

¹ ὄν ὄντα E.J.

I. There is a science which studies Being *qua* Being, and the properties inherent in it in virtue of its own nature. This science is not the same as any of the so-called particular sciences, for none of the others contemplates Being generally *qua* Being; they divide off some portion of it and study the attribute of this portion, as do for example the mathematical sciences. But since it is for the first 2 principles and the most ultimate causes that we are searching, clearly they must belong to something in virtue of its own nature. Hence if these principles were investigated by those also who investigated the elements of existing things, the elements must be elements of Being not incidentally, but *qua* Being. Therefore it is of Being *qua* Being that we too must grasp the first causes.

II. The term "being" is used in various senses, All the senses of the term "being" refer to substance; therefore we must study the principles of substance. but with reference to one central idea and one definite characteristic, and not as merely a common epithet. Thus as the term "healthy" always relates to health (either as preserving it or as producing it or as indicating it or as receptive of it), and as "medical" 2 relates to the art of medicine (either as possessing it or as naturally adapted for it or as being a function of medicine)—and we shall find other terms used similarly to these—so "being" is used in various senses, 3

1003 b

μέν, ἀλλ' ἅπαν πρὸς μίαν ἀρχήν· τὰ μὲν γὰρ
 ὅτι οὐσίαι ὄντα λέγεται, τὰ δ' ὅτι πάθη οὐσίας, τὰ
 δ' ὅτι ὁδὸς εἰς οὐσίαν, ἢ φθοραὶ ἢ στερήσεις ἢ
 ποιότητες ἢ ποιητικὰ ἢ γεννητικὰ οὐσίας, ἢ τῶν
 πρὸς τὴν οὐσίαν λεγομένων, ἢ τούτων τινὸς
 10 ἀποφάσεις ἢ οὐσίας· διὸ καὶ τὸ μὴ ὄν εἶναι μὴ
 ὄν φαμέν. καθάπερ οὖν καὶ τῶν ὑγιεινῶν ἀπάν-
 των μία ἐπιστήμη ἐστίν, ὁμοίως τοῦτο καὶ ἐπὶ
 τῶν ἄλλων. οὐ γὰρ μόνον τῶν καθ' ἓν λεγομένων
 ἐπιστήμης ἐστὶ θεωρῆσαι μιᾶς, ἀλλὰ καὶ τῶν
 πρὸς μίαν λεγομένων φύσιν· καὶ γὰρ ταῦτα τρόπον
 15 τινὰ λέγονται¹ καθ' ἓν. δῆλον οὖν ὅτι καὶ τὰ
 ὄντα μιᾶς θεωρῆσαι ἢ ὄντα. πανταχοῦ δὲ κυρίως
 τοῦ πρώτου ἢ ἐπιστήμη, καὶ ἐξ οὗ τὰ ἄλλα
 ἤρτηται, καὶ δι' ὃ λέγονται. εἰ οὖν τοῦτ' ἐστὶν ἢ
 οὐσία, τῶν οὐσιῶν ἂν δέοι τὰς ἀρχὰς καὶ τὰς
 αἰτίας ἔχειν τὸν φιλόσοφον. Ἄπαντος δὲ γένους
 20 καὶ αἰσθησις μία ἐνὸς καὶ ἐπιστήμη, οἷον² γραμ-
 ματικὴ μία οὐσα πάσας θεωρεῖ τὰς φωνάς. διὸ
 καὶ τοῦ ὄντος ἢ ὄν³ ὅσα εἶδη θεωρῆσαι μιᾶς ἐστὶν
 ἐπιστήμης τῷ γένει, τὰ τε εἶδη τῶν εἰδῶν.
 Εἰ δὴ τὸ ὄν καὶ τὸ ἐν⁴ ταῦτόν καὶ μία φύσις, τῷ
 ἀκολουθεῖν ἀλλήλοις ὡσπερ ἀρχὴ καὶ αἴτιον, ἀλλ'
 25 οὐχ ὡς ἐνὶ λόγῳ δηλούμενα (διαφέρει δὲ οὐθέν

¹ λέγεται EJ.² οἷον: οἷον ἢ A^b.³ ἢ ὄν A^b J²: om. EJ¹.⁴ τὸ ὄν καὶ τὸ ἐν: τὸ ἐν καὶ τὸ ὄν A^b.

but always with reference to one principle. For some
 things are said to "be" because they are sub-
 stances; others because they are modifications of
 substance; others because they are a process to-
 wards substance, or destructions or privations or
 qualities of substance, or productive or generative
 of substance or of terms relating to substance, or
 negations of certain of these terms or of substance.
 (Hence we even say that not-being is not-being.)
 And so, just as there is one science of all healthy
 things, so it is true of everything else. For it is not
 only in the case of terms which express one common
 notion that the investigation belongs to one science,
 but also in the case of terms which relate to one
 particular characteristic; for the latter too, in a sense,
 express one common notion. Clearly then the study
 of things which *are*, *qua* being, also belongs to one
 science. Now in every case knowledge is principally
 5 concerned with that which is primary, *i.e.* that upon
 which all other things depend, and from which they
 get their names. If, then, substance is this primary
 thing, it is of substances that the philosopher must
 grasp the first principles and causes.

Now of every single class of things, as there is one
 perception, so there is one science: *e.g.*, grammar,
 which is one science, studies all articulate sounds.
 Hence the study of all the species of Being *qua* Being
 6 belongs to a science which is generically one, and the
 study of the several species of Being belongs to the
 specific parts of that science.

Now if Being and Unity are the same, *i.e.* a single
 nature, in the sense that they are associated as
 principle and cause are, and not as being denoted by
 the same definition (although it makes no difference

Metaphysics
 studies all
 the species
 of Being.

6

Since Being
 and Unity,
 as predi-
 cates, are
 always asso-
 ciated, Meta-
 physics

1003 b οὐδ' ἂν ὁμοίως ὑπολάβωμεν, ἀλλὰ καὶ πρὸ ἔργου
 μᾶλλον· ταῦτό γὰρ εἰς ἄνθρωπος καὶ ἄνθρωπος¹
 καὶ ὢν ἄνθρωπος καὶ ἄνθρωπος, καὶ οὐχ ἕτερόν
 τι δηλοῖ κατὰ τὴν λέξιν ἐπαναδιπλούμενον τὸ
 εἰς ἄνθρωπος καὶ εἰς ὢν² ἄνθρωπος (δηλον δ'
 30 ὅτι οὐ χωρίζεται οὐτ' ἐπὶ γενέσεως οὐτ' ἐπὶ
 φθορᾶς), ὁμοίως δὲ καὶ ἐπὶ τοῦ ἐνός, ὥστε φανερόν
 ὅτι ἢ πρόσθεσις ἐν τούτοις ταῦτό δηλοῖ, καὶ οὐδὲν
 ἕτερον τὸ ἐν παρὰ τὸ ὄν, ἔτι δ' ἢ ἐκάστου οὐσία
 ἐν ἐστίν οὐ κατὰ συμβεβηκός, ὁμοίως δὲ καὶ
 ὅπερ ὄν τι—ὥσθ' ὅσα περ τοῦ ἐνός εἶδη, τοσαῦτα
 35 καὶ τοῦ ὄντος,³ περὶ ὧν τὸ τί ἐστι τῆς αὐτῆς
 ἐπιστήμης τῷ γένει θεωρῆσαι, λέγω δ' οἶον περὶ
 ταυτοῦ καὶ ὁμοίου καὶ τῶν ἄλλων τῶν τοιούτων·
 1004 a σχεδὸν δὲ πάντα ἀνάγεται τάναντία εἰς τὴν
 ἀρχὴν ταύτην· τεθεωρήσθω δ' ἡμῖν ταῦτα ἐν τῇ
 ἐκλογῇ τῶν ἐναντίων. Καὶ τοσαῦτα μέρη φιλο-
 σοφίας ἐστὶν ὅσαι περ αἱ οὐσίαι· ὥστε ἀναγκαῖον
 5 εἶναι τινα πρώτην⁴ καὶ ἐχομένην αὐτῶν. ὑπάρχει
 γὰρ εὐθύς γένη ἔχοντα τὸ ὄν καὶ τὸ ἐν⁵. διὸ καὶ
 αἱ ἐπιστήμαι ἀκολουθήσουσι τούτοις. ἔστι γὰρ
 ὁ φιλόσοφος ὥσπερ ὁ μαθηματικὸς λεγόμενος·
 καὶ γὰρ αὕτη ἔχει μέρη, καὶ πρώτη τις καὶ δευτέρα
 ἐστὶν ἐπιστήμη καὶ ἄλλαι ἐφεξῆς ἐν τοῖς μαθη-
 μασι.

10 Ἐπεὶ δὲ μιᾶς τάντικείμενα θεωρῆσαι, τῷ δ'

¹ καὶ ἄνθρωπος A^b Al.: om. E.J.

² εἰς ἄνθρωπος καὶ εἰς ὢν Ross: εἰς ἐστὶν ἄνθρωπος καὶ ἐστὶν A^b.

³ ὄντος ἐστὶν E.J.

⁴ πρώτην τινὰ A^b.

⁵ τὸ ὄν καὶ τὸ ἐν: τὸ ἐν καὶ τὸ ὄν A^b: καὶ τὸ ἐν incl. Natorp.

but rather helps our argument if we understand them
 in the same sense), since "one man" and "man" ⁷
 and "existent man" and "man" are the same thing, i.e. the duplication in the statement "he is a
 man and an *existent* man" gives no fresh meaning ^{must study the species of Unity.}
 (clearly the concepts of humanity and existence are
 not dissociated in respect of either coming to be or
 ceasing to be), and similarly in the case of the term
 "one," so that obviously the additional term in
 these phrases has the same significance, and Unity is
 nothing distinct from Being; and further if the ⁸
 substance of each thing is one in no accidental sense,
 and similarly is of its very nature something which
 is—then there are just as many species of Being as of
 Unity. And to study the essence of these species
 (I mean, e.g., the study of Same and Other and all
 the other similar concepts—roughly speaking all the ⁹
 "contraries" are reducible to this first principle;
 but we may consider that they have been sufficiently
 studied in the "Selection of Contraries" ^a) is the
 province of a science which is generically one.

And there are just as many divisions of philo-
 sophy as there are kinds of substance; so that
 there must be among them a First Philosophy and
 one which follows upon it. For Being and Unity ¹⁰
 at once entail genera, and so the sciences will cor-
 respond to these genera. The term "philosopher"
 is like the term "mathematician" in its uses; for
 mathematics too has divisions,—there is a primary
 and a secondary science, and others successively, in
 the realm of mathematics.

Now since it is the province of one science to study ¹¹

^a It is uncertain to what treatise Aristotle refers; in any case it is not extant.

1004 a ἐνὶ ἀντίκειται πλήθος, ἀπόφασιν δὲ καὶ στέρησιν
 μιᾶς ἐστὶ θεωρήσαι διὰ τὸ ἀμφοτέρως θεωρεῖσθαι
 τὸ ἔν, οὐδ' ἢ ἀπόφασιν (ἢ ἢ στέρησιν) ἢ ἀπλῶς
 λεγομένη ὅτι οὐχ ὑπάρχει ἐκεῖνο,¹ ἢ τινὶ γένει·
 25 ἔνθα μὲν οὖν τῷ ἐνὶ ἢ διαφορὰ πρόσεστι παρὰ
 τὸ ἐν τῇ ἀποφάσει (ἀπουσία γὰρ ἢ ἀπόφασιν
 ἐκεῖνου ἐστίν), ἐν δὲ τῇ στέρησει καὶ ὑποκειμένη
 τις φύσις γίνεσθαι, καθ' ἣς λέγεται ἢ στέρησις.
 τῷ δ' ἐνὶ πλήθος ἀντίκειται, ὥστε καὶ τάντικεί-
 20 μενα τοῖς εἰρημένους, τό τε ἕτερον καὶ ἀνόμοιον
 καὶ ἄνισον, καὶ ὅσα ἄλλα λέγεται ἢ κατὰ ταῦτα
 ἢ κατὰ πλήθος καὶ τὸ ἔν, τῆς εἰρημένης γνωρίζειν
 ἐπιστήμης· ὧν ἐστὶ καὶ ἢ ἐναντιότης· διαφορὰ
 γὰρ τις ἢ ἐναντιότης, ἢ δὲ διαφορὰ ἕτερότης.
 ὥστ' ἐπειδὴ πολλαχῶς τὸ ἐν λέγεται, καὶ ταῦτα
 πολλαχῶς μὲν λεχθήσεται, ὁμῶς δὲ μιᾶς ἅπαντά
 25 ἐστὶ γνωρίζειν· οὐ γὰρ εἰ πολλαχῶς, ἕτερας, ἀλλ'
 εἰ μήτε καθ' ἐν μήτε πρὸς ἐν οἱ λόγοι ἀνα-
 φέρονται. ἐπεὶ δὲ πάντα πρὸς τὸ πρῶτον ἀνα-
 φέρεται, οἷον ὅσα ἐν λέγεται πρὸς τὸ πρῶτον ἔν,
 ὡσαύτως φατέον καὶ περὶ ταύτου καὶ ἕτερου καὶ
 τῶν ἐναντίων ἔχειν· ὥστε διελόμενον ποσαχῶς
 30 λέγεται ἕκαστον οὕτως ἀποδοτέον πρὸς τὸ πρῶτον
 ἐν ἐκάστη κατηγορίᾳ, πῶς πρὸς ἐκεῖνο λέγεται·
 τὰ μὲν γὰρ τῷ ἔχειν ἐκεῖνο,² τὰ δὲ τῷ ποιεῖν, τὰ δὲ
 κατ' ἄλλους λεχθήσεται τοιούτους τρόπους.

¹ ἢ Γ: ἢ ἢ E²J: ἢ E¹A^b Asclepius: ἢ γὰρ ἄ. λέγομεν ex Alexandro Schwegler.

² ἐκεῖνο E¹ Alexander: ἐκεῖνο A^bJ et fecit E.

³ ἐκεῖνα recc.

opposites, and the opposite of unity is plurality, and it is the province of one science to study the negation and privation of Unity, because in both cases we are studying Unity, to which the negation (or privation) refers, stated either in the simple form that Unity is not present, or in the form that it is not present in a particular class; in the latter case Unity is modified by the differentia, apart from the content of the negation (for the negation of Unity is its absence); but in privation there is a substrate of which the privation is predicated.—The opposite of Unity, then, 12 is Plurality; and so the opposites of the above-mentioned concepts—Otherness, Dissimilarity, Inequality and everything else which is derived from these or from Plurality or Unity—fall under the cognizance of the aforesaid science. And one of them is Oppositeness; for this is a form of Difference, and Difference is a form of Otherness. Hence since 13 the term "one" is used in various senses, so too will these terms be used; yet it pertains to one science to take cognizance of them all. For terms fall under different sciences, not if they are used in various senses, but if their definitions are neither identical nor referable to a common notion. And since every- 14 thing is referred to that which is primary, e.g. all things which are called "one" are referred to the primary "One," we must admit that this is also true of Identity and Otherness and the Contraries. Thus we must first distinguish all the senses in which each term is used, and then attribute them to the primary in the case of each predicate, and see how they are related to it; for some will derive their name from possessing and others from producing it, and others for similar reasons.

Since opposites are studied by the same science, and Metaphysics studies the species of Unity, it will also study the species of Plurality.

1004 a Φανερόν οὖν [ὅπερ ἐν ταῖς ἀπορίαις ἐλέχθη]¹ ὅτι
 μᾶς περὶ τούτων καὶ τῆς οὐσίας ἐστὶ λόγον ἔχειν
 (τοῦτο δ' ἦν ἐν τῶν ἐν τοῖς ἀπορήμασιν), καὶ
 1004 b ἐστὶ τοῦ φιλοσόφου περὶ πάντων δύνασθαι θεωρεῖν.
 εἰ γὰρ μὴ τοῦ φιλοσόφου, τίς ἐστὶ ὁ ἐπισκε-
 ψόμενος εἰ ταῦτ' Ἰωκράτης καὶ Σωκράτης καθ-
 ἦμενος, ἢ εἰ ἐν ἐνὶ ἐναντίον, ἢ τί ἐστὶ τὸ ἐναντίον,
 ἢ ποσαχῶς λέγεται; ὁμοίως δὲ καὶ περὶ τῶν
 5 ἄλλων τῶν τοιούτων. ἐπεὶ οὖν τοῦ ἐνός ἢ ἐν καὶ
 τοῦ ὄντος ἢ ὄν ταῦτα καθ' αὐτά ἐστι πάθη, ἀλλ'
 οὐχ' ἢ ἀριθμοὶ ἢ γραμμαὶ ἢ πῦρ, δῆλον ὡς ἐκείνης
 τῆς ἐπιστήμης καὶ τί ἐστὶ γνωρίσαι καὶ τὰ συμ-
 βεβηκότ' αὐτοῖς. καὶ οὐ ταύτη ἀμαρτάνουσι οἱ
 περὶ αὐτῶν σκοποῦμενοι ὡς οὐ φιλοσοφοῦντες, ἀλλ'
 10 ὅτι πρότερον ἢ οὐσία, περὶ ἧς οὐθὲν ἐπαίουσιν,
 ἐπεὶ ὡς περὶ ἐστὶ καὶ ἀριθμοῦ ἢ ἀριθμὸς ἴδια πάθη,
 οἷον περιττότης ἀρτιότης, συμμετρία ἰσότης,
 ὑπεροχὴ ἔλλειψις, καὶ ταῦτα καὶ καθ' αὐτοὺς καὶ
 πρὸς ἀλλήλους ὑπάρχει τοῖς ἀριθμοῖς· ὁμοίως δὲ
 καὶ στερεῶ καὶ ἀκινήτῳ καὶ κινουμένῳ ἀβαρεῖ τε
 15 καὶ βάρους ἔχοντι ἐστὶν ἕτερα ἴδια· οὕτω καὶ τῶ
 ὄντι ἢ ὄν ἐστὶ τινὰ ἴδια, καὶ ταῦτ' ἐστὶ περὶ ὧν
 τοῦ φιλοσόφου ἐπισκέψασθαι τὸ ἀληθές. σημεῖον
 δέ· οἱ γὰρ διαλεκτικοὶ καὶ σοφισταὶ τὸ αὐτὸ μὲν
 ὑποδύονται σχῆμα τῶ φιλοσόφῳ· ἢ γὰρ σοφιστικὴ
 φαινομένη μόνον σοφία ἐστὶ, καὶ οἱ διαλεκτικοὶ
 20 διαλέγονται περὶ ἀπάντων, κοινὸν δὲ πᾶσι τὸ ὄν
 ἐστὶ· διαλέγονται δὲ περὶ τούτων δῆλον ὅτι διὰ

¹ ὅπερ . . . ἐλέχθη E¹J: om. E²A^b.

Thus clearly it pertains to one science to give an 15
 account both of these concepts and of substance (this
 was one of the questions raised in the "Difficulties"^a),
 and it is the function of the philosopher to be able to
 study all subjects. If this is not so, who is it who 16
 will investigate whether "Socrates" and "Socrates
 seated" are the same thing; or whether one thing
 has one contrary, or what the contrary is, or how
 many meanings it has? ^b and similarly with all other
 such questions. Thus since these are the essential 17
 modifications of Unity *qua* Unity and of Being *qua*
 Being, and not *qua* numbers or lines or fire, clearly it
 not only Being, but also its proper attributes. 18
 pertains to that science^c to discover both the essence
 and the attributes of these concepts. And those who
 investigate them err, not in being unphilosophical,
 but because the substance, of which they have no
 real knowledge, is prior. For just as number *qua*
 number has its peculiar modifications, e.g. oddness and
 evenness, commensurability and equality, excess and
 defect, and these things are inherent in numbers
 both considered independently and in relation to
 other numbers; and as similarly other peculiar
 modifications are inherent in the solid and the im-
 movable and the moving and the weightless and that
 which has weight; so Being *qua* Being has certain
 peculiar modifications, and it is about these that it
 is the philosopher's function to discover the truth.
 And here is evidence of this fact. Dialecticians and 19
 sophists wear the same appearance as the philo-
 sopher, for sophistry is Wisdom in appearance only,
 and dialecticians discuss all subjects, and Being is a
 subject common to them all; but clearly they discuss
 This is shown by the fact that Dialectic and Sophistry,

^a See III. i. 8-10, ii. 18, 19.

^b Cf. X. iv.

^c i.e., Philosophy or Metaphysics.

1004^b τὸ τῆς φιλοσοφίας ταῦτα εἶναι¹ οἰκεῖα. περὶ μὲν γὰρ τὸ αὐτὸ γένος στρέφεται ἡ σοφιστικὴ καὶ ἡ διαλεκτικὴ τῇ φιλοσοφίᾳ, ἀλλὰ διαφέρει τῆς μὲν 25 τῷ τρόπῳ τῆς δυνάμεως, τῆς δὲ τοῦ βίου τῇ προαιρέσει. ἔστι δὲ ἡ διαλεκτικὴ πειραστικὴ περιῶν ἢ φιλοσοφία γνωριστικὴ, ἢ δὲ σοφιστικὴ φαινομένη, οὐσα δ' οὐ. Ἔτι τῶν ἐναντίων ἢ ἐτέρα συστοιχία στέρησις, καὶ πάντα ἀνάγεται εἰς τὸ ὄν καὶ τὸ μὴ ὄν, καὶ εἰς² ἓν καὶ πλῆθος, οἷον στάσις τοῦ ἐνός, κίνησις δὲ τοῦ πλῆθους. τὰ 30 δ' ὄντα καὶ τὴν οὐσίαν ὁμολογοῦσιν ἐξ ἐναντίων σχεδὸν ἅπαντες συγκείσθαι. πάντες γοῦν τὰς ἀρχὰς ἐναντίας λέγουσιν. οἱ μὲν γὰρ περιττὸν καὶ ἄρτιον, οἱ δὲ θερμὸν καὶ ψυχρὸν, οἱ δὲ πέρασ καὶ ἄπειρον, οἱ δὲ φιλίαν καὶ νεῖκος. πάντα δὲ καὶ τᾶλλα ἀναγόμενα φαίνεται εἰς τὸ ἓν καὶ πλῆθος 1005^a (εἰλήφθω γὰρ ἡ ἀναγωγὴ ἡμῶν), αἱ δ' ἀρχαὶ καὶ παντελῶς αἱ παρὰ τῶν ἄλλων ὡς εἰς γένη ταῦτα πίπτουσι. φανερόν οὖν καὶ ἐκ τούτων ὅτι μιᾶς ἐπιστήμης τὸ ὄν ἢ ὄν θεωρῆσαι. πάντα γὰρ ἢ ἐναντία ἢ ἐξ ἐναντίων, ἀρχαὶ δὲ τῶν ἐναντίων τὸ 5 ἓν καὶ πλῆθος. ταῦτα δὲ μιᾶς ἐπιστήμης, εἴτε καθ' ἓν λέγεται εἴτε μὴ, ὡς περ ἴσως ἔχει καὶ τάληθές· ἀλλ' ὁμως εἰ καὶ πολλαχῶς λέγεται τὸ ἓν, πρὸς τὸ πρῶτον τᾶλλα λεχθήσεται καὶ τὰ ἐναντία ὁμοίως, [καὶ διὰ τοῦτο]³ καὶ εἰ μὴ ἔστι τὸ ὄν ἢ 10 τὸ ἓν καθόλου καὶ ταῦτ' ἐπὶ πάντων ἢ χωριστόν, ὡς περ ἴσως οὐκ ἔστιν, ἀλλὰ τὰ μὲν πρὸς ἓν τὰ

¹ ταῦτα εἶναι: εἶναι αὐτὰ EJ.

² εἰς EJ: om. A^b. ³ καὶ διὰ τοῦτο om. A^b.

^a The Pythagoreans.

^b Perhaps Parmenides.

^c The Platonists.

^d Empedocles.

these concepts because they appertain to philosophy. For sophistry and dialectic are concerned with the 20 same class of subjects as philosophy, but philosophy differs from the former in the nature of its capability and from the latter in its outlook on life. Dialectic treats as an exercise what philosophy tries to understand, and sophistry seems to be philosophy, but is not.

Further, the second column of contraries is privative, and everything is reducible to Being and Not-being, and Unity and Plurality; e.g. Rest falls under Unity and Motion under Plurality. And nearly everyone agrees that substance and existing things are composed of contraries; at any rate all speak of the first principles as contraries—some as Odd and 22 Even,^a some as Hot and Cold,^b some as Limit and Unlimited,^c some as Love and Strife.^d And it is apparent that all other things also are reducible to Unity and Plurality (we may assume this reduction); and the principles adduced by other thinkers fall entirely under these as genera. It is clear, then, 23 from these considerations also, that it pertains to a single science to study Being *qua* Being; for all things are either contraries or derived from contraries, and the first principles of the contraries are Unity and Plurality. And these belong to one science, whether they have reference to one common notion or not. Probably the truth is that they have not; but nevertheless even if the term "one" is used in various senses, the others will be related to the primary sense (and similarly with the contraries)—even 24 if Being or Unity is not a universal and the same in all cases, or is not separable from particulars (as it presumably is not; the unity is in some cases one

which treat of the same subjects as Philosophy, although in a different way, are concerned with the

attributes of Being. Since all things are contraries or composed of contraries,

and all contraries can be referred to Unity or Being and its priva-

tion, this also shows that Being *qua* Being is the subject of one science.

1005^a δὲ τῷ ἐφεξῆς· καὶ διὰ τοῦτο οὐ τοῦ γεωμέτρου θεωρήσαι τί τὸ ἐναντίον ἢ τέλειον ἢ ἐν ἢ ὄν¹ ἢ ταυτὸν ἢ ἕτερον, ἀλλ' ἢ ἐξ ὑποθέσεως. Ὅτι μὲν οὖν μιᾶς ἐπιστήμης τὸ ὄν ἢ ὄν θεωρήσαι, καὶ τὰ ὑπάρχοντα αὐτῷ ἢ ὄν, δηλον, καὶ ὅτι οὐ μόνον τῶν οὐσιῶν ἀλλὰ καὶ τῶν ὑπαρχόντων ἢ αὐτῇ θεωρητικῇ, τῶν τε εἰρημένων καὶ περὶ προτέρου καὶ ὑστέρου, καὶ γένους καὶ εἶδους, καὶ ὅλου καὶ μέρους καὶ τῶν ἄλλων τῶν τοιούτων.

III. Λεκτέον δὲ πότερον μιᾶς ἢ ἑτέρας ἐπιστήμης 20 περὶ τε τῶν ἐν τοῖς μαθήμασι καλουμένων ἀξιωμαίων καὶ περὶ τῆς οὐσίας. φανερόν δὲ ὅτι μιᾶς τε καὶ τῆς τοῦ φιλοσόφου καὶ ἢ περὶ τούτων ἐστὶ σκέψις· ἅπασιν γὰρ ὑπάρχει τοῖς οὐσιν, ἀλλ' οὐ γένοι τινὶ χωρὶς ἰδίᾳ τῶν ἄλλων. καὶ χρῶνται μὲν πάντες, ὅτι τοῦ ὄντος ἐστὶν ἢ ὄν, ἕκαστον δὲ 25 τὸ γένος ὄν. ἐπὶ τοσοῦτον δὲ χρῶνται, ἐφ' ὅσον αὐτοῖς ἰκανόν· τοῦτο δ' ἔστιν ὅσον ἐπέχει τὸ γένος περὶ οὗ φέρουσι τὰς ἀποδείξεις. ὥστ' ἐπεὶ δηλον ὅτι ἢ ὄντα ὑπάρχει πᾶσι (τοῦτο γὰρ αὐτοῖς τὸ κοινόν), τοῦ περὶ τὸ ὄν ἢ ὄν γνωρίζοντος καὶ περὶ τούτων ἐστὶν ἢ θεωρία. διόπερ οὐθεὶς τῶν κατὰ 30 μέρος ἐπισκοπούντων ἐγχειρεῖ λέγειν τι περὶ αὐτῶν, εἰ ἀληθῆ ἢ μὴ, οὔτε γεωμέτρης οὔτ' ἀριθμητικός, ἀλλὰ τῶν φυσικῶν ἔνιοι, εἰκότως τοῦτο δρῶντες· μόνοι γὰρ ᾤοντο περὶ τε τῆς ὅλης φύσεως σκοπεῖν καὶ περὶ τοῦ ὄντος. ἐπεὶ δ' ἔστιν ἔτι τοῦ φυσικοῦ τις ἀνωτέρω (ἐν γὰρ τε

¹ ἐν ἢ ὄν E.J.: ὄν ἢ ἐν A.^b.

of reference and in others one of succession). For this very reason it is not the function of the geometer to inquire what is Contrariety or Completeness or Being or Unity or Identity or Otherness, but to proceed from the assumption of them.

Clearly, then, it pertains to one science to study 25 Being *qua* Being, and the attributes inherent in it *qua* Being; and the same science investigates, besides the concepts mentioned above, Priority and Posteriority, Genus and Species, Whole and Part, and all other such concepts.

III. We must pronounce whether it pertains to the same science to study both the so-called axioms in mathematics and substance, or to different sciences. It is obvious that the investigation of these axioms too pertains to one science, namely the science of the philosopher; for they apply to all existing things, and not to a particular class separate and distinct from the rest. Moreover all thinkers employ them—because they are axioms of Being *qua* Being, and every genus possesses Being—but employ 2 them only in so far as their purposes require; *i.e.*, so far as the genus extends about which they are carrying out their proofs. Hence since these axioms apply to all things *qua* Being (for this is what is common to them), it is the function of him who studies Being *qua* Being to investigate them as well. For this reason no one who is pursuing a par- 3 ticular inquiry—neither a geometer nor an arithmetician—attempts to state whether they are true or false; but some of the physicists did so, quite naturally; for they alone professed to investigate nature as a whole, and Being. But inasmuch as there 4 is a more ultimate type of thinker than the natural

Metaphysics must also study the axioms, since they apply to all existing things.

1005 a 35 γένος τοῦ ὄντος ἢ φύσις), τοῦ καθόλου καὶ τοῦ
 1005 b περὶ τὴν πρώτην οὐσίαν θεωρητικοῦ καὶ ἢ περὶ
 τούτων ἂν εἴη σκέψις· ἔστι δὲ σοφία τις καὶ ἢ
 φυσικὴ, ἀλλ' οὐ πρώτη. ὅσα δ' ἐγχειροῦσι τῶν
 λεγόντων τινὲς περὶ τῆς ἀληθείας, ὃν τρόπον δεῖ
 ἀποδέχεσθαι, δι' ἀπαιδευσίαν τῶν ἀναλυτικῶν
 5 τοῦτο δρῶσιν· δεῖ γὰρ περὶ τούτων ἤκειν προεπι-
 σταμένους, ἀλλὰ μὴ ἀκούοντας ζητεῖν. ὅτι μὲν
 οὖν τοῦ φιλοσόφου καὶ τοῦ περὶ πάσης τῆς οὐ-
 σίας θεωροῦντος ἢ πέφυκεν, καὶ περὶ τῶν συλλογι-
 στικῶν ἀρχῶν ἐστὶν ἐπισκέψασθαι, δῆλον. προσ-
 ἤκει δὲ τὸν μάλιστα γνωρίζοντα περὶ ἕκαστον
 10 γένος ἔχειν λέγειν τὰς βεβαιωτάτας ἀρχὰς τοῦ
 πράγματος, ὥστε καὶ τὸν περὶ τῶν ὄντων ἢ
 ὄντα τὰς πάντων βεβαιωτάτας. ἔστι δ' οὗτος ὁ
 φιλόσοφος. βεβαιωτάτη δ' ἀρχὴ πασῶν περὶ ἣν
 διαψευσθῆναι ἀδύνατον· γνωριμωτάτην τε γὰρ
 ἀναγκαῖον εἶναι τὴν τοιαύτην (περὶ γὰρ ἂ μὴ
 γνωρίζουσιν ἀπατώνται πάντες) καὶ ἀνυπόθετον.
 15 ἣν γὰρ ἀναγκαῖον ἔχειν τὸν ὀτιοῦν ξυνιέντα τῶν
 ὄντων, τοῦτο οὐχ ὑπόθεσις· ὁ δὲ γνωρίζων ἀναγ-
 καῖον τῷ ὀτιοῦν γνωρίζοντι, καὶ ἤκειν ἔχοντα
 ἀναγκαῖον.

Ὅτι μὲν οὖν ἢ τοιαύτη πασῶν βεβαιωτάτη
 ἀρχή, δῆλον· τίς δ' ἔστω αὕτη, μετὰ ταῦτα
 λέγωμεν.¹ τὸ γὰρ αὐτὸ ἅμα ὑπάρχειν τε καὶ μὴ
 20 ὑπάρχειν ἀδύνατον τῷ αὐτῷ καὶ κατὰ τὸ αὐτὸ
 (καὶ ὅσα ἄλλα προσδιορισαιμέθ' ἂν, ἔστω προσ-
 διωρισμένα πρὸς τὰς λογικὰς δυσχερείας). αὕτη
 δὴ πασῶν ἐστὶ βεβαιωτάτη τῶν ἀρχῶν· ἔχει γὰρ

¹ λέγωμεν J. recc. Γ: λέγομεν EA^b.

philosopher (for nature is only a genus of Being), the investigation of these axioms too will belong to the universal thinker who studies the primary reality. Natural philosophy is a kind of Wisdom, but not the primary kind. As for the attempts of some of those 5 who discuss how the truth should be received, they are due to lack of training in logic; for they should understand these things before they approach their task, and not investigate while they are still learning. Clearly then it is the function of the philosopher, *i.e.* 6 the student of the whole of reality in its essential nature, to investigate also the principles of syllogistic reasoning. And it is proper for him who best understands each class of subject to be able to state the most certain principles of that subject; so that he who understands the modes of Being *qua* Being should be able to state the most certain principles of all things. Now this person is the philosopher, and the 7 most certain principle of all is that about which one cannot be mistaken; for such a principle must be both the most familiar (for it is about the unfamiliar that errors are always made), and not based on hypothesis. For the principle which the student of 8 any form of Being must grasp is no hypothesis; and that which a man must know if he knows anything he must bring with him to his task.

Clearly, then, it is a principle of this kind that is the most certain of all principles. Let us next state *what* this principle is. "It is impossible for the same 9 attribute at once to belong and not to belong to the same thing and in the same relation"; and we must add any further qualifications that may be necessary to meet logical objections. This is the most certain of all principles, since it possesses the required de-

The philoso-
 pher should
 be able to
 state the
 most certain
 of all
 principles.

This is the
 law of con-
 tradiction.

1005 b τὸν εἰρημένον διορισμόν. ἀδύνατον γὰρ ὄντινοῦν
ταῦτόν ὑπολαμβάνειν εἶναι καὶ μὴ εἶναι, καθάπερ
25 τινὲς οἴονται λέγειν Ἡράκλειτον· οὐκ ἔστι γὰρ
ἀναγκαῖον, ἃ τις λέγει, ταῦτα καὶ ὑπολαμβάνειν.
εἰ δὲ μὴ ἐνδέχεται ἅμα ὑπάρχειν τῷ αὐτῷ
τὰναντία (προσδιωρίσθω δ' ἡμῖν καὶ ταύτῃ τῇ
προτάσει τὰ εἰωθότα), ἐναντία δ' ἔστι δόξα δόξῃ ἢ
30 τῆς ἀντιφάσεως, φανερόν ὅτι ἀδύνατον ἅμα ὑπο-
λαμβάνειν τὸν αὐτὸν εἶναι καὶ μὴ εἶναι τὸ αὐτό·
ἅμα γὰρ ἂν ἔχοι τὰς ἐναντίας δόξας ὁ διεψευ-
σμένος περὶ τούτου. διὸ πάντες οἱ ἀποδεικνύντες
εἰς ταύτην ἀνάγουσιν ἐσχάτην δόξαν· φύσει γὰρ
ἀρχὴ καὶ τῶν ἄλλων ἀξιωματῶν αὕτη πάντων.
35 IV. Ἐἰσὶ δὲ τινες οἱ, καθάπερ εἶπομεν, αὐτοὶ τε
1006 a ἐνδέχασθαι φασὶ τὸ αὐτὸ εἶναι καὶ μὴ εἶναι, καὶ
ὑπολαμβάνειν οὕτως. χρῶνται δὲ τῷ λόγῳ τούτῳ
πολλοὶ καὶ τῶν περὶ φύσεως. ἡμεῖς δὲ νῦν
εἰλήφαμεν ὡς ἀδυνάτου ὄντος ἅμα εἶναι καὶ μὴ
5 εἶναι, καὶ διὰ τούτου ἐδείξαμεν ὅτι βεβαιοτάτη
αὕτη τῶν ἀρχῶν πασῶν. ἀξιοῦσι δὲ καὶ τοῦτο
ἀποδεικνύειν τινὲς δι' ἀπαιδευσίαν· ἔστι γὰρ
ἀπαιδευσία τὸ μὴ γινώσκειν τίνων δεῖ ζητεῖν
ἀπόδειξιν καὶ τίνων οὐ δεῖ. ὅλως μὲν γὰρ ἀπάν-
των ἀδύνατον ἀπόδειξιν εἶναι· εἰς ἄπειρον γὰρ ἂν
10 βαδίξοι, ὥστε μηδ' οὕτως εἶναι ἀπόδειξιν· εἰ δὲ
τίνων μὴ δεῖ ζητεῖν ἀπόδειξιν, τίνα ἀξιοῦσιν
εἶναι μᾶλλον τοιαύτην ἀρχὴν οὐκ ἂν ἔχοιεν εἰπεῖν.
ἔστι δ' ἀποδείξαι ἐλεγκτικῶς καὶ περὶ τούτου ὅτι

^a For examples of Heraclitus's paradoxes cf. frs. 36, 57, 59 (Bywater); and for their meaning see Burnet, *E.G.P.* § 80. sc., in logic.

^c Every proof is based upon some hypothesis, to prove

10 finition; for it is impossible for anyone to suppose that the same thing is and is not, as some imagine that Heraclitus says ^a—for what a man says does not necessarily represent what he believes. And if it 11 is impossible for contrary attributes to belong at the same time to the same subject (the usual qualifications must be added to this premiss also), and an opinion which contradicts another is contrary to it, then clearly it is impossible for the same man to suppose at the same time that the same thing is and is not; for the man who made this error would entertain two contrary opinions at the same time. Hence 12 all men who are demonstrating anything refer back to this as an ultimate belief; for it is by nature the starting-point of all the other axioms as well.

IV. There are some, however, as we have said, who both state themselves that the same thing can be and not be, and say that it is possible to hold this view. Many even of the physicists adopt this theory. But we have just assumed that it is impossible at once to be and not to be, and by this means we have proved that this is the most certain of all principles. Some, 2 indeed, demand to have the law proved, but this is because they lack education ^b; for it shows lack of education not to know of what we should require proof, and of what we should not. For it is quite impossible that everything should have a proof; the process would go on to infinity, so that even so there would be no proof.^c If on the other hand there are 3 some things of which no proof need be sought, they cannot say what principle they think to be more self-evident. Even in the case of this law, however,

which another hypothesis must be assumed, and so on *ad infinitum*.

Some thinkers deny this principle,

and others demand proof of it; but there cannot be proof of everything

Even this law, how-

1006 a ἀδύνατον, ἂν μόνον τι λέγῃ ὁ ἀμφισβητῶν· ἂν δὲ
 15 μηθέν, γελοῖον τὸ ζητεῖν λόγον πρὸς τὸν μηθενὸς
 ἔχοντα λόγον, ἢ μὴ ἔχει· ὁμοίως γὰρ φυτῶ ὁ
 τοιοῦτος ἢ τοιοῦτος ἦδη. τὸ δ' ἐλεγκτικῶς
 ἀποδείξαι λέγω διαφέρειν καὶ τὸ ἀποδείξαι, ὅτι
 ὁ ἀποδεικνύων μὲν ἂν δόξειεν αἰτεῖσθαι τὸ ἐν
 ἀρχῇ, ἄλλου δὲ τοῦ τοιούτου αἰτίου ὄντος ἔλεγχος
 ἂν εἶη καὶ οὐκ ἀποδείξις. ἀρχὴ δὲ πρὸς ἅπαντα
 20 τὰ τοιαῦτα οὐ τὸ ἀξιῶν ἢ εἶναι τι λέγειν ἢ μὴ
 εἶναι (τοῦτο μὲν γὰρ τάχ' ἂν τις ὑπολάβοι τὸ ἐξ
 ἀρχῆς αἰτεῖν), ἀλλὰ τὸ σημαίνειν γέ τι καὶ αὐτῶ
 καὶ ἄλλῳ (τοῦτο γὰρ ἀνάγκη, εἴπερ λέγοι τι· εἰ
 γὰρ μὴ, οὐκ ἂν εἶη τῶ τοιούτῳ λόγος, οὐτ' αὐτῶ
 πρὸς αὐτὸν οὔτε πρὸς ἄλλον). ἂν δέ τις τοῦτο διδῶ,
 25 ἔσται ἀπόδειξις· ἦδη γάρ τι ἔσται ὠρισμένον.
 ἀλλ' αἴτιος οὐχ ὁ ἀποδεικνύς ἀλλ' ὁ ὑπομένων·
 ἀναρῶν γὰρ λόγον ὑπομένει λόγον. ἔτι δὲ ὁ τοῦτο
 συγχωρήσας συγκεχώρηκέ τι ἀληθὲς εἶναι χωρὶς
 ἀποδείξεως [ὥστε οὐκ ἂν πᾶν οὕτως καὶ οὐχ
 οὕτως ἔχοι].¹

Πρῶτον μὲν οὖν δῆλον ὡς τοῦτό γ' αὐτὸ ἀληθές,
 30 ὅτι σημαίνει τὸ ὄνομα τὸ εἶναι ἢ μὴ εἶναι τοδί·
 ὥστ' οὐκ ἂν πᾶν οὕτως καὶ οὐχ οὕτως ἔχοι. ἔτι
 εἰ τὸ ἀνθρώπος σημαίνει ἔν, ἔστω τοῦτο τὸ
 ζῶον δίπουν. λέγω δὲ τὸ ἐν σημαίνειν τοῦτο· εἰ
 τοῦτ' ἔστιν ἀνθρώπος, ἂν ἢ τι ὁ ἀνθρώπος, τοῦτ'

¹ ὥστε . . . ἔχοι A^b: om. EJ.

we can demonstrate the impossibility by refutation, if only our opponent makes some statement. If he makes none, it is absurd to seek for an argument against one who has no arguments of his own about anything, in so far as he has none; for such a person, in so far as he is such, is really no better than a vegetable. And I say that proof by refutation differs 4 from simple proof in that he who attempts to prove might seem to beg the fundamental question, whereas if the discussion is provoked thus by someone else, refutation and not proof will result. The 5 starting-point for all such discussions is not the claim that he should state that something is or is not so (because this might be supposed to be a begging of the question), but that he should say something significant both to himself and to another (this is essential if any argument is to follow; for otherwise such a person cannot reason either with himself or with another); and if this is granted, demonstration 6 will be possible, for there will be something already defined. But the person responsible is not he who demonstrates but he who acquiesces; for though he disowns reason he acquiesces to reason. Moreover, he who makes such an admission as this has admitted the truth of something apart from demon- stration [so that not everything will be "so and not so"].

Thus in the first place it is obvious that this at any 7 rate is true: that the term "to be" or "not to be" has a definite meaning; so that not everything can be "so and not so." Again, if "man" has one 8 meaning, let this be "two-footed animal." By "has one meaning" I mean this: if X means "man," then if anything is a man, its humanity will

ever, can be demonstrated by refutation. If our opponent makes a significant statement.

The terms "to be" and "not to be" have a definite meaning. Let us as-

1006 a ἔσται τὸ ἀνθρώπῳ εἶναι. διαφέρει δ' οὐθὲν οὐδ,
 1006 b εἰ πλείω τις φαίη σημαίνειν, μόνον δὲ ὠρισμένα·
 τεθείη γὰρ ἂν ἐφ' ἐκάστῳ λόγῳ¹ ἕτερον ὄνομα.
 λέγω δ' οἷον, εἰ μὴ φαίη τὸ ἀνθρώπος ἐν σημαίνειν,
 πολλὰ δέ, ὧν ἑνὸς μὲν εἰς λόγος τὸ ζῶον δίπουν,
 εἶεν² δὲ καὶ ἕτεροι πλείους, ὠρισμένοι δὲ τὸν
 5 ἀριθμὸν· τεθείη γὰρ ἂν ἴδιον ὄνομα καθ' ἕκαστον
 τὸν λόγον³. εἰ δὲ μὴ [τεθείη]⁴ ἀλλ' ἄπειρα σημαίνειν
 φαίη, φανερόν ὅτι οὐκ ἂν εἴη λόγος· τὸ γὰρ μὴ ἐν⁵
 σημαίνειν οὐθὲν σημαίνειν ἐστίν, μὴ σημαυόντων
 δὲ τῶν ὀνομάτων ἀνήρηται τὸ διαλέγεσθαι πρὸς
 ἀλλήλους, κατὰ δὲ τὴν ἀλήθειαν καὶ πρὸς αὐτόν⁶.
 10 οὐθὲν γὰρ ἐνδέχεται νοεῖν μὴ νοοῦντα ἐν, εἰ δ'
 ἐνδέχεται, τεθείη ἂν ὄνομα τούτῳ τῷ πράγματι ἐν.
 ἔστω δὴ, ὥσπερ ἐλέχθη καθ' ἀρχάς, σημαῖνον τι
 τὸ ὄνομα καὶ σημαῖνον ἐν· οὐ δὴ ἐνδέχεται τὸ
 ἀνθρώπῳ εἶναι σημαίνειν ὅπερ μὴ εἶναι ἀνθρώπῳ,
 15 εἰ τὸ ἀνθρώπος σημαίνει μὴ μόνον καθ' ἑνὸς ἀλλὰ
 καὶ ἐν (οὐ γὰρ τοῦτο ἀξιούμεν τὸ ἐν σημαίνειν, τὸ
 καθ' ἑνός, ἐπεὶ οὕτω γε καὶ τὸ μουσικὸν καὶ τὸ
 λευκὸν καὶ τὸ ἀνθρώπος ἐν ἐσήμαινεν, ὥστε ἐν
 ἅπαντα ἔσται· συνώνυμα γάρ). καὶ οὐκ ἔσται
 εἶναι καὶ μὴ εἶναι τὸ αὐτὸ ἀλλ' ἢ καθ' ὁμωνυμίαν,
 20 ὥσπερ ἂν εἰ ὄν ἡμεῖς ἀνθρώπον καλοῦμεν ἄλλοι
 μὴ ἀνθρώπον καλοῖεν. τὸ δ' ἀπορούμενον οὐ
 τοῦτό ἐστιν, εἰ ἐνδέχεται τὸ αὐτὸ ἅμα εἶναι καὶ
 μὴ εἶναι ἀνθρώπον τὸ ὄνομα, ἀλλὰ τὸ πρᾶγμα.
 εἰ δὲ μὴ σημαίνει ἕτερον τὸ ἀνθρώπος καὶ τὸ μὴ

consist in being X. And it makes no difference even if it be said that "man" has several meanings, provided that they are limited in number; for one could assign a different name to each formula. For 9 instance, it might be said that "man" has not one meaning but several, one of which has the formula "two-footed animal," and there might be many other formulae as well, if they were limited in number; for a particular name could be assigned to each formula. If on the other hand it be said that "man" 10 has an infinite number of meanings, obviously there can be no discourse; for not to have one meaning is to have no meaning, and if words have no meaning there is an end of discourse with others, and even, strictly speaking, with oneself; because it is impossible to think of anything if we do not think of one thing; and even if this were possible, one name might be assigned to that of which we think. Now 11 let this name, as we said at the beginning, have a meaning; and let it have *one* meaning. Now it is impossible that "being man" should have the same meaning as "not being man," that is, if "man" is not merely predicable of one subject but has one meaning (for we do not identify "having one meaning" with "being predicable of one subject," since in this case "cultured" and "white" and "man" would have one meaning, and so all things would be one; for they would all have the same meaning). And it will be impossible for the same thing to be and not to be, except by equivocation, as e.g. one whom we call "man" others might call "not-man"; but the problem is whether the same thing can at 13 once be and not be "man," not in *name*, but in *fact*. If "man" and "not-man" have not different mean-

sume that "man" has one meaning—"two-

footed animal." It does not matter if there are several meanings, provided

10 that they are limited in number.

Then "being man" cannot mean the same as "not being

12 man"; i.e., the same thing cannot both be and not be except by equivocation.

¹ λόγῳ] τῷ λόγῳ A^b.

² εἶεν A^b: εἰσι E^J.

⁴ Gomperz.

³ τῶν λόγων E.

⁵ ἐν τι recc.

⁶ αὐτόν Γ Asclepius, Bessarion: αὐτόν codd.

1006 b ἀνθρώπος, δηλον ὅτι καὶ τὸ μὴ εἶναι ἀνθρώπῳ τοῦ
 25 εἶναι ἀνθρώπῳ· ὡστ' ἔσται τὸ ἀνθρώπῳ εἶναι μὴ
 ἀνθρώπῳ εἶναι· ἐν γὰρ ἔσται. τοῦτο γὰρ σημαίνει
 τὸ εἶναι ἐν, ὡς λώπιον καὶ ἱμάτιον, εἰ ὁ λόγος εἷς.
 εἰ δὲ ἔσται ἐν, ἐν σημαίνει τὸ ἀνθρώπῳ εἶναι καὶ
 μὴ ἀνθρώπῳ. ἀλλ' ἐδέδεικτο ὅτι ἕτερον σημαίνει.
 ἀνάγκη τοίνυν, εἴ τί ἐστιν ἀληθὲς εἰπεῖν ὅτι ἀνθρω-
 30 πος, ζῶον εἶναι δίπουν· τοῦτο γὰρ ἦν ὁ ἐσήμαινε
 τὸ ἀνθρώπος. εἰ δ' ἀνάγκη τοῦτο, οὐκ ἐνδέχεται
 μὴ εἶναι τότε τὸ³ αὐτὸ ζῶον δίπουν· τοῦτο γὰρ
 σημαίνει τὸ ἀνάγκη εἶναι, τὸ ἀδύνατον εἶναι μὴ
 εἶναι [ἀνθρώπων].³ οὐκ ἄρα ἐνδέχεται ἅμα ἀληθὲς
 εἶναι εἰπεῖν τὸ αὐτὸ ἀνθρώπων εἶναι καὶ μὴ εἶναι
 1007 a ἀνθρώπων. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τοῦ μὴ εἶναι
 ἀνθρώπων· τὸ γὰρ ἀνθρώπῳ εἶναι καὶ τὸ μὴ ἀν-
 θρώπῳ εἶναι ἕτερον σημαίνει, εἴπερ καὶ τὸ λευκὸν
 εἶναι καὶ τὸ ἀνθρώπων εἶναι ἕτερον· πολὺ γὰρ ἀντί-
 κειται ἐκεῖνο μᾶλλον, ὥστε σημαίνειν ἕτερον. εἰ δὲ
 5 καὶ τὸ λευκὸν φήσει τὸ αὐτὸ καὶ ἐν σημαίνειν, πάλιν
 τὸ αὐτὸ ἐροῦμεν ὅπερ καὶ πρότερον ἐλέχθη, ὅτι
 ἐν πάντα ἔσται,⁴ καὶ οὐ μόνον τὰ ἀντικείμενα. εἰ
 δὲ μὴ ἐνδέχεται τοῦτο, συμβαίνει τὸ λεχθῆναι, ἀν-
 ἀποκρίνηται τὸ ἐρωτώμενον. ἐὰν δὲ προστιθῆ ἔρω-
 10 τῶντος ἀπλῶς καὶ τὰς ἀποφάσεις, οὐκ ἀποκρίνεται
 τὸ ἐρωτώμενον. οὐθὲν γὰρ κωλύει εἶναι τὸ αὐτὸ
 καὶ ἀνθρώπων καὶ λευκὸν καὶ ἄλλα μυρία τὸ
 πλήθος· ἀλλ' ὁμοῦ ἐρομένου εἰ ἀληθὲς εἰπεῖν
 ἀνθρώπων τοῦτο εἶναι ἢ οὐ, ἀποκριτέον τὸ ἐν

¹ σημαίνει ex Alexandro Ross: σημαίνει.

² τότε τὸ Alexander (?), Bonitz: τότε E.J. Asclepius: τὸ A.B.

³ Christ. ⁴ ἔσται Alexander, Bonitz: ἔστι.

^a i.e. the same as "man."

^b § 12.

ings, clearly "not being a man" will mean nothing different from "being a man"; and so "being a man" will be "not being a man"; they will be one. For "to be one" means, as in the case of "garment" ¹⁴ and "coat," that the formula is one. And if "being man" and "being not-man" are to be one, they will have the same meaning; but it has been proved above that they have different meanings. If then anything can be truly said to be "man," it must be "two-footed animal"; for this is what "man" was intended to mean. And if this is necessarily so, ¹⁵ it is impossible that at the same time the same thing should not be "two-footed animal." For "to be necessarily so" means this: that it is impossible not to be so. Thus it cannot be true to say at the same time that the same thing is and is not man. And the ¹⁶ same argument holds also in the case of not being man; because "being man" and "being not-man" have different meanings if "being white" and "being man" have different meanings (for the opposition is much stronger in the former case so as to produce different meanings). And if we are told that ¹⁷ "white" too means one and the same thing,^a we shall say again just what we said before,^b that in that case all things, and not merely the opposites, will be one. But if this is impossible, what we have ¹⁸ stated follows; that is, if our opponent answers our question; but if when asked the simple question he includes in his answer the negations, he is not answering our question. There is nothing to prevent ¹⁸ the same thing from being "man" and "white" ¹⁹ and a multitude of other things; but nevertheless when asked whether it is true to say that X is man, or not, one should return an answer that means one ²⁰ question.

Thus if our opponent answers our question we have proved our point.

If he says "A is B and not B," he is not answering the question.

1007 a

σημαίνον, καὶ οὐ προσθετόν ὅτι καὶ λευκὸν καὶ
 15 μέγα. καὶ γὰρ ἀδύνατον ἄπειρά γ' ὄντα τὰ συμ-
 βεβηκότα διελθεῖν· ἢ οὖν ἅπαντα διελθέτω ἢ μηθέν.
 ὁμοίως τοίνυν εἰ καὶ μυριάκις ἐστὶ τὸ αὐτὸ ἀνθρω-
 πος καὶ οὐκ ἄνθρωπος, οὐ προσαποκριτέον τῷ
 ἐρομένῳ εἰ ἐστὶν ἄνθρωπος, ὅτι ἐστὶν ἅμα καὶ οὐκ
 20 ἀνθρωπος, εἰ μὴ καὶ τᾶλλα ὅσα συμβέβηκε προσ-
 ποιεῖ, οὐ διαλέγεται.

Ὅλως δ' ἀναιροῦσιν οἱ τοῦτο λέγοντες οὐσίαν
 καὶ τὸ τί ἦν εἶναι. πάντα γὰρ ἀνάγκη συμβε-
 βηκέναι φάσκειν αὐτοῖς, καὶ τὸ ὅπερ ἀνθρώπων
 εἶναι ἢ ζῴων εἶναι μὴ εἶναι. εἰ γὰρ ἔσται τι
 ὅπερ ἀνθρώπων εἶναι, τοῦτο οὐκ ἔσται μὴ ἀν-
 25 θρώπων εἶναι ἢ μὴ εἶναι ἀνθρώπων (καίτοι αὐταὶ
 ἀποφάσεις τούτου). ἐν γὰρ ἦν ὁ ἐσήμαινε,¹ καὶ ἦν
 τοῦτο τινὸς οὐσία. τὸ δ' οὐσίαν σημαίνειν ἐστὶν
 ὅτι οὐκ ἄλλο τι τὸ εἶναι αὐτῷ. εἰ δ' ἔσται αὐτῷ
 τὸ ὅπερ ἀνθρώπων εἶναι ἢ ὅπερ μὴ ἀνθρώπων εἶναι
 ἢ ὅπερ μὴ εἶναι ἀνθρώπων, ἄλλο² ἔσται. ὥστ'
 30 ἀναγκαῖον αὐτοῖς λέγειν ὅτι οὐθενὸς ἔσται τοιούτος
 λόγος, ἀλλὰ πάντα κατὰ συμβεβηκός· τοῦτο γὰρ
 διάρριστα οὐσία καὶ τὸ συμβεβηκός· τὸ γὰρ λευκὸν
 τῷ ἀνθρώπῳ συμβέβηκεν, ὅτι ἐστὶ μὲν λευκὸς ἀλλ'
 οὐχ ὅπερ λευκόν. εἰ δὲ πάντα κατὰ συμβεβηκός
 35 λέγεται, οὐθεν ἔσται πρῶτον τὸ καθ' οὐδ',³ εἰ αἰεὶ τὸ
 συμβεβηκός καθ' ὑποκειμένου τινὸς σημαίνει τὴν
 1007 b κατηγορίαν. ἀνάγκη ἄρα εἰς ἄπειρον ἰέναι. ἀλλ'

¹ ἐσήμαινε: ἐσήμηνε FJ Bekker.

² ἄλλο: ἄλλο τι A^b.

³ καθ' οὐδ' ci. Alexander: καθόλου.

thing, and not add that X is white and large. It is indeed impossible to enumerate all the infinity of accidents; and so let him enumerate either all or none. Similarly therefore, even if the same thing 19 is ten thousand times "man" and "not-man," one should not include in one's answer to the question whether it is "man" that it is at the same time also "not-man," unless one is also bound to include in one's answer all the other accidental things that the subject is or is not. And if one does this, he is not arguing properly.

In general those who talk like this do away with substance and essence, for they are compelled to assert 20 that all things are accidents, and that there is no such thing as "being essentially man" or "animal." For if there is to be such a thing as "being essentially man," this will not be "being not-man" nor "not-being man" (and yet these are negations of it); for it was intended to have one meaning, i.e. the substance of something. But to denote a sub- 21 stance means that the essence is that and nothing else; and if for it "being essentially man" is the same as either "being essentially not-man" or "essentially not-being man," the essence will be something else. Thus they are compelled to say 22 that nothing can have such a definition as this, but that all things are accidental; for this is the distinction between substance and accident: "white" is an accident of "man," because although he is white, he is not white in essence. And since the accidental 23 always implies a predication about some subject, if all statements are accidental, there will be nothing primary about which they are made; so the predication must proceed to infinity. But this is impossible, form an in-

People who talk like this do away with substance and essence; they make all attributes accidental.

1007^b ἀδύνατον· οὐδὲ γὰρ πλείω συμπλέκεται δυοῖν· τὸ γὰρ συμβεβηκὸς οὐ συμβεβηκότη συμβεβηκός, εἰ μὴ ὅτι ἄμφω συμβέβηκε ταύτῳ. λέγω δ' οἷον
 5 τὸ λευκὸν μουσικόν, καὶ τοῦτο λευκόν, ὅτι ἄμφω τῷ ἀνθρώπῳ συμβέβηκεν. ἀλλ' οὐχ ὁ Σωκράτης μουσικὸς οὕτως, ὅτι ἄμφω συμβέβηκεν ἑτέρῳ τινί. ἐπεὶ τοίνυν τὰ μὲν οὕτως τὰ δ' ἐκείνως λέγεται συμβεβηκότη, ὅσα οὕτως λέγεται ὡς τὸ λευκὸν τῷ Σωκράτει, οὐκ ἐνδέχεται ἅπειρα εἶναι ἐπὶ τὸ
 10 ἄνω, οἷον τῷ Σωκράτει τῷ λευκῷ ἕτερόν τι συμβεβηκός· οὐ γὰρ γίγνεται τι ἐν ἕξ ἀπάντων. οὐδὲ δὴ τῷ λευκῷ ἕτερόν τι ἔσται συμβεβηκός, οἷον τὸ μουσικόν· οὐθέν τε γὰρ μᾶλλον τοῦτο ἐκείνῳ ἢ ἐκείνῳ τούτῳ συμβέβηκεν, καὶ ἅμα διώρισται ὅτι τὰ μὲν οὕτω συμβέβηκε, τὰ δ' ὡς τὸ μουσικὸν
 15 Σωκράτει· ὅσα δ' οὕτως, οὐ συμβεβηκότη συμβέβηκε τὸ συμβεβηκός, ἀλλ' ὅσα ἐκείνως, ὥστ' οὐ πάντα κατὰ συμβεβηκός λεχθήσεται. ἔσται ἄρα τι καὶ ὡς¹ οὐσίαν σημαίνον. εἰ δὲ τοῦτο, δέδεικται ὅτι ἀδύνατον ἅμα κατηγορεῖσθαι τὰς ἀντιφάσεις.

Ἔτι εἰ ἀληθεῖς αἱ ἀντιφάσεις ἅμα κατὰ
 20 τοῦ αὐτοῦ πάσαι, δηλὸν ὡς ἅπαντα ἔσται ἐν. ἔσται γὰρ τὸ αὐτὸ καὶ τριήρης καὶ τοῖχος καὶ ἄνθρωπος, εἰ κατὰ παντός τι ἢ καταφῆσαι ἢ ἀποφῆσαι ἐνδέχεται, καθάπερ ἀνάγκη τοῖς τὸν Πρωταγόρου λέγουσι λόγον. εἰ γὰρ τῷ δοκεῖ μὴ

¹ ὡς Ross: ὡς.

^o i.e., that all appearances and opinions are true.

for not even more than two accidents can be combined in predication. An accident cannot be an accident of an accident unless both are accidents of the same thing. I mean, e.g., that "white" is "cultured" and "cultured" "white" merely because both are accidents of a man. But it is not in this sense—that both terms are accidents of something else—that Socrates is cultured. Therefore since some accidents are predicated in the latter and some in the former sense, such as are predicated in the way that "white" is of Socrates cannot be an infinite series in the upper direction; e.g. there cannot be another accident of "white Socrates," for the sum of these predications does not make a single statement. Nor can "white" have a further accident, such as "cultured"; for the former is no more an accident of the latter than *vice versa*; and besides we have distinguished that although some predicates are accidental in this sense, others are accidental in the sense that "cultured" is to Socrates; and whereas in the former case the accident is an accident of an accident, it is not so in the latter; and thus not all predications will be of accidents. Therefore even so there will be something which
 26 denotes substance. And if this is so, we have proved that contradictory statements cannot be predicated at the same time.

Again, if all contradictory predications of the same subject at the same time are true, clearly all things will be one. For if it is equally possible either to affirm or deny anything of anything, the same thing will be a trireme and a wall and a man; which is what necessarily follows for those who hold the theory of Protagoras.^a For if anyone thinks that a man is

finite series; which is impossible, since not

24

more than two accidents can be combined.

25

26

Thus if there is substance, the law of contradiction is proved.

Second

27

proof. If all contradictory predications are true, all things will be one.

1007 b εἶναι τριήρης ὁ ἄνθρωπος, δῆλον ὅτι οὐκ ἔσται
 25 τριήρης· ὥστε καὶ ἔστιν, εἴπερ ἢ ἀντίφασις ἀληθής.
 καὶ γίνεταί δὴ τὸ τοῦ Ἀναξαγόρου, ὁμοῦ πάντα
 χρήματα· ὥστε μὴθὲν ἀληθῶς ὑπάρχειν. τὸ ἀόρι-
 στον οὖν εἰκόασι λέγειν, καὶ οἰόμενοι τὸ ὄν λέγειν
 περὶ τοῦ μὴ ὄντος λέγουσιν· τὸ γὰρ δυνάμει ὄν καὶ
 μὴ ἐντελεχείᾳ τὸ ἀόριστόν ἐστιν. ἀλλὰ μὴν λεκ-
 30 τέον γ' αὐτοῖς κατὰ παντός <παντός>¹ τὴν κατὰ-
 φασιν ἢ τὴν ἀπόφασιν· ἀτοπον γὰρ εἰ ἐκάστῳ ἢ
 μὲν αὐτοῦ ἀπόφασις ὑπάρξει, ἢ δ' ἐτέρου ὁ μὴ
 ὑπάρχει αὐτῷ οὐχ ὑπάρξει· λέγω δ' οἶον εἰ ἀληθὲς
 εἰπεῖν τὸν ἄνθρωπον ὅτι οὐκ ἄνθρωπος, δῆλον ὅτι
 καὶ ἢ τριήρης ἢ² οὐ τριήρης. εἰ μὲν οὖν ἢ κατὰ-
 35 φασις, ἀνάγκη καὶ τὴν ἀπόφασιν· εἰ δὲ μὴ ὑπάρχει
 1008 a ἢ κατὰφασις, ἢ γε ἀπόφασις ὑπάρξει μᾶλλον ἢ ἢ³
 αὐτοῦ. εἰ οὖν κἀκεῖνη ὑπάρχει, ὑπάρξει καὶ ἢ τῆς
 τριήρους· εἰ δ' αὕτη, καὶ ἢ κατὰφασις. Ταῦ-
 τά τε οὖν συμβαίνει τοῖς λέγουσι τὸν λόγον τοῦτον,
 καὶ ὅτι οὐκ ἀνάγκη ἢ φάναι ἢ ἀποφάναι. εἰ γὰρ
 5 ἀληθὲς ὅτι⁴ ἄνθρωπος καὶ οὐκ ἄνθρωπος, δῆλον
 ὅτι καὶ οὐτ' ἄνθρωπος οὐτ' οὐκ ἄνθρωπος ἔσται·
 τοῖν γὰρ δυοῖν δύο ἀποφάσεις. εἰ δὲ μία ἐξ ἀμφοῖν
 ἐκεῖνη, καὶ αὕτη μία ἂν εἴη ἀντικειμένη. Ἔτι
 ἦτοι περὶ ἅπαντα οὕτως εἶχει, καὶ ἔστι καὶ λευκὸν
 καὶ οὐ λευκὸν καὶ ὄν καὶ οὐκ ὄν, καὶ περὶ τὰς ἄλλας

¹ ex Alexandro Bonitz.

² ἢ τριήρης ἢ A^b: om. cet.

³ ἢ ἢ E^J: om. A^b: ἢ Bekker.

⁴ ὅτι: ἔστω ὅτι A^b.

° Fr. 1 (Diels).

not a trireme, he is clearly not a trireme; and so he
 also is a trireme if the contradictory statement is
 true. And the result is the dictum of Anaxagoras, 28
 "all things mixed together"^a; so that nothing
 truly exists. It seems, then, that they are speaking
 of the Indeterminate; and while they think that
 they are speaking of what exists, they are really
 speaking of what does not; for the Indeterminate
 is that which exists potentially but not actually. But 29
 indeed they must admit the affirmation or negation
 of any predicate of any subject, for it is absurd that
 in the case of each term its own negation should be
 true, and the negation of some other term which is
 not true of it should not be true. I mean, e.g., that
 if it is true to say that a man is not a man, it is obvi-
 ously also true to say that he is or is not a trireme.
 Then if the affirmation is true, so must the negation 30
 be true; but if the affirmation is not true the nega-
 tion will be even truer than the negation of the origi-
 nal term itself. Therefore if the latter negation is
 true, the negation of "trireme" will also be true;
 and if this is true, the affirmation will be true too.

And not only does this follow for those who hold
 this theory, but also that it is not necessary either
 to affirm or to deny a statement. For if it is true 31
 that X is both man and not-man, clearly he will be
 neither man nor not-man; for to the two statements
 there correspond two negations, and if the former is
 taken as a single statement compounded out of two,
 the latter is also a single statement and opposite
 to it.

Again, either this applies to all terms, and the 32
 same thing is both white and not-white, and existent
 and non-existent, and similarly with all other asser-

Our oppon-
 ents must
 admit that
 anything
 may be
 affirmed or
 denied of
 anything.

Third proof
 They must

31
 also deny
 the law of
 the "ex-
 cluded
 middle."

Fourth
 proof. If
 they deny

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10 φάσεις καὶ ἀποφάσεις ὁμοιοτρόπως, ἢ οὐ ἀλλὰ
 περὶ μὲν τινος, περὶ τινος δ' οὐ. καὶ εἰ μὲν μὴ
 περὶ πάσας, αὐταὶ ἂν εἶεν ὁμολογούμεναι· εἰ δὲ
 περὶ πάσας, πάλιν ἦτοι καθ' ὅσων τὸ φῆσαι καὶ
 ἀποφῆσαι καὶ καθ' ὅσων ἀποφῆσαι καὶ φῆσαι, ἢ
 κατὰ μὲν ὧν φῆσαι καὶ ἀποφῆσαι, καθ' ὅσων δὲ
 15 ἀποφῆσαι οὐ πάντων φῆσαι. καὶ εἰ μὲν οὕτως,
 εἴη ἂν τι παγίως οὐκ ὄν, καὶ αὕτη βεβαία δόξα·
 καὶ εἰ τὸ μὴ εἶναι βέβαιόν τι καὶ γνώριμον, γνωρι-
 μωτέρα ἂν¹ εἴη ἢ φάσεις ἢ ἀντικειμένη· εἰ δὲ
 ὁμοίως καὶ ὅσα² ἀποφῆσαι φάναι,³ ἀνάγκη ἦτοι
 20 ἀληθὲς διαιροῦντα λέγειν, οἷον ὅτι λευκὸν καὶ
 διαιροῦντα λέγειν, οὐ λέγει τε ταῦτα, καὶ οὐκ
 ἔστιν οὐθέν (τὰ δὲ μὴ ὄντα πῶς ἂν φθέγγαστο ἢ
 βαδίσειεν⁴); καὶ πάντα δ' ἂν εἴη ἔν, ὥσπερ καὶ
 25 καὶ θεὸς καὶ τριήρης καὶ αἱ ἀντιφάσεις αὐτῶν. εἰ
 γὰρ ὁμοίως καθ' ἕκαστου, οὐδὲν διοίσει ἕτερον
 ἕτερον· εἰ γὰρ διοίσει, τοῦτ' ἔστιν ἀληθὲς καὶ
 ἴδιον. ὁμοίως δὲ καὶ εἰ διαιροῦντα ἐνδέχεται ἀλη-
 θεύειν, συμβαίνει τὸ λεχθέν· πρὸς δὲ τούτῳ ὅτι
 πάντες ἂν ἀληθεύοιεν καὶ πάντες ἂν ψεύδοιντο, καὶ
 30 αὐτὸς αὐτὸν ὁμολογεῖ ψεύδεσθαι. ἅμα δὲ φανερόν
 ὅτι περὶ οὐθενός ἐστι πρὸς τοῦτον ἢ σκέψις· οὐθέν

¹ ἂν: γὰρ ἂν A^b.

² ὅσα: ὧν ἔστιν A^b.

³ φάναι: κατὰ τούτων ἔστι φάναι A^b.

⁴ βαδίσειεν: νοήσειεν A^b.

^o i.e., it will be admitted that in certain cases where an attribute is true of a subject, the negation is not true; and therefore some propositions are indisputable.

^p If our opponent holds that you can only say "A is B and not B," (1) he contradicts every statement that he makes; (2) he must say that what exists does not exist. Therefore

tions and negations; or it does not apply to all, but only to some and not to others. And if it does not 33 apply to all, the exceptions will be admitted^a; but if it does apply to all, again either (a) the negation will be true wherever the affirmation is true, and the affirmation will be true wherever the negation is true, or (b) the negation will be true wherever the assertion is true, but the assertion will not always be true where the negation is true. And in the latter 34 case there will be something which definitely is not, and this will be a certain belief; and if that it is not is certain and knowable, the opposite assertion will be still more knowable. But if what is denied can be equally truly asserted, it must be either true or false to state the predicates separately and say, e.g., that a thing is white, and again that it is not-white. And if it is not-true to state them separately, our 35 opponent does not say what he professes to say, and nothing exists; and how can that which does not exist speak or walk? ^b And again all things will be one, as we said before,^c and the same thing will be "man" and "God" and "trireme" and the negations of these terms. For if it is equally possible to 36 assert or deny anything of anything, one thing will not differ from another; for if anything does differ, it will be true and unique. And similarly even if it is possible to make a true statement while separating the predicates, what we have stated follows. Moreover it follows that all statements would be true and all false; and that our opponent himself admits that what he says is false. Besides, it is obvious that discussion with him is pointless, because

nothing exists, and so he himself does not exist; but how can he speak or walk if he does not exist? ^c § 27.

1008 a γὰρ λέγει. οὔτε γὰρ οὕτως οὐτ' οὐχ οὕτως λέγει, ἀλλ' οὕτως τε καὶ οὐχ οὕτως· καὶ πάλιν γε ταῦτα ἀπόφησιν ἄμφω, ὅτι οὐθ' οὕτως οὔτε οὐχ οὕτως· εἰ γὰρ μή, ἤδη ἂν τι εἴη ὠρισμένον. "Ἐτι εἰ
 35 ὅταν ἢ φάσις ἀληθῆς ἢ, ἢ ἀπόφασις ψευδῆς, κἂν αὕτη ἀληθῆς ἢ, ἢ κατάφασις ψευδῆς, οὐκ ἂν εἴη τὸ
 1008 b ἅμα φάναι καὶ ἀποφάναι ἀληθῶς. ἀλλ' ἴσως αὐτὸ φαίεν ἂν τοῦτ' εἶναι τὸ ἐξ ἀρχῆς κείμενον. "Ἐτι ἄρα ὁ μὲν ἢ ἔχειν πῶς ὑπολαμβάνων ἢ μὴ ἔχειν διέψευσται, ὁ δὲ ἄμφω ἀληθεύει; εἰ γὰρ ἀληθεύει, τί ἂν εἴη τὸ λεγόμενον ὅτι τοιαύτη τῶν ὄντων ἢ φύσις; εἰ δὲ μὴ ἀληθεύει, ἀλλὰ μᾶλλον ἀληθεύει ἢ ὁ ἐκείνως ὑπολαμβάνων, ἤδη πῶς ἔχει ἂν τὰ ὄντα, καὶ τοῦτ' ἀληθές ἂν εἴη, καὶ οὐχ ἅμα καὶ οὐκ ἀληθές. εἰ δὲ ὁμοίως ἅπαντες καὶ ψεύδονται καὶ ἀληθῆ λέγουσιν, οὔτε φθέγγασθαι οὔτ' εἰπεῖν
 10 τῷ τοιούτῳ ἔστιν· ἅμα γὰρ ταῦτά τε καὶ οὐ ταῦτα λέγει. εἰ δὲ μὴθὲν ὑπολαμβάνει ἀλλ' ὁμοίως οἶεται καὶ οὐκ οἶεται, τί ἂν διαφερόντως ἔχει τῶν γε φυτῶν¹;

"Ὅθεν καὶ μάλιστα φανερόν ἐστιν ὅτι οὐθεὶς οὕτω διάκειται οὔτε τῶν ἄλλων οὔτε τῶν λεγόντων τὸν λόγον τοῦτον. διὰ τί γὰρ βαδίζει Μεγάρων
 15 δε ἀλλ' οὐχ ἡσυχάζει, οἰόμενος βαδίζειν δεῖν²; οὐδ' εὐθὺς ἔωθεν πορεύεται εἰς φρέαρ ἢ εἰς φάραγγα, ἐὰν τύχη, ἀλλὰ φαίνεται εὐλαβοῦμενος, ὡς οὐχ ὁμοίως οἰόμενος μὴ ἀγαθὸν εἶναι τὸ ἐμπεσεῖν καὶ ἀγαθόν; δῆλον ἄρα ὅτι τὸ μὲν

¹ ἢ A^b Alexander: om. cet.

² γε φυτῶν Bonitz: πεφυκῶτων E¹J^aB^b: φυτῶν E²Γ.

³ δεῖν A^b Alexander, Ross: om. cet.

he makes no real statement. For he says neither 37 "yes" nor "no," but "yes and no"; and again he denies both of these and says "neither yes nor no"; otherwise there would be already some definite statement.

Again, if when the assertion is true the negation Fifth proof is false, and when the latter is true the affirmation is false, it will be impossible to assert and deny with truth the same thing at the same time. But perhaps 38 it will be said that this is the point at issue.

Again, is the man wrong who supposes that a thing Sixth proof is so or not so, and he who supposes both right? If he is right, what is the meaning of saying that "such is the nature of reality"?^a And if he is not right, but is more right than the holder of the first view, reality will at once have a definite nature, and this will be true, and not at the same time not-true. And 39 if all men are equally right and wrong, an exponent of this view can neither speak nor mean anything, since at the same time he says both "yes" and "no." And if he forms no judgement, but "thinks" and "thinks not" indifferently, what difference will there be between him and the vegetables?

Hence it is quite evident that no one, either of Experience shows that all men form those who profess this theory or of any other school, is really in this position. Otherwise, why does a 40 man walk to Megara and not stay at home, when at least some unqualified judgements. he thinks he ought to make the journey? Why does he not walk early one morning into a well or ravine, if he comes to it, instead of clearly guarding against doing so, thus showing that he does not think that it is equally good and not good to fall in?

^a If everything is both so and not so, nothing has any definite nature.

1008^b βέλτιον ὑπολαμβάνει τὸ δ' οὐ βέλτιον. εἰ δὲ τοῦτο,
 20 καὶ τὸ μὲν ἄνθρωπον τὸ δ' οὐκ ἄνθρωπον καὶ τὸ
 μὲν γλυκὺ τὸ δ' οὐ γλυκὺ ἀνάγκη ὑπολαμβάνει.
 οὐ γὰρ ἐξ ἴσου ἅπαντα ζητεῖ καὶ ὑπολαμβάνει,
 ὅταν οἴηθεις βέλτιον εἶναι τὸ πιεῖν ὕδωρ καὶ ἰδεῖν
 ἄνθρωπον εἶτα ζητῇ αὐτά· καίτοι ἔδει γε,¹ εἰ ταῦτόν
 ἦν ὁμοίως καὶ ἄνθρωπος καὶ οὐκ ἄνθρωπος. ἀλλ'
 25 ὅπερ ἐλέχθη, οὐθεὶς ὃς οὐ φαίνεται τὰ μὲν εὐλα-
 βούμενος τὰ δ' οὐ· ὥστε, ὡς ἔοικε, πάντες ὑπολαμ-
 βάνουσι ἔχειν ἀπλῶς, εἰ μὴ περὶ ἅπαντα, ἀλλὰ περὶ
 τὸ ἄμεινον καὶ χεῖρον. εἰ δὲ μὴ ἐπιστάμενοι ἀλλὰ
 δοξάζοντες, πολὺ μᾶλλον ἐπιμελητέον ἂν εἴη τῆς
 ἀληθείας, ὥσπερ καὶ νοσοῦδει ὄντι ἢ ὑγιεινῶ τῆς
 30 ὑγιείας· καὶ γὰρ ὁ δοξάζων πρὸς τὸν ἐπιστάμενον
 οὐχ ὑγιεινῶς διάκειται πρὸς τὴν ἀλήθειαν. Ἔτι
 εἰ ὅτι μάλιστα πάντα οὕτως ἔχει καὶ οὐχ οὕτως,
 ἀλλὰ τό γε μᾶλλον καὶ ἥττον ἔνεστιν ἐν τῇ φύσει
 τῶν ὄντων· οὐ γὰρ ἂν ὁμοίως φήσαιμεν εἶναι τὰ
 δύο ἄρτια καὶ τὰ τρία, οὐδ' ὁμοίως διεψευσται ὁ
 35 τὰ τέτταρα πέντε οἰόμενος καὶ ὁ χίλια. εἰ οὖν
 μὴ ὁμοίως, δῆλον ὅτι ἄτερος ἥττον, ὥστε μᾶλλον
 1009^a ἀληθεύει. εἰ οὖν τὸ μᾶλλον ἐγγύτερον, εἴη γε ἂν
 τι ἀληθές οὐ ἐγγύτερον τὸ μᾶλλον ἀληθές. καὶ
 εἰ μὴ ἔστιν, ἀλλ' ἤδη γέ τί ἐστι βεβαιότερον καὶ
 ἀληθινώτερον, καὶ τοῦ λόγου ἀπηλλαγμένοι ἂν
 εἴημεν τοῦ ἀκράτου καὶ κωλύοντός τι τῇ διανοίᾳ
 5 ὀρίσαι.

V. Ἔστι δ' ἀπὸ τῆς αὐτῆς δόξης καὶ ὁ Πρωταγόρου
 λόγος, καὶ ἀνάγκη ὁμοίως ἄμφω αὐτοὺς ἢ εἶναι ἢ

¹ ἔδει γε· γ' ἔδει A^D.

Obviously then he judges that the one course is better and the other worse. And if this is so, he 41 must judge that one thing is man and another not man, and that one thing is sweet and another not sweet. For when, thinking that it is desirable to drink water and see a man, he goes to look for them, he does not look for and judge all things indifferently ; and yet he should, if the same thing were equally man and not-man. But as we have said, there is no 42 one who does not evidently avoid some things and not others. Hence, as it seems, all men form unqualified judgements, if not about all things, at least about what is better or worse. And if they do this 43 by guesswork and without knowledge, they should be all the more eager for truth ; just as a sick man should be more eager for health than a healthy man ; for indeed the man who guesses, as contrasted with him who knows, is not in a healthy relation to the truth.

Again, however much things may be " so and not 44 so," yet differences of degree are inherent in the nature of things. For we should not say that 2 and 3 are equally even ; nor are he who thinks that 4 is 5, and he who thinks it is 1000, equally wrong : hence if they are not equally wrong, the one is clearly less wrong, and so more right. If then that which has 45 more the nature of something is nearer to that something, there will be some truth to which the more true is nearer. And even if there is not, still there is now something more certain and true, and we shall be freed from the undiluted doctrine which precludes any mental determination.

V. From the same view proceeds the theory of Protagoras, and both alike must be either true or

Seventh
proof.

Dental of the
law of con-
tradiction is

1009^a μὴ εἶναι. εἴτε γὰρ τὰ δοκοῦντα πάντα ἐστὶν ἀληθῆ καὶ τὰ φαινόμενα, ἀνάγκη πάντα ἅμα
 10 ἀληθῆ καὶ ψευδῆ εἶναι· πολλοὶ γὰρ τὰναντία ὑπολαμβάνουσιν ἀλλήλοις, καὶ τοὺς μὴ ταῦτα δοξάζοντας ἑαυτοῖς διεψεῦσθαι νομίζουσιν· ὥστ' ἀνάγκη τὸ αὐτὸ εἶναι τε καὶ μὴ εἶναι. καὶ εἰ τοῦτ' ἐστίν, ἀνάγκη τὰ δοκοῦντα εἶναι πάντ' ἀληθῆ· τὰ ἀντικείμενα γὰρ δοξάζουσιν ἀλλήλοις οἱ διεψευσμένοι καὶ ἀληθεύοντες. εἰ οὖν ἔχει τὰ ὄντα οὕτως, ἀληθεύσουσι πάντες. Ὅτι μὲν οὖν ἀπὸ τῆς αὐτῆς εἰσὶ διανοίας ἀμφότεροι οἱ λόγοι, δηλόν· ἔστι δ' οὐχ ὁ αὐτὸς τρόπος πρὸς ἅπαντας¹ τῆς ἐντεῦξέως· οἱ μὲν γὰρ πειθοῦς δέονται, οἱ δὲ βίας. ὅσοι μὲν γὰρ ἐκ τοῦ ἀπορηῆσαι ὑπέλαβον οὕτως, τούτων
 20 εὐτάτος ἢ ἀγνοια· οὐ γὰρ πρὸς τὸν λόγον ἀλλὰ πρὸς τὴν διάνοιαν ἢ ἀπάντησις αὐτῶν· ὅσοι δὲ λόγου χάριν λέγουσι, τούτων δ' ἔλεγχος ἴσσις τοῦ τ' ἐν τῇ φωνῇ λόγου καὶ τοῦ ἐν τοῖς ὀνόμασι.

Ἐλήλυθε δὲ τοῖς διαποροῦσιν αὕτη ἡ δόξα ἐκ τῶν αἰσθητῶν, ἣ μὲν τοῦ ἅμα τὰς ἀντιφάσεις καὶ
 25 τὰναντία ὑπάρχειν ὁρῶσιν ἐκ ταυτοῦ γινόμενα τὰναντία· εἰ οὖν μὴ ἐνδέχεται γενέσθαι τὸ μὴ ὄν, προὔπηρχεν ὁμοίως τὸ πρᾶγμα ἄμφω ὄν, ὥσπερ καὶ Ἀναξαγόρας μεμίχθαι πᾶν ἐν παντί φησι καὶ Δημόκριτος· καὶ γὰρ οὗτος τὸ κενὸν καὶ τὸ πλήρες ὁμοίως καθ' ὅτι οὖν ὑπάρχειν μέρος, καίτοι τὸ μὲν
 30 ὄν τούτων εἶναι, τὸ δὲ μὴ ὄν. πρὸς μὲν οὖν τοὺς ἐκ τούτων ὑπολαμβάνοντας ἐροῦμεν ὅτι τρόπον μὲν τινα ὀρθῶς λέγουσι, τρόπον δὲ τινα ἀγνοοῦσιν· τὸ γὰρ ὄν λέγεται διχῶς, ὥστ' ἔστιν ὄν τρόπον ἐν-

¹ ἅπαντας: πάντας A^b.

° Cf. iv. 28.

° Cf. I. iv. 9.

false. For if all opinions and appearances are true, everything must be at once true and false; for many people form judgements which are opposite to those of others, and imagine that those who do not think the same as themselves are wrong: hence the same thing must both be and not be. And if this is so, all
 2 opinions must be true; for those who are wrong and those who are right think contrarily to each other. So if reality is of this nature, everyone will be right.

Clearly then both these theories proceed from the same mental outlook. But the method of approach is not the same for all cases; for some require persuasion and others compulsion. The ignorance of
 3 those who have formed this judgement through perplexity is easily remedied, because we are dealing not with the theory but with their mental outlook; but those who hold the theory for its own sake can only be cured by refuting the theory as expressed in their own speech and words.

This view comes to those who are perplexed from
 4 their observation of sensible things. (i.) The belief that contradictions and contraries can be true at the same time comes to them from seeing the contraries generated from the same thing. Then if what is not
 5 cannot be generated, the thing must have existed before as both contraries equally—just as Anaxagoras says^a that everything is mixed in everything; and also Democritus, for he too says^b that Void and Plenum are present equally in any part, and yet the latter *is*, and the former *is not*. To those, then, who
 6 base their judgement on these considerations, we shall say that although in one sense their theory is correct, in another they are mistaken. For “being” has two meanings, so that there is a sense in which

bound up with the view that all opinions are true.

How people come to doubt the law of contradiction.

The method of convincing them.

1009 a δέχεται γίνεσθαι τι ἐκ τοῦ μὴ ὄντος, ἔστι δ' ὄν
 οὐ, καὶ ἅμα τὸ αὐτὸ εἶναι καὶ ὄν καὶ μὴ ὄν, ἀλλ'
 35 οὐ κατὰ ταῦτό [ὄν]¹. δυνάμει μὲν γὰρ ἐνδέχεται
 ἅμα ταῦτό εἶναι τὰ ἐναντία, ἐντελεχεία δ' οὐ. ἔτι
 δ' ἀξιόσομεν αὐτοὺς ὑπολαμβάνειν καὶ ἄλλην τιὰ
 οὐσίαν εἶναι τῶν ὄντων, ἣ οὔτε κίνησις ὑπάρχει
 οὔτε φθορὰ οὔτε γένεσις τὸ παράπαν. Ὁμοίως
 1009 b δὲ καὶ ἡ περὶ τὰ φαινόμενα ἀλήθεια ἐνίοις ἐκ
 τῶν αἰσθητῶν ἐλήλυθεν. τὸ μὲν γὰρ ἀληθὲς οὐ
 πλήθει κρίνεσθαι οἴονται προσήκειν οὐδὲ ὀλιγότητι,
 τὸ δ' αὐτὸ τοῖς μὲν γλυκὺ γενομένουσι δοκεῖν εἶναι,
 5 τοῖς δὲ πικρὸν ὥστ' εἰ πάντες ἕκαμνον ἢ πάντες
 παρεφρόνου, δύο δ' ἢ τρεῖς ὑγίαινον ἢ νοῦν εἶχον,
 δοκεῖν ἂν τούτους κάμνειν καὶ παραφρονεῖν, τοὺς
 δ' ἄλλους οὐ. ἔτι δὲ πολλοῖς τῶν ἄλλων ζώων
 πάναντία [περὶ τῶν αὐτῶν]² φαίνεσθαι καὶ ἡμῖν,
 καὶ αὐτῶ δὲ ἐκάστω πρὸς αὐτὸν³ οὐ ταῦτὰ κατὰ
 τὴν αἴσθησιν αἰεὶ δοκεῖν. ποῖα οὖν τούτων ἀληθῆ
 10 ἢ ψευδῆ, ἀδηλον· οὐθὲν γὰρ μᾶλλον τάδε ἢ τάδε
 ἀληθῆ, ἀλλ' ὁμοίως. διὸ Δημόκριτός γε φησιν ἦτοι
 οὐθὲν εἶναι ἀληθὲς ἢ ἡμῖν γ' ἀδηλον. Ὅλους
 δὲ διὰ τὸ ὑπολαμβάνειν φρόνησιν μὲν τὴν αἴσθησιν,
 ταύτην δ' εἶναι ἀλλοίωσιν, τὸ φαινόμενον κατὰ τὴν
 15 αἴσθησιν ἐξ ἀνάγκης ἀληθὲς εἶναί φασιν· ἐκ τούτων
 γὰρ καὶ Ἐμπεδοκλῆς καὶ Δημόκριτος καὶ τῶν
 ἄλλων ὡς ἔπος εἰπεῖν ἕκαστος τοιαύταις δόξαις
 γεγέννηται ἔνοχοι. καὶ γὰρ Ἐμπεδοκλῆς μετα-

¹ Christ.² om. E.J.³ αὐτὸν: αὐτὸν A^bJ.^a Cf. Ritter and Preller, 204.

something can be generated from "not-being," and a sense in which it cannot; and a sense in which the same thing can at once be and not be; but not in the same respect. For the same thing can "be" contraries at the same time potentially, but not actually. And further, we shall request them to conceive another kind also of substance of existing things, in which there is absolutely no motion or destruction or generation.

And (ii.) similarly the theory that there is truth in appearances has come to some people from an observation of sensible things. They think that the truth 8 should not be judged by the number or fewness of its upholders; and they say that the same thing seems sweet to some who taste it, and bitter to others; so that if all men were diseased or all insane, except two or three who were healthy or sane, the latter would seem to be diseased or insane, and not the others. And further they say that many of the 9 animals as well get from the same things impressions which are contrary to ours, and that the individual himself does not always think the same in matters of sense-perception. Thus it is uncertain which of these impressions are true or false; for one kind is no more true than another, but equally so. And hence Democritus says^a that either there is no truth or we cannot discover it.

And in general it is because they suppose that 10 thought is sense-perception, and sense-perception physical alteration, that they say that the impression given through sense-perception is necessarily true; for it is on these grounds that both Empedocles and Democritus and practically all the rest have become obsessed by such opinions as these. For Empedocles 11

How people come to

8

think that there is truth in appearances.

9

10

11

1009 b

βάλλοντας τὴν ἕξιν μεταβάλλει φησὶ τὴν φρόνησιν·

πρὸς παρεὸν γὰρ μῆτις ἐναύζεται ἀνθρώποισιν.

20 καὶ ἐν ἑτέροις δὲ λέγει ὅτι

ὅσσον <δ>¹ ἄλλοιοι μετέφυν, τόσον ἄρ σφίσιν αἰεὶ
καὶ τὸ φρονεῖν ἄλλοια παρίστατο.

καὶ Παρμενίδης δὲ ἀποφαίνεται τὸν αὐτὸν τρόπον·

ὡς γὰρ ἐκάστοτ'² ἔχει κρᾶσιν μελέων πολυ-
κάμπτων,³

τὼς νόος ἀνθρώποισι παρίσταται· τὸ γὰρ αὐτὸ
ἔστιν ὅπερ φρονεῖν, μελέων φύσις ἀνθρώποισιν,

25 καὶ πᾶσιν καὶ παντί· τὸ γὰρ πλέον ἐστὶ νόημα.

¹ Ἀναξαγόρου δὲ καὶ ἀπόφθεγμα μνημονεύεται πρὸς
τῶν ἑταίρων τινάς, ὅτι τοιαῦτ' αὐτοῖς ἔσται τὰ
ὄντα οἷα ἂν ὑπολάβωσι. φασὶ δὲ καὶ τὸν Ὅμηρον
ταύτην ἔχοντα φαίνεσθαι τὴν δόξαν, ὅτι ἐποίησε
30 τὸν Ἔκτορα, ὡς ἐξέστη ὑπὸ τῆς πληγῆς, κείσθαι
ἄλλοφρονέοντα, ὡς φρονούντας μὲν καὶ τοὺς παρα-
φρονούντας ἄλλ' οὐ ταυτά. δῆλον οὖν ὅτι, εἰ
ἀμφοτέραι φρονήσεις, καὶ τὰ ὄντα ἅμα οὕτω τε
καὶ οὐχ οὕτως ἔχει. ἢ καὶ χαλεπώτατον τὸ συμ-
βαῖνόν ἐστιν· εἰ γὰρ οἱ μάλιστα τὸ ἐνδεχόμενον
35 ἀληθὲς ἑωρακότες (οὗτοι δ' εἰσὶν οἱ μάλιστα ζητοῦν-
τες αὐτὸ καὶ φιλοῦντες), οὗτοι τοιαύτας ἔχουσι
τὰς δόξας καὶ ταῦτα ἀποφαίνονται περὶ τῆς ἀλη-
θείας, πῶς οὐκ ἄξιον ἀθρημῆσαι τοὺς φιλοσοφεῖν

¹ Boissonade.

² ἐκάστοτ' E¹J Theophrastus: ἐκάστῳ A^b Alexander:
ἐκαστος E² Bekker.

³ πολυπλάγκτων Theophrastus.

says that those who change their bodily condition
change their thought :

For according to that which is present to them doth
thought increase in men.^a

And in another passage he says :

And as they change into a different nature, so it ever comes
to them to think differently.^b

And Parmenides too declares in the same way : 12

For as each at any time hath the temperament of his
many-jointed limbs, so thought comes to men. For for each
and every man the substance of his limbs is that very thing
which thinks; for thought is that which preponderates.^c

There is also recorded a saying of Anaxagoras to 13
some of his disciples, that things would be for them
as they judged them to be. And they say that 14
Homer too clearly held this view, because he made
Hector,^d when he was stunned by the blow, lie with
thoughts deranged—thus implying that even those
who are “out of their minds” still think, although
not the same thoughts. Clearly then, if both are
kinds of thought, reality also will be “both so and
not so.” It is along this path that the consequences 15
are most difficult; for if those who have the clearest
vision of such truth as is possible (and these are they
who seek and love it most) hold such opinions and
make these pronouncements about the truth, surely
those who are trying to be philosophers may well

^a Fr. 106.

^b Fr. 108.

^c Fr. 16; quoted also (in a slightly different form; see
critical notes) by Theophrastus, *De Sensu* 3.

^d The only passage in our text of Homer to which this
reference could apply is *Iliad* xxiii. 698; but there the
subject is Euryalus, not Hector.

1009 ^b ἐγχειροῦντας; τὸ γὰρ τὰ πετόμενα διώκειν τὸ
 1010 ^a ζητεῖν ἂν εἴη τὴν ἀλήθειαν. Αἴτιον δὲ τῆς
 δόξης τούτοις ὅτι περὶ τῶν ὄντων μὲν τὴν ἀλήθειαν
 ἐσκόπουν, τὰ δ' ὄντα ὑπέλαβον εἶναι τὰ αἰσθητὰ
 μόνον· ἐν δὲ τούτοις πολλῇ ἢ τοῦ ἀορίστου φύσει
 ἐνυπάρχει, καὶ ἡ τοῦ ὄντος οὕτως ὥσπερ εἶπομεν.
⁵ διὸ εἰκότως μὲν λέγουσιν, οὐκ ἀληθῆ δὲ λέγουσιν·
 οὕτω γὰρ ἀρμόττει μᾶλλον εἰπεῖν ἢ ὥσπερ Ἐπι-
 χαρμος εἰς Ξενοφάνην. ἔτι δὲ πᾶσαν ὄρωντες
 ταύτην κινουμένην τὴν φύσιν, κατὰ δὲ τοῦ μετα-
 βάλλοντος οὐθὲν ἀληθεύομενον, περὶ γε τὸ πάντη
 πάντως μεταβάλλον οὐκ ἐνδέχεται ἀληθεύειν.
 10 ἐκ γὰρ ταύτης τῆς ὑπολήψεως ἐξήνθησεν ἡ ἀκρο-
 τάτη δόξα τῶν εἰρημένων, ἡ τῶν φασκόντων
 ἠρακλειτίζειν, καὶ οἷαν Κρατύλος εἶχεν, ὅς τὸ
 τελευταῖον οὐθὲν ᾤετο δεῖν λέγειν ἀλλὰ τὸν δάκτυ-
 λον ἐκίνει μόνον, καὶ Ἡρακλείτῳ ἐπετίμα εἰπόντι
 ὅτι δις τῷ αὐτῷ ποταμῷ οὐκ ἔστιν ἐμβῆναι·
 15 αὐτὸς γὰρ ᾤετο οὐδ' ἄπαξ. Ἡμεῖς δὲ καὶ
 πρὸς τοῦτον τὸν λόγον ἐροῦμεν ὅτι τὸ μὲν μετα-
 βάλλον ὅτε μεταβάλλει ἔχει τινα αὐτοῖς ἀληθῆ λόγον
 μὴ οἴεσθαι εἶναι, καίτοι ἔστι γε ἀμφισβητήσιμον·
 τὸ τε γὰρ ἀποβάλλον ἔχει τι τοῦ ἀποβαλλομένου,
 καὶ τοῦ γιγνομένου ἤδη ἀνάγκη τι εἶναι. ὅλως
 20 τε εἰ φθείρεται, ὑπάρξει τι ὄν· καὶ εἰ γίγνεται, ἐξ

^a Cf. Leutsch and Schneidewin, *Paroemiographi Graeci*,
 ii. 677.

^b Ch. iv. 28.

^c Fl. early 5th century; held views partly Pythagorean,
 partly Heraclitean.

^d Fr. 41 (Bywater).

despair; for the pursuit of truth will be "chasing
 birds in the air."^a

But the reason why these men hold this view is 16
 that although they studied the truth about reality,
 they supposed that reality is confined to sensible
 things, in which the nature of the Indeterminate,
 i.e. of Being in the sense which we have explained,^b
 is abundantly present. (Thus their statements,
 though plausible, are not true; this form of the 17
 criticism is more suitable than that which Epi-
 charmus^c applied to Xenophanes.) And further, ob-
 serving that all this indeterminate substance is in
 motion, and that no true predication can be made of
 that which changes, they supposed that it is im-
 possible to make any true statement about that which
 is in all ways and entirely changeable. For it was 18
 from this supposition that there blossomed forth the
 most extreme view of those which we have men-
 tioned, that of the professed followers of Hera-
 clitus, and such as Cratylus held, who ended by
 thinking that one need not say anything, and only
 moved his finger; and who criticized Heraclitus
 for saying that one cannot enter the same river
 twice,^d for he himself held that it cannot be done
 even once.

But we shall reply to this theory also that although 19
 that which is changeable supplies them, when it
 changes, with some real ground for supposing that it
 "is not," yet there is something debatable in this;
 for that which is shedding any quality retains some-
 thing of that which is being shed, and something
 of that which is coming to be must already exist.
 And in general if a thing is ceasing to be, there will 20
 be something there which *is*; and if a thing is some degree

The method
 of refuting
 this view.

Even that
 which is
 changing
 exists in

1010 a

οὐ γίνεταί καὶ ὑφ' οὗ γεννᾶται ἀναγκαῖον εἶναι,
καὶ τοῦτο μὴ ἵνα εἰς ἄπειρον. ἀλλὰ ταῦτα
παρέντες ἐκεῖνα λέγωμεν, ὅτι οὐ ταυτό ἐστὶ τὸ
μεταβάλλειν κατὰ τὸ ποσὸν καὶ κατὰ τὸ ποιόν.
25 κατὰ μὲν οὖν τὸ ποσὸν ἔστω μὴ μένον, ἀλλὰ κατὰ
τὸ εἶδος ἅπαντα γινώσκουμεν. ἔτι δ' ἄξιον ἐπι-
τιμῆσαι τοῖς οὕτως ὑπολαμβάνουσιν, ὅτι καὶ αὐτῶν
τῶν αἰσθητῶν ἐπὶ τῶν ἐλαττόνων τὸν ἀριθμὸν
ιδόντες οὕτως ἔχοντα περὶ ὅλου τοῦ οὐρανοῦ
ὁμοίως ἀπεφάναντο. ὁ γὰρ περὶ ἡμᾶς τοῦ αἰσθη-
30 τοῦ τόπου ἐν φθορᾷ καὶ γενέσει διατελεῖ μόνος ὢν.
ἀλλ' οὗτος οὐθὲν ὡς εἰπεῖν μῶριον τοῦ παντός
ἐστίν, ὥστε δικαιότερον ἂν δι' ἐκεῖνα τούτων ἀπ-
εισηφίσαντο ἢ διὰ ταῦτα ἐκείνων κατεψηφίσαντο.

Ἔτι δὲ δῆλον ὅτι καὶ πρὸς τούτους ταῦτ' αὖτε τοῖς
πάλαι λεχθεῖσιν ἐροῦμεν· ὅτι γὰρ ἔστιν ἀκίνητός τις
35 φύσις δεικτέον αὐτοῖς καὶ πειστέον αὐτούς. καίτοι
γε συμβαίνει¹ τοῖς ἅμα φάσκουσιν εἶναι καὶ μὴ
εἶναι ἡρεμεῖν μᾶλλον φάναι πάντα ἢ κινεῖσθαι· οὐ
γὰρ ἔστιν εἰς ὃ τι μεταβαλεῖ². ἅπαντα γὰρ ὑπάρχει
1010 b πᾶσιν.

Περὶ δὲ τῆς ἀληθείας, ὡς οὐ πᾶν τὸ φαι-
νόμενον ἀληθές, πρῶτον μὲν ὅτι οὐ δὴ³ ἢ
αἰσθησις ψευδῆς τοῦ γε⁴ ἰδίου ἐστίν, ἀλλ' ἢ
φαντασία οὐ ταῦτ' ἐπὶ τῆ αἰσθήσει. εἴτ' ἄξιον
θαυμάσαι εἰ τοῦτ' ἀποροῦσι, πότερον τηλικαυτὰ
5 ἐστὶ τὰ μεγέθη καὶ τὰ χρώματα τοιαῦτα οἷα τοῖς

¹ γε συμβαίνει: συμβαίνει γε A^b.

² μεταβαλεῖ Richards: μεταβάλλει EJ Alexander: μετα-
βάλλειν A^b.

³ οὐ δὴ scripsi: οὐδ'.

⁴ γε om. EJΓ comm.

coming to be, that from which it comes and by which
it is generated must be; and this cannot go on to
infinity. But let us leave this line of argument and
remark that quantitative and qualitative change
are not the same. Let it be granted that there is
21 nothing permanent in respect of quantity; but it is
by the *form* that we recognize everything. And
again those who hold the theory that we are attack-
ing deserve censure in that they have maintained
about the whole material universe what they have
observed in the case of a mere minority of sensible
things. For it is only the realm of sense around us
22 which continues subject to destruction and genera-
tion, but this is a practically negligible part of the
whole; so that it would have been fairer for them to
acquit the former on the ground of the latter than
to condemn the latter on account of the former.

Further, we shall obviously say to these thinkers
too the same as we said some time ago^a; for we
must prove to them and convince them that there is
a kind of nature that is not moved (and yet those
23 who claim that things can at once be and not be
are logically compelled to admit rather that fairly
all things are at rest than that they are in motion;
for there is nothing for them to change into, since
everything exists in everything).

And as concerning reality, that not every appear-
ance is real, we shall say, first, that indeed the
perception, at least of the proper object of a sense,
is not false, but the impression we get of it is not
the same as the perception. And then we may fairly
24 express surprise if our opponents raise the question
whether magnitudes and colours are really such as

Quantitative
and qualita-

live change
are not the
same.

It is illogical
to assert of
all things
what is ob-
served only
of a few.

We must try
to show that
there is an
unchanging

reality.

It is our Im-
pressions,
not our per-
ceptions,
that are
false.

^a Ch. v. 7.

1010^b ἀποθεν φαίνεται ἢ οἷα τοῖς ἐγγύθεν, καὶ πότερον
οἷα τοῖς ὑγιαίνουσιν ἢ οἷα τοῖς κάμνουσιν, καὶ
βαρύτερα πότερον ἂ τοῖς ἀσθενοῦσιν ἢ ἂ τοῖς
ισχύουσιν, καὶ ἀληθῆ πότερον ἂ τοῖς καθευδουσιν
10 ἢ ἂ τοῖς ἐγρηγοροῦσιν. ὅτι μὲν γὰρ οὐκ οἴονται γε,
φανερόν· οὐθεὶς γοῦν ἐὰν ὑπολάβῃ νύκτωρ Ἀθήνησιν
εἶναι ὧν ἐν Λιβύῃ, πορεύεται εἰς τὸ ᾧδεῖον. ἔτι
δὲ περὶ τοῦ μέλλοντος, ὥσπερ καὶ Πλάτων λέγει,
οὐ δῆπου ὁμοίως κυρία ἢ τοῦ ἱατροῦ δόξα καὶ ἡ
τοῦ ἀγροῦντος, οἷον περὶ τοῦ μέλλοντος ἔσεσθαι
15 ὑγιοῦς ἢ μὴ μέλλοντος. ἔτι δὲ ἐπ' αὐτῶν τῶν
αἰσθησέων οὐχ ὁμοίως κυρία ἢ τοῦ ἀλλοτρίου καὶ
ιδίου ἢ τοῦ πλησίον καὶ τοῦ αὐτῆς, ἀλλὰ περὶ μὲν
χρώματος ὄψις, οὐ γεύσις, περὶ δὲ χυμοῦ γεύσις,
οὐκ ὄψις· ὧν ἐκάστη ἐν τῷ αὐτῷ χρόνῳ περὶ τὸ
αὐτὸ οὐδέποτε φησιν ἅμα οὕτω καὶ οὐχ οὕτως
20 ἔχειν. ἀλλ' οὐδ' ἐν ἐτέρῳ χρόνῳ περὶ γε τὸ πάθος
ἡμφισβήτησεν, ἀλλὰ περὶ τὸ ᾧ συμβέβηκε τὸ
πάθος. λέγω δ' οἷον ὁ μὲν αὐτὸς οἶνος δόξειεν
ἂν ἢ μεταβαλὼν ἢ τοῦ σώματος μεταβαλόντος ὅτε
μὲν εἶναι γλυκὺς ὅτε δὲ οὐ γλυκὺς· ἀλλ' οὐ τό γε
γλυκὺ οἷον ἔστιν ὅταν ἦ, οὐδεπώποτε μετέβαλεν,
25 ἀλλ' αἰεὶ ἀληθεύει περὶ αὐτοῦ, καὶ ἔστιν ἐξ ἀνάγκης
τὸ ἐσόμενον γλυκὺ τοιοῦτον. καίτοι τοῦτο ἀν-
αιροῦσιν οὗτοι οἱ λόγοι ἅπαντες, ὥσπερ καὶ οὐσίαν
μὴ εἶναι μηθένος, οὕτω μῆδ' ἐξ ἀνάγκης μηθέν·

^a A concert-hall (used also for other purposes) built by Pericles. It lay to the south-east of the Acropolis.

^b *Theaetetus* 171 e, 178 c, seqq.

^c An object of taste is foreign to the sense of sight; a thing may look sweet without tasting sweet. Similarly although the senses of taste and smell (and therefore their objects) are

they appear at a distance or close at hand, as they appear to the healthy or to the diseased; and whether heavy things are as they appear to the weak or to the strong; and whether truth is as it appears to the waking or to the sleeping. For 25 clearly they do not really believe the latter alternative—at any rate no one, if in the night he thinks that he is at Athens whereas he is really in Africa, starts off to the Odeum.^a And again concerning the future (as indeed Plato says ^b) the opinion of the doctor and that of the layman are presumably not equally reliable, e.g. as to whether a man will get well or not. And again in the case of the senses 26 themselves, our perception of a foreign object and of an object proper to a given sense, or of a kindred object and of an actual object of that sense itself, is not equally reliable^c; but in the case of colours sight, and not taste, is authoritative, and in the case of flavour taste, and not sight. But not one of the senses ever asserts at the same time of the same object that it is “so and not so.” Nor even at 27 another time does it make a conflicting statement about the quality, but only about that to which the quality belongs. I mean, e.g., that the same wine may seem, as the result of its own change or of that of one’s body, at one time sweet and at another not; but sweetness, such as it is when it exists, has never yet changed, and there is no mistake about it, and that which is to be sweet is necessarily of such a nature. Yet all these theories destroy the possi- 28 bility of anything’s existing by necessity, inasmuch as they destroy the existence of its essence; for kindred (*De Sensu* 440 b 29), in judging tastes the sense of taste is the more reliable.

1010 b

τὸ γὰρ ἀναγκαῖον οὐκ ἐνδέχεται ἄλλως καὶ ἄλλως
 ἔχειν, ὡστ' εἴ τι ἔστιν ἐξ ἀνάγκης, οὐχ ἔξει οὕτω
 30 τε καὶ οὐχ οὕτως. Ὅλως τ' εἴπερ ἔστι τὸ αἰ-
 σθητὸν μόνον, οὐθὲν ἂν εἴη μὴ ὄντων τῶν ἐμφύγων·
 αἰσθησις γὰρ οὐκ ἂν εἴη. τὸ μὲν οὖν μήτε τὰ αἰ-
 σθητὰ εἶναι μήτε τὰ αἰσθήματα ἴσως ἀληθές (τοῦ
 γὰρ αἰσθανομένου πάθος τοῦτό ἐστι), τὸ δὲ τὰ ὑπο-
 κείμενα μὴ εἶναι, ἃ ποιεῖ τὴν αἰσθησιν, καὶ ἄνευ
 35 αἰσθήσεως ἀδύνατον. οὐ γὰρ δὴ ἢ γ' αἰσθησις
 αὐτῆ ἑαυτῆς ἐστίν, ἀλλ' ἔστι τι καὶ ἕτερον παρὰ
 τὴν αἰσθησιν ὃ ἀνάγκη πρότερον εἶναι τῆς αἰ-
 1011 a σθήσεως· τὸ γὰρ κινεῖν τοῦ κινουμένου φύσει
 πρότερον ἔστι· κἂν εἰ λέγεται πρὸς ἄλληλα ταῦτα,
 οὐθὲν ἦττον.

VI. Εἰσὶ δὲ τινες οἱ ἀποροῦσι καὶ τῶν ταῦτα πεπει-
 σμένων καὶ τῶν τοὺς λόγους τούτους μόνον λεγόν-
 5 των· ζητοῦσι γὰρ τίς ὁ κρινῶν¹ τὸν ὑγιαίνοντα καὶ
 ὄλως τὸν περὶ ἕκαστα κρινοῦντα ὀρθῶς. τὰ δὲ
 τοιαῦτα ἀπορήματα ὁμοιά ἐστι τῷ ἀπορεῖν πότερον
 καθεύδομεν νῦν ἢ ἐγρηγόραμεν, δύνανται δ' αἰ
 ἀπορίαι αἰ τοιαῦται πᾶσαι τὸ αὐτό· πάντων γὰρ
 λόγον ἀξιοῦσιν οὗτοι εἶναι· ἀρχὴν γὰρ ζητοῦσι, καὶ
 10 ταύτην δι' ἀποδείξεως λαμβάνειν, ἐπεὶ ὅτι γε οὐ
 πεπεισμένοι εἰσὶ, φανεροὶ εἰσιν ἐν ταῖς πράξεσιν.
 ἀλλ' ὅπερ εἵπομεν, τοῦτο αὐτῶν τὸ πάθος ἐστίν·
 λόγον γὰρ ζητοῦσιν ὧν οὐκ ἔστι λόγος· ἀποδείξεως
 γὰρ ἀρχὴ οὐκ ἀποδείξις ἐστίν. οὗτοι μὲν οὖν
 15 ραδίως ἂν τοῦτο πεισθεῖεν· ἔστι γὰρ οὐ χαλεπὸν
 λαβεῖν. οἱ δὲ ἐν τῷ λόγῳ τὴν βίαν μόνον ζητοῦντες

¹ κρινῶν Richards: κρίνων.^a Cf. *De Anima* 425 b 25-426 b 8.^b c. iv. 2.

“the necessary” cannot be in one way and in another; and so if anything exists of necessity, it cannot be “both so and not so.”

And in general, if only the sensible exists, without animate things there would be nothing; for there would be no sense-faculty. That there would be neither sensible qualities nor sensations is probably true^a (for these depend upon an effect produced in the percipient), but that the substrates which cause the sensation should not exist even apart from the sensation is impossible. For sensation is not of 30 itself, but there is something else too besides the sensation, which must be prior to the sensation; because that which moves is by nature prior to that which is moved, and this is no less true if the terms are correlative.

VI. But there are some, both of those who really hold these convictions and of those who merely profess these views, who raise a difficulty; they inquire who is to judge of the healthy man, and in general who is to judge rightly in each particular case. But such questions are like wondering whether we are at any given moment asleep or awake; and 2 problems of this kind amount to the same thing. These people demand a reason for everything. They want a starting-point, and want to grasp it by demonstration; while it is obvious from their actions that they have no conviction. But their case is just what we have stated before^b; for they require a reason for things which have no reason, since the starting-point of a demonstration is not a matter of demonstration. The first class, then, may be readily 3 convinced of this, because it is not hard to grasp. But those who look only for cogency in argument look

It cannot be true that 29 only the perceptible exists.

It is impossible to prove every thing, and reasonable people can be made to see this.

1011 a ἀδύνατον ζητοῦσιν· ἐναντία γὰρ εἶπεῖν ἀξιούσιν, εὐθύς ἐναντία λέγοντες. εἰ δὲ μὴ ἐστὶ πάντα πρὸς τι, ἀλλ' ἐνιά ἐστὶ καὶ αὐτὰ καθ' αὐτά, οὐκ ἂν εἴη πᾶν τὸ φαινόμενον ἀληθές· τὸ γὰρ φαινόμενον τι¹ 20 ἐστὶ φαινόμενον· ὥστε ὁ λέγων ἅπαντα τὰ φαινόμενα εἶναι ἀληθῆ, ἅπαντα ποιεῖ τὰ ὄντα πρὸς τι. διὸ καὶ φυλακτέον τοῖς τὴν βίαν ἐν τῷ λόγῳ ζητοῦσιν, ἅμα δὲ καὶ ὑπέχειν λόγον ἀξιούσιν, ὅτι οὐ τὸ φαινόμενον ἔστιν, ἀλλὰ τὸ φαινόμενον ᾧ φαίνεται καὶ ὅτε φαίνεται καὶ ἧ καὶ ὡς. ἂν δ' 25 ὑπέχωσι μὲν λόγον, μὴ οὕτω δὲ ὑπέχωσι, συμβήσεται αὐτοῖς τάναντία ταχὺ λέγειν. ἐνδέχεται γὰρ τῷ αὐτῷ¹ κατὰ μὲν τὴν ὄψιν μέλι φαίνεσθαι, τῇ δὲ γεύσει μή, καὶ τὴν ὀφθαλμῶν δυοῖν ὄντων μὴ ταῦτὰ ἑκατέρω τῇ ὄψει, ἂν ὦσιν ἀνόμοιοι· ἐπεὶ πρὸς γε τοὺς διὰ τὰς πάλαι εἰρημένους αἰτίας τὸ 30 φαινόμενον φάσκοντας ἀληθές εἶναι, καὶ διὰ τοῦτο πάνθ' ὁμοίως εἶναι ψευδῆ καὶ ἀληθῆ· οὔτε γὰρ ἅπασι ταῦτὰ φαίνεσθαι οὔτε ταῦτῷ² αἰεὶ ταῦτά, ἀλλὰ πολλάκις τάναντία κατὰ τὸν αὐτὸν χρόνον (ἧ μὲν γὰρ ἀφή δύο λέγει ἐν τῇ ἐπαλλάξει τῶν δακτύλων, ἧ δ' ὄψις ἓν)—ἀλλ' οὐ τι³ τῇ αὐτῇ γε 35 καὶ κατὰ τὸ αὐτὸ αἰσθήσει καὶ ὡσαύτως καὶ ἐν 1011 b τῷ αὐτῷ χρόνῳ, ὥστε τοῦτ' ἂν εἴη ἀληθές. ἀλλ' ἴσως διὰ τοῦτ' ἀνάγκη λέγειν τοῖς μὴ δι' ἀπορίαν ἀλλὰ λόγου χάριν λέγουσιν, ὅτι οὐκ ἔστιν ἀληθές τοῦτο, ἀλλὰ τούτῳ ἀληθές. καὶ ὡσπερ δὴ πρό-

¹ τῷ αὐτῷ E.J.G.: τὸ αὐτὸ.

² ταῦτῳ T comm. Bessarion Aldine: ἐαυτῷ A^b: αὐτῷ E.J.G.

³ οὐ τι: οὔτε recc.

^c c. v. 7-17.

^d Cf. *Problemata* 958 b 14, 959 a 15, 965 a 36.

for an impossibility, for they claim the right to contradict themselves, and lose no time in doing so. To those Yet if not everything is relative, but some things 4 are self-existent, not every appearance will be true; for an appearance is an appearance to someone. And so he who says that all appearances are true 5 makes everything relative. Hence those who demand something cogent in argument, and at the same time claim to make out a case, must guard themselves by saying that the appearance is true not in itself, but for him to whom it appears, and at the time when it appears, and in the way and manner in which it appears. And if they make out a case without this qualification, as a result they will soon contradict themselves; for it is possible in the case 6 of the same man for a thing to appear honey to the sight, but not to the taste, and for things to appear different to the sight of each of his two eyes, if their sight is unequal. For to those who assert (for the reasons previously stated^a) that appearances are true, and that all things are therefore equally false and true, because they do not appear the same to all, nor always the same to the same person, but often have contrary appearances at the same time (since if one crosses the fingers touch says that an 7 object is two, while sight says that it is only one^b), we shall say "but not to the same sense or to the same part of it in the same way and at the same time"; so that with this qualification the appearance will be true. But perhaps it is for this reason that those who argue not from a sense of difficulty but for argument's sake are compelled to say that the appearance is not true in itself, but true to the percipient; and, as we have said before, are com- 8

1011 b

ἔτερον εἴρηται, ἀνάγκη καὶ πρὸς τι ποιεῖν ἅπαντα καὶ πρὸς δόξαν καὶ αἴσθησιν, ὥστ' οὔτε γέγονεν οὔτ' ἔσται οὐθὲν μηθενὸς προδοξάσαντος. εἰ δὲ γέγονεν ἢ ἔσται, δῆλον ὅτι οὐκ ἂν εἴη ἅπαντα πρὸς δόξαν.

Ἔτι εἰ ἔν, πρὸς ἓν ἢ πρὸς ὠρισμένον· καὶ εἰ τὸ αὐτὸ καὶ ἡμισυ καὶ ἴσον, ἀλλ' οὐ πρὸς τὸ διπλάσιόν γε τὸ ἴσον. πρὸς δὲ τὸ δοξάζον εἰ ταῦτο ἄνθρωπος καὶ τὸ δοξαζόμενον, οὐκ ἔσται ἄνθρωπος τὸ δοξάζον, ἀλλὰ τὸ δοξαζόμενον. εἰ δ' ἕκαστον ἔσται πρὸς τὸ δοξάζον, πρὸς¹ ἄπειρα ἔσται τῷ εἶδει τὸ δοξάζον. Ὅτι μὲν οὖν βεβαιοτάτη δόξα πασῶν τὸ μὴ εἶναι ἀληθεῖς ἅμα τὰς ἀντικει-
 15 μένας φάσεις, καὶ τί συμβαίνει τοῖς οὕτω λέγουσι, καὶ διὰ τί οὕτω λέγουσι, τοσαῦτα εἰρήσθω. ἐπεὶ δ' ἀδύνατον τὴν ἀντίφασιν ἀληθεύεσθαι ἅμα κατὰ τοῦ αὐτοῦ, φανερόν ὅτι οὐδὲ τὰναντία ἅμα ὑπάρχειν ἐνδέχεται τῷ αὐτῷ. τῶν μὲν γὰρ ἐναντίων θάτερον στέρησις ἔστιν οὐχ ἥττον, οὐσίας δὲ στέρησις· ἢ δὲ στέρησις² ἀπόφασις ἔστιν ἀπὸ τινος ὠρισμένου
 20 γένους. εἰ οὖν ἀδύνατον ἅμα καταφάναι καὶ ἀποφάναι ἀληθῶς, ἀδύνατον καὶ τὰναντία ὑπάρχειν ἅμα, ἀλλ' ἢ πῆ ἄμφω, ἢ θάτερον μὲν πῆ θάτερον δὲ ἀπλῶς.

VII. Ἀλλὰ μὴν οὐδὲ μεταξὺ ἀντιφάσεως ἐνδέχεται εἶναι οὐθέν, ἀλλ' ἀνάγκη ἢ φάναι ἢ ἀποφάναι ἓν

¹ πρὸς om. FJ.

² ἢ δὲ στέρησις A^b comm.: om. EJT.

pelled also to make everything relative and dependent upon opinion and sensation, so that nothing has happened or will happen unless someone has first formed an opinion about it; otherwise clearly all things would not be relative to opinion.

Further, if a thing is one, it is relative to one thing or to something determinate. And if the same thing is both a half and an equal, yet the equal is not relative to the double. If to the thinking subject⁹ "man" and the object of thought are the same, "man" will be not the thinking subject but the object of thought; and if each thing is to be regarded as relative to the thinking subject, the thinking subject will be relative to an infinity of specifically different things.

That the most certain of all beliefs is that opposite¹⁰ statements are not both true at the same time, and what follows for those who maintain that they are true, and why these thinkers maintain this, may be regarded as adequately stated. And since the contradiction of a statement cannot be true at the same time of the same thing, it is obvious that contraries cannot apply at the same time to the same thing. For in each pair of contraries one is a privation no less than it is a contrary—a privation of substance.¹¹ And privation is the negation of a predicate to some defined genus. Therefore if it is impossible at the same time to affirm and deny a thing truly, it is also impossible for contraries to apply to a thing at the same time; either both must apply in a modified sense, or one in a modified sense and the other absolutely.

VII. Nor indeed can there be any intermediate Arguments to prove the law of the between contrary statements, but of one thing we

3011 b

25 καθ' ἐνός ὅτιοῦν. δῆλον δὲ πρῶτον μὲν ὀρι-
 σαμένοις τί τὸ ἀληθές καὶ ψεῦδος. τὸ μὲν γὰρ
 λέγειν τὸ ὄν μὴ εἶναι ἢ τὸ μὴ ὄν εἶναι ψεῦδος, τὸ
 δὲ τὸ ὄν εἶναι καὶ τὸ μὴ ὄν μὴ εἶναι ἀληθές,
 ὥστε καὶ ὁ λέγων εἶναι ἢ μὴ ἀληθεύσει ἢ ψεύσεται.
 ἀλλ' οὔτε τὸ ὄν λέγεται μὴ εἶναι ἢ εἶναι οὔτε τὸ
 30 μὴ ὄν. ἔτι ἦτοι² μεταξὺ ἔσται τῆς ἀντιφάσεως
 ὥσπερ τὸ φαιὸν μέλανος καὶ λευκοῦ, ἢ ὡς τὸ
 μηδέτερον ἀνθρώπου καὶ ἵππου. εἰ μὲν οὖν
 οὕτως, οὐκ ἂν μεταβάλλοι (ἐκ μὴ ἀγαθοῦ γὰρ
 εἰς ἀγαθὸν μεταβάλλει, ἢ ἐκ τούτου εἰς μὴ ἀγαθόν).
 νῦν δ' ἀεὶ φαίνεται. οὐ γὰρ ἔστι μεταβολή ἀλλ'
 35 ἢ εἰς τὰ ἀντικείμενα καὶ μεταξύ. εἰ δ' ἔστι
 1012 a μεταξύ, καὶ οὕτως εἶη ἂν τις εἰς λευκὸν οὐκ ἐκ
 μὴ λευκοῦ γένεσις· νῦν δ' οὐχ ὁράται. ἔτι πᾶν
 τὸ διανοητὸν καὶ νοητὸν ἢ διάνοια ἢ κατάφησιν
 ἢ ἀπόφησιν—τούτο δ' ἐξ ὀρισμοῦ δῆλον—ὅταν
 ἀληθεύῃ ἢ ψεύδῃται· ὅταν μὲν ὠδὶ συνθῆ φάσα ἢ
 5 ἀποφάσα, ἀληθεύει, ὅταν δὲ ὠδί, ψεύδεται. Ἔτι
 παρὰ πάσας δεῖ εἶναι τὰς ἀντιφάσεις, εἰ μὴ λόγου
 ἕνεκα λέγεται· ὥστε καὶ οὔτε ἀληθεύσει τις οὔτ'³
 οὐκ ἀληθεύσει· καὶ παρὰ τὸ ὄν καὶ τὸ μὴ ὄν ἔσται,
 ὥστε καὶ παρὰ γένεσιν καὶ φθορὰν μεταβολή
 τις ἔσται. Ἔτι ἐν ὅσοις γένεσιν ἢ ἀπόφασιν
 10 τὸ ἐναντίον ἐπιφέρει, καὶ ἐν τούτοις ἔσται, οἶον

² ἦτοι] ἦτοι τὸ A^b.

³ It is not *qua* grey (*i.e.* intermediate between white and black) that grey changes to white, but *qua* not-white (*i.e.* containing a certain proportion of black).

must either assert or deny one thing, whatever it ^{excluded} may be. This will be plain if we first define truth ^{middle.} and falsehood. To say that what is is not, or that what is not is, is false; but to say that what is is, and what is not is not, is true; and therefore also he who says that a thing is or is not will say either what is true or what is false. But neither what is nor 2 what is not is said not to be *or* to be. Further, an intermediate between contraries will be intermediate either as grey is between black and white, or as "neither man nor horse" is between man and horse. If in the latter sense, it cannot change (for change is from not-good to good, or from good to not-good); but in fact it is clearly always changing; for change 3 can only be into the opposite and the intermediate. And if it is a true intermediate, in this case too there would be a kind of change into white not from not-white; but in fact this is not seen.^a Further, the understanding either affirms or denies every object of understanding or thought (as is clear from the definition ^b) whenever it is right or wrong. When, in 4 asserting or denying, it combines the predicates in one way, it is right; when in the other, it is wrong. Again, unless it is maintained merely for argument's sake, the intermediate must exist beside all contrary terms; so that one will say what is neither true nor false. And it will exist beside what is and what is not; so that there will be a form of change beside generation and destruction.

Again, there will also be an intermediate in all ⁵ classes in which the negation of a term implies the contrary assertion; *e.g.*, among numbers there will

^b § 1.

1012 a

ἐν ἀριθμοῖς οὔτε περιττὸς οὔτε οὐ περιττὸς ἀριθμός· ἀλλ' ἀδύνατον· ἐκ τοῦ ὀρισμοῦ δὲ δηλόν. "Ἐτι εἰς ἄπειρον βυδιέεται, καὶ οὐ μόνον ἡμίωλια τὰ ὄντα ἔσται ἀλλὰ πλείω. πάλιν γὰρ ἔσται ἀποφῆσαι τοῦτο πρὸς τὴν φάσιν καὶ τὴν ἀπόφασιν, καὶ τοῦτ' ἔσται τι· ἢ γὰρ οὐσία ἐστὶ τις αὐτοῦ ἄλλη. "Ἐτι ὅταν ἐρομένου εἰ λευκὸν ἐστίν εἶπη ὅτι οὐ, οὐθὲν ἄλλο ἀποπέφηκεν ἢ τὸ εἶναι· ἀπόφασις δὲ τὸ μὴ εἶναι. Ἐλήλυθε δ' ἐνίοις αὕτη ἢ δόξα ὡσπερ καὶ ἄλλαι τῶν παραδόξων· ὅταν γὰρ λύειν μὴ δύνωνται λόγους ἐριστικούς, ἐνδόντες τῷ λόγῳ σύμφασιν ἀληθῆς εἶναι τὸ συλλογισθέν. οἱ μὲν οὖν διὰ τοιαύτην αἰτίαν λέγουσιν, οἱ δὲ διὰ τὸ πάντων ζητεῖν λόγον· ἀρχὴ δὲ πρὸς ἅπαντας τούτους ἐξ ὀρισμοῦ. ὀρισμὸς δὲ γίνεταί ἐκ τοῦ σημαίνειν τι ἀναγκαῖον εἶναι αὐτούς· ὁ γὰρ λόγος, οὐ τὸ ὄνομα σημεῖον, ὀρισμὸς γίνεταί. ἔοικε δ' ὁ μὲν Ἡρακλείτου λόγος, λέγων πάντα εἶναι καὶ μὴ εἶναι, ἅπαντα ἀληθῆ ποιεῖν, ὁ δ' Ἀναξαγόρου, εἶναι τι μεταξὺ τῆς ἀντιφάσεως, ὡστε πάντα ψευδῆ· ὅταν γὰρ μυχθῆ, οὔτε ἀγαθὸν οὔτε οὐκ ἀγαθὸν τὸ μίγμα, ὡστ' οὐδὲν εἰπεῖν ἀληθές.

VIII. Διωρισμένων δὲ τούτων φανερόν· ὅτι καὶ τὰ 30 μαχοῦς λεγόμενα καὶ τὰ κατὰ πάντων ἀδύνατον

¹ ἀποπέφηκεν JΓ Bessarion: ἀποπέφηκεν ΕΛ^b: ἀποπέφακεν Christ.

^a What definition Aristotle had in mind we cannot tell; but it must have stated that every number is either even or odd.

^b If besides A and not-A there is an intermediate B, besides B and not-B there will be an intermediate C which is neither B nor not-B; and so on.

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be a number which is neither odd nor not-odd. But this is impossible, as is clear from the definition.^a

Again, there will be an infinite progression, and existing things will be not only half as many again, but even more. For again it will be possible to deny 6 the intermediate in reference both to its assertion and to its negation, and the result will be something ^b; for its essence is something distinct.

Again, when a man is asked whether a thing is white and says "no," he has denied nothing except that it is <white>, and its not-being <white> is a negation.

Now this view has occurred to certain people in 7 just the same way as other paradoxes have also occurred; for when they cannot find a way out from eristic arguments, they submit to the argument and admit that the conclusion is true. Some, then, hold the theory for this kind of reason, and others because they require an explanation for everything. In dealing with all such persons the starting-point is from definition; and definition results from the 8 necessity of their meaning something; because the formula, which their term implies, will be a definition.^c The doctrine of Heraclitus, which says that everything is and is not,^d seems to make all things true; and that of Anaxagoras^e seems to imply an intermediate in contradiction, so that all things are false; for when things are mixed, the mixture is neither good nor not-good; and so no statement is true.

VIII. It is obvious from this analysis that the one-sided and sweeping statements which some people make cannot be substantially true—some maintain-

Falsity of certain sweeping statements

^c Cf. c. iv. 5, 6.

^d Cf. c. iii. 10.

^e Cf. c. iv. 28.

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1012^a ὑπάρχειν, ὡσπερ τινες λέγουσιν, οἱ μὲν οὐθὲν
 φάσκοντες ἀληθὲς εἶναι (οὐθὲν γὰρ κωλύειν φασὶν
 οὕτως ἅπαντα εἶναι ὡσπερ τὸ τὴν διάμετρον
 σύμμετρον εἶναι), οἱ δὲ πάντ' ἀληθῆ. σχεδὸν γὰρ
 οὗτοι οἱ λόγοι οἱ αὐτοὶ τῷ Ἡρακλείτου· ὁ γὰρ
 35 λέγων ὅτι πάντ' ἀληθῆ καὶ πάντα ψευδῆ, καὶ
 1012^b χωρὶς λέγει τῶν λόγων ἑκάτερον τούτων, ὥστ'
 εἶπερ ἀδύνατα ἐκεῖνα, καὶ ταῦτα ἀδύνατον εἶναι.
 ἔτι δὲ φανερώς ἀντιφάσεις εἰσὶν ἅς οὐχ οἶόν τε
 ἅμα ἀληθεῖς εἶναι· οὐδὲ δὴ ψευδεῖς πάσας· καίτοι
 δόξειέ γ' ἂν μᾶλλον ἐνδέχασθαι ἐκ τῶν εἰρημμένων.
 5 ἀλλὰ πρὸς ἅπαντας τοὺς τοιοῦτους λόγους αἰτεῖ-
 σθαι δεῖ, καθάπερ ἐλέχθη καὶ ἐν τοῖς ἐπάνω λόγοις,
 οὐκ εἶναι τι ἢ μὴ εἶναι ἀλλὰ σημαίνειν τι, ὥστε
 ἐξ ὀρισμοῦ διαλεκτέον λαβόντας τί σημαίνει τὸ
 ψεῦδος ἢ τὸ ἀληθές. εἰ δὲ μὴθὲν ἄλλο¹ τὸ ἀληθές
 10 φάναι ἢ² ἀποφάναι ψεῦδος ἔστιν, ἀδύνατον πάντα
 ψευδῆ εἶναι· ἀνάγκη γὰρ τῆς ἀντιφάσεως θάτερον
 εἶναι μόνιον ἀληθές. ἔτι εἰ πᾶν ἢ φάναι ἢ ἀπο-
 φάναι ἀναγκαῖον, ἀδύνατον ἀμφοτέρα ψευδῆ εἶναι·
 θάτερον γὰρ μέρος τῆς ἀντιφάσεως ψεῦδος ἔστιν.
 συμβαίνει δὴ καὶ τὸ θρυλούμενον πᾶσι τοῖς
 15 τοιοῦτοις λόγοις, αὐτοὺς ἑαυτοὺς ἀναιρεῖν· ὁ
 μὲν γὰρ πάντα ἀληθῆ λέγων καὶ τὸν ἐναντίον
 αὐτοῦ λόγον ἀληθῆ ποιεῖ, ὥστε τὸν ἑαυτοῦ οὐκ
 ἀληθῆ (ὁ γὰρ ἐναντίος οὗ φησιν αὐτὸν ἀληθῆ),
 ὁ δὲ πάντα ψευδῆ καὶ αὐτὸς αὐτόν. εἰ δ' ἐξ-
 αιρῶνται ὁ μὲν τὸν ἐναντίον ὡς οὐκ ἀληθῆς μόνος
 20 ἐστίν, ὁ δὲ τὸν αὐτὸς αὐτοῦ ὡς οὐ ψευδῆς, οὐθὲν

¹ ἄλλο] ἄλλο ἢ E.J.

² ἢ] ἢ <δ> Ross.

^a A stock example of impossibility and falsity; see Index.

ing that nothing is true (for they say that there is ^{about} reality.
 no reason why the same rule should not apply to
 everything as applies to the commensurability of the
 diagonal of a square ^a), and some that everything
 is true. These theories are almost the same as that 2
 of Heraclitus. For the theory which says that all
 things are true and all false also makes each of these
 statements separately; so that if they are impossible
 in combination they are also impossible individually.
 And again obviously there are contrary statements
 which cannot be true at the same time. Nor can
 they all be false, although from what we have said
 this might seem more possible. But in opposing all 3
 such theories we must demand, as was said in our
 discussion above,^b not that something should be or
 not be, but some significant statement; and so we
 must argue from a definition, having first grasped
 what "falsehood" or "truth" means. And if to
 assert what is true is nothing else than to deny what
 is false, everything cannot be false; for one part of
 the contradiction must be true. Further, if every- 4
 thing must be either asserted or denied, both parts
 cannot be false; for one and only one part of the
 contradiction is false. Indeed, the consequence
 follows which is notorious in the case of all such
 theories, that they destroy themselves; for he who 5
 says that everything is true makes the opposite
 theory true too, and therefore his own untrue (for
 the opposite theory says that his is not true); and
 he who says that everything is false makes himself a
 liar. And if they make exceptions, the one that the 6
 opposite theory alone is not true, and the other that
 his own theory alone is not false, it follows none the

^b a. iv. 5.

1012^b ἦπτον ἀπείρους συμβαίνει αὐτοῖς αἰτεῖσθαι λόγους ἀληθεῖς καὶ ψευδεῖς· ὁ γὰρ λέγων τὸν ἀληθῆ λόγον ἀληθῆ ἀληθῆς, τοῦτο δ' εἰς ἄπειρον βαδιεῖται.

Φανερόν δ' ὅτι οὐδ' οἱ πάντα ἡρεμεῖν λέγοντες ἀληθῆ λέγουσιν, οὐδ' οἱ πάντα κινεῖσθαι. εἰ μὲν 25 γὰρ ἡρεμεῖ πάντα, αἰεὶ ταῦτα ἀληθῆ καὶ ψευδῆ ἔσται, φαίνεται δὲ τοῦτο μεταβάλλον· ὁ γὰρ λέγων ποτὲ αὐτὸς οὐκ ἦν καὶ πάλιν οὐκ ἔσται. εἰ δὲ πάντα κινεῖται, οὐθὲν ἔσται ἀληθές· πάντα ἄρα ψευδῆ. ἀλλὰ δέδεικται ὅτι ἀδύνατον. ἔτι ἀνάγκη τὸ ὄν¹ μεταβάλλειν· ἕκ τινος γὰρ εἰς τι ἢ 30 μεταβολῆ. ἀλλὰ μὴν οὐδὲ πάντα ἡρεμεῖ ἢ κινεῖται ποτέ,² αἰεὶ δ' οὐθὲν ἔστι γάρ τι ὁ αἰεὶ κινεῖ τὰ κινούμενα· καὶ τὸ πρῶτον κινοῦν ἀκίνητον αὐτό.

¹ ἀνάγκη τὸ ὄν] τὸ ὄν ἀνάγκη A^b.

² ποτέ] ποτέ δέ EΛ^b.

^a The sphere of the fixed stars; cf. XII. vi., vii. 1, viii. 18.

^b Cf. XII. vii.

less that they postulate an infinite number of true and false statements. For the statement that the true statement is true is also true; and this will go on to infinity.

Nor, as is obvious, are those right who say that all 7 things are at rest; nor those who say that all things are in motion. For if all things are at rest, the same things will always be true and false, whereas "this state of affairs" is obviously subject to change; for the speaker himself once did not exist, and again he will not exist. And if all things are in motion, nothing will be true, so everything will be false; but this has been proved to be impossible. Again, it must 8 be that which is that changes, for change is from something into something. And further, neither is it true that all things are at rest or in motion sometimes, but nothing continuously; for there is something ^a which always moves that which is moved, and the "prime mover" is itself unmoved.^b

BOOK V

Δ

1012 b

I. Ἄρχῃ λέγεται ἢ μὲν ὅθεν ἂν τις τοῦ πράγ-
 35 ματος κινηθεῖν πρῶτον, οἷον τοῦ μήκουσ καὶ
 1013 a ὁδοῦ ἐντεῦθεν μὲν αὕτη ἀρχή, ἐξ ἐναντίας δ'
 ἑτέρα· ἢ δὲ ὅθεν ἂν κάλλιστα ἕκαστον γένοιτο,¹
 οἷον καὶ μαθήσεως οὐκ ἀπὸ τοῦ πρώτου καὶ τῆς
 τοῦ πράγματος ἀρχῆς ἐνίοτε ἀρκτέον, ἀλλ' ὅθεν
 ῥᾶστ' ἂν μάθοι· ἢ δὲ ὅθεν πρῶτον γίνεταί ἐν-
 5 υπάρχοντος, οἷον ὡς πλοίου τρόπισ καὶ οἰκίας
 θεμέλιος, καὶ τῶν ζῴων οἱ μὲν καρδίαν οἱ δὲ
 ἐγκέφαλον οἱ δ' ὅ τι ἂν τύχῃσι τοιοῦτον ὑπο-
 λαμβάνουσιν· ἢ δὲ ὅθεν γίνεταί πρῶτον μὴ
 ἐνυπάρχοντος, καὶ ὅθεν πρῶτον ἢ κίνησις πέφυκεν
 10 ἀρχεσθαὶ καὶ ἢ μεταβολή, οἷον τὸ τέκνον ἐκ τοῦ
 πατρὸς καὶ τῆς μητρὸς καὶ ἢ μάχη ἐκ τῆς λοιδο-
 ρίας· ἢ δὲ οὐ κατὰ προαίρεσιν κινεῖται τὰ κινού-
 μενα καὶ μεταβάλλει τὰ μεταβάλλοντα, ὥσπερ
 αἱ τε κατὰ πόλεις ἀρχαὶ καὶ αἱ δυναστεῖαι καὶ αἱ
 βασιλεῖαι καὶ τυραννίδες. ἀρχαὶ <δὲ>² λέγονται
 καὶ αἱ τέχναι, καὶ τούτων αἱ ἀρχιτεκτονικαὶ
 15 μάλιστα. ἐτι ὅθεν γνωστὸν τὸ πρᾶγμα πρῶτον,

¹ ἕκαστον γένοιτο] γένοιτο ἕκαστον A.

² ἀρχαὶ <δὲ> scripsi.

^a ἀρχή means "starting-point," "principle," "rule" or "ruler."

^b This was Aristotle's own view, *De Gen. An.* 738 b 16.

I. "Beginning" ^a means: (a) That part of a thing from which one may first move; e.g., a line or a journey has one beginning *here*, and another at the opposite extremity. (b) The point from which each thing may best come into being; e.g., a course of study should sometimes be begun not from what is primary or from the starting-point of the subject, but from the point from which it is easiest to learn. (c) That thing as a result of whose presence something first comes into being; e.g., as the keel is the beginning of a ship, and the foundation that of a house, and as in the case of animals some thinkers suppose the heart ^b to be the "beginning," others the brain,^c and others something similar, whatever it may be. (d) That from which, although not present in it, a thing first comes into being, and that from which motion and change naturally first begin, as the child comes from the father and mother, and fighting from abuse. (e) That in accordance with whose deliberate choice that which is moved is moved, and that which is changed is changed; such as magistracies, authorities, monarchies and despotisms. (f) Arts are also called "beginnings," ^d especially the architectonic arts. (g) Again, "beginning" means

^a So Plato held, *Timaeus* 44 D.

^d As directing principles.

BOOK V.
 DEFINITIONS
 OF VARIOUS
 TERMS.
 "Begin-
 ning."

1013^a καὶ αὕτη ἀρχὴ λέγεται τοῦ πράγματος, οἷον τῶν ἀποδείξεων αἱ ὑποθέσεις. ἰσαχῶς δὲ καὶ τὰ αἷτια λέγεται· πάντα γὰρ τὰ αἷτια ἀρχαί. Πασῶν μὲν οὖν κοινὸν τῶν ἀρχῶν τὸ πρῶτον εἶναι ὅθεν ἢ ἔστω ἢ γίνεταί ἢ γινώσκειται· τούτων δὲ αἱ 20 μὲν ἐνυπάρχουσαί εἰσιν αἱ δὲ ἐκτός. διὸ ἢ τε φύσις ἀρχὴ καὶ τὸ στοιχεῖον καὶ ἡ διάνοια καὶ ἡ προαίρεσις καὶ οὐσία καὶ τὸ οὐ ἔνεκα· πολλῶν γὰρ καὶ τοῦ γνῶναι καὶ τῆς κινήσεως ἀρχὴ τάγαθόν καὶ τὸ καλόν.²

II. Αἷτιον λέγεται ἓνα μὲν τρόπον ἐξ οὗ γίνεταί 25 τι ἐνυπάρχοντος, οἷον ὁ χαλκὸς τοῦ ἀνδριάντος καὶ ὁ ἄργυρος τῆς φιάλης καὶ τὰ τούτων γένη· ἄλλον δὲ τὸ εἶδος καὶ τὸ παράδειγμα· τοῦτο δ' ἐστὶν ὁ λόγος τοῦ τί ἦν εἶναι καὶ τὰ τούτου³ γένη, οἷον τοῦ διὰ πασῶν τὸ⁴ δύο πρὸς ἓν καὶ ὅλως ὁ ἀριθμὸς 30 καὶ τὰ μέρη τὰ ἐν τῷ λόγῳ. ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἢ πρώτη ἢ τῆς ἡρεμῆσεως, οἷον ὁ βουλευσας αἷτιος, καὶ ὁ πατὴρ τοῦ τέκνου, καὶ ὅλως τὸ ποιῶν τοῦ ποιουμένου καὶ τὸ μεταβλητικὸν τοῦ μεταβάλλοντος. ἔτι ὡς τὸ τέλος· τοῦτο δ' ἐστὶ τὸ οὐ ἔνεκα, οἷον τοῦ περιπατεῖν ἢ ὑγίεια. διὰ τί γὰρ περιπατεῖ; φαμέν, ἵνα 35 ὑγιαίνῃ, καὶ εἰπόντες οὕτως οἰόμεθα ἀποδεῶν κέναι τὸ αἷτιον. καὶ ὅσα δὲ κινήσαντος ἄλλου 1013^b μεταξὺ γίνεταί τοῦ τέλους, οἷον τῆς ὑγείας ἢ ἰσχυασία ἢ ἡ κάθαρσις ἢ τὰ φάρμακα ἢ τὰ

¹ καὶ] καὶ γὰρ A^b.

² τούτων] τούτων recc.

³ καλόν Alexander: κακόν.

⁴ τὸ A^b: τὰ.

^a i.e., the material cause.

^b sc. of material—metal, wood, etc.

the point from which a thing is first comprehensible, this too is called the "beginning" of the thing; e.g. the hypotheses of demonstrations. ("Cause" can have a similar number of different senses, for all causes are "beginnings.")

It is a common property, then, of all "beginnings" ³ to be the first thing from which something either exists or comes into being or becomes known; and some beginnings are originally inherent in things, while others are not. Hence "nature" is a beginning, and so is "element" and "understanding" and "choice" and "essence" and "final cause"—for in many cases the Good and the Beautiful are the beginning both of knowledge and of motion.

II. "Cause" means: (a) in one sense, that ^a as "Cause," the result of whose presence something comes into being—e.g. the bronze of a statue and the silver of a cup, and the classes ^b which contain these; (b) in another sense, the form or pattern; that is, the essential formula and the classes which contain it—e.g. the ratio 2:1 and number in general is the cause of the octave—and the parts of the formula. (c) The source of the first beginning of change or rest; e.g. the man who plans is a cause, and the father is the cause of the child, and in general that which produces is the cause of that which is produced, and that which changes of that which is changed. (d) The same as "end"; i.e. the final cause; e.g., as the "end" of walking is health. For why does a man walk? "To be healthy," we say, and by saying this we consider that we have supplied the cause. (e) All those means towards the end which arise at the instigation of something else; as, e.g. fat-reducing, purging, drugs and instruments are causes of health;

1013^b

ὄργανα· πάντα γὰρ ταῦτα τοῦ τέλους ἕνεκά ἐστι, διαφέρει δὲ ἀλλήλων ὡς ὄντα τὰ μὲν ὄργανα, τὰ δ' ἔργα.

Τὰ μὲν οὖν αἷτια σχεδὸν τοσαυταχῶς λέγεται, 5 συμβαίνει δὲ πολλαχῶς λεγομένων τῶν αἰτίων καὶ πολλὰ τοῦ αὐτοῦ αἷτια εἶναι οὐ κατὰ συμβεβηκός, οἷον τοῦ ἀνδριάντος καὶ ἡ ἀνδριαντοποιικῆ¹ καὶ ὁ χαλκός οὐ καθ' ἕτερόν τι, ἀλλ' ἢ ἀνδριάς· ἀλλ' οὐ τὸν αὐτὸν τρόπον, ἀλλὰ τὸ μὲν ὡς ὕλη τὸ δ' ὡς ὄθεν ἢ κίνησις. καὶ ἀλλήλων 10 αἷτια, οἷον τὸ πονεῖν τῆς εὐεξίας καὶ αὐτῆ τοῦ πονεῖν· ἀλλ' οὐ τὸν αὐτὸν τρόπον, ἀλλὰ τὸ μὲν ὡς τέλος τὸ δ' ὡς ἀρχὴ κινήσεως. ἔτι δὲ ταῦτὸ ἐνίοτε τῶν ἐναντίων ἐστίν· ὁ γὰρ παρὸν αἷτιον τουδί, τοῦτ' ἀπὸν αἷτιώμεθα ἐνίοτε τοῦ ἐναντίου, οἷον τὴν ἀπουσίαν τοῦ κυβερνήτου τῆς ἀνατροπῆς, 15 οὐ ἦν ἢ παρουσία αἷτια τῆς σωτηρίας· ἄμφω δέ, καὶ ἡ παρουσία καὶ ἡ στέρησις, αἷτια ὡς κινουντα.

Ἄπαντα δὲ τὰ νῦν εἰρημένα αἷτια εἰς τέτταρας 20 τρόπους πίπτει τοὺς φανερωτάτους. τὰ μὲν γὰρ στοιχεῖα τῶν συλλαβῶν καὶ ἡ ὕλη τῶν σκευαστῶν καὶ τὸ πῦρ καὶ ἡ γῆ καὶ τὰ τοιαῦτα πάντα τῶν σωμάτων καὶ τὰ μέρη τοῦ ὄλου καὶ αἱ ὑποθέσεις τοῦ συμπεράσματος ὡς τὸ ἐξ οὐ αἷτια ἐστίν· τούτων δὲ τὰ μὲν ὡς τὸ ὑποκείμενον, οἷον τὰ μέρη, τὰ δὲ ὡς τὸ τί ἦν εἶναι, τό τε ὄλον καὶ ἡ σύνθεσις καὶ τὸ εἶδος. τὸ δὲ σπέρμα καὶ ὁ 25 ἰατρὸς καὶ ὁ βουλευσας καὶ ὄλως τὸ ποιοῦν, πάντα ὄθεν ἢ ἀρχὴ τῆς μεταβολῆς ἢ στάσεως τὰ δ' ἄλλα ὡς τὸ τέλος καὶ τάγαθὸν τῶν ἄλλων

¹ ἀνδριαντοποιητικῆ A^b comm.

for they all have the *end* as their object, although they differ from each other as being some instruments, others actions.

These are roughly all the meanings of "cause,"⁴ but since causes are spoken of with various meanings, it follows that there are several causes (and that not in an accidental sense) of the same thing. *E.g.*, both *statuary* and *bronze* are causes of the statue; not in different connexions, but *qua* statue. However, they are not causes in the same way, but the one as *material* and the other as the *source of motion*. And 5 things are causes of each other; as *e.g.* labour of vigour, and vigour of labour—but not in the same way; the one as an *end*, and the other as *source of motion*. And again the same thing is sometimes the cause of contrary results; because that which by its presence is the cause of so-and-so we sometimes accuse of being, by its absence, the cause of the contrary—as, *e.g.*, we say that the absence of the pilot is the cause of a capsizе, whereas his presence was the cause of safety. And both, presence and 6 privation, are *moving* causes.

Now there are four senses which are most obvious under which all the causes just described may be classed. The components of syllables; the material⁷ of manufactured articles; fire, earth and all such bodies; the parts of a whole; and the premisses of a syllogistic conclusion; are causes in the *material* sense. Of these some are causes as substrate: *e.g.* the parts; and others as *essence*: the whole, and the composition, and the form. The seed and the 8 physician and the contriver and in general that which produces, all these are the source of change or stationariness. The remainder represent the *end*

1013^b τὸ γὰρ οὗ ἕνεκα βέλτιστον καὶ τέλος τῶν ἄλλων
 ἐθέλει εἶναι. διαφερέτω δὲ μηδὲν αὐτὸ εἰπεῖν
 ἀγαθὸν ἢ φαινόμενον ἀγαθόν. Τὰ μὲν οὖν αἷτια
 τσαυτὰ ἐστὶ τῷ εἶδει, τρόποι δὲ τῶν αἰτίων
 30 ἀριθμῶ μὲν εἰσι πολλοί, κεφαλαιούμενοι δὲ καὶ
 οὔτοι ἐλάττους. λέγεται γὰρ αἷτια πολλαχῶς, καὶ
 αὐτῶν τῶν ὁμοειδῶν προτέρως καὶ ὑστέρωσ ἄλλο
 ἄλλου, οἷον ὑγιείας ὁ ἰατρός καὶ ὁ τεχνίτης, καὶ τοῦ
 διὰ πασῶν τὸ διπλάσιον καὶ ἀριθμός, καὶ αἰεὶ τὰ
 περιέχοντα ὅτιοῦν τῶν καθ' ἕκαστα. ἔτι δ' ὡς
 35 τὸ συμβεβηκὸς καὶ τὰ τούτων γένη, οἷον ἀνδριάν-
 τος ἄλλως Πολύκλειτος καὶ ἄλλως ἀνδριαντο-
 1014^a ποιός, ὅτι συμβέβηκε τῷ ἀνδριαντοποιῷ Πολυ-
 κλείτῳ εἶναι. καὶ τὰ περιέχοντα δὲ τὸ συμβεβη-
 κός, οἷον ἄνθρωπος αἷτιος ἀνδριάντος, ἢ καὶ ὅλως
 ζῶον, ὅτι ὁ Πολύκλειτος ἄνθρωπος, ὁ δὲ ἄν-
 θρωπος ζῶον. ἔστι δὲ καὶ τῶν συμβεβηκῶτων
 5 ἄλλα ἄλλων πορρώτερον¹ καὶ ἐγγύτερον, οἷον εἰ ὁ
 λευκὸς καὶ ὁ μουσικὸς αἷτιος λέγοιτο τοῦ ἀνδριάν-
 τος ἀλλὰ μὴ μόνον Πολύκλειτος ἢ ἄνθρωπος.
 Παρὰ πάντα δὲ καὶ τὰ οἰκειῶς λεγόμενα καὶ τὰ
 κατὰ συμβεβηκός, τὰ μὲν ὡς δυνάμενα λέγεται
 τὰ δ' ὡς ἐνεργοῦντα, οἷον τοῦ οἰκοδομῆσθαι
 10 οἰκοδόμος ἢ οἰκοδομῶν οἰκοδόμος. ὁμοίως δὲ
 λεχθήσεται καὶ ἐφ' ὧν αἷτια τὰ αἷτια τοῖς
 εἰρημένοις, οἷον τοῦδε τοῦ ἀνδριάντος ἢ ἀνδριάν-
 τος ἢ ὅλως εἰκόνας, ἢ χαλκοῦ τοῦδε ἢ χαλκοῦ ἢ

¹ πορρώτερον EJ Physics: πορρώτερα A^b: προτερον.

² ἢ EJ Physics: ἢ A^b.

³ ἢ E Physics: ἢ A^bJ.

and good of the others; for the final cause tends to be the greatest good and end of the rest. Let it be assumed that it makes no difference whether we call it "good" or "apparent good." In kind, then, there are these four classes of cause.

The modes of cause are numerically many, although these too are fewer when summarized. For causes are spoken of in many senses, and even of those which are of the same kind, some are causes in a prior and some in a posterior sense; e.g., the physician and the expert are both causes of health; and the ratio 2:1 and number are both causes of the octave; and the universals which include a given cause are causes of its particular effects. Again, a thing may be a cause in the sense of an accident, and the classes which contain accidents; e.g., the cause of a statue is in one sense Polyclitus and in another a sculptor, because it is an accident of the sculptor to be Polyclitus. And the universal terms which include accidents are causes; e.g., the cause of a statue is a man, or even, generally, an animal; because Polyclitus is a man, and man is an animal. And even of accidental causes some are remoter or more proximate than others; e.g., the cause of the statue might be said to be "white man" or "cultured man," and not merely "Polyclitus" or "man."

And besides the distinction of causes as proper and accidental, some are termed causes in a potential and others in an actual sense; e.g., the cause of building is either the builder or the builder who builds. And the same distinctions in meaning as we have already described will apply to the effects of the causes; e.g. to this statue, or a statue, or generally an image; and to this bronze, or bronze, or

1014^a ὅλως ὕλης· καὶ ἐπὶ τῶν συμβεβηκότων ὡσαύτως.
 ἔτι δὲ συμπλεκόμενα καὶ ταῦτα κάκεῖνα λεχθή-
 15 σεται, οἷον οὐ Πολύκλειτος οὐδὲ ἀνδριανοποιός,
 ἀλλὰ Πολύκλειτος ἀνδριανοποιός. Ἄλλ' ὁμως
 ἀπαντὰ γε ταῦτ' ἐστὶ τὸ μὲν πλῆθος ἕξ, λεγόμε-
 να δὲ διχῶς· ἢ γὰρ ὡς τὸ καθ' ἕκαστον, ἢ
 ὡς τὸ γένος αὐτοῦ, ἢ ὡς τὸ συμβεβηκός, ἢ ὡς
 τὸ γένος τοῦ συμβεβηκότος, ἢ ὡς συμπλεκόμενα
 20 ταῦτα, ἢ ἀπλῶς λεγόμενα, πάντα δὲ ἢ ὡς ἐνεργου-
 ντα ἢ κατὰ δύναμιν. διαφέρει δὲ τοσοῦτον,
 ὅτι τὰ μὲν ἐνεργουῦντα καὶ τὰ καθ' ἕκαστον ἅμα
 ἔστι καὶ οὐκ ἔστιν [αὐτὰ τε]² καὶ ὦν αἴτια, οἷον
 ὁδε ὁ ἰατροῦν τῷδε τῷ ὑγιαζομένῳ, καὶ ὁδε ὁ
 οἰκοδόμος τῷδε τῷ οἰκοδομουμένῳ, τὰ δὲ κατὰ
 25 καὶ ὁ οἰκοδόμος.

III. Στοιχεῖον λέγεται ἕξ οὐ σύγκειται πρώτου
 ἐνυπάρχοντος ἀδιαίρετου τῷ εἶδει εἰς ἕτερον εἶδος,
 οἷον φωνῆς στοιχεῖα ἕξ ὧν σύγκειται ἡ φωνή
 καὶ εἰς ἃ διαίρεται ἔσχατα, ἐκεῖνα δὲ μηκέτ'
 30 εἰς ἄλλας φωνὰς ἐτέρας τῷ εἶδει αὐτῶν· ἀλλὰ
 κἄν διαιρῆται, τὰ μόρια ὁμοειδῆ, οἷον ὕδατος τὸ
 μόριον ὕδωρ, ἀλλ' οὐ τῆς συλλαβῆς. ὁμοίως δὲ
 καὶ τὰ τῶν σωμάτων στοιχεῖα λέγουσιν οἱ λέγον-
 τες, εἰς ἃ διαίρεται τὰ σώματα ἔσχατα, ἐκεῖνα

¹ πάντα δὲ ἢ A^b Physics Alexander (?): ἐτι EJ.

² om. A^b Physics.

^a Effects, just like causes (§ 10), may be particular or general. The metal-worker produces (a) the bronze for a particular statue by the sculptor, (b) bronze for a statue, (c) metal for an image.

^b The cause of a statue may be said to be (i.) a sculptor,

generally material.^a And it is the same with accidental effects. Again, the proper and accidental senses will be combined; e.g., the cause is neither "Polyclitus" nor "a sculptor" but "the sculptor Polyclitus."

However, these classes of cause are in all six in 14 number, each used in two senses. Causes are (i.) particular, (ii.) generic, (iii.) accidental, (iv.) generically accidental; and these may be either stated singly or (v., vi.) in combination^b; and further they are all either actual or potential. And there is this 15 difference between them, that actual and particular causes coexist or do not coexist with their effects (e.g. *this* man giving medical treatment with *this* man recovering his health, and *this* builder with *this* building in course of erection); but potential causes do not always do so; for the house and the builder do not perish together.

III. "Element" means (a) the primary immanent "Element" thing, formally indivisible into another form, of which something is composed. E.g., the elements of a sound^c are the parts of which that sound is composed and into which it is ultimately divisible, and which are not further divisible into other sounds formally different from themselves. If an element be divided, the parts are formally the same as the whole: e.g., a part of water is water; but it is not so with the syllable. (b) Those who speak of the 2 elements of *bodies* similarly mean the parts into which bodies are ultimately divisible, and which are

(ii.) an artist, (iii.) Polyclitus, (iv.) a man, (v.) the sculptor Polyclitus (combination of (i.) and (iii.)), (vi.) an artistic man (combination of (ii.) and (iv.)).

^c Cf. I. ix. 35 n.

1014^a δὲ μηκέτ' εἰς ἄλλα εἶδει διαφέροντα· καὶ εἴτε ἐν
 35 εἴτε πλείω τὰ τοιαῦτα, ταῦτα στοιχεῖα λέγουσιν
 παραπλησίως δὲ καὶ τῶν διαγραμμάτων στοιχεῖα
 λέγεται, καὶ ὅλως τὰ τῶν ἀποδείξεων· αἱ γὰρ
 1014^b πρῶται ἀποδείξεις καὶ ἐν πλείοσιν ἀποδείξεσιν
 ἐνυπάρχουσαι, αὐταὶ στοιχεῖα τῶν ἀποδείξεων
 λέγονται· εἰσι δὲ τοιοῦτοι συλλογισμοὶ οἱ πρῶτοι
 ἐκ τῶν τριῶν δι' ἐνὸς μέσου. καὶ μεταφέροντες
 δὲ στοιχεῖον καλοῦσιν ἐντεῦθεν ὃ ἂν ἐν ὄν καὶ
 5 μικρὸν ἐπὶ πολλὰ ἢ χρησίμων· διὸ καὶ τὸ μικρὸν
 καὶ ἀπλοῦν καὶ ἀδιαίρετον στοιχεῖον λέγεται.
 ὅθεν ἐλήλυθε τὰ μάλιστα καθόλου στοιχεῖα εἶναι,
 ὅτι ἕκαστον αὐτῶν ἐν ὄν καὶ ἀπλοῦν ἐν πολλοῖς
 ὑπάρχει ἢ πᾶσιν ἢ ὅτι πλείστοις· καὶ τὸ ἐν καὶ
 τὴν στιγμὴν ἀρχάς τισι δοκεῖ εἶναι. ἐπεὶ οὖν τὰ
 10 καλούμενα γένη καθόλου καὶ ἀδιαίρετα (οὐ² γὰρ
 ἔστι λόγος αὐτῶν), στοιχεῖα τὰ γένη λέγουσιν
 τινες, καὶ μᾶλλον ἢ τὴν διαφορὰν, ὅτι καθόλου
 μᾶλλον τὸ γένος· ᾧ μὲν γὰρ ἡ διαφορὰ ὑπάρχει,
 καὶ τὸ γένος ἀκολουθεῖ, ᾧ δὲ τὸ γένος, οὐ παντὶ
 ἢ διαφορὰ. ἀπάντων δὲ κοινὸν τὸ εἶναι στοιχεῖον
 15 ἐκάστου τὸ πρῶτον ἐνυπάρχον ἐκάστῳ.

IV. Φύσις λέγεται ἓνα μὲν τρόπον ἢ τῶν φυομένων
 γένεσις, οἷον εἴ τις ἐπεκτείνας λέγοι τὸ υ, ἓνα δὲ

¹ διὸ καὶ A^b.

² οὐ A^b Alexander: εἰς E: εἰς J.

^a Cf. III. iii. 1.

^b This must refer to the highest genera, which have no definition because they cannot be analysed into genus and differentia (Ross).

^c On the meaning of φύσις cf. Burnet, *E.G.P.* pp. 10-12, 363-364.

not further divisible into other parts different in form. And whether they speak of one such element or of more than one, this is what they mean. (c) The term is applied with a very similar meaning³ to the "elements" of geometrical figures, and generally to the "elements" of demonstrations; for the primary demonstrations which are contained in a number of other demonstrations are called "elements" of demonstrations.⁴ Such are the primary syllogisms consisting of three terms and with one middle term. (d) The term "element" is also⁴ applied metaphorically to any small unity which is useful for various purposes; and so that which is small or simple or indivisible is called an "element." (e) Hence it comes that the most universal things⁵ are elements; because each of them, being a simple unity, is present in many things—either in all or in as many as possible. Some too think that unity and the point are first principles. (f) There-⁶fore since what are called genera^b are universal and indivisible (because they have no formula), some people call the genera elements, and these rather than the differentia, because the genus is more universal. For where the differentia is present, the genus also follows; but the differentia is not always present where the genus is. And it is common to all cases that the element of each thing is that which is primarily inherent in each thing.

IV. "Nature"^c means: (a) in one sense, the "Natura" genesis of growing things—as would be suggested by pronouncing the υ of φύσις long—and (b) in another, that immanent thing^d from which a grow-

^d Probably the seed (Bonitz).

9014 b ἐξ οὗ φύεται πρώτου¹ τὸ φυόμενον ἐνυπάρχοντος·
 ἐπι ὄθεν ἢ κίνησις ἢ πρώτη ἐν ἐκάστῳ τῶν φύσει
 20 ὄντων ἐν αὐτῷ ἢ αὐτῷ² ὑπάρχει. φύεσθαι δὲ
 λέγεται ὅσα αὐξήσῃ ἔχει δι' ἑτέρου τῷ ἄπτεσθαι
 καὶ συμπεφυκέναι ἢ προσπεφυκέναι ὡσπερ τὰ
 ἔμβρυα· διαφέρει δὲ σύμφυσις ἀφῆς, ἐνθα μὲν γὰρ
 οὐδὲν παρὰ τὴν ἀφῆν ἔτερον ἀνάγκη εἶναι, ἐν δὲ
 25 τοῖς συμπεφυκόσιν ἔστι τι ἐν τῷ αὐτῷ ἐν ἀμφοῖν
 ὃ ποιεῖ ἀντὶ τοῦ ἄπτεσθαι συμπεφυκέναι καὶ εἶναι
 ἐν κατὰ τὸ συνεχὲς καὶ ποσόν, ἀλλὰ μὴ κατὰ τὸ
 ποιόν. ἔτι δὲ φύσις λέγεται ἐξ οὗ πρώτου ἢ ἔστιν
 ἢ γίνεταί τι τῶν φύσει ὄντων, ἀρρυθμίστου ὄντος
 καὶ ἀμεταβλήτου ἐκ τῆς δυνάμεως τῆς αὐτοῦ,
 οἷον ἀνδριάντος καὶ τῶν σκευῶν τῶν χαλκῶν ὃ
 30 χαλκὸς ἢ φύσις λέγεται, τῶν δὲ ξυλίνων ξύλον
 ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων· ἐκ τούτων γὰρ
 ἔστιν ἕκαστον διασωζομένης τῆς πρώτης ὕλης·
 τοῦτον γὰρ τὸν τρόπον καὶ τῶν φύσει ὄντων τὰ
 στοιχεῖα φασὶν εἶναι φύσιν, οἳ μὲν πῦρ οἳ δὲ γῆν οἳ
 δ' αἶρα οἳ δ' ὕδωρ οἳ δ' ἄλλο τι τοιοῦτον λέγοντες,
 35 οἳ δ' ἐνια τούτων οἳ δὲ πάντα ταῦτα. ἔτι δ' ἄλλον
 τρόπον λέγεται ἢ φύσις ἢ τῶν φύσει ὄντων οὐσία,
 οἷον οἳ λέγοντες τὴν φύσιν εἶναι τὴν πρώτην σύν-
 1015 a θεσιν, ἢ ὡσπερ Ἐμπεδοκλῆς λέγει ὅτι

φύσις οὐδενὸς ἔστιν ἔόντων,
 ἀλλὰ μόνον μίξις τε διαλλάξις τε μιγέντων
 ἔστι, φύσις δ' ἐπὶ τοῖς ὀνομάζεται ἀνθρώποισιν.

Διὸ καὶ ὅσα φύσει ἔστιν ἢ γίνεταί, ἤδη ὑπάρχοντος
 5 ἐξ οὗ πέφυκε γίνεσθαι ἢ εἶναι, οὕτω φημὲν τὴν

¹ πρώτου E² Alexander: πρώτον.

² αὐτῷ E.

³ ἢ om. I, Bekker.

ing thing first begins to grow. (c) The source from which the primary motion in every natural object is induced in that object as such. All things are said to grow which gain increase through something else by contact and organic unity (or adhesion, as in the case of embryos). Organic unity differs from 2 contact; for in the latter case there need be nothing except contact, but in both the things which form an organic unity there is some one and the same thing which produces, instead of mere contact, a unity which is organic, continuous and quantitative (but not qualitative). Again, "nature" means (d) the 3 primary stuff, shapeless and unchangeable from its own potency, of which any natural object consists or from which it is produced; e.g., bronze is called the "nature" of a statue and of bronze articles, and wood that of wooden ones, and similarly in all other cases. For each article consists of these "natures," 4 the primary material persisting. It is in this sense that men call the elements of natural objects the "nature," some calling it fire, others earth or air or water, others something else similar, others some of these, and others all of them. Again in another 5 sense "nature" means (e) the substance of natural objects; as in the case of those who say that the "nature" is the primary composition of a thing, or as Empedocles says:

Of nothing that exists is there nature, but only mixture and separation of what has been mixed; nature is but a name given to these by men.^a

Hence as regards those things which exist or are 6 produced by nature, although that from which they naturally are produced or exist is already present, we

^a Fr. 8 (Diels).

1015^a φύσιν ἔχειν ἂν μὴ ἔχη τὸ εἶδος καὶ τὴν μορφήν.
 φύσει μὲν οὖν τὸ ἐξ ἀμφοτέρων τούτων ἐστίν, οἶον
 τὰ ζῶα καὶ τὰ μέρη αὐτῶν· φύσις δὲ ἢ τε πρώτη
 ὕλη (καὶ αὕτη διχῶς, ἢ ἡ πρὸς αὐτὸ πρώτη ἢ ἡ
 ὅλως πρώτη, οἶον τῶν χαλκῶν ἔργων πρὸς αὐτὰ
 10 μὲν πρῶτος ὁ χαλκός, ὅλως δ' ἴσως ὕδωρ, εἰ
 πάντα τὰ τηκτὰ ὕδωρ), καὶ τὸ εἶδος καὶ ἡ οὐσία·
 τοῦτο δ' ἐστὶ τὸ τέλος τῆς γενέσεως. μεταφορᾶ
 δ' ἦδη καὶ ὅλως πᾶσα οὐσία φύσις λέγεται διὰ
 ταύτην, ὅτι καὶ ἡ φύσις οὐσία τίς ἐστίν. Ἐκ
 δὴ τῶν εἰρημένων ἢ πρώτη φύσις καὶ κυρίως λεγο-
 15 μένη ἐστὶν ἡ οὐσία ἢ τῶν ἐχόντων ἀρχὴν κινήσεως
 ἐν αὐτοῖς ἢ αὐτά· ἢ γὰρ ὕλη τῷ ταύτης δεκτικῇ
 εἶναι λέγεται φύσις, καὶ αἱ γενέσεις καὶ τὸ φύεσθαι
 τῷ ἀπὸ ταύτης εἶναι κινήσεις. καὶ ἡ ἀρχὴ τῆς
 κινήσεως τῶν φύσει ὄντων αὕτη ἐστίν, ἐνυπάρ-
 χουσά πως ἢ δυνάμει ἢ ἐντελεχείᾳ.
 20 V. Ἀναγκαῖον λέγεται οὐ ἄνευ οὐκ ἐνδέχεται ζῆν
 ὡς συναιτίου, οἶον τὸ ἀναπνεῖν καὶ ἡ τροφή τῷ
 ζῳῷ ἀναγκαῖον· ἀδύνατον γὰρ ἄνευ τούτων εἶναι·
 καὶ ὄν ἄνευ τὸ ἀγαθὸν μὴ ἐνδέχεται ἢ εἶναι ἢ
 γενέσθαι, ἢ τὸ κακὸν ἀποβαλεῖν ἢ στερηθῆναι,
 25 οἶον τὸ πιεῖν τὸ φάρμακον ἀναγκαῖον ἵνα μὴ
 κάμνη, καὶ τὸ πλεῦσαι εἰς Αἴγιαν ἵν' ἀπολάβῃ τὰ
 χρήματα. ἔτι τὸ βίαιον καὶ ἡ βία· τοῦτο δ' ἐστὶ
 τὸ παρὰ τὴν ὀρμὴν καὶ τὴν προαίρεσιν ἐμποδίζον

¹ τὸ A^b comm.: τι E.J.

say that they have not their nature yet unless they have their form and shape. That which comprises 7 both of these exists by nature; e.g. animals and their parts. And nature is both the primary matter (and this in two senses: either primary in relation to the thing, or primary in general; e.g., in bronze articles the primary matter in relation to those articles is bronze, but in general it is perhaps water—that is if all things which can be melted are water) and the form or essence, i.e. the end of the process of generation. Indeed from this sense of “nature,” by an extension of meaning, every essence in general is called “nature,” because the nature of anything is a kind of essence.

From what has been said, then, the primary and 8 proper sense of “nature” is the essence of those things which contain in themselves as such a source of motion; for the matter is called “nature” because it is capable of receiving the nature, and the processes of generation and growth are called “nature” because they are motions derived from it. And nature in this sense is the source of motion in natural objects, which is somehow inherent in them, either potentially or actually.

V. “Necessary” means: (a) That without which, “Neces- sary.” as a concomitant condition, life is impossible; e.g., respiration and food are necessary for an animal, because it cannot exist without them. (b) The conditions without which good cannot be or come to be, or without which one cannot get rid or keep free of evil—e.g., drinking medicine is necessary to escape from ill-health, and sailing to Aegina is necessary to recover one’s money. (c) The compulsory and com- 2 pulsion; i.e. that which hinders and prevents, in

^{1015 a} καὶ κωλυτικόν· τὸ γὰρ βίαιον ἀναγκαῖον λέγεται,
διὸ καὶ λυπηρόν, ὡσπερ καὶ Εὐηρός φησι

³⁰ πᾶν γὰρ ἀναγκαῖον πράγμα' ἀνιαρόν ἔφθ.

καὶ ἡ βία ἀνάγκη τις, ὡσπερ καὶ Σοφοκλῆς λέγει
ἄλλ' ἡ βία με ταῦτ' ἀναγκάζει ποιεῖν.

Καὶ δοκεῖ ἡ ἀνάγκη ἀμετάπειστον τι εἶναι, ὀρθῶς·
ἐναντίον γὰρ τῇ κατὰ τὴν προαίρεσιν κινήσει καὶ
κατὰ τὸν λογισμόν. "Ἐτι τὸ μὴ ἐνδεχόμενον

³⁵ ἄλλως ἔχει ἀναγκαῖόν φαμεν οὕτως ἔχειν· καὶ κατὰ
τοῦτο τὸ ἀναγκαῖον καὶ τᾶλλα λέγεται πως ἅπαντα

^{1015 b} ἀναγκαῖα· τό τε γὰρ βίαιον ἀναγκαῖον λέγεται ἢ
ποιεῖν ἢ πάσχειν τότε ὅταν μὴ ἐνδέχεται κατὰ τὴν
ὀρμὴν διὰ τὸ βιαζόμενον, ὡς ταύτην ἀνάγκην
οὐσαν δι' ἣν μὴ ἐνδέχεται ἄλλως, καὶ ἐπὶ τῶν
συναιτίων τοῦ ζῆν καὶ τοῦ ἀγαθοῦ ὡσαύτως· ὅταν

⁵ γὰρ μὴ ἐνδέχεται ἔνθα μὲν τὸ ἀγαθὸν ἔνθα δὲ τὸ
ζῆν καὶ τὸ εἶναι ἄνευ τῶν, ταῦτα ἀναγκαῖα καὶ ἢ
αἰτία ἀνάγκη τίς ἐστὶν αὐτῆ. "Ἐτι ἡ ἀπόδειξις

τῶν ἀναγκαίων, ὅτι οὐκ ἐνδέχεται ἄλλως ἔχειν, εἰ
ἀποδέδεικται ἀπλῶς· τούτου δ' αἰτία τὰ πρῶτα, εἰ
ἀδύνατον ἄλλως ἔχειν ἐξ ἧν ὁ συλλογισμός. Τῶν

¹⁰ μὲν δὲ ἕτερον αἴτιον τοῦ ἀναγκαῖα εἶναι, τῶν δὲ
οὐδέν, ἀλλὰ διὰ ταῦτα ἕτερα ἐστὶν ἐξ ἀνάγκης.
ὥστε τὸ πρῶτον καὶ κυρίως ἀναγκαῖον τὸ ἀπλοῦν

^a Of Poros; sophist and poet, contemporary with Socrates.

^b Fr. 8 (Hiller).

^c *Electra* 256 (the quotation is slightly inaccurate).

opposition to impulse and purpose. For the compulsory is called necessary, and hence the necessary is disagreeable; as indeed Evenus^a says:

For every necessary thing is by nature grievous.^b

And compulsion is a kind of necessity, as Sophocles^c says:

Compulsion makes me do this of necessity.^c

And necessity is held, rightly, to be something inexorable; for it is opposed to motion which is in accordance with purpose and calculation.

(d) Again, what cannot be otherwise we say is necessarily so. It is from this sense of "necessary"⁴ that all others are somehow derived; for the term "compulsory" is used of something which it is necessary for one to do or suffer only when it is impossible to act according to impulse, because of the compulsion: which shows that necessity is that because of which a thing cannot be otherwise; and the same is true of the concomitant conditions of living and of the good. For when in the one case good, and in the other life or existence, is impossible without certain conditions, these conditions are necessary, and the cause is a kind of necessity.

(e) Again, demonstration is a "necessary" thing,⁵ because a thing cannot be otherwise if the demonstration has been absolute. And this is the result of the first premisses, when it is impossible for the assumptions upon which the syllogism depends to be otherwise.

Thus of necessary things, some have an external cause of their necessity, and others have not, but it is through them that other things are of necessity what they are. Hence the "necessary" in the ⁶

1015 b

ἔστιν· τοῦτο γὰρ οὐκ ἐνδέχεται πλεοναχῶς ἔχειν,
 ὥστ' οὐδὲ ἄλλως καὶ ἄλλως· ἤδη γὰρ πλεοναχῶς
 15 ἂν ἔχοι. εἰ ἄρα ἔστιν ἅττα αἰδία καὶ ἀκίνητα,
 οὐδὲν ἐκείνοις ἐστὶ βίαιον οὐδὲ παρὰ φύσιν.

VI. "Ἐν λέγεται τὸ μὲν κατὰ συμβεβηκός τὸ δὲ
 καθ' αὐτό, κατὰ συμβεβηκός μὲν οἷον Κορίσκος καὶ
 τὸ μουσικόν, καὶ Κορίσκος μουσικός· ταῦτ' οὖν γὰρ
 εἰπεῖν Κορίσκος καὶ τὸ μουσικόν, καὶ Κορίσκος
 20 μουσικός· καὶ τὸ μουσικόν καὶ τὸ δίκαιον, καὶ
 μουσικός δίκαιος Κορίσκος· πάντα γὰρ ταῦτα
 ἐν λέγεται κατὰ συμβεβηκός, τὸ μὲν δίκαιον καὶ
 τὸ μουσικόν, ὅτι μιᾷ οὐσίᾳ συμβέβηκεν, τὸ δὲ μου-
 σικόν καὶ Κορίσκος, ὅτι θάτερον θατέρω συμβέβη-
 κεν· ὁμοίως δὲ τρόπον τινα καὶ ὁ μουσικός Κορί-
 25 σκος τῷ Κορίσκῳ ἐν, ὅτι θάτερον τῶν μορίων θατέ-
 ρω συμβέβηκε τῶν ἐν τῷ λόγῳ, οἷον τὸ μουσικόν
 τῷ Κορίσκῳ, καὶ ὁ μουσικός Κορίσκος δικαίῳ
 Κορίσκῳ, ὅτι ἑκατέρου μέρος τῷ αὐτῷ ἐνὶ συμ-
 βέβηκεν ἐν.¹ ὡσαύτως δὲ κἂν ἐπὶ γένους κἂν ἐπὶ
 τῶν καθόλου τινὸς ὀνομάτων λέγεται τὸ συμ-
 30 βεβηκός, οἷον ὅτι ἄνθρωπος τὸ αὐτὸ καὶ μουσικός
 ἄνθρωπος· ἢ γὰρ ὅτι τῷ ἀνθρώπῳ μιᾷ οὐσίᾳ
 συμβέβηκε τὸ μουσικόν, ἢ ὅτι ἄμφω τῶν καθ'
 ἕκαστόν τι συμβέβηκεν, οἷον Κορίσκῳ· πλὴν οὐ
 τὸν αὐτὸν τρόπον ἄμφω ὑπάρχει, ἀλλὰ τὸ μὲν
 ἴσως ὡς γένος καὶ ἐν τῇ οὐσίᾳ, τὸ δὲ ὡς ἕξις ἢ

¹ post ἐν addunt οὐδὲν γὰρ διαφέρει ἢ Κορίσκῳ τὸ μουσικόν
 συμβεβηκέναι E.J.

primary and proper sense is the *simple*, for it cannot be in more than one condition. Hence it cannot be in one state *and* in another; for if so it would *ipso facto* be in more than one condition. Therefore if there are certain things which are eternal and immutable, there is nothing in them which is compulsory or which violates their nature.

VI. The term "one" is used (i.) in an accidental, "One." (ii.) in an absolute sense. (i.) In the accidental sense it is used as in the case of "Coriscus"^a and "cultured" and "cultured Coriscus" (for "Coriscus" and "cultured" and "cultured Coriscus" mean the same); and "cultured" and "upright" and ² "cultured upright Coriscus." For all these terms refer accidentally to one thing; "upright" and "cultured" because they are accidental to one substance, and "cultured" and "Coriscus" because the one is accidental to the other. And similarly in one sense ³ "cultured Coriscus" is one with "Coriscus," because one part of the expression is accidental to the other, e.g. "cultured" to "Coriscus"; and "cultured Coriscus" is one with "upright Coriscus," because one part of each expression is one accident of one ⁴ and the same thing. It is the same even if the accident is applied to a genus or a general term; e.g., "man" and "cultured man" are the same, either because "cultured" is an accident of "man," which is one substance, or because both are accidents of some individual, e.g. Coriscus. But they do not ⁵ both belong to it in the same way; the one belongs presumably as *genus* in the substance, and the other

^a Coriscus of Scepsis was a Platonist with whom Aristotle was probably acquainted; but the name is of course chosen quite arbitrarily.

- 1015 b 35 πάθος τῆς οὐσίας. ὅσα μὲν οὖν κατὰ συμβεβηκὸς λέγεται ἓν, τοῦτον ὁσὸν τρόπον λέγεται. Τῶν δὲ καθ' ἑαυτὰ ἓν λεγομένων τὰ μὲν λέγεται τῷ
- 1016 a συνεχῆ εἶναι, οἷον φάκελος δεσμῶ καὶ ξύλα κόλλη, καὶ γραμμὴ κἄν κεκαμμένη ἢ, συνεχῆς δέ, μία λέγεται, ὥσπερ καὶ τῶν μερῶν ἕκαστον, οἷον σκέλος καὶ βραχίον. αὐτῶν δὲ τούτων μᾶλλον
- 5 ἓν τὰ φύσει συνεχῆ ἢ τέχνη. συνεχῆς δὲ λέγεται οὐ κίνησις μία καθ' αὐτὸ καὶ μὴ οἷόν τε ἄλλως· μία δ' οὐ ἀδιαίρετος, ἀδιαίρετος δὲ κατὰ χρόνον. καθ' αὐτὰ δὲ συνεχῆ ὅσα μὴ ἀφῆ ἓν· εἰ γὰρ θείης ἀπτόμενα ἀλλήλων ξύλα, οὐ φήσεις ταῦτα εἶναι ἓν, οὔτε ξύλον οὔτε σῶμα οὔτ' ἄλλο συνεχῆς οὐδέν.
- 10 τὰ τε δὴ ὅλως συνεχῆ ἓν λέγεται, κἄν ἔχη κάμψιν, καὶ ἔτι μᾶλλον τὰ μὴ ἔχοντα κάμψιν, οἷον κνήμη ἢ μηρὸς σκέλους, ὅτι ἐνδέχεται μὴ μίαν εἶναι τὴν κίνησιν τοῦ σκέλους. καὶ ἡ εὐθεία τῆς κεκαμμένης μᾶλλον ἓν· τὴν δὲ κεκαμμένην καὶ ἔχουσαν γωνίαν καὶ μίαν καὶ οὐ μίαν λέγομεν, ὅτι ἐνδέχεται
- 15 καὶ μὴ ἅμα τὴν κίνησιν αὐτῆς εἶναι καὶ ἅμα· τῆς δ' εὐθείας αἰεὶ ἅμα, καὶ οὐδὲν μόριον ἔχον μέγεθος τὸ μὲν ἡρεμεῖ τὸ δὲ κινεῖται, ὥσπερ τῆς κεκαμμένης.
- Ἔτι ἄλλον τρόπον ἓν λέγεται τῷ τὸ ὑποκείμενον τῷ εἶδει εἶναι ἀδιάφορον· ἀδιάφορα δ' ὦν ἀδιαίρετον τὸ εἶδος κατὰ τὴν αἴσθησιν· τὸ δ' 20 ὑποκείμενον ἢ τὸ πρῶτον ἢ τὸ τελευταῖον πρὸς τὸ

as condition or affection of the substance. Thus all things which are said to be "one" in an accidental sense are said to be so in this way.

(ii.) Of those things which are said to be in themselves one, (a) some are said to be so in virtue of their continuity; e.g., a faggot is made continuous by its string, and pieces of wood by glue; and a continuous line, even if it is bent, is said to be one, just like each of the limbs; e.g. the leg or arm. And of these things themselves those which are naturally continuous are one in a truer sense than those which are artificially continuous. "Continuous" means that 7 whose motion is essentially one, and cannot be otherwise; and motion is one when it is indivisible, i.e. indivisible in time. Things are essentially continuous which are one not by contact only; for if you put pieces of wood touching one another you will not say that they are one piece of wood, or body, or any other continuous thing. And things which 8 are completely continuous are said to be "one" even if they contain a joint, and still more those things which contain no joint; e.g., the shin or the thigh is more truly one than the leg, because the motion of the leg may not be one. And the straight 9 line is more truly one than the bent. We call the line which is bent and contains an angle both one and not one, because it may or may not move all at once; but the straight line always moves all at once, and no part of it which has magnitude is at rest while another moves, as in the bent line.

(b) Another sense of "one" is that the substrate is uniform in kind. Things are uniform whose form 10 is indistinguishable to sensation; and the substrate is either that which is primary, or that which is final

1016 a

τέλος· καὶ γὰρ οἶνος εἰς λέγεται καὶ ὕδωρ ἓν, ἢ ἀδιαίρετον κατὰ τὸ εἶδος· καὶ οἱ χυμοὶ πάντες λέγονται ἓν (οἶον ἔλαιον οἶνος) καὶ τὰ τηκτά, ὅτι πάντων τὸ ἔσχατον ὑποκείμενον τὸ αὐτό· ὕδωρ γὰρ ἢ ἀήρ πάντα ταῦτ' ἐστίν. Λέγεται δ' ἓν

25 καὶ ὦν τὸ γένος ἓν διαφέρειν ταῖς ἀντικειμέναις διαφοραῖς· καὶ ταῦτα λέγεται πάντα ἓν,¹ ὅτι τὸ γένος ἓν τὸ ὑποκείμενον ταῖς διαφοραῖς, οἶον ἵππος ἄνθρωπος κύων ἓν τι, ὅτι πάντα ζῶα, καὶ τρόπον δὴ παραπλήσιον ὥσπερ ἢ ὕλη μία. ταῦτα δὲ ὅτε μὲν οὕτως ἓν λέγεται, ὅτε δὲ τὸ ἄνω γένος²

30 ταῦτὸν λέγεται—ἀν ἢ τελευταία τοῦ γένους εἶδη—τὰ ἀνωτέρω τούτων, οἶον τὸ ἰσοσκελές καὶ τὸ ἰσόπλευρον ταῦτὸ καὶ ἓν σχῆμα, ὅτι ἄμφω τρίγωνα· τρίγωνα δ' οὐ ταῦτά. Ἔτι δὲ ἓν λέγεται ὅσων ὁ λόγος ὁ τὸ τί ἦν εἶναι λέγων ἀδιαίρετος πρὸς ἄλλον τὸν δηλοῦντα [τί ἦν εἶναι]³ τὸ πρᾶγμα· αὐτὸς γὰρ

35 καθ' αὐτὸν πᾶς λόγος διαιρητός. οὕτως γὰρ καὶ τὸ ηὐξημένον καὶ φθίνον ἓν ἐστίν, ὅτι ὁ λόγος εἰς,

1016 b ὥσπερ ἐπὶ τῶν ἐπιπέδων ὁ τοῦ εἶδους εἰς. ὅλως δὲ ὦν ἢ νόησις ἀδιαίρετος ἢ νοοῦσα τὸ τί ἦν εἶναι, καὶ μὴ δύναται χωρῖσαι μήτε χρόνῳ μήτε τόπῳ μήτε λόγῳ, μάλιστα ταῦτα ἓν· καὶ τούτων ὅσα οὐσίαι· καθόλου γὰρ ὅσα μὴ ἔχει διαίρεσιν, ἢ μὴ

¹ πάντα ἓν: ἓν πάντα A^b.² γένος A^b comm.: γένος δ EJ.³ Ross.

in relation to the end. For wine is said to be one, and water one, as being something formally indistinguishable. And all liquids are said to be one (e.g. oil and wine), and melted things; because the ultimate substrate of all of them is the same, for all these things are water or vapour.

(c) Things are said to be "one" whose genus is¹¹ one and differs in its opposite differentiae. All these things too are said to be "one" because the genus, which is the substrate of the differentiae, is one (e.g., "horse," "man" and "dog" are in a sense one, because they are all animals); and that in a way very similar to that in which the matter is one. Sometimes these things are said to be "one" in¹² this sense, and sometimes their higher genus is said to be one and the same (if they are final species of their genus)—the genus, that is, which is above the genera of which their proximate genus is one; e.g., the isosceles and equilateral triangles are one and the same *figure* (because they are both triangles), but not the same triangles.

(d) Again, things are said to be "one" when the¹³ definition stating the essence of one is indistinguishable from a definition explaining the other; for in itself every definition is distinguishable <into genus and differentiae>. In this way that which increases and decreases is one, because its definition is one; just as in the case of planes the definition of the form is one. And in general those things whose concept,¹⁴ which conceives the essence, is indistinguishable and cannot be separated either in time or in place or in definition, are in the truest sense one; and of these such as are substances are most truly one. For universally such things as do not admit of distinction

1016 b ἔχει, ταύτη ἐν λέγεται, οἷον εἰ ἢ ἄνθρωπος μὴ
 ἔχει διαίρεσιν, εἰς ἄνθρωπος, εἰ δ' ἢ ζῶον, ἐν
 ζῶον, εἰ δὲ ἢ μέγεθος, ἐν μέγεθος. Τὰ μὲν
 οὖν πλείστα ἐν λέγεται τῷ ἕτερόν τι ἢ ποιεῖν ἢ
 ἔχειν ἢ πάσχειν¹ ἢ πρὸς τι εἶναι ἐν, τὰ δὲ πρώτως
 10 εἶδει ἢ λόγῳ· καὶ γὰρ ἀριθμοῦμεν ὡς πλείω ἢ τὰ
 μὴ συνεχῆ, ἢ ὧν μὴ ἐν τὸ εἶδος, ἢ ὧν ὁ λόγος μὴ
 εἰς. ἔτι² δ' ἔστι μὲν ὡς ὄτιοῦν ἐν φάμεν εἶναι,
 ἂν ἢ ποσὸν καὶ συνεχές, ἔστι δ' ὡς οὐ, ἂν μὴ τι
 ὅλον ἢ, τοῦτο δὲ ἂν μὴ τὸ εἶδος ἔχη ἐν· οἷον οὐκ
 ἂν φαίμεν ὁμοίως ἐν ἰδόντες ὅπως οὖν τὰ μέρη
 15 συγκείμενα τοῦ ὑποδήματος, εἰ μὴ διὰ τὴν συν-
 ἔχειαν, ἀλλ' εἰ οὕτως ὥστε ὑπόδημα εἶναι καὶ
 εἰδός τι ἔχειν ἢ δὴ³ ἐν. διὸ καὶ ἢ τοῦ κύκλου μάλι-
 στα μία τῶν γραμμῶν, ὅτι ὅλη καὶ τέλειός ἐστιν.
 Τὸ δὲ ἐν εἶναι ἀρχῆ⁴ τινὶ ἐστὶν ἀριθμοῦ εἶναι· τὸ
 γὰρ πρῶτον μέτρον ἀρχή· ᾧ γὰρ πρώτῳ γνωρι-
 20 ζομεν, τοῦτο πρῶτον μέτρον ἐκάστου γένους· ἀρχή
 οὖν τοῦ γνωστοῦ περὶ ἕκαστον τὸ ἐν. οὐ ταῦτό δὲ
 ἐν πᾶσι τοῖς γένεσι τὸ ἐν. ἐνθα μὲν γὰρ δίεσις,
 ἐνθα δὲ τὸ φωνῆεν ἢ ἀφωνον· βάρους δ' ἕτερον
 καὶ κινήσεως ἄλλο. πανταχοῦ δὲ τὸ ἐν ἢ τῷ ποσῷ
 ἢ τῷ εἶδει ἀδιαίρετον. τὸ μὲν οὖν κατὰ τὸ ποσὸν

are called "one" in so far as they do not admit of it; e.g., if "man" *qua* "man" does not admit of distinction, he is one man; and similarly if *qua* animal, he is one animal; and if *qua* magnitude, he is one magnitude.

Most things, then, are said to be "one" because they 15 produce, or possess, or are affected by, or are related to, some other one thing; but some are called "one" in a primary sense, and one of these is substance. It is one either in continuity or in form or in definition; for we reckon as more than one things which are not continuous, or whose form is not one, or whose definition is not one. Again, in one sense we call 16 anything whatever "one" if it is quantitative and continuous; and in another sense we say that it is not "one" unless it is a *whole* of some kind, i.e. unless it is one in form (e.g., if we saw the parts of a shoe put together anyhow, we should not say that they were one—except in virtue of their continuity; but only if they were so put together as to be a shoe, and to possess already some one form). Hence the 17 circumference of a circle is of all lines the most truly one, because it is whole and complete.

The essence of "one" is to be a kind of starting-point of number; for the first measure is a starting-point, because that by which first we gain knowledge of a thing is the first measure of each class of objects. "The one," then, is the starting-point of what is knowable in respect of each particular thing. But the unit is not the same in all classes, for in one it 18 is the quarter-tone, and in another the vowel or consonant; gravity has another unit, and motion another. But in all cases the unit is indivisible, either quantitatively or formally. Thus that which 19

¹ ἔχειν ἢ πάσχειν: πάσχειν ἢ ἔχειν Γ Bekker.

² ἔτι JTG γρ E ci. Alexander: ἐπει EA^b comm.

³ ἔχειν ἢ δὴ: ἢ δὴ ἔχειν A^b.

⁴ ἀρχή EJ.

1016 b

25 καὶ ἢ ποσὸν¹ ἀδιαίρετον, τὸ μὲν πάντῃ καὶ ἄθετον
λέγεται μονάς, τὸ δὲ πάντῃ καὶ θέσιν ἔχον στιγμῆ,
τὸ δὲ μοναχῆ γραμμῆ, τὸ δὲ διχῆ ἐπίπεδον, τὸ δὲ
πάντῃ καὶ τριχῆ διαιρετὸν κατὰ τὸ ποσὸν σῶμα.
καὶ ἀντιστρέψαντι δὴ τὸ μὲν διχῆ διαιρετὸν ἐπί-
πεδον, τὸ δὲ μοναχῆ γραμμῆ, τὸ δὲ μηδαμῆ δι-
30 αιρετὸν κατὰ τὸ ποσὸν στιγμῆ καὶ μονάς, ἢ μὲν
ἄθετος μονάς, ἢ δὲ θετὸς στιγμῆ. Ἔτι δὲ τὰ
μὲν κατ' ἀριθμὸν ἔστιν ἓν, τὰ δὲ κατ' εἶδος, τὰ δὲ
κατὰ γένος, τὰ δὲ κατ' ἀναλογίαν, ἀριθμῶ μὲν ὦν
ἢ ὕλη μία, εἶδει δ' ὦν ὁ λόγος εἰς, γένει δ' ὦν τὸ
αὐτὸ σχῆμα τῆς κατηγορίας, κατ' ἀναλογίαν δὲ
35 ὅσα ἔχει ὡς ἄλλο πρὸς ἄλλο. αἰεὶ δὲ τὰ ὕστερα
τοῖς ἔμπροσθεν ἀκολουθεῖ, οἷον ὅσα ἀριθμῶ καὶ
1017 a εἶδει ἓν, ὅσα δ' εἶδει οὐ πάντα ἀριθμῶ· ἀλλὰ γένει
πάντα ἓν ὅσαπερ καὶ εἶδει· ὅσα δὲ γένει οὐ πάντα
εἶδει ἀλλ' ἀναλογία· ὅσα δὲ ἓν ἀναλογία, οὐ πάντα
γένει.

Φανερόν δὲ καὶ ὅτι τὰ πολλὰ ἀντικειμένως
λεχθήσεται τῷ ἐνί· τὰ μὲν γὰρ τῷ μὴ συνεχῆ
5 εἶναι, τὰ δὲ τῷ διαιρετῆν ἔχειν τὴν ὕλην κατὰ τὸ
εἶδος, ἢ τὴν πρώτην ἢ τὴν τελευταίαν, τὰ δὲ τῷ
τοὺς λόγους πλείους τοὺς τί ἦν εἶναι λέγοντας.²

VII. Τὸ ὄν λέγεται τὸ μὲν κατὰ συμβεβηκός, τὸ δὲ
καθ' αὐτό, κατὰ συμβεβηκός μὲν οἷον τὸν δίκαιον

¹ καὶ ἢ ποσὸν om. Ab.² λέγονται recce.

is quantitatively and *qua* quantitative wholly in-
divisible and has no position is called a unit ; and
that which is wholly indivisible and has position, a
point ; that which is divisible in one sense, a line ;
in two senses, a plane ; and that which is quantita-
tively divisible in all three senses, a body. And 20
reversely that which is divisible in two senses is a
plane, and in one sense a line ; and that which is in
no sense quantitatively divisible is a point or a unit ;
if it has no position, a unit, and if it has position, a
point.

Again, some things are one numerically, others 21
formally, others generically, and others analogically ;
numerically, those whose matter is one ; formally,
those whose definition is one ; generically, those
which belong to the same category ; and analogically,
those which have the same relation as something else
to some third object. In every case the latter types 22
of unity are implied in the former : e.g., all things
which are one numerically are also one formally, but
not all which are one formally are one numerically ;
and all are one generically which are one formally,
but such as are one generically are not all one
formally, although they are one analogically ; and
such as are one analogically are not all one generic-
ally.

It is obvious also that " many " will have the 23
opposite meanings to " one." Some things are called
" many " because they are not continuous ; others
because their matter (either primary or ultimate) is
formally divisible ; others because the definitions
of their essence are more than one.

VII. " Being " means (i.) accidental being, (ii.) 24
absolute being. (i.) E.g., we say that the upright
" Being."

1017^a
 10 μουσικὸν εἶναι φάμεν καὶ τὸν ἄνθρωπον μουσικὸν
 καὶ τὸν μουσικὸν ἄνθρωπον, παραπλησίως λέγοντες
 ὡσπερ τὸν μουσικὸν οἰκοδομεῖν, ὅτι συμβέβηκε
 τῷ οἰκοδόμῳ μουσικῶ εἶναι ἢ τῷ μουσικῶ οἰκο-
 δόμῳ· τὸ γὰρ τόδε εἶναι τόδε σημαίνει τὸ συμ-
 βεβηκέναι τῷδε τόδε. οὕτω δὲ καὶ ἐπὶ τῶν εἰρη-
 μένων· τὸν γὰρ ἄνθρωπον ὅταν μουσικὸν λέγωμεν
 15 καὶ τὸν μουσικὸν ἄνθρωπον, ἢ τὸν λευκὸν μου-
 σικὸν ἢ τοῦτον λευκὸν, τὸ μὲν ὅτι ἄμφω τῷ αὐτῷ
 συμβεβήκασι, τὸ δ' ὅτι τῷ ὄντι συμβέβηκεν· τὸ
 δὲ μουσικὸν ἄνθρωπον, ὅτι τούτῳ τὸ μουσικὸν
 συμβέβηκεν· οὕτω δὲ λέγεται καὶ τὸ μὴ λευκὸν
 εἶναι, ὅτι ᾧ συμβέβηκεν, ἐκείνο ἔστιν. τὰ μὲν οὖν
 20 κατὰ συμβεβηκὸς εἶναι λεγόμενα οὕτω λέγεται,
 ἢ διότι τῷ αὐτῷ ὄντι ἄμφω ὑπάρχει, ἢ ὅτι ὄντι
 ἐκείνῳ ὑπάρχει, ἢ ὅτι αὐτὸ ἔστιν ᾧ ὑπάρχει οὐ
 αὐτὸ κατηγορεῖται. Καθ' αὐτὰ δὲ εἶναι λέγεται
 ὅσαπερ σημαίνει τὰ σχήματα τῆς κατηγορίας·
 ὅσαχῶς γὰρ λέγεται, τοσαυταχῶς τὸ εἶναι σημαίνει.
 25 ἐπεὶ οὖν τῶν κατηγορουμένων τὰ μὲν τί ἐστι
 σημαίνει, τὰ δὲ ποιόν, τὰ δὲ ποσόν, τὰ δὲ πρόσ-
 τι, τὰ δὲ ποιεῖν ἢ πάσχειν, τὰ δὲ πού, τὰ δὲ ποτέ,
 ἐκάστω τούτων τὸ εἶναι ταῦτο σημαίνει· οὐθὲν
 γὰρ διαφέρει τὸ ἄνθρωπος ὑγιαίνων ἐστὶν ἢ τὸ ἄν-
 θρωπος ὑγιαίνει, οὐδὲ τὸ ἄνθρωπος βαδίζων ἐστὶν
 30 ἢ τέρμων τοῦ ἄνθρωπος βαδίζει ἢ τέμνει· ὁμοίως
 δὲ καὶ ἐπὶ τῶν ἄλλων. Ἔτι τὸ εἶναι ση-

¹ τῷ ὄντι συμβέβηκεν: συμ. τῷ ὄντι A^b.

^a The categories. For the full list of these see *Categories*
 I b 25-27.

person "is" cultured, and that the man "is"
 cultured, and that the cultured person "is" a man;
 very much as we say that the cultured person builds,
 because the builder happens to be cultured, or the
 cultured person a builder; for in this sense "X is
 Y" means that Y is an accident of X. And so it is
 with the examples cited above; for when we say
 that "the man is cultured" and "the cultured person
 is a man" or "the white is cultured" or "the cul-
 tured is white," in the last two cases it is because both
 predicates are accidental to the same subject, and
 in the first case because the predicate is accidental
 to what *is*; and we say that "the cultured is a man"
 because "the cultured" is accidental to "a man."
 (Similarly "not-white" is said to "be," because the
 subject of which "not-white" is an accident, *is*.)
 These, then, are the senses in which things are said
 to "be" accidentally: either because both pre-
 dicates belong to the same subject, which *is*; or
 because the predicate belongs to the subject, which
is; or because the subject to which belongs that of
 which it is itself predicated itself *is*.

(ii.) The senses of essential being are those which
 are indicated by the figures of predication^a; for
 "being" has as many senses as there are ways of
 predication. Now since some predicates indicate
 (a) what a thing is, and others its (b) quality, (c)
 quantity, (d) relation, (e) activity or passivity, (f)
 place, (g) time, to each of these corresponds a sense
 of "being." There is no difference between "the
 man is recovering" and "the man recovers"; or
 between "the man is walking" or "cutting" and
 "the man walks" or "cuts"; and similarly in the
 other cases.

1017^a μαίνει καὶ τὸ ἔστιν ὅτι ἀληθές, τὸ δὲ μὴ εἶναι ὅτι οὐκ ἀληθές ἀλλὰ ψεῦδος, ὁμοίως ἐπὶ καταφάσεως καὶ ἀποφάσεως, οἷον ὅτι ἔστι Σωκράτης μουσικός, ὅτι ἀληθές τοῦτο, ἢ ὅτι ἔστι Σωκράτης οὐ λευκός, 35 ὅτι ἀληθές· τὸ δ' οὐκ ἔστιν ἢ διάμετρος σύμμετρος,¹ 1017^b ὅτι ψεῦδος. Ἐπι τὸ εἶναι σημαίνει καὶ τὸ ὄν, τὸ μὲν δυνάμει ρητόν, τὸ δ' ἐντελεχεία τῶν εἰρημένων τούτων· ὄρων τε γὰρ εἶναι φαμεν καὶ τὸ δυνάμει ὄρων² καὶ τὸ ἐντελεχεία· καὶ [τὸ]³ ἐπίστασθαι ὡσαύτως καὶ τὸ δυνάμενον χρῆσθαι τῇ ἐπιστήμῃ 5 καὶ τὸ χρώμενον, καὶ [τὸ]⁴ ἡρεμοῦν καὶ ᾧ ἦδη ὑπάρχει ἡρεμία καὶ τὸ δυνάμενον ἡρεμεῖν. ὁμοίως δὲ καὶ ἐπὶ τῶν οὐσιῶν· καὶ γὰρ Ἑρμῆν ἐν τῷ λίθῳ φαμέν εἶναι, καὶ τὸ ἦμισον τῆς γραμμῆς, καὶ σίτον τὸν μήπω ἀδρόν· πότε δὲ δυνατὸν καὶ πότε οὐπω ἐν ἄλλοις διοριστέον.

10 VIII. Οὐσία λέγεται τὰ τε ἀπλᾶ σώματα, οἷον γῆ καὶ πῦρ καὶ ὕδωρ καὶ ὅσα τοιαῦτα, καὶ ὅλως σώματα καὶ τὰ ἐκ τούτων συνεστῶτα ζῶα τε καὶ δαιμόνια καὶ τὰ μόρια τούτων· ἅπαντα δὲ ταῦτα λέγεται οὐσία ὅτι οὐ καθ' ὑποκειμένου λέγεται, ἀλλὰ κατὰ 15 τούτων τὰ ἄλλα. ἄλλον δὲ τρόπον ὃ ἂν ἦ αἴτιον τοῦ εἶναι, ἐνυπάρχον ἐν τοῖς τοιούτοις ὅσα μὴ λέγεται καθ' ὑποκειμένου, οἷον ἡ ψυχὴ τῷ ζῳῳ. ἔτι ὅσα μόρια ἐνυπάρχοντά ἐστιν ἐν τοῖς τοιούτοις ὀρίζοντά τε καὶ τόδε τι σημαίνοντα, ὧν ἀναιρου-

¹ σύμμετρος Alexander, Bonitz: ἀσύμμετρος codd.

² ὄρων: ῥητῶς ὄρων E.J.

³ τὸ secl. Bonitz. ⁴ τὸ om. A^b.

^a Cf. I. ii. 15.

^b Cf. III. v. 6.

^c IX. ix.

(iii.) Again, "to be" and "is" mean that a thing is true, and "not to be" that it is false. Similarly 6 too in affirmation and negation; e.g., in "Socrates is cultured" "is" means that this is true; or in "Socrates is not-white" that this is true; but in "the diagonal is not commensurable" ^a "is not" means that the statement is false.

(iv.) Again, "to be" <or "is"> means that some of these statements can be made in virtue of a potentiality and others in virtue of an actuality. For we 7 say that both that which sees potentially and that which sees actually is "a seeing thing." And in the same way we call "understanding" both that which *can* use the understanding, and that which *does*; and we call "tranquil" both that in which tranquillity is already present, and that which is potentially tranquil. Similarly too in the case of 8 substances. For we say that Hermes is in the stone,^b and the half of the line in the whole; and we call "corn" what is not yet ripe. But when a thing is potentially existent and when not, must be defined elsewhere.^c

VIII. "Substance" means (a) simple bodies, e.g. "Sub-
earth, fire, water and the like; and in general bodies, ^{stance" or}
and the things, animal or divine, including their parts, ^{"Essence."}
which are composed of bodies. All these are called substances because they are not predicated of any substrate, but other things are predicated of them. (b) In another sense, whatever, being immanent in 2 such things as are not predicated of a substrate, is the cause of their being; as, e.g., the soul is the cause of being for the animal. (c) All parts immanent 3 in things which define and indicate their individuality, and whose destruction causes the destruction of the

1017^b μένων ἀναιρείται τὸ ὄλον, οἷον ἐπιπέδου σώμα,
 20 ὡς φασί τινες, καὶ ἐπίπεδον γραμμῆς· καὶ ὅλων ὁ
 ἀριθμὸς δοκεῖ εἶναι τισι τοιοῦτος (ἀναιρουμένον
 τε γὰρ οὐδὲν εἶναι καὶ ὀρίζει πάντα). ἔτι τὸ τί ἦν
 εἶναι, οὐδ' ὁ λόγος ὀρισμός, καὶ τοῦτο οὐσία λέγεται
 ἐκάστου. Συμβαίνει δὴ κατὰ δύο τρόπους
 τὴν οὐσίαν λέγεσθαι, τὸ θ' ὑποκείμενον ἔσχατον,
 25 ὁ μὲν κατ' ἄλλου λέγεται, καὶ ὁ ἂν τότε τι ὄν
 καὶ χωριστὸν ἦ· τοιοῦτον δὲ ἐκάστου ἢ μορφή καὶ
 τὸ εἶδος.

IX. Ταῦτα λέγεται τὰ μὲν κατὰ συμβεβηκός, οἷον
 τὸ λευκὸν καὶ τὸ μουσικὸν τὸ αὐτὸ ὅτι τῷ αὐτῷ
 συμβέβηκε, καὶ ἄνθρωπος καὶ μουσικὸν ὅτι θάτερον
 30 θατέρῳ συμβέβηκεν, τὸ δὲ μουσικὸν ἄνθρωπος ὅτι
 τῷ ἀνθρώπῳ συμβέβηκεν· ἐκατέρῳ δὲ τοῦτο καὶ
 τούτῳ ἐκάτερον ἐκείνων, καὶ γὰρ τῷ ἀνθρώπῳ
 τῷ μουσικῷ καὶ ὁ ἄνθρωπος καὶ τὸ μουσικὸν
 ταῦτα λέγεται, καὶ τούτοις ἐκείνο. διὸ καὶ
 35 εἰπεῖν ὅτι πᾶς ἄνθρωπος ταῦτα καὶ τὸ μουσικόν·
 1018^a τὰ γὰρ καθόλου καθ' αὐτὰ ὑπάρχει, τὰ δὲ συμ-
 βεβηκότα οὐ καθ' αὐτὰ ἀλλ' ἐπὶ τῶν καθ' ἕκαστα
 ἀπλῶς λέγεται· ταῦτα γὰρ δοκεῖ Σωκράτης, καὶ
 Σωκράτης εἶναι μουσικός· τὸ δὲ Σωκράτης οὐκ
 ἐπὶ πολλῶν, διὸ οὐ πᾶς Σωκράτης λέγεται ὡς περ
 5 πᾶς ἄνθρωπος. καὶ τὰ μὲν οὕτως λέγεται ταῦτα,
 τὰ δὲ καθ' αὐτὰ ὁσαῦτως περὶ καὶ τὸ εἶναι καὶ γὰρ ὄν
 ὁσαῦτως περὶ ex Alexandro Jaeger: ὅσα ὡς περ EJ: ὡς περ
 A^b.

° The Pythagoreans and Platonists.

whole; as, e.g., the plane is essential to the body (as some^a hold) and the line to the plane. And number in general is thought by some^a to be of this nature, on the ground that if it is abolished nothing exists, and that it determines everything. (d) Again, the⁴ essence, whose formula is the definition, is also called the substance of each particular thing.

Thus it follows that "substance" has two senses: the ultimate subject, which cannot be further predicated of something else; and whatever has an individual and separate existence. The shape and form of each particular thing is of this nature.

IX. "The same" means (a) accidentally the same. "Same." E.g., "white" and "cultured" are the same because they are accidents of the same subject; and "man" is the same as "cultured," because one is an accident of the other; and "cultured" is the same as "man" because it is an accident of "man"; and "cultured man" is the same as each of the terms "cultured" and "man," and vice versa; for both "man" and "cultured" are used in the same way as "cultured man," and the latter in the same way as the former. Hence none of these² predications can be made universally. For it is not true to say that every man is the same as "the cultured"; because universal predications are essential to things, but accidental predications are not so, but are made of individuals and with a single application. "Socrates" and "cultured Socrates" seem to be the same; but "Socrates" is not a class-name, and hence we do not say "every Socrates" as we say "every man." Some things are said to be "the³ same" in this sense, but (b) others in an essential sense, in the same number of senses as "the one"

1018^a ἢ ὕλη μία ἢ εἶδει ἢ ἀριθμῷ ταυτὰ λέγεται, καὶ ὦν ἢ οὐσία μία· ὥστε φανερόν ὅτι ἢ ταυτότης ἐνόησιν τίς ἐστὶν ἢ πλείονων τοῦ εἶναι, ἢ ὅταν χρῆται ὡς πλείοσιν, οἷον ὅταν λέγη αὐτὸ αὐτῷ ταυτὸν· ὡς δυοὶ γὰρ χρῆται αὐτῷ.

10 Ἐτέρα δὲ λέγεται ὦν ἢ τὰ εἶδη πλείω ἢ ἢ ὕλη ἢ ὁ λόγος τῆς οὐσίας· καὶ ὅλως ἀντικειμένως τῷ ταυτῷ λέγεται τὸ ἕτερον.

Διάφορα δὲ λέγεται ὅσ' ἕτερά ἐστι τὸ αὐτό τι ὄντα, μὴ μόνον ἀριθμῷ, ἀλλ' ἢ εἶδει ἢ γένει ἢ ἀναλογία· ἔτι ὦν ἕτερον τὸ γένος καὶ τὰ ἐναντία

15 καὶ ὅσα ἔχει ἐν τῇ οὐσίᾳ τὴν ἑτερότητα.

Ὁμοια λέγεται τὰ τε πάντη ταυτὸ πεπονηότα, καὶ τὰ πλείω ταυτὰ¹ πεπονηότα ἢ ἕτερα, καὶ ὦν ἢ ποιότης μία· καὶ καθ' ὅσα ἀλλοιοῦσθαι ἐνδέχεται τῶν ἐναντίων, τούτων τὸ πλείω ἔχον ἢ κυριώτερα ὅμοιον τούτῳ. ἀντικειμένως δὲ τοῖς ὁμοίοις τὰ ἀνόμοια.

20 X. Ἀντικείμενα λέγεται ἀντίφασιν καὶ τὰναντία καὶ τὰ πρὸς τι καὶ στέρησις καὶ ἕξις καὶ ἐξ ὦν καὶ εἰς ἃ ἔσχατα, οἷον αἱ γενέσεις καὶ φθοραὶ· καὶ ὅσα μὴ ἐνδέχεται ἅμα παρεῖναι τῷ ἀμφοῖν δεκτικῷ, ταῦτα ἀντικεῖσθαι λέγεται, ἢ αὐτὰ ἢ ἐξ ὦν ἐστίν. φαῖον γὰρ καὶ λευκὸν ἅμα τῷ

25 αὐτῷ οὐχ ὑπάρχει· διὸ ἐξ ὦν ἐστὶν ἀντίκειται.

¹ ταυτὰ Alexander, Bessarion: ταυτὸ codd.

is essentially one; for things whose matter is formally or numerically one, and things whose substance is one, are said to be the same. Thus "sameness" is clearly a kind of unity in the being, either of two or more things, or of one thing treated as more than one; as, e.g., when a thing is consistent with itself; for it is then treated as two.

Things are called "other" of which either the ⁴ forms or the matter or the definition of essence is "Other." more than one; and in general "other" is used in the opposite senses to "same."

Things are called "different" which, while being in "Different." a sense the same, are "other" not only numerically, but formally or generically or analogically; also things whose genus is not the same; and contraries; and all things which contain "otherness" in their essence.

Things are called "like" which have the same ⁵ attributes in all respects; or more of those attributes "Like." the same than different; or whose quality is one. Also that which has a majority or the more important of those attributes of something else in respect of which change is possible (i.e. the contraries) is like that thing. And "unlike" is used in the opposite "Unlike." senses to "like."

X. The term "opposite" is applied to (a) contra- "Opposita." diction; (b) contraries; (c) relative terms; (d) privation; (e) state; (f) extremes; e.g. in the process of generation and destruction. And (g) all things which cannot be present at the same time in that which admits of them both are called opposites; either themselves or their constituents. "Grey" and "white" do not apply at the same time to the same thing, and hence their constituents are opposite.

1018 a Ἐναντία λέγεται τὰ τε μὴ δυνατὰ ἅμα τῷ αὐτῷ παρῆναι τῶν διαφερόντων κατὰ γένος, καὶ τὰ πλείστον διαφέροντα τῶν ἐν τῷ αὐτῷ γένει, καὶ τὰ πλείστον διαφέροντα τῶν ἐν ταύτῳ δεκτικῷ, καὶ τὰ πλείστον διαφέροντα τῶν ὑπὸ τὴν αὐτὴν δύναμιν, καὶ ὧν ἡ διαφορὰ μεγίστη ἢ ἀπλῶς ἢ κατὰ γένος ἢ κατ' εἶδος. τὰ δ' ἄλλα ἐναντία λέγεται τὰ μὲν τῷ τὰ τοιαῦτα ἔχειν, τὰ δὲ τῷ δεκτικὰ εἶναι τῶν τοιούτων, τὰ δὲ τῷ ποιητικὰ ἢ παθητικὰ εἶναι τῶν τοιούτων, ἢ ποιούντα ἢ πάσχοντα, ἢ ἀποβολαὶ ἢ λήψεις, ἢ ἔξεις ἢ στερήσεις εἶναι τῶν τοιούτων. ἐπεὶ δὲ τὸ ἐν καὶ τὸ ὄν πολλαχῶς λέγεται, ἀκολουθεῖν ἀνάγκη καὶ τἄλλα ὅσα κατὰ ταῦτα λέγεται, ὥστε καὶ τὸ ταῦτόν καὶ τὸ ἕτερον καὶ τὸ ἐναντίον, ὥστ' εἶναι ἕτερον καθ' ἐκάστην κατηγορίαν.

1018 b Ἔτερα δὲ τῷ εἶδει λέγεται ὅσα τε ταύτου γένους ὄντα μὴ ὑπέλληλά ἐστι, καὶ ὅσα ἐν τῷ αὐτῷ γένει ὄντα διαφορὰν ἔχει, καὶ ὅσα ἐν τῇ οὐσίᾳ ἐναντίωσιν ἔχει. καὶ τὰ ἐναντία ἔτερα τῷ εἶδει ἀλλήλων, ἢ πάντα ἢ τὰ λεγόμενα πρώτως, καὶ ὅσων ἐν τῷ τελευταίῳ τοῦ γένους εἶδει οἱ λόγοι ἕτεροι, οἷον ἄνθρωπος καὶ ἵππος ἄτομα τῷ γένει, οἱ δὲ λόγοι ἕτεροι αὐτῶν. καὶ ὅσα ἐν τῇ αὐτῇ οὐσίᾳ ὄντα ἔχει διαφορὰν. ταῦτα δὲ τῷ εἶδει τὰ ἀντικειμένως λεγόμενα τούτοις.

XI. Πρώτερα καὶ ὕστερα λέγεται ἕνα μὲν, ὡς ὄντος τινὸς πρώτου καὶ ἀρχῆς ἐν ἐκάστῳ γένει,

“Contrary” means: (a) attributes, generically 2 different, which cannot apply at the same time to the “Contrary.” same thing. (b) The most different attributes in the same genus; or (c) in the same subject; or (d) falling under the same faculty. (e) Things whose difference is greatest absolutely, or in genus, or in species. Other things are called “contrary” either because 3 they possess attributes of this kind, or because they are receptive of them, or because they are productive of or liable to them, or actually produce or incur them, or are rejections or acquisitions or possessions or privations of such attributes. And since “one” 4 and “being” have various meanings, all other terms which are used in relation to “one” and “being” must vary in meaning with them; and so “same,” “other” and “contrary” must so vary, and so must have a separate meaning in accordance with each category.

Things are called “other in species” (a) which belong to the same genus and are not subordinate 5 one to the other; or (b) which are in the same genus and contain a differentia; or (c) which contain a contrariety in their essence. (d) Contraries, too (either all of them or those which are called so in a primary sense), are “other in species” than one another; and (e) so are all things of which the formulae are different in the final species of the genus (e.g., “man” and “horse” are generically indivisible, but their formulae are different); and (f) attributes of the same substance which contain a difference. “The same in species” has the opposite meanings 6 to these.

XI. “Prior” and “posterior” mean: (i.) (a) In one sense (assuming that there is in each genus some primary thing or starting-point) that which is nearer

1018 b

τῷ¹ ἐγγύτερον ἀρχῆς τινὸς ὠρισμένης, ἢ ἀπλῶς καὶ τῆ φύσει, ἢ πρὸς τι ἢ ποῦ ἢ ὑπό τιων, οἷον τὰ μὲν κατὰ τόπον τῷ εἶναι ἐγγύτερον ἢ φύσει τινὸς τόπου ὠρισμένου (οἷον τοῦ μέσου ἢ τοῦ ἐσχάτου) ἢ πρὸς τὸ τυχόν, τὸ δὲ πορρώτερον ὕστερον· τὰ 15 δὲ κατὰ χρόνον· τὰ μὲν γὰρ τῷ πορρώτερον² τοῦ νῦν, οἷον ἐπὶ τῶν γενομένων (πρότερον³ γὰρ τὰ Τρωϊκὰ τῶν Μηδικῶν, ὅτι πορρώτερον ἀπέχει τοῦ νῦν), τὰ δὲ τῷ ἐγγύτερον⁴ τοῦ νῦν, οἷον ἐπὶ τῶν μελλόντων· πρότερον γὰρ Νέμεα Πυθίων, ὅτι ἐγγύτερον τοῦ νῦν τῷ νῦν⁵ ὡς ἀρχῆ καὶ πρώτῳ 20 χρησαμένῳ· τὰ δὲ κατὰ κίνησιν· τὸ γὰρ ἐγγύτερον τοῦ πρώτου κινήσαντος πρότερον, οἷον παῖς ἀνδρός· ἀρχῆ δὲ καὶ αὕτη τις ἀπλῶς· τὰ δὲ κατὰ δύναμιν· τὸ γὰρ ὑπερέχον τῆ δυνάμει πρότερον, καὶ τὸ δυνατώτερον· τοιοῦτον δ' ἐστὶν οὐ κατὰ τὴν προαίρεσιν ἀνάγκη ἀκολουθεῖν θάτερον 25 καὶ τὸ ὕστερον, ὥστε μὴ κινουντός τε ἐκείνου μὴ κινεῖσθαι καὶ κινουντος κινεῖσθαι· ἢ δὲ προαίρεσις ἀρχῆ· τὰ δὲ κατὰ τάξιν· ταῦτα δ' ἐστὶν ὅσα πρὸς τι ἐν ὠρισμένον διέστηκε κατὰ τινα⁶ λόγον, οἷον παραστάτης τριτοστάτου πρότερον, καὶ παρανήτη νήτης· ἔνθα μὲν γὰρ ὁ κορυφαῖος, ἔνθα δὲ ἡ μέση ἀρχῆ. Ταῦτα μὲν οὖν πρό- 30 τερα τοῦτον λέγεται τὸν τρόπον, ἄλλον δὲ τρόπον

¹ τῷ Alexander, Bonitz: τὸ codd.: τῷ εἶναι Jaeger.

² πορρωτέρω E.J. ³ πρότερα Γ Asclepius.

⁴ ἐγγυτέρω recc. ⁵ τῷ νῦν om. recc. ⁶ Jaeger: τὸν codd.

^a The octachord to which Aristotle refers was composed of the following notes: E (ὕπατη) F (παρυπάτη) G (λιχανός) A (μέση) B (παραμέση) C (τριτή) D (παρανήτη) E (νήτη).

^b Strictly speaking there was no middle string in the octachord; the name was taken over from the earlier hepta-

to some starting-point, determined either absolutely and naturally, or relatively, or locally, or by some agency; e.g., things are prior in space because they are nearer either to some place naturally determined, such as the middle or the extreme, or to some chance relation; and that which is further is posterior. (b) In another sense, prior or posterior² in *time*. Some things are prior as being further from the present, as in the case of past events (for the Trojan is prior to the Persian war, because it is further distant from the present); and others as being nearer the present, as in the case of future events (for the Nemean are prior to the Pythian games because they are nearer to the present, regarded as a starting-point and as primary). (c) In³ another sense, in respect of motion (for that which is nearer to the prime mover is prior; e.g., the boy is prior to the man). This too is a kind of starting-point in an absolute sense. (d) In respect of potency; for that which is superior in potency, or more potent, is prior. Such is that in accordance with whose will the other, or posterior, thing must follow, so that according as the former moves or does not move, the latter is or is not moved. And the *will* is a "starting-point." (e) In respect of order; such are⁴ all things which are systematically arranged in relation to some one determinate object. E.g., he who is next to the leader of the chorus is prior to him who is next but one, and the seventh string is prior to the eighth^a; for in one case the leader is the starting-point, and in the other the middle^b string.

In these examples "prior" has this sense; but⁵ chord EFGAB_bCD, in which there was no παραμέση. The μέση was apparently what we should call the tonic. Cf. XIV. vi. 5; *Problemata* 919 b 20.

1018 b

τὸ τῇ γνώσει πρότερον ὡς καὶ ἀπλῶς πρότερον. τούτων δὲ ἄλλως τὰ κατὰ τὸν λόγον καὶ τὰ κατὰ τὴν αἴσθησιν. κατὰ μὲν γὰρ τὸν λόγον τὰ καθ' ὅλου πρότερα, κατὰ δὲ τὴν αἴσθησιν τὰ καθ' ἕκαστα· καὶ κατὰ τὸν λόγον δὲ τὸ συμβεβηκὸς

35 τοῦ ὅλου πρότερον, οἷον τὸ μουσικὸν τοῦ μουσικοῦ ἀνθρώπου· οὐ γὰρ ἔσται ὁ λόγος ὅλος ἄνευ τοῦ μέρους· καίτοι οὐκ ἐνδέχεται μουσικὸν εἶναι μὴ ὄντος μουσικοῦ τινος.

1019 a Ἐπι πρότερα λέγεται τὰ τῶν προτέρων πάθη, οἷον εὐθύτης λειότητος· τὸ μὲν γὰρ γραμμῆς καθ' αὐτὴν πάθος, τὸ δὲ ἐπιφανείας. Τὰ μὲν δὴ οὕτω λέγεται πρότερα καὶ ὕστερα, τὰ δὲ κατὰ φύσιν καὶ οὐσίαν,

ὅσα ἐνδέχεται εἶναι ἄνευ ἄλλων, ἐκεῖνα δὲ ἄνευ ἐκείνων μὴ ἢ διαίρεισι ἐχρήσατο Πλάτων. (ἐπεὶ

5 δὲ τὸ εἶναι πολλαχῶς, πρῶτον μὲν τὸ ὑποκείμενον πρότερον, διὸ ἢ οὐσία πρότερον, ἔπειτα ἄλλως τὰ κατὰ δύναμιν καὶ κατ' ἐντελέχειαν. τὰ μὲν γὰρ κατὰ δύναμιν πρότερά ἐστι, τὰ δὲ κατὰ ἐντελέχειαν, οἷον κατὰ δύναμιν μὲν ἢ ἡμίσεια τῆς ὅλης καὶ τὸ μόριον τοῦ ὅλου καὶ ἢ ὕλη τῆς οὐσίας,

10 κατ' ἐντελέχειαν δ' ὕστερον· διαλυθέντος γὰρ κατ' ἐντελέχειαν ἔσται.) τρόπον δὴ τινα πάντα τὰ πρότερον καὶ ὕστερον λεγόμενα κατὰ ταῦτα λέγεται· τὰ μὲν γὰρ κατὰ γένεσιν ἐνδέχεται ἄνευ τῶν ἐτέρων εἶναι, οἷον τὸ ὅλον τῶν μορίων, τὰ δὲ κατὰ φθοράν, οἷον τὸ μόριον τοῦ ὅλου. ὁμοίως δὲ καὶ τᾶλλα.

15 XII. Δύναμις λέγεται ἢ μὲν ἀρχὴ κινήσεως ἢ μετα-

^a Not, apparently, in his writings.

^b Or "capacity" or "potentiality."

(ii.) in another sense that which is prior in knowledge is treated as absolutely prior; and of things which are prior in this sense the prior in formula are different from the prior in perception. Universals are prior in formula, but particulars in perception. And in formula the attribute is prior to the concrete whole: e.g. "cultured" to "the cultured man"; for the formula will not be a whole without the part. Yet "cultured" cannot exist apart from ⁶ some cultured person.

Again, (iii.) attributes of prior subjects are called prior; e.g., straightness is prior to smoothness, because the former is an attribute of the line in itself, and the latter of a surface.

Some things, then, are called prior and posterior ⁷ in this sense; but others (iv.) in virtue of their nature and substance, namely all things which can exist apart from other things, whereas other things cannot exist without them. This distinction was used by Plato.^a (And since "being" has various meanings, (a) the substrate, and therefore substance, is prior; (b) potential priority is different from actual priority. Some things are prior potentially, and some actually; ⁸ e.g., potentially the half-line is prior to the whole, or the part to the whole, or the matter to the substance; but actually it is posterior, because it is only upon dissolution that it will actually exist.) Indeed, in ⁹ a sense all things which are called "prior" or "posterior" are so called in this connexion; for some things can exist apart from others in generation (e.g. the whole without the parts), and others in destruction (e.g. the parts without the whole). And similarly with the other examples.

XII. "Potency" ^b means: (a) the source of "Potency."

1019^a βολῆς ἢ ἐν ἐτέρῳ ἢ ἢ ἕτερον, οἷον ἡ οἰκοδομικὴ
 δύναμις ἐστίν ἢ οὐχ ὑπάρχει ἐν τῷ οἰκοδομου-
 μένῳ· ἀλλ' ἡ ἰατρικὴ δύναμις οὐσα ὑπάρχει ἂν
 ἐν τῷ ἰατρευομένῳ, ἀλλ' οὐχ ἢ ἰατρευόμενος.
 ἢ μὲν οὖν ὅλως ἀρχὴ μεταβολῆς ἢ κινήσεως
 20 λέγεται δύναμις ἐν ἐτέρῳ ἢ ἢ ἕτερον, ἢ δ' ὑφ'
 ἐτέρου ἢ ἢ ἕτερον καθ' ἣν γὰρ τὸ πάσχον πάσχει
 τι, ὅτε μὲν ἐὰν ὀτιοῦν δυνατόν αὐτὸ φαμεν εἶναι
 παθεῖν, ὅτε δ' οὐ κατὰ πᾶν πάθος ἀλλ' ἂν ἐπὶ
 τὸ βέλτιον. ἔτι ἢ τοῦ καλῶς τοῦτ' ἐπιτελεῖν ἢ
 κατὰ προαίρεσιν· ἐνίοτε γὰρ τοὺς μόνον ἂν πορευ-
 25 θέντας ἢ εἰπόντας, μὴ καλῶς δὲ ἢ μὴ ὡς προ-
 εἶλοντο, οὐ φαμεν δύνασθαι λέγειν ἢ βαδίζειν·
 ὁμοίως δὲ καὶ ἐπὶ τοῦ πάσχειν. ἔτι ὅσα ἕξεις
 καθ' ἃς ἀπαθῆ ὅλως ἢ ἀμετάβλητα ἢ μὴ ῥαδίως
 ἐπὶ τὸ χεῖρον εὐμετακίνητα, δυνάμεις λέγονται·
 κλᾶται μὲν γὰρ καὶ συντρίβεται καὶ κάμπτεται
 30 καὶ ὅλως φθείρεται οὐ τῷ δύνασθαι ἀλλὰ τῷ μὴ
 δύνασθαι καὶ ἐλλείπειν τινός· ἀπαθῆ δὲ τῶν τοιού-
 των ἂ μόλις καὶ ἡρέμα πάσχει διὰ δύναμιν καὶ
 τῷ δύνασθαι καὶ τῷ³ ἔχειν πῶς. Λεγομένης
 δὲ τῆς δυνάμεως τοσαυταχῶς, καὶ τὸ δυνατόν
 ἓνα μὲν τρόπον λεχθήσεται τὸ ἔχον κινήσεως
 35 ἀρχὴν ἢ μεταβολῆς (καὶ γὰρ τὸ στατικὸν δυνατόν
 1019^b τι ἐν ἐτέρῳ ἢ ἢ ἕτερον, ἓνα δ' ἐὰν ἔχη τι αὐτοῦ

¹ ἢ om. A^b.² ἢ om. A^bΓ.³ τῷ . . . τῷ Jaeger: τὸ . . . τὸ codd.⁴ ἢ om. A^b.

motion or change which is in something other than the thing changed, or in it *qua* other. *E.g.*, the science of building is a potency which is not present in the thing built; but the science of medicine, which is a potency, may be present in the patient, although not *qua* patient. Thus "potency" means ² the source in general of change or motion in another thing, or in the same thing *qua* other; or the source of a thing's being moved or changed by another thing, or by itself *qua* other (for in virtue of that principle by which the passive thing is affected in any way we call it capable of being affected; sometimes if it is affected at all, and sometimes not in respect of every affection, but only if it is changed for the better). (b) The power of performing this ³ well or according to intention; because sometimes we say that those who can merely take a walk, or speak, without doing it as well as they intended, cannot speak or walk. And similarly in the case of passivity. (c) All states in virtue of which things ⁴ are unaffected generally, or are unchangeable, or cannot readily deteriorate, are called "potencies." For things are broken and worn out and bent and in general destroyed not through potency but through impotence and deficiency of some sort; and things are unaffected by such processes which are scarcely or slightly affected because they have a potency and are potent and are in a definite state.

Since "potency" has all these meanings, "po-⁵ tent" (or "capable") will mean (a) that which contains a source of motion or change (for even what is static is "potent" in a sense) which takes place in another thing, or in itself *qua* other. (b) That over which something else has a potency of this kind.

1019^b ἄλλο δύνάμιν τοιαύτην, ἓνα δ' ἐὰν ἔχη μεταβάλλειν
 ἐφ' ὅτιοῦν δύνάμιν, εἴτ' ἐπὶ τὸ χεῖρον εἴτ' ἐπὶ τὸ
 βέλτιον (καὶ γὰρ τὸ φθειρόμενον δοκεῖ δυνατόν
 εἶναι φθειρεσθαι, ἢ οὐκ ἂν φθαρῆναι εἰ ἦν ἄ-
 5 δύνατον· νῦν δὲ ἔχει τινα διάθεσιν καὶ αἰτίαν
 καὶ ἀρχὴν τοῦ τοιοῦτου πάθους· ὅτε μὲν δὴ τῷ
 ἔχειν τι δοκεῖ, ὅτε δὲ τῷ¹ ἐστερηθῆσθαι τοιοῦτον
 εἶναι· εἰ δ' ἢ στερήσις ἐστὶν ἕξις πως, πάντα τῷ
 ἔχειν ἂν εἴη τι, [εἰ δὲ μὴ]² ὥστε τῷ ἔχειν ἕξις
 τινα καὶ ἀρχὴν ἐστὶ δυνατόν³ καὶ τῷ ἔχειν τὴν
 10 τούτου στερήσιν, εἰ ἐνδέχεται ἔχειν στερήσιν,
 «εἰ δὲ μὴ, ὁμωνύμως»⁴). ἓνα δὲ τῷ μὴ ἔχειν
 αὐτοῦ δύνάμιν ἢ ἀρχὴν ἄλλο⁵ ἢ ἢ ἄλλο φθαρτικὴν.
 ἔτι δὲ ταῦτα πάντα ἢ τῷ μόνον ἂν συμβῆναι
 γενέσθαι ἢ μὴ γενέσθαι, ἢ τῷ καλῶς· καὶ γὰρ ἐν
 τοῖς ἀψύχοις ἐνεστὶν ἢ τοιαύτη δύναμις, οἷον ἐν
 15 τοῖς ὀργάνοις· τὴν μὲν γὰρ δύνασθαι φασι φλέγ-
 γεσθαι λύραν, τὴν δ' οὐδέν, ἂν ἢ μὴ εὐφωτος.

Ἄδυναμία δὲ ἐστὶ στερήσις δυνάμεως καὶ τῆς
 τοιαύτης ἀρχῆς ἄρσις τις⁶ οἷα εἴρηται, ἢ ὅλως
 ἢ τῷ πεφυκότι ἔχειν, ἢ καὶ ὅτε πέφυκεν ἢ ἴδη
 ἔχειν· οὐ γὰρ ὁμοίως ἂν φαίεν⁷ ἀδύνατον εἶναι
 γεννᾶν παῖδα καὶ ἄνδρα καὶ εὐνοῦχον. ἔτι δὲ
 20 καθ' ἑκατέραν δυνάμιν ἐστὶν ἀδυναμία ἀντικειμένη,
 τῇ τε μόνον κινήτικῃ καὶ τῇ καλῶς κινήτικῃ.

¹ τῷ . . . τῷ: τὸ . . . τὸ recc.

² εἰ δὲ μὴ A^b: secl. Ross: εἰ δε μὴ, ὁμωνύμως Christ: ὁμω-
 νύμως δὲ λεγόμενον τὸ ἐν EJ.

³ δυνατόν: δυνατόν ὁμωνύμως A^b.

⁴ Ross.

⁵ ἄλλο ex Alexandro Bonitz: ἄλλω A^b: ἐν ἄλλω EJ.

⁶ ἄρσις τις om. A^b.

⁷ φαίμεν Bekker.

(c) That which has the potency of changing things, either for the worse or for the better (for it seems that even that which perishes is "capable" of perishing; otherwise, if it had been incapable, it would not have perished. As it is, it has a kind of disposition or cause or principle which induces such an affection. Sometimes it seems to be such as it is 6 because it *has* something, and sometimes because it is *deprived* of something; but if privation is in a sense a state or "habit," everything will be "potent" through *having* something; and so a thing is "potent" in virtue of having a certain "habit" or principle, and also in virtue of having the privation of that "habit," if it can *have* privation; and if privation is not in a sense "habit," the term "potent" is equivocal). (d) A thing is "potent" if 7 neither any other thing nor itself *qua* other contains a potency or principle destructive of it. (e) All these things are "potent" either because they merely might chance to happen or not to happen, or because they might do so *well*. Even in inanimate things this kind of potency is found; e.g. in instruments; for they say that one lyre "can" be played, and another not at all, if it has not a good tone.

"Impotence" is a privation of potency—a kind 8 of abolition of the principle which has been described "Impo-
 —either in general or in something which would tence."
 naturally possess that principle, or even at a time when it would naturally already possess it (for we should not use "impotence"—in respect of be-
 getting—in the same sense of a boy, a man and a eunuch). Again, there is an "impotence" cor-
 responding to each kind of potency; both to the kinetic and to the successfully kinetic.

1019 b

Καὶ ἀδύνατα δὴ τὰ μὲν κατὰ τὴν ἀδυναμίαν ταύτην λέγεται, τὰ δ' ἄλλον τρόπον, οἷον δυνατόν τε καὶ ἀδύνατον. ἀδύνατον μὲν οὐ τὸ ἐναντίον ἐξ ἀνάγκης ἀληθές, οἷον τὸ τὴν διάμετρον σύμμετρον
 25 εἶναι ἀδύνατον, ὅτι ψεῦδος τὸ τοιοῦτον οὐ τὸ ἐναντίον οὐ μόνον ἀληθές ἀλλὰ καὶ ἀνάγκη [ἀσύμμετρον εἶναι]¹. τὸ ἄρα σύμμετρον οὐ μόνον ψεῦδος ἀλλὰ καὶ ἐξ ἀνάγκης ψεῦδος. τὸ δ' ἐναντίον τούτῳ, τὸ δυνατόν, ὅταν μὴ ἀναγκαῖον ἦ τὸ ἐναντίον ψεῦδος εἶναι, οἷον τὸ καθῆσθαι ἀνθρωπῶν
 30 δυνατόν. οὐ γὰρ ἐξ ἀνάγκης τὸ μὴ καθῆσθαι ψεῦδος. τὸ μὲν οὖν δυνατόν ἓνα μὲν τρόπον, ὡς περ εἴρηται, τὸ μὴ ἐξ ἀνάγκης ψεῦδος σημαίνει, ἓνα δὲ τὸ ἀληθές [εἶναι],¹ ἓνα δὲ τὸ ἐνδεχόμενον ἀληθές εἶναι. Κατὰ μεταφορὰν δὲ ἢ ἐν τῇ γεωμετρίᾳ λέγεται δύναμις. Ταῦτα μὲν οὖν
 35 τὰ δυνατὰ οὐ κατὰ δύναμιν. τὰ δὲ λεγόμενα
 1020 α κατὰ δύναμιν πάντα λέγεται πρὸς τὴν πρώτην [μίαν]². αὕτη δ' ἐστὶν ἀρχὴ μεταβολῆς ἐν ἄλλῳ ἢ ἢ ἄλλο. τὰ γὰρ ἄλλα λέγεται δυνατὰ τῷ τὰ μὲν ἔχειν αὐτῶν ἄλλο τι τοιαύτην δύναμιν, τὰ δὲ μὴ ἔχειν, τὰ δὲ ὠδὶ ἔχειν. ὁμοίως δὲ καὶ
 5 τὰ ἀδύνατα. ὥστε ὁ κύριος ὅρος τῆς πρώτης δυνάμεως ἂν εἴη ἀρχὴ μεταβλητικὴ ἐν ἄλλῳ ἢ ἢ ἄλλο.

¹ Ross.² μίαν γρ. Asclepius: om. cet.³ ἢ om. A^bJ comm.⁴ ἢ om. A^bJ Alexander.

^a A square was called a δύναμις. Plato, *Republic* 387 D; *Timaeus* 31 c.

^b sc. in a *passive* sense, which the English word "potent" cannot bear.

Some things are said to be "impotent" in accordance with this meaning of "impotence," but others in a different sense, namely "possible" and "impossible." "Impossible" means: (a) that whose contrary is necessarily true; e.g., it is impossible that the diagonal of a square should be commensurable with the sides, because such a thing is a lie, whose contrary is not only true but inevitable. Hence that it is commensurable is not only a lie but necessarily a lie. And the contrary of the impossible, i.e. the possible, is when the contrary is not necessarily a lie; e.g., it is possible that a man should be seated, for it is not necessarily a lie that he should not be seated. "Possible," then, means in one sense, as we have said, that which is not necessarily a lie; in another, that which is true; and in another, that which may be true.

(The "power" in geometry^a is so called by an extension of meaning.)

These are the senses of "potent" which do not correspond to "potency." Those which do correspond to it all refer to the first meaning, i.e. "a source of change which exists in something other than that in which the change takes place, or in the same thing *qua* other." Other things are said to be "potent"^b because something else has such a potency over them; others because it does not possess it; others because it possesses it in a particular way. The term "impotent" is similarly used. Thus the authoritative definition of "potency" in the primary sense will be "a principle producing change, which is in something other than that in which the change takes place, or in the same thing *qua* other."

1020 a

XIII. Ποσὸν λέγεται τὸ διαιρετὸν εἰς ἐνυπάρχοντα, ὧν ἑκάτερον ἢ ἕκαστον ἐν τι καὶ τότε τι πέφυκεν εἶναι. πλῆθος μὲν οὖν ποσὸν τι ἂν ἀριθμητὸν ἦ, 10 μέγεθος δὲ ἂν μετρητὸν ἦ. λέγεται δὲ πλῆθος μὲν τὸ διαιρετὸν δυνάμει εἰς μὴ συνεχῆ, μέγεθος δὲ τὸ εἰς συνεχῆ. μεγέθους δὲ τὸ μὲν ἐφ' ἐν συνεχῆς μῆκος, τὸ δ' ἐπὶ δύο πλάτος, τὸ δ' ἐπὶ τρία βάθος. τούτων δὲ πλῆθος μὲν τὸ πεπερασμένον ἀριθμὸς, μῆκος δὲ γραμμὴ, πλάτος δὲ ἐπι- 15 φάνεια, βάθος δὲ σώμα. ἔτι τὰ μὲν λέγεται καθ' αὐτὰ ποσὰ ἅττα, τὰ δὲ κατὰ συμβεβηκός, οἷον ἢ μὲν γραμμὴ ποσὸν τι καθ' ἑαυτό, τὸ δὲ μουσικὸν κατὰ συμβεβηκός. τῶν δὲ καθ' αὐτὰ τὰ μὲν κατ' οὐσίαν ἐστὶν οἷον ἢ γραμμὴ [ποσὸν τι]¹ (ἐν γὰρ τῷ λόγῳ τῷ τί ἐστι λέγοντι τὸ ποσὸν τι ὑπάρχει), 20 τὰ δὲ πάθη καὶ ἕξεις τῆς τοιαύτης ἐστὶν οὐσίας, οἷον τὸ πολὺ καὶ τὸ ὀλίγον, καὶ μακρὸν καὶ βραχύ, καὶ πλατὺ καὶ στενόν, καὶ βαθύ καὶ ταπεινόν, καὶ βαρὺ καὶ κοῦφον, καὶ τᾶλλα τὰ τοιαῦτα. ἔστι δὲ καὶ τὸ μέγα καὶ τὸ μικρόν, καὶ τὸ μείζον καὶ ἕλαττον, καὶ καθ' αὐτὰ καὶ πρὸς ἄλληλα 25 λεγόμενα, τοῦ ποσοῦ πάθη καθ' αὐτά· μεταφέρεται μέντοι καὶ ἐπ' ἄλλα ταῦτα τὰ ὀνόματα. τῶν δὲ κατὰ συμβεβηκός λεγομένων ποσῶν τὰ² μὲν οὕτως λέγεται ὡς περ ἐλέχθη ὅτι τὸ μουσικὸν ποσὸν καὶ τὸ λευκὸν τῷ εἶναι ποσὸν τι ᾧ ὑπάρχουσι, τὰ δὲ ὡς κίνησις καὶ χρόνος· καὶ γὰρ

¹ ποσὸν τι seclusi.² τὰ Γ Jaeger: τὸ.

XIII. "Quantity" means that which is divisible into constituent parts, each^a or every one of which is by nature some one individual thing. Thus plur- "Quantity;"
ality, if it is numerically calculable, is a kind of "Plurality,"
quantity; and so is magnitude, if it is measurable. "Magni-
"Magnitude."
"Plurality" means that which is potentially divisible into non-continuous parts; and "magnitude" that which is potentially divisible into continuous parts. Of kinds of magnitude, that which is continuous in one direction is length; in two directions, breadth; in three, depth. And of these, plurality, 2 when limited, is a number; length, a line; breadth, a plane; depth, a body. Again, some things are essentially quantitative, but others only accidentally; e.g. the line is essentially, but "cultured" acci- dentally quantitative. And of the former class some 3 are quantitative in virtue of their substance, e.g. the line (because the definition which describes it is quantitative in some form); and others are attributes and conditions of a substance of this kind— e.g., "much" and "little," "long" and "short," "broad" and "narrow," "deep" and "shallow," "heavy" and "light," etc. Moreover, "great" 4 and "small," and "greater" and "smaller," whether used absolutely or relatively to one another, are essential attributes of quantity; by an extension of meaning, however, these terms are also applied to other things. Of things called quantitative in 5 an accidental sense, one kind is so called in the sense in which we said above that "cultured" or "white" is quantitative—because the subject to which they belong is quantitative; and others in the sense that motion and time are so called—for these too are said

^a i.e., if there are only two.

1020^a

30 ταῦτα πόσ' ἄττα λέγεται καὶ συνεχῆ τῷ ἐκείνα
 διαιρετὰ εἶναι ὧν ἐστὶ ταῦτα πάθη. λέγω δὲ οὐ
 τὸ κινούμενον ἀλλ' ὃ ἐκινήθη· τῷ γὰρ ποσὸν
 εἶναι ἐκεῖνο καὶ ἡ κίνησις ποσῆ, ὃ δὲ χρόνος τῷ
 ταύτην.

XIV. [Τό]¹ ποιὸν λέγεται ἓνα μὲν τρόπον ἢ διαφορὰ
 τῆς οὐσίας, οἷον ποιὸν τι ἄνθρωπος ζῶον ὅτι
 35 δίπουν, ἵππος δὲ τετράπουν· καὶ κύκλος ποιὸν τι
 1020^b σχῆμα ὅτι ἀγώνιον, ὡς τῆς διαφορᾶς τῆς κατὰ
 τὴν οὐσίαν ποιότητος οὐσης. ἓνα μὲν δὴ τρόπον
 τοῦτον λέγεται ἢ ποιότητος διαφορὰ οὐσίας, ἓνα
 δὲ ὡς τὰ ἀκίνητα καὶ τὰ μαθηματικά, ὥσπερ οἱ
 ἀριθμοὶ ποιοὶ τινες, οἷον οἱ σύνθετοι καὶ μὴ
 5 μόνον ἐφ' ἓν ὄντες ἀλλ' ὧν μίμημα τὸ ἐπίπεδον
 καὶ τὸ στερεόν (οὗτοι δ' εἰσὶν οἱ ποσάκις ποσοὶ
 ἢ ποσάκις ποσάκις ποσοὶ), καὶ ὅλως ὃ παρὰ τὸ
 ποσὸν ὑπάρχει ἐν τῇ οὐσίᾳ· οὐσία γὰρ ἐκάστου
 ὃ² ἅπαξ, οἷον τῶν ἕξ οὐχ ὃ δις ἢ τρίς εἰσὶν ἀλλὰ
 ὃ ἅπαξ· ἕξ γὰρ ἅπαξ ἕξ. ἔτι ὅσα πάθη τῶν
 κινουμένων οὐσιῶν, οἷον θερμότης καὶ ψυχρότης,
 10 καὶ λευκότης καὶ μελανία, καὶ βαρύτης καὶ κου-
 φότης, καὶ ὅσα τοιαῦτα, καθ' ἃ λέγονται καὶ
 ἀλλοιοῦσθαι τὰ σώματα μεταβαλλόντων. ἔτι κατ'
 ἀρετὴν καὶ κακίαν καὶ ὅλως τὸ κακὸν καὶ ἀγαθόν.

Σχεδὸν δὴ κατὰ δύο τρόπους λέγοιτ' ἂν τὸ ποιόν,

¹ Bonitz.² δ Bonitz: τδ.

in a sense to be quantitative and continuous, since the subjects of which they are attributes are divisible. I mean, not the thing moved, but that through or along which the motion has taken place; for it is because the latter is quantitative that the motion is quantitative, and because the motion is quantitative that the time is also.

XIV. "Quality" means (a) in one sense, the "Quality," differentia of essence; e.g., a man is an animal of a certain quality because he is two-footed; and so is a horse, because it is four-footed. Also a circle is a geometrical figure of a certain quality, because it has no angles; which shows that the essential differentia is quality. In this one sense, then, (b) "quality" means differentia of essence; but (b) in another it is used as of immovable and mathematical objects, in the sense that numbers are in a way qualitative—e.g. such as are composite and are represented geometrically not by a line but by a plane or solid (these are products respectively of two and of three factors)—and in general means that which is present besides quantity in the essence. For the essence of each number is that which goes into it once; e.g. that of 6 is not what goes twice or three times, but what goes once; for 6 is once 6. (c) All affections of substance in motion in respect of 3 which bodies become different when they (the affections) change—e.g. heat and cold, whiteness and blackness, heaviness and lightness, etc. (d) The term is used with reference to goodness and badness, and in general to good and bad.

Thus there are, roughly speaking, two meanings 4 which the term "quality" can bear, and of these one

1020 b καὶ τούτων ἓνα τὸν κυριώτατον· πρώτη μὲν γὰρ
 15 ποιότης ἢ τῆς οὐσίας διαφορὰ (ταύτης δέ τι καὶ
 ἢ ἐν τοῖς ἀριθμοῖς ποιότης μέρος· διαφορὰ γὰρ
 τις οὐσιῶν, ἀλλ' ἢ οὐ κινουμένων ἢ οὐχ ἢ κινού-
 μενα), τὰ δὲ πάθη τῶν κινουμένων ἢ κινούμενα,
 καὶ αἱ τῶν κινήσεων διαφοραί. ἀρετὴ δὲ καὶ
 κακία τῶν παθημάτων μέρος τι· διαφορὰς γὰρ
 20 δηλοῦσι τῆς κινήσεως καὶ τῆς ἐνεργείας καθ'
 ὡς ποιούσιν ἢ πάσχουσι καλῶς ἢ φαύλως τὰ ἐν
 κινήσει ὄντα· τὸ μὲν γὰρ ὡδὶ δυνάμενον κινεῖσθαι
 ἢ ἐνεργεῖν ἀγαθόν, τὸ δ' ὡδὶ καὶ ἐναντίως μοχθη-
 ρόν. μάλιστα δὲ τὸ ἀγαθὸν καὶ τὸ κακὸν σημαί-
 νει τὸ ποῖον ἐπὶ τῶν ἐμφύχων, καὶ τούτων μάλιστα
 25 ἐπὶ τοῖς ἔχουσι προαίρεσιν.

XV. Πρὸς τι λέγεται τὰ μὲν ὡς διπλάσιον πρὸς
 ἡμισυ καὶ τριπλάσιον πρὸς τριτημόριον, καὶ ὅλως
 πολλαπλάσιον πρὸς πολλοστημόριον καὶ ὑπερέχον
 πρὸς ὑπερεχόμενον· τὰ δ' ὡς τὸ θερμαντικὸν πρὸς
 30 τὸ θερμαντὸν καὶ τὸ τμητικὸν πρὸς τὸ τμητόν, καὶ
 ὅλως τὸ ποιητικὸν πρὸς τὸ παθητικόν· τὰ δ' ὡς τὸ
 μετρητὸν πρὸς τὸ μέτρον καὶ ἐπιστητὸν πρὸς ἐπι-
 στήμην καὶ αἰσθητὸν πρὸς αἴσθησιν. Λέγεται
 δὲ τὰ μὲν πρῶτα κατ' ἀριθμὸν, ἢ ἀπλῶς ἢ ὠρι-
 σμένως πρὸς αὐτοὺς ἢ πρὸς ἕν· οἷον τὸ μὲν δι-
 πλάσιον πρὸς ἓν ἀριθμὸς ὠρισμένος, τὸ δὲ πολλα-
 35 πλάσιον κατ' ἀριθμὸν πρὸς ἕν, οὐχ ὠρισμένον
 1021 a δέ, οἷον τόνδε ἢ τόνδε· τὸ δὲ ἡμόλιον πρὸς τὸ
 ὑψημόλιον κατ' ἀριθμὸν πρὸς ἀριθμὸν ὠρισμένον·

¹ τὸ om. A^b.

is more fundamental than the other. Quality in the primary sense is the differentia of the essence; and quality in numbers falls under this sense, because it is a kind of differentia of essences, but of things either not in motion or not *qua* in motion. Secondly, there are the affections of things in motion *qua* in motion, and the differentiae of motions. Goodness 5 and badness fall under these affections, because they denote differentiae of the motion or functioning in respect of which things in motion act or are acted upon well or badly. For that which can function or be moved in such-and-such a way is good, and that which can function in such-and-such a way *and* in the contrary way is bad. Quality refers especially to "good" and "bad" in the case of living things, and of these especially in the case of such as possess choice.

XV. Things are called "relative" (a) In the sense "Relative," that "the double" is relative to the half, and "the triple" to the third; and in general the "many times greater" to the "many times smaller," and that which exceeds to the thing exceeded. (b) In the sense that the thing which heats or cuts is relative to the thing heated or cut; and in general the active to the passive. (c) In the sense that the measurable is relative to the measure, and the knowable to knowledge, and the sensible to sensation.

(a) In the first sense they are said to be numeri- 2 cally relative; either simply, or in a definite relation to numbers or to 1. E.g., "the double" in relation to 1 is a definite number; the "many times as great" is in a numerical relation to 1, but not in a definite relation such as *this* or *that*; the relation of 3 that which is $1\frac{1}{2}$ times something else to that something is a definite numerical relation to a number;

1021^a τὸ δ'¹ ἐπιμόριον πρὸς τὸ ὑπεπιμόριον κατὰ ἀόριστον, ὡσπερ τὸ πολλαπλάσιον πρὸς τὸ ἕν· τὸ δ' ὑπερέχον πρὸς τὸ ὑπερεχόμενον ὅλως ἀόριστον κατ' ἀριθμόν· ὁ γὰρ ἀριθμὸς σύμμετρος, κατὰ μὴ συμμέτρου² δὲ ἀριθμὸς οὐ³ λέγεται⁴. τὸ γὰρ ὑπερέχον πρὸς τὸ ὑπερεχόμενον τοσοῦτόν τε ἔστι καὶ ἔτι τοῦτο δὲ ἀόριστον· ὁπότερον γὰρ ἔτυχεν ἔστιν, ἢ ἴσον ἢ οὐκ ἴσον. ταῦτά τε οὖν τὰ πρὸς τι πάντα κατ' ἀριθμὸν λέγεται καὶ ἀριθμοῦ πάθη, καὶ ἔτι 10 τὸ ἴσον καὶ ὅμοιον καὶ ταῦτό κατ' ἄλλον τρόπον· κατὰ γὰρ τὸ ἕν λέγεται πάντα. ταῦτὰ μὲν γὰρ ὦν μία ἢ οὐσία, ὅμοια δ' ὦν ἢ ποιότης μία, ἴσα δὲ ὦν τὸ ποσὸν ἕν· τὸ δ' ἕν τοῦ ἀριθμοῦ ἀρχὴ καὶ μέτρον, ὡστε ταῦτα πάντα πρὸς τι λέγεται κατ' ἀριθμὸν μὲν, οὐ τὸν αὐτὸν δὲ τρόπον. Τὰ δὲ 15 ποιητικὰ καὶ παθητικὰ κατὰ δύναμιν ποιητικὴν καὶ παθητικὴν καὶ ἐνεργείας τὰς τῶν δυνάμεων, οἷον τὸ θερμαντικὸν πρὸς τὸ θερμαντόν, ὅτι δύναται, καὶ πάλιν τὸ θερμαῖνον πρὸς τὸ θερμαινόμενον καὶ τὸ τέμνον πρὸς τὸ τεμνόμενον, ὡς ἐνεργοῦντα. 20 τῶν δὲ κατ' ἀριθμὸν οὐκ εἰσὶν ἐνεργεῖαι ἀλλ' ἢ ὄν τρόπον ἐν ἑτέροις εἴρηται· αἱ δὲ κατὰ κίνησιν ἐνεργεῖαι οὐχ ὑπάρχουσιν. τῶν δὲ κατὰ δύναμιν καὶ κατὰ χρόνους ἥδη λέγονται πρὸς τι, οἷον τὸ

¹ δ' om. A^b.

² συμμέτρου Ross: συμμέτρων Apelt: σύμμετρον.

³ ἀριθμὸς οὐ A^b Ross: ἀριθμοὶ οὐ Apelt: ἀριθμῷ Zeller: ἀριθμὸν.

⁴ λέγεται A^b comm.: λέγονται EJ Apelt.

^o The reference is quite uncertain, but cf. IX. ix. 4, 5. The point is that the actualization of a numerical (or geometrical) relation does not imply an active functioning, as in the case of the potentialities just described.

and that which is $\frac{n+1}{n}$ times something else is in an indefinite relation to a number, just as "the many times as great" is in an indefinite relation to 1. The relation of that which exceeds to that which is exceeded is numerically quite indefinite, for number is commensurate, and is not predicated of the incommensurate; whereas that which exceeds, in relation to that which is exceeded, is "so much" plus something more; and this something more is indefinite, for it is indifferently equal or not equal to the "so much." Thus not only are all these things said to be relative in respect of number, but also the "equal" and "like" and "same," though in another way: for all these terms are used in respect of "one." Things are "the same" whose essence is one; "like" whose quality is one; "equal" whose quantity is one. Now "one" is the starting-point and standard of number; and so all these relations involve number, though not all in the same way.

(b) Active and passive things are called relative in virtue of an active or passive potentiality or actualization of the potentialities; e.g., that which can heat is called relative to that which can be heated, because it can heat; and again the thing heating is called relative to the thing heated, and the thing cutting to the thing cut, because their potentialities are actualized. Numerical relations, on the other hand, are not actualized (except as has been described elsewhere)^a; they have no actualizations in respect of motion. Of things potentially relative, some are further relative in respect of particular times; as, e.g., that which has made or will make is (metrical) relation does not imply an active functioning, as in the case of the potentialities just described.

1021 a πεποιηκὸς πρὸς τὸ πεποιημένον καὶ τὸ ποιῆσον
 πρὸς τὸ ποιησόμενον. οὕτω γὰρ καὶ πατήρ υἱοῦ
 λέγεται πατήρ τὸ μὲν γὰρ πεποιηκὸς τὸ δὲ
 25 πεποιηθὸς τί ἐστιν. ἔτι ἕνια κατὰ στέρησιν δυνά-
 μως, ὡσπερ τὸ ἀδύνατον καὶ ὅσα οὕτω λέγεται,
 οἷον τὸ ἀόρατον. Τὰ μὲν οὖν κατ' ἀριθμὸν καὶ
 δύναμιν λεγόμενα πρὸς τι πάντα ἐστὶ πρὸς τι τῷ
 ὅπερ ἐστὶν ἄλλου λέγεσθαι αὐτὸ ὃ ἐστίν, ἀλλὰ μὴ
 τῷ ἄλλο πρὸς ἐκείνο· τὸ δὲ μετρητὸν καὶ τὸ
 30 ἐπιστητὸν καὶ τὸ διανοητὸν τῷ ἄλλο πρὸς αὐτὸ
 λέγεσθαι πρὸς τι λέγονται. τό τε γὰρ διανοητὸν
 σημαίνει ὅτι ἐστὶν αὐτοῦ διάνοια, οὐκ ἔστι δ' ἡ
 διάνοια πρὸς τοῦτο οὐ ἐστὶ διάνοια· δις γὰρ ταυτὸν
 εἰρημένον ἂν εἴη· ὁμοίως δὲ καὶ τινός ἐστιν ἡ ὄψις
 1021 b ὄψις, οὐχ οὐ ἐστὶν ὄψις (καίτοι γ' ἀληθές τοῦτο
 εἰπεῖν) ἀλλὰ πρὸς χρῶμα ἢ πρὸς ἄλλο τι τοιοῦτον.
 ἐκείνως δὲ δις τὸ αὐτὸ λεχθήσεται, ὅτι ἐστὶν ὄψις οὐ
 ἐστὶν ἡ ὄψις. Τὰ μὲν οὖν καθ' ἑαυτὰ λεγόμενα
 5 πρὸς τι τὰ μὲν οὕτω λέγεται, τὰ δὲ ἂν τὰ γένη
 αὐτῶν ἢ τοιαῦτα, οἷον ἡ ἰατρικὴ τῶν πρὸς τι ὅτι
 τὸ γένος αὐτῆς ἢ ἐπιστήμη δοκεῖ εἶναι τῶν πρὸς
 τι. ἔτι καθ' ὅσα τὰ ἔχοντα λέγεται πρὸς τι, οἷον
 ἰσότης ὅτι τὸ ἴσον καὶ ὁμοιότης ὅτι τὸ ὅμοιον· τὰ
 δὲ κατὰ συμβεβηκός, οἷον ἄνθρωπος πρὸς τι ὅτι

relative to that which has been or will be made. It is in this way that a father is called father of a son; the one has acted, and the other has been acted upon, in a particular way. Again, some things are relative in virtue of a privation of their potentiality; such is "the impossible" and all similar terms, e.g. "the invisible."

Thus relative terms which involve number and ⁸ potentiality are all relative because their very essence contains a reference to something else; but not because something else is related to their essence. But (c) that which is measurable or knowable or thinkable is called relative because something else is related to its essence. For "thinkable" signifies ⁹ that there is a thought which thinks it; but thought is not relative to that of which it is the thought (for then the same thing would have been said twice). And similarly sight is the sight of something; not of that of which it is the sight, although this is of course true—it is relative to some colour or other similar thing. To describe it in the other way—"the ¹⁰ sight of the object of sight"—would be to say the same thing twice.

Things, then, which are called relative of their own nature are so called, some in these senses, and others because the classes which contain them are of this kind. E.g., medicine is reckoned as relative because its genus, science, is thought to be a relative thing. Further, there are the properties in virtue ¹¹ of which the things which possess them are called relative; e.g., "equality" is relative because "the equal" is relative, and "similarity" because "the similar" is relative. Other things are accidentally relative; e.g., a man is relative because he happens

1021 b

10 συμβέβηκεν αὐτῷ διπλασίῳ εἶναι, τοῦτο δ' ἐστὶ τῶν πρὸς τι· ἢ τὸ λευκόν, εἰ τῷ αὐτῷ συμβέβηκε διπλασίῳ καὶ λευκῷ εἶναι.

XVI. Τέλειον λέγεται ἐν μὲν οὐ μὴ ἔστω ἕξω τι λαβεῖν μηδὲ ἐν μόριον, οἷον ὁ χρόνος τέλειος ἐκάστου οὗτος οὐ μὴ ἔστω ἕξω λαβεῖν χρόνον τινὰ ὃς 15 τούτου μέρος ἐστὶ τοῦ χρόνου· καὶ τὸ κατ' ἀρετὴν καὶ τὸ¹ εὐ μὴ ἔχον ὑπερβολὴν πρὸς τὸ γένος, οἷον τέλειος ἰατρός καὶ τέλειος αὐλητής, ὅταν κατὰ τὸ εἶδος τῆς οἰκείας ἀρετῆς μηθὲν ἐλλείπωσιν· οὕτω δὲ μεταφέροντες καὶ ἐπὶ τῶν κακῶν λέγομεν συκοφάντην τέλειον καὶ κλέπτην τέλειον, ἐπειδὴ 20 καὶ ἀγαθοὺς λέγομεν αὐτούς, οἷον κλέπτην ἀγαθόν καὶ συκοφάντην ἀγαθόν· καὶ ἡ ἀρετὴ τελείωσις τις· ἕκαστον γὰρ τότε τέλειον καὶ οὐσία πᾶσα τότε τελεία, ὅταν κατὰ τὸ εἶδος τῆς οἰκείας ἀρετῆς μηδὲν ἐλλείπη μόριον τοῦ κατὰ φύσιν μεγέθους. ἔτι οἷς ὑπάρχει τὸ τέλος, σπουδαῖον <ὄν>,² ταῦτα λέγεται τέλεια· κατὰ γὰρ τὸ ἔχειν τὸ 25 τέλος τέλεια. ὥστ' ἐπεὶ τὸ τέλος τῶν ἐσχάτων τί ἐστι, καὶ ἐπὶ τὰ φαῦλα μεταφέροντες λέγομεν τελείως ἀπολωλέναι καὶ τελείως ἐφθάρθαι, ὅταν μηδὲν ἐλλείπη τῆς φθορᾶς καὶ τοῦ κακοῦ ἀλλ' ἐπὶ τῷ ἐσχάτῳ³ ἦ. διὸ καὶ ἡ τελευτὴ κατὰ μεταφορὰν 30 λέγεται τέλος, ὅτι ἄμφω ἔσχατα. τέλος δὲ καὶ τὸ οὐ ἔνεκα ἔσχατον. Τὰ μὲν οὖν καθ' αὐτὰ λεγόμενα τέλεια τοσαυταχῶς λέγεται, τὰ μὲν τῷ κατὰ

¹ τὸ] τὸ τοῦ E.J.I.² ex Alexandro Ross.³ τοῦ ἐσχάτου E.J. Asclepius.

to be "double" something else, and "double" is a relative term; or "white" is relative if the same thing happens to be white as well as double.

XVI. "Perfect" <or "complete"> means: (a) "Perfect." That outside which it is impossible to find even a single one of its parts; e.g., the complete time of each thing is that outside which it is impossible to find any time which is a part of it. (b) That which, in respect of goodness or excellence, cannot be surpassed in its kind; e.g., a doctor and a musician are "perfect" when they have no deficiency in respect of the form of their peculiar excellence. And thus² by an extension of the meaning we use the term in a bad connexion, and speak of a "perfect" humbug and a "perfect" thief; since indeed we call them "good"—e.g. a "good" thief and a "good" humbug. (c) And goodness is a kind of perfection. For³ each thing, and every substance, is perfect when, and only when, in respect of the form of its peculiar excellence, it lacks no particle of its natural magnitude. (d) Things which have attained their end, if their end is good, are called "perfect"; for they are perfect in virtue of having attained the end. Hence, since the end is an ultimate thing, we extend⁴ the meaning of the term to bad senses, and speak of perishing "perfectly" or being "perfectly" destroyed, when the destruction or calamity falls short in no respect but reaches its extremity. Hence, by an extension of the meaning, death is called an "end," because they are both ultimate things. And the ultimate object of action is also an end.

Things, then, which are called "perfect" in themselves are so called in all these senses; either because in respect of excellence they have no deficiency

1021 b τὸ εὖ μηδὲν ἑλλείπειν μηδ' ἔχειν ὑπερβολὴν μηδὲ
 ἕξω τι λαβεῖν, τὰ δ' ὅλως κατὰ τὸ μὴ ἔχειν ὑπερ-
 1022 a βολὴν ἐν ἐκάστω γένει μηδ' εἶναι τι ἕξω, τὰ δὲ
 ἄλλα ἥδη κατὰ ταῦτα τῷ ἢ ποιεῖν τι τοιοῦτον ἢ
 ἔχειν ἢ ἀρμόττειν τούτῳ ἢ ἀμῶς γέ πως λέγεσθαι
 πρὸς τὰ πρῶτως λεγόμενα τέλεια.

XVII. Πέρασ λέγεται τὸ τε¹ ἔσχατον ἐκάστου καὶ
 5 οὐ ἕξω μηδὲν ἔστι λαβεῖν πρῶτου, καὶ οὐ ἔσω
 πάντα πρῶτου, καὶ ὁ ἀν ἢ εἶδος μεγέθους ἢ ἔχοντος
 μέγεθος, καὶ τὸ τέλος ἐκάστου (τοιοῦτον δ' ἐφ' ὃ
 ἢ κίνησις καὶ ἢ πράξις, καὶ οὐκ ἀφ' οὗ ὅτε δὲ
 ἄμφω, καὶ ἀφ' οὗ καὶ ἐφ' ὃ καὶ τὸ οὐ ἔνεκα), καὶ
 ἢ οὐσία ἢ ἐκάστου, καὶ τὸ τί ἦν εἶναι ἐκάστῳ τῆς
 10 γνώσεως γὰρ τοῦτο πέρας· εἰ δὲ τῆς γνώσεως, καὶ
 τοῦ πράγματος. ὥστε φανερόν ὅτι ὁσαυτῶς τε ἢ
 ἀρχὴ λέγεται, τοσαυταυτῶς καὶ τὸ πέρας, καὶ ἔτι
 πλεοναυτῶς· ἢ μὲν γὰρ ἀρχὴ πέρας τι, τὸ δὲ
 πέρας οὐ πᾶν ἀρχή.

XVIII. Τὸ καθ' ὃ λέγεται πολλαυτῶς, ἕνα μὲν
 15 τρόπον τὸ εἶδος καὶ ἢ οὐσία ἐκάστου πράγματος,
 οἷον καθ' ὃ ἀγαθός, αὐτὸ ἀγαθόν· ἕνα δὲ ἐν ᾧ πρῶτω
 πέφυκε γίνεσθαι, οἷον τὸ χρῶμα ἐν τῇ ἐπιφανείᾳ.
 τὸ μὲν οὖν πρῶτως λεγόμενον καθ' ὃ τὸ εἶδος ἔστι,
 δευτέρως δὲ ὡς ἢ ὕλη ἐκάστου καὶ τὸ ὑποκείμενον
 ἐκάστῳ πρῶτον. ὅλως δὲ τὸ καθ' ὃ ἰσαυτῶς καὶ

¹ τε om. EJ.

and cannot be surpassed, and because no part of them can be found outside them; or because, in general, they are unsurpassed in each particular class, and have no part outside. All other things are so called in virtue of these, because they either produce or possess something of this kind, or conform to it, or are referred in some way or other to things which are perfect in the primary sense.

XVII. "Limit" means: (a) The furthest part "Limit" of each thing, and the first point outside which no part of a thing can be found, and the first point within which all parts are contained. (b) Any form of magnitude or of something possessing magnitude. (c) The end of each thing. (This end is that *to* which 2 motion and action proceed, and not the end *from* which. But sometimes it is both the end from which and the end to which, *i.e.* the final cause.) (d) The reality or essence of each thing; for this is the limit of our knowledge of it, and if it is a limit of the knowledge, it is also a limit of the thing. Thus it is obvious that "limit" has not only as many senses as "beginning" but even more; because the beginning is a kind of limit, but not every limit is a beginning.

XVIII. "That in virtue of which" has various "That in virtue of which." meanings. (a) The form or essence of each individual thing; *e.g.*, that in virtue of which a man is good is "goodness itself." (b) The immediate substrate in which a thing is naturally produced; as, *e.g.*, colour is produced in the surface of things. Thus "that in virtue of which" in the primary sense is the *form*, and in the secondary sense, as it were, the *matter* of each thing, and the immediate substrate. And in 2 general "that in virtue of which" will exist in the

1022 a

20 τὸ αἴτιον ὑπάρξει· κατὰ τί γὰρ ἐλήλυθεν ἢ οὐ
 ἔνεκα ἐλήλυθε λέγεται, καὶ κατὰ τί παραλελόγισται
 ἢ συλλελόγισται, ἢ τί τὸ αἴτιον τοῦ συλλογισμοῦ
 ἢ παραλογισμοῦ. ἔτι δὲ τὸ καθ' ὃ τὸ κατὰ θέσιν
 λέγεται, καθ' ὃ ἔστηκεν ἢ καθ' ὃ βαδίζει· πάντα
 γὰρ ταῦτα θέσιν σημαίνει καὶ τόπον. Ὡστε

25 καὶ τὸ καθ' αὐτὸ πολλαχῶς ἀνάγκη λέγεσθαι. ἐν
 μὲν γὰρ καθ' αὐτὸ τί ἦν εἶναι ἐκάστω, οἷον ὁ
 Καλλίας καθ' αὐτὸν Καλλίας, καὶ τὸ τί ἦν εἶναι Καλ-
 λία· ἐν δὲ ὅσα ἐν τῷ τί ἐστὶν ὑπάρχει, οἷον ζῶον
 ὁ Καλλίας καθ' αὐτόν· ἐν γὰρ τῷ λόγῳ ἐνυπάρχει

30 τὸ ζῶον· ζῶον γὰρ τι ὁ Καλλίας. ἔτι δὲ εἰ ἐν αὐτῷ
 δέδεκεται πρῶτῳ ἢ τῶν αὐτοῦ¹ τινί, οἷον ἡ ἐπιφανεία
 λευκὴ καθ' αὐτήν, καὶ ζῆ ὁ ἄνθρωπος καθ' αὐτόν· ἢ
 γὰρ ψυχὴ μέρος τι τοῦ ἀνθρώπου, ἐν ἣ πρῶτῃ τὸ ζῆν.
 ἔτι οὐ μὴ ἐστὶν ἄλλο αἴτιον· τοῦ γὰρ ἀνθρώπου πολλὰ
 αἴτια, τὸ ζῶον, τὸ δίπουν· ἀλλ' ὅμως καθ' αὐτόν
 35 ἀνθρώπος ὁ ἀνθρωπός ἐστιν. ἔτι ὅσα μόνῳ ὑπάρχει,
 καὶ ἢ μόνον· διὸ τὸ² κεχωρισμένον καθ' αὐτό.

1022 b XIX. Διάθεσις λέγεται τοῦ ἔχοντος μέρη τάξις,
 ἢ κατὰ τόπον ἢ κατὰ δύναμιν ἢ κατ' εἶδος· θέσιν
 γὰρ δεῖ τινὰ εἶναι, ὡσπερ καὶ τοῦνομα δηλοῖ ἡ
 διάθεσις.

XX. Ἐξίς δὲ λέγεται ἓνα μὲν τρόπον οἷον ἐνέργεια
 5 τις τοῦ ἔχοντος καὶ ἔχομένου, ὡσπερ πράξις τις ἢ
 κίνησις· ὅταν γὰρ τὸ μὲν ποιῆ τὸ δὲ ποιῆται, ἐστὶ

¹ Christ: αὐτοῦ.

² διὸ τὸ E Alexander: διότι A^bJ γρ E: δι' αὐτὸ Ross.

^a This seems to be a slightly irrelevant reference to καθ' αὐτό in the sense of "independent"; but corruption in the text has made the true reading uncertain.

^b ἔξις means not only "having" but "habit" or "state."
 Cf. Latin *habitus*.

same number of senses as "cause." For we say indifferently "in virtue of what has he come?" or "for what reason has he come?" and "in virtue of what has he inferred or inferred falsely?" or "what is the cause of his inference or false inference?" (And further, there is the positional sense of καθ' ὃ, "in which he stands," or "in which he walks"; all these examples denote place or position.)

Hence "in virtue of itself" must also have various meanings. It denotes (a) The essence of each particular; e.g., Callias is in virtue of himself Callias and the essence of Callias. (b) Everything contained in the definition; e.g., Callias is in virtue of himself an animal, because "animal" is present in the definition, since Callias is a kind of animal. (c) Any attribute which a thing has received directly in itself or in any of its parts; e.g., the surface is white in virtue of itself; and man lives in virtue of himself, because the soul is a part of the man, and life is directly contained in it. (d) That which has no other cause. Man has many causes: "animal," "two-footed," etc.; but nevertheless man is in virtue of himself man. (e) All things which belong to a thing alone and *qua* alone; and hence that which is separate is "in virtue of itself."^a

XIX. "Disposition" means arrangement of that which has parts, either in space or in potentiality or in form. It must be a kind of position, as indeed is clear from the word, "disposition."^b

XX. "Having" means (a) In one sense an activity, as it were, of the haver and the thing had, as in the case of an action or motion; for when one thing makes and another is made, there is between

"In virtue of itself"

"Disposi-
tion."

"Having"
or "state."

1022 b

ποίησις μεταξὺ. οὕτω καὶ τοῦ ἔχοντος ἐσθῆτα καὶ τῆς ἐχομένης ἐσθῆτος ἔστι μεταξὺ ἕξις. ταύτην μὲν οὖν φανερόν ὅτι οὐκ ἐνδέχεται ἔχειν ἕξις· εἰς ἄπειρον γὰρ βαδιεῖται, εἰ τοῦ ἐχομένου
 10 ἔσται ἔχειν τὴν ἕξις. ἄλλον δὲ τρόπον ἕξις λέγεται διάθεσις καθ' ἣν εὖ ἢ κακῶς διακείται τὸ διακείμενον, καὶ ἢ καθ' αὐτὸ ἢ πρὸς ἄλλο, οἷον ἡ ὑγίεια ἕξις τις· διάθεσις γὰρ ἔστι τοιαύτη. ἔτι ἕξις λέγεται ἂν ἢ μόριον διαθέσεως τοιαύτης· διὸ καὶ ἡ τῶν μερῶν ἀρετὴ ἕξις τις ἐστί.

15 XXI. Πάθος λέγεται ἓνα μὲν τρόπον ποιότης καθ' ἣν ἀλλοιοῦσθαι ἐνδέχεται, οἷον τὸ λευκὸν καὶ τὸ μέλαν, καὶ γλυκὴ καὶ πικρὴ, καὶ βαρῦτης καὶ κουφότης, καὶ ὅσα ἄλλα τοιαῦτα· ἓνα δὲ αἰ τούτων ἐνέργειαι καὶ ἀλλοιώσεις ἦδη. ἔτι τούτων μᾶλλον
 20 αἰ βλαβερὰ ἀλλοιώσεις καὶ κινήσεις, καὶ μάλιστα αἰ λυπηρὰ βλάβαι. ἔτι τὰ μεγέθη τῶν συμφορῶν καὶ λυπηρῶν πάθη λέγεται.

XXII. Στέρησις λέγεται ἓνα μὲν τρόπον ἂν μὴ ἔχη
 25 τι τῶν πεφυκότων ἔχεσθαι, κἂν μὴ αὐτὸ ἢ πεφυκὸς ἔχειν, οἷον φυτὸν ὀμμάτων ἐστερηθῆσθαι λέγεται· ἓνα δὲ ἂν πεφυκὸς ἔχειν, ἢ αὐτὸ ἢ τὸ γένος, μὴ ἔχη, οἷον ἄλλως ἀνθρωπος ὁ τυφλὸς ὄψεως ἐστερηται καὶ ἀσπάλαξ, τὸ μὲν κατὰ τὸ γένος, τὸ δὲ καθ' αὐτό. ἔτι ἂν πεφυκὸς καὶ ὅτε πέφυκεν

^a The English equivalent for πάθος in this sense would be "calamity" or "disaster."

^b This is not a proper sense of privation, as Aristotle implies by choosing an example from everyday speech.

^c i.e., a mole is blind as being a member of a blind genus, whereas a man is blind only as an individual. Of course moles are not really blind, but we still speak as though they were.

them an act of making. In this way between the man who has a garment and the garment which is had, there is a "having." Clearly, then, it is impossible to *have* a "having" in this sense; for there will be an infinite series if we can have the having of what we have. But (b) there is another sense of "having" which means a disposition, in virtue of which the thing which is disposed is disposed well or badly, and either independently or in relation to something else. *E.g.*, health is a state, since it is a disposition of the kind described. Further, any part of such a disposition is called a state; and hence the excellence of the parts is a kind of state.

XXI. "Affection" means (a) In one sense, a "Affection," quality in virtue of which alteration is possible; *e.g.*, whiteness and blackness, sweetness and bitterness, heaviness and lightness, etc. (b) The actualizations of these qualities; *i.e.* the alterations already realized. (c) More particularly, hurtful alterations and motions, and especially hurts which cause suffering. (d) Extreme cases of misfortune and suffering are called "affections."^a

XXII. We speak of "privation": (a) In one sense, "Privation," if a thing does not possess an attribute which is a natural possession, even if the thing itself would not naturally possess it^b; *e.g.*, we say that a vegetable is "deprived" of eyes. (b) If a thing does not possess an attribute which it or its genus would naturally possess. *E.g.*, a blind man is not "deprived" of sight in the same sense that a mole is; the latter is "deprived" in virtue of its genus, but the former in virtue of himself.^c (c) If a thing has not an attribute² which it would naturally possess, and when it would

1022^b ἔχειν μὴ ἔχη (ἡ γὰρ τυφλότης στέρησις τις, τυφλὸς δ' οὐ κατὰ πᾶσαν ἡλικίαν, ἀλλ' ἐν ἣ
 30 πέφυκεν ἔχειν, ἂν μὴ ἔχη), ὁμοίως δὲ καὶ ἐν ᾧ
 ἂν ἡ <πεφυκός>¹ καὶ καθ' ὃ καὶ πρὸς ὃ καὶ ὡς,
 ἂν μὴ ἔχη [πεφυκός]. ἔτι ἡ βιαία ἐκάστου ἀφ-
 αίρεσις στέρησις λέγεται. καὶ ὅσαχῶς δὲ αἱ ἀπὸ
 τοῦ ᾧ ἀποφάσεις λέγονται, τοσαυταχῶς καὶ αἱ
 35 ἰσότητα πεφυκὸς λέγεται, ἀόρατον δὲ καὶ τῷ
 ὄλως μὴ ἔχειν χρῶμα καὶ τῷ φαύλως, καὶ ἄπουν
 καὶ τῷ μὴ ἔχειν ὄλως πόδας καὶ τῷ φαύλους.
 1023^a ἔτι καὶ τῷ μικρὸν ἔχειν, οἷον τὸ ἀπύρηνον· τοῦτο
 δ' ἐστὶ τὸ φαύλως πως ἔχειν. ἔτι τῷ μὴ ῥαδίως
 ἢ τῷ μὴ καλῶς, οἷον τὸ ἄτμητον οὐ μόνον τῷ
 μὴ τέμνεσθαι ἀλλὰ καὶ τῷ μὴ ῥαδίως ἢ μὴ
 5 λέγεται ὁ ἑτερόφθαλμος ἀλλ' ὁ ἐν ἀμφοῖν μὴ
 ἔχων ὄψιν. διὸ οὐ πᾶς ἀγαθὸς ἢ κακός, ἢ δίκαιος
 ἢ ἀδίκος, ἀλλὰ καὶ τὸ μεταξύ.

XXIII. Τὸ ἔχειν λέγεται πολλαχῶς, ἓνα μὲν τρόπον
 τὸ ἄγειν κατὰ τὴν αὐτοῦ φύσιν ἢ κατὰ τὴν αὐτοῦ
 10 ὁρμήν, διὸ λέγεται πυρετός τε ἔχειν τὸν ἀνθρωπον
 καὶ οἱ τύραννοι τὰς πόλεις καὶ τὴν ἐσθήτα οἱ
 ἀμπεχόμενοι· ἓνα δ' ἐν ᾧ ἂν τι ὑπάρχη ὡς δε-

¹ transposuit Jaeger.

^a The qualification refers, I suppose, to the fact that an embryo does not naturally possess sight.

^b The subject seems to be indefinite, but no doubt Aristotle is thinking primarily of the particular example which he has just given. A man "is not called blind if he does not see in the dark, or if he does not see with his ears, or if he does not see sound, or if he does not see what is behind him or too far away" (Ross).

naturally possess it (for blindness is a form of privation; but a man is not blind at *any* age, but only if he lacks sight at the age when he would naturally possess it^a), and similarly if it^b lacks an attribute in the medium and organ and relation and manner in which it would naturally possess it. (d) The³ forcible removal of anything is called privation. (e) Privation has as many senses as there are senses of negation derived from the negative affix (*i*). For we call a thing "unequal" because it does not possess equality (though it would naturally do so); and "invisible" either because it has no colour at all or because it has only a faint one; and "footless" either because it has no feet at all or because it has rudimentary feet. Again, a negative affix may⁴ mean "having something in a small degree"—e.g. "stoneless"—that is, having it in some rudimentary manner. Again, it may mean having it "not easily" or "not well"; e.g., "uncuttable" means not only that which cannot be cut, but that which cannot be cut easily or well. And again, it may mean not having a thing at all; for it is not the one-eyed man, but the man who lacks sight in both eyes, who is called blind. Hence not every man is good or bad, moral or immoral; there is also the intermediate state.

XXIII. "To have" <or "possess"> is used in various senses. (a) To direct in accordance with one's own nature or impulse; whence we say that fever "possesses" a man, and despots "possess" cities, and people who wear clothes "possess" them. (b) We speak of anything as "having" in which, as receptive material, something is present. E.g., the

^a "To have" or "possess."

1023 a

κτικῶ, οἷον ὁ χαλκὸς ἔχει τὸ εἶδος τοῦ ἀνδριάντος
καὶ τὴν νόσον τὸ σῶμα· ἓνα δ' ὡς τὸ περιέχον τὰ
περιεχόμενα· ἐν ᾧ γάρ ἐστι περιεχόμενον τι,
15 ἔχεισθαι ὑπὸ τούτου λέγεται, οἷον τὸ ἀγγεῖον
ἔχει τὸ ὑγρὸν φάμεν καὶ τὴν πόλιν ἀνθρώπους
καὶ τὴν ναῦν ναύτας· οὕτω δὲ καὶ τὸ ὅλον ἔχει
τὰ μέρη. ἔτι τὸ κωλῶον κατὰ τὴν αὐτοῦ ὀρμὴν
τὴ κινεῖσθαι ἢ πράττειν ἔχειν λέγεται τοῦτο αὐτό,
οἷον καὶ οἱ κίονες τὰ ἐπικείμενα βάρη, καὶ ὡς οἱ
20 ποιηταὶ τὸν Ἄτλαντα ποιοῦσι τὸν οὐρανὸν ἔχειν
ὡς συμπεσόντ' ἂν ἐπὶ τὴν γῆν, ὥσπερ καὶ τῶν
φυσιολόγων τινές φασιν. τοῦτον δὲ τὸν τρόπον
καὶ τὸ συνέχον λέγεται ἂ συνέχει ἔχειν, ὡς δια-
χωρισθέντα ἂν κατὰ τὴν αὐτοῦ ὀρμὴν ἕκαστον.

Καὶ τὸ ἓν τιμὴ δὲ εἶναι ὁμοτρόπως¹ λέγεται καὶ
25 ἐπομένως τῷ ἔχειν.

XXIV. Τὸ ἐκ τίνος εἶναι λέγεται ἓνα μὲν τρόπον ἐξ
οὗ ἐστὶν ὡς ὕλης, καὶ τοῦτο διχῶς, ἢ κατὰ τὸ πρῶτον
γένος ἢ κατὰ τὸ ὕστατον εἶδος, οἷον ἔστι μὲν ὡς
ἅπαντα τὰ τηκτὰ ἐξ ὕδατος, ἔστι δ' ὡς ἐκ χαλκοῦ
30 ὁ ἀνδριάς· ἓνα δ' ὡς ἐκ τῆς πρώτης κινήσεως
ἀρχῆς, οἷον ἐκ τίνος ἢ μάχης; ἐκ λοιδορίας, ὅτι
αὕτη ἀρχὴ τῆς μάχης· ἓνα δ' ἐκ τοῦ συνθέτου
ἐκ τῆς ὕλης καὶ τῆς μορφῆς, ὥσπερ ἐκ τοῦ ὅλου
τὰ μέρη καὶ ἐκ τῆς Ἰλιάδος τὸ ἔπος καὶ ἐκ τῆς
οἰκίας οἱ λίθοι· τέλος μὲν γάρ ἐστιν ἡ μορφή,
35 τέλειον δὲ τὸ ἔχον τέλος. τὰ δὲ ὡς ἐκ τοῦ μέρους

¹ ὁμοιτρόπως recc.

^o Cf. Hesiod, *Theogony* 517.

^b e.g., Empedocles held that the heavens were kept in place by the velocity of their rotation: *De Caelo* 234 a 24, 295 a 16 (Ritter and Preller, 170 b).

bronze "has" the shape of the statue, and the body
"has" the disease. (c) In the sense that the con- 2
tainer holds the contained; for when A is contained
in B, we say that A is held by B. E.g., we say that
the vessel holds the liquid, and the city holds men,
and the ship holds sailors, and so too that the whole
"holds" the parts. (d) The same term is applied 3
to that which prevents anything from moving or
acting in accordance with its own impulse; as pillars
hold <up> the weights which are imposed upon
them, and as the poets make Atlas^a hold up the
heaven, because otherwise it would fall upon the
earth (as some of the physicists^b maintain also). It 4
is in this sense that we say that "that which holds
together" holds what it holds together; because
otherwise the latter would disperse, each part in
accordance with its own impulse.

"To be in a thing" is used similarly in senses "To be in a
corresponding to those of "to have." thing."

XXIV. "To come from something" means: (a) "To come
In one sense, to come from something as matter, and from some-
this in two ways: in respect either of the primary thing."
genus or of the ultimate species. E.g., in the one
sense everything liquefiable comes from water, and
in the other the statue comes from bronze. (b) To 2
come from something as the first moving principle;
e.g., "from what comes fighting?" From abuse;
because this is the beginning of a fight. (c) To come
from the combination of matter and form (as the
parts come from the whole, and the verse from the
Iliad, and the stones from the house); for the shape
is an end, and that is a complete thing which has
attained its end. (d) In the sense that the form is 3
made out of the part of its definition; as, e.g., "man"

1023^a τὸ εἶδος, οἷον ὁ ἄνθρωπος ἐκ τοῦ δίποδος καὶ ἡ
 1023^b συλλαβῆ ἐκ τοῦ στοιχείου· ἄλλως γὰρ τοῦτο καὶ
 ὁ ἀνδριάς ἐκ τοῦ χαλκοῦ, ἐκ τῆς αἰσθητῆς γὰρ
 ὕλης ἢ συνθετῆ οὐσία, ἀλλὰ καὶ τὸ εἶδος ἐκ τῆς
 τοῦ εἶδους ὕλης. τὰ μὲν οὖν οὕτω λέγεται, τὰ
 δ' εἴαν κατὰ μέρος τι τούτων τις ὑπάρχη τῶν
 τρόπων, οἷον ἐκ πατρὸς καὶ μητρὸς τὸ τέκνον
 5 καὶ ἐκ γῆς τὰ φυτά, ὅτι ἐκ τινος μέρους αὐτῶν.
 ἓνα δὲ μεθ' ὃ τῷ χρόνῳ, οἷον ἐξ ἡμέρας νύξ καὶ
 ἐξ εὐδίας χειμών, ὅτι τοῦτο μετὰ τοῦτο. τούτων
 δὲ τὰ μὲν τῷ ἔχειν μεταβολὴν εἰς ἄλληλα οὕτω
 λέγεται, ὥσπερ καὶ τὰ νῦν εἰρημένα, τὰ δὲ τῷ
 κατὰ τὸν χρόνον ἐφεξῆς μόνον, οἷον ἐξ ἰσημερίας
 10 ἐγένετο ὁ πλοῦς, ὅτι μετ' ἰσημερίαν ἐγένετο, καὶ
 ἐκ Διονυσίων Θαργήλια, ὅτι μετὰ τὰ Διονύσια.

XXV. Μέρος λέγεται ἓνα μὲν τρόπον εἰς ὃ διαιρε-
 θεῖται ἂν τὸ ποσὸν ὅπως οὖν· αἰεὶ γὰρ τὸ ἀφαιρούμενον
 τοῦ ποσοῦ ἢ ποσὸν μέρος λέγεται ἐκείνου, οἷον
 15 τῶν τριῶν τὰ δύο μέρος λέγεται πως· ἄλλον δὲ
 τρόπον τὰ καταμετροῦντα τῶν τοιούτων μόνον·
 διὸ τὰ δύο τῶν τριῶν ἔστι μὲν ὡς λέγεται μέρος
 ἔστι δ' ὡς οὐ. ἔτι εἰς ἃ τὸ εἶδος διαιρεθεῖται ἂν
 ἄνευ τοῦ ποσοῦ, καὶ ταῦτα μόρια λέγεται τούτου·
 διὸ τὰ εἶδη τοῦ γένους φασὶν εἶναι μόρια. ἔτι
 20 εἰς ἃ διαιρεῖται ἢ ἐξ ὧν σύγκειται τὸ ὅλον, ἢ τὸ
 εἶδος ἢ τὸ ἔχον τὸ εἶδος, οἷον τῆς σφαίρας τῆς
 χαλκῆς ἢ τοῦ κύβου τοῦ χαλκοῦ καὶ ὁ χαλκός

¹ διαιρεῖται τι E.J²Γ.

^a In the sense that στοιχείον ("letter") forms part of the definition of "syllable."

^b The (city) Dionysia were celebrated in March; the Thargelia (a festival in honour of Apollo and Artemis) at the end of May.

is made out of "two-footed" and the syllable out of its element^a (this is a different way from that in which the statue is made out of the bronze; for the composite entity is made out of perceptible material, but the form is also made out of the material of the form). These, then, are some of the meanings of⁴ "from" <or "out of">, but (e) sometimes one of these senses only partially applies; e.g., the child comes from the father and mother, and plants from the earth, because they come from some part of those things. (f) It means "after" in time; e.g., we say that night comes from day, and storm from fine weather, because one comes after the other. And⁵ we speak thus of some of these things in view of their alternation with each other, as in the examples just mentioned, and of others in view merely of their succession in time; e.g., "the voyage was made from the equinox," meaning that it was made after it; and "the Thargelia are 'from' the Dionysia," meaning after the Dionysia.^b

XXV. "Part" means: (a) That into which a 'Part' quantity can be in any way divided; for that which is taken from a quantity *qua* quantity is always called a part of that quantity—e.g., we call 2 part (in a sense) of 3. (b) In another sense the term is only applied to those "parts" in sense (a) which *measure* the whole; hence in one sense we call 2 part of 3, and in another not. Again, (c) those divi-²sions into which the form, apart from quantity, can be divided, are also called parts of the form. Hence species are called parts of their genus. (d) That into which the whole (either the form or that which contains the form) is divided, or of which it is composed. E.g., of a bronze sphere or cube not only is the bronze

¹⁰²³ ^b μέρος (τοῦτο δ' ἐστὶν ἡ ὕλη ἐν ᾗ τὸ εἶδος) καὶ ἡ γωνία μέρος. ἔτι τὰ ἐν τῷ λόγῳ τῷ δηλοῦντι ἕκαστον, καὶ ταῦτα μόρια τοῦ ὅλου. διὸ τὸ γένος
²⁵ τοῦ εἶδους καὶ μέρος λέγεται, ἄλλως δὲ τὸ εἶδος τοῦ γένους μέρος.

XXVI. "Ὀλον λέγεται οὐ τε μὴθὲν ἄπεστι μέρος ἐξ ὧν λέγεται ὅλον φύσει, καὶ τὸ περιέχον τὰ περιεχόμενα ὥστε ἐν τι εἶναι ἐκείνα· τοῦτο δὲ διχῶς· ἡ γὰρ ὡς ἕκαστον ἐν, ἢ ὡς ἐκ τούτων τὸ ἐν. τὸ
³⁰ μὲν γὰρ καθόλου καὶ τὸ ὅλως λεγόμενον ὡς ὅλον τι ὄν, οὕτως ἐστὶ καθόλου ὡς πολλὰ περιέχον τῷ κατηγορεῖσθαι καθ' ἑκάστου καὶ ἐν ἅπαντα εἶναι ὡς ἕκαστον, οἷον ἀνθρώπων, ἵππων, θεῶν, ὅτι ἅπαντα ζῶα· τὸ δὲ συνεχές καὶ πεπερασμένον, ὅταν ἐν τι ἐκ πλείονων ἢ ἐνυπαρχόντων, μάλιστα
³⁵ μὲν δυνάμει, εἰ δὲ μῆ, ἐνεργείᾳ. τούτων δ' αὐτῶν μᾶλλον τὰ φύσει ἢ τέχνῃ τοιαῦτα, ὥσπερ καὶ ἐπὶ τοῦ ἐνὸς ἐλέγομεν¹ ὡς οὔσης τῆς ὁλότητος
¹⁰²⁴ ^a ἐνότητός τινος. "Ἐπι τοῦ ποσοῦ ἔχοντος ἀρχὴν καὶ μέσον καὶ ἔσχατον, ὅσων μὲν μὴ ποιεῖ ἢ θέσις διαφορὰν, πᾶν λέγεται, ὅσων δὲ ποιεῖ, ὅλον· ὅσα δὲ ἄμφω ἐνδέχεται, καὶ ὅλα καὶ πάντα· ἔστι δὲ ταῦτα ὅσων ἢ μὲν φύσις ἢ αὐτῇ μένει τῇ μετα-
⁵ θέσει ἢ δὲ μορφῇ οὐ, οἷον κηρὸς καὶ ἱμάτιον· καὶ

¹ ἐλέγομεν A^b et fort. Alexander: λέγομεν EJ.

(i.e. the material which contains the form) a part, but ³ also the angle. (e) The elements in the definition of each thing are also called parts of the whole. Hence the genus is even called a part of the species, whereas in another sense the species is part of the genus.

XXVI. "Whole" means: (a) That from which no "Whole," part is lacking of those things as composed of which it is called a natural whole. (b) That which so contains its contents that they form a unity; and this in two ways, either in the sense that each of them is a unity, or in the sense that the unity is composed of them. For (i) the universal, or term generally ² applied as being some whole thing, is universal in the sense that it contains many particulars; because it is predicated of each of them, and each and all of them (e.g. man, horse, god) are one; because they are all living things. And (ii) that which is continuous and limited is a whole when it is a unity composed of several parts (especially if the parts are only potentially present in it; but otherwise even if they are present actually). And of these things them-³ selves, those which are so naturally are more truly wholes than those which are so artificially; just as we said of "the one," because "wholeness" is a kind of "oneness."

Again, since a quantity has a beginning, middle "All" and end, those to which position makes no difference we describe as "all," and those to which position makes a difference we describe as "whole," and those to which both descriptions can be applied, as both "all" and "whole." These are all things ⁴ whose nature remains the same in transposition, but whose shape does not; e.g. wax or a coat. They are described as both "whole" and "all"; for

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γὰρ ὄλον καὶ πᾶν λέγεται· ἔχει γὰρ ἄμφω. ὕδωρ δὲ καὶ ὅσα ὑγρά καὶ ἀριθμὸς πᾶν μὲν λέγεται, ὅλος δ' ἀριθμὸς καὶ ὄλον ὕδωρ οὐ λέγεται, ἂν μὴ μεταφορᾶ. πάντα δὲ λέγεται ἐφ' οἷς τὸ πᾶν ὡς ἐφ'¹⁰ ἐνί, ἐπὶ τούτοις τὸ¹ πάντα ὡς ἐπὶ διηρημένους· πᾶς οὗτος ὁ ἀριθμὸς, πᾶσαι αὐται αἱ μονάδες.

XXVII. Κολοβὸν δὲ λέγεται τῶν ποσῶν οὐ τὸ τυχόν, ἀλλὰ μεριστόν τε δεῖ αὐτὸ εἶναι καὶ ὄλον. τὰ τε γὰρ δύο οὐ κολοβὰ θατέρου ἀφαιρουμένου ἐνός (οὐ γὰρ ἴσον τὸ κολόβωμα καὶ τὸ λοιπὸν οὐδέποτε¹⁵ ἐστίν), οὐδ' ὅλως ἀριθμὸς οὐδεὶς· καὶ γὰρ τὴν οὐσίαν δεῖ μένειν· εἰ κύλιξ κολοβός, ἐτι εἶναι κύλικα· ὁ δὲ ἀριθμὸς οὐκέτι ὁ αὐτός. πρὸς δὲ τούτοις κᾶν ἀνομοιομερῆ ἦ, οὐδὲ ταῦτα πάντα· ὁ γὰρ ἀριθμὸς ἐστὶν ὡς² καὶ ἀνόμοια ἔχει μέρη, οἷον δυνάδα, τριάδα· ἀλλ' ὅλως ὧν³ μὴ ποιεῖ ἢ θέσις διαφορὰν οὐδὲν κολοβόν, οἷον ὕδωρ ἢ πῦρ,²⁰ ἀλλὰ δεῖ τοιαῦτα εἶναι ἃ κατὰ τὴν οὐσίαν θέειν ἔχει. ἐτι συνεχῆ· ἢ γὰρ ἀρμονία ἐξ ἀνομοίων⁴ μὲν καὶ θέειν ἔχει, κολοβός δὲ οὐ γίγνεται. πρὸς δὲ τούτοις οὐδ' ὅσα ὅλα, οὐδὲ ταῦτα ὅπου οὐ μορίου στερεῖται κολοβὰ. οὐ γὰρ δεῖ οὔτε τὰ κύρια τῆς οὐσίας οὔτε τὰ ὅπου οὐ ὄντα· οἷον ἂν τρυπηθῆ ἢ²⁵ κύλιξ, οὐ κολοβός, ἀλλ' ἂν τὸ οὖς ἢ ἀκρωτήριόν τι· καὶ ὁ ἄνθρωπος οὐκ ἐὰν σάρκα ἢ τὸν σπλήνα, ἀλλ' ἐὰν ἀκρωτήριον, καὶ τοῦτο οὐ πᾶν ἀλλ' ὁ μὴ ἔχει γένεσιν ἀφαιρεθὲν ὄλον. διὰ τοῦτο οἱ φυλακροὶ οὐ κολοβοί.

¹ τὸ ex Alexandro Christ: τὰ A^b: om. cc.

² ὡς: ὅς E.

³ ὧν: ὅσων A^b.

⁴ ἀνομοιομερῶν EJ comm.

they have both characteristics. Water, however, and all liquids, and number, are described as "all"; we do not speak of a "whole number" or "whole water" except by an extension of meaning. Things are described as "all" in the plural *qua* differentiated which are described as "all" in the singular *qua* one; all this number, all these units.

XXVII. We do not describe any chance quantity as "mutilated"; it must have parts, and must be a whole. The number 2 is not mutilated if one of its 1's is taken away—because the part lost by mutilation is never equal to the remainder—nor in general is any number mutilated; because the essence must persist. If a cup is mutilated, it must still be a cup; but the number is no longer the same. Moreover, 2 not even all things which have dissimilar parts are mutilated; for a number has in a sense dissimilar as well as similar parts—e.g. 2, 3. But in general of things whose position makes no difference, e.g. water or fire, none is mutilated;—to be mutilated, things must be such as have their position according to their essence. Further, they must be continuous; 3 for a musical scale is composed of dissimilar parts, and has position; but it does not become mutilated. Moreover, even things which are wholes are not mutilated by the removal of *any* of their parts; the parts removed must be neither proper to their essence nor in any chance location. E.g., a cup is not mutilated if a hole is made in it, but only if the handle or some projection is broken; and a man is not 4 mutilated if he loses flesh or his spleen, but if he loses some extremity; and not every extremity, but only such as cannot grow again when completely removed. Hence bald people are not mutilated.

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XXVIII. Γένος λέγεται τὸ μὲν εἰάν ἢ ἡ γένεσις
 30 συνεχῆς τῶν τὸ εἶδος ἐχόντων τὸ αὐτό, οἷον λέγεται
 ἕως ἂν ἀνθρώπων γένος ἢ, ὅτι ἕως ἂν ἢ ἡ γένεσις
 συνεχῆς αὐτῶν· τὸ δὲ ἀφ' οὗ ἂν ὡς πρώτου κινή-
 σαντος εἰς τὸ εἶναι· οὕτω γὰρ λέγονται Ἕλληνες
 τὸ γένος οἱ δὲ Ἴωνες, τῷ οἱ μὲν ἀπὸ Ἑλληνος
 οἱ δὲ ἀπὸ Ἴωνος εἶναι πρώτου γεννήσαντος·
 35 καὶ μᾶλλον οἱ ἀπὸ τοῦ γεννήσαντος ἢ τῆς ὕλης·
 λέγονται γὰρ καὶ ἀπὸ τοῦ θήλεος τὸ γένος, οἷον οἱ
 1024^b ἀπὸ Πύρρας. ἔτι δὲ ὡς τὸ ἐπίπεδον τῶν σχη-
 μάτων γένος τῶν ἐπιπέδων, καὶ τὸ στερεόν τῶν
 στερεῶν· ἕκαστον γὰρ τῶν σχημάτων τὸ μὲν
 ἐπίπεδον τοιονδί, τὸ δὲ στερεόν ἐστι τοιονδί· τοῦτο
 δ' ἐστὶ τὸ ὑποκείμενον ταῖς διαφοραῖς. ἔτι ὡς ἐν
 5 τοῖς λόγοις τὸ πρῶτον ἐνυπάρχον, ὃ λέγεται ἐν τῷ
 τί ἐστὶ, τοῦτο γένος, οὗ διαφοραὶ λέγονται αἱ
 ποιότητες. τὸ μὲν οὖν γένος τσαυταχῶς λέγεται,
 τὸ μὲν κατὰ γένεσιν συνεχῆ τοῦ αὐτοῦ εἶδους, τὸ
 δὲ κατὰ τὸ πρῶτον κινήσαν ὁμοειδές, τὸ δ' ὡς
 ὕλη· οὗ γὰρ ἡ διαφορὰ καὶ ἡ ποιότης ἐστὶ, τοῦτ'
 10 ἔστι τὸ ὑποκείμενον, ὃ λέγομεν ὕλην. Ἔτερα δὲ
 τῷ γένει λέγεται ὡν ἕτερον τὸ πρῶτον ὑποκείμενον
 καὶ μὴ ἀναλύεται θάτερον εἰς θάτερον μηδ' ἄμφω
 εἰς ταῦτόν, οἷον τὸ εἶδος καὶ ἡ ὕλη ἕτερον τῷ γένει,
 καὶ ὅσα καθ' ἕτερον σχῆμα κατηγορίας τοῦ ὄντος
 λέγεται· τὰ μὲν γὰρ τί ἐστὶ σημαίνει τῶν ὄντων,
 15 τὰ δὲ ποιόν τι, τὰ δ' ὡς διήρηται πρότερον·

^a Aristotle regards the mother as providing the material, and the father the formal element of the child. Cf. I. vi. 8, VIII. iv. 5.

^b Wife of Deucalion, the Greek Noah.

XXVIII. The term "genus" <or "race"> is used: "Genus."
 (a) When there is a continuous generation of things of
 the same type; e.g., "as long as the human race
 exists" means "as long as the generation of human
 beings is continuous." (b) Of anything from which
 things derive their being as the prime mover of them
 into being. Thus some are called Hellenes by race,
 and others Ionians, because some have Hellen and
 others Ion as their first ancestor. (Races are called 2
 after the male ancestor rather than after the
 material.^a Some derive their race from the female
 as well; e.g. "the descendants of Pyrrha^b." (c) In
 the sense that the plane is the "genus" of plane
 figures, and the solid of solids (for each one of the
 figures is either a particular plane or a particular
 solid); i.e., that which underlies the differentiae.
 (d) In the sense that in formulae the first component, 3
 which is stated as part of the essence, is the genus,
 and the qualities are said to be its differentiae. The
 term "genus," then, is used in all these senses—(a)
 in respect of continuous generation of the same type;
 (b) in respect of the first mover of the same type as
 the things which it moves; (c) in the sense of
 material. For that to which the differentia or
 quality belongs is the substrate, which we call
 material.

Things are called "generically different" whose 4
 immediate substrates are different and cannot be
 resolved one into the other or both into the same
 thing. E.g., form and matter are generically differ-
 ent, and all things which belong to different cate-
 gories of being; for some of the things of which
 being is predicated denote the essence, others a
 quality, and others the various other things which

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οὐδὲ γὰρ ταῦτα ἀναλύεται οὐτ' εἰς ἄλληλα οὐτ' εἰς ἓν τι.

XXIX. Τὸ ψεῦδος λέγεται ἄλλον μὲν τρόπον ὡς πρᾶγμα ψεῦδος, καὶ τούτου τὸ μὲν τῷ μὴ συγκείσθαι ἢ ἀδύνατον εἶναι συντεθῆναι (ὥσπερ λέγεται τὸ τὴν διάμετρον εἶναι σύμμετρον, ἢ τὸ σὲ καθῆσθαι· τούτων γὰρ ψεῦδος τὸ μὲν αἰεὶ, τὸ δὲ ποτέ· οὕτω γὰρ οὐκ ὄντα ταῦτα), τὰ δὲ ὅσα ἔστι μὲν ὄντα, πέφυκε μέντοι φαίνεσθαι ἢ μὴ οἰά εἶναι ἢ ἂ μὴ ἔστιν, οἷον ἡ σκιαγραφία καὶ τὰ ἐνύπνια· ταῦτα γὰρ ἔστι μὲν τι, ἀλλ' οὐχ ὧν ἐμποιεῖ τὴν φαντασίαν.

25 Πράγματα μὲν οὖν ψευδῆ οὕτω λέγεται, ἢ τῷ μὴ εἶναι αὐτά, ἢ τῷ τὴν ἀπ' αὐτῶν φαντασίαν μὴ ὄντος εἶναι· λόγος δὲ ψευδῆς ὁ τῶν μὴ ὄντων ἢ ψευδῆς· διὸ πᾶς λόγος ψευδῆς ἑτέρου ἢ οὐ ἔστιν ἀληθῆς, οἷον ὁ τοῦ κύκλου ψευδῆς τριγώνου· ἐκάστου δὲ λόγος ἔστι μὲν ὡς εἰς ὁ τοῦ τί ἦν

30 εἶναι, ἔστι δ' ὡς πολλοί, ἐπεὶ ταυτό πως αὐτὸ καὶ αὐτὸ πεπονθός, οἷον Σωκράτης καὶ Σωκράτης μουσικός· ὁ δὲ ψευδῆς λόγος οὐθενός ἐστιν ἀπλῶς λόγος· διὸ Ἀντισθένης ᾤετο εὐήθως μηδὲν ἀξίων λέγεσθαι πλὴν τῷ οἰκείῳ λόγῳ, ἐν ἐφ' ενός· ἐξ ὧν συνέβαινε μὴ εἶναι ἀντιλέγειν, σχεδὸν δὲ μηδὲ

^a Here Aristotle is using the word *lógos* not in the strict sense of "definition" but in the looser sense of "a statement about something."

^b The Cynic; contemporary and renegade "disciple" of Socrates. He taught that definition, and even predication, are strictly speaking impossible. A simple entity can only be named; a complex entity can only be "defined" by naming its simple constituents. Cf. VIII. iii. 7, 8; Plato, *Theaetetus* 201 D-202 C, *Sophist* 251 B, C.

^c Cf. *Topica* 104 B 21; Isocrates, *Helena* 10, 1; Plato, *Euthydemus* 285 E-286 B.

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have already been distinguished. For these also cannot be resolved either into each other or into any one thing.

XXIX. "False" means: (i) false as a *thing*; (a) "False." because it is not or cannot be substantiated; such are the statements that the diagonal of a square is commensurable, or that you are sitting. Of these one is false always, and the other sometimes; it is in these senses that these things are not facts. (b) ² Such things as really exist, but whose nature it is to seem either such as they are not, or like things which are unreal; e.g. chiaroscuro and dreams. For these are really something, but not that of which they create the impression. Things, then, are called false in these senses: either because they themselves are unreal, or because the impression derived from them is that of something unreal.

(ii.) A false statement is the statement of *what is* ³ *not*, in so far as the statement is false. Hence every definition is untrue of anything other than that of which it is true; e.g., the definition of a circle is untrue of a triangle. Now in one sense there is only one definition of each thing, namely that of its essence; but in another sense there are many definitions,^a since the thing itself, and the thing itself qualified (e.g. "Socrates" and "cultured Socrates") are in a sense the same. But the false definition is ⁴ not strictly a definition of anything. Hence it was foolish of Antisthenes^b to insist that nothing can be described except by its proper definition: one predicate for one subject; from which it followed that contradiction^c is impossible, and falsehood^d nearly

⁴ Cf. Isocrates, *loc. cit.*; *Euthydemus* 283 E-284 C, 286 C, D.

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1024^b 35 ψεύδεσθαι. ἔστι δ' ἕκαστον λέγειν οὐ μόνον τῷ
 αὐτοῦ λόγῳ ἀλλὰ καὶ τῷ ἑτέρῳ, ψευδῶς μὲν καὶ
 1025^a παντελῶς, ἔστι δ' ὡς καὶ ἀληθῶς, ὥσπερ τὰ ὀκτώ
 διπλάσια τῷ τῆς δυνάδος λόγῳ. Τὰ μὲν οὖν οὕτω
 λέγεται ψευδῆ, ἄνθρωπος δὲ ψευδῆς ὁ εὐχερῆς καὶ
 προαιρετικὸς τῶν τοιούτων λόγων, μὴ δι' ἑτερόν
 τι ἀλλὰ δι' αὐτό, καὶ ὁ ἄλλοις ἐμποητικὸς τῶν
 5 τοιούτων λόγων, ὥσπερ καὶ τὰ πράγματά φαμεν
 ψευδῆ εἶναι ὅσα ἐμποιεῖ φαντασίαν ψευδῆ. διὸ
 ὁ ἐν τῷ Ἰππία λόγος παρακρούεται ὡς ὁ αὐτὸς
 ψευδῆς καὶ ἀληθῆς. τὸν δυνάμενον γὰρ ψεύσασθαι
 λαμβάνει ψευδῆ, οὗτος δ' ὁ εἰδὼς καὶ ὁ φρόνιμος·
 ἔτι τὸν ἐκόντα φαῦλον βελτίω. τοῦτο δὲ ψεύδος
 10 λαμβάνει διὰ τῆς ἐπαγωγῆς—ὁ γὰρ ἐκὼν χωλαίνων
 τοῦ ἄκοντος κρείττων—τὸ χωλαίνειν τὸ μιμῆσθαι
 λέγων, ἐπεὶ εἴ γε χωλὸς ἐκὼν, χείρων ἴσως, ὥσπερ
 ἐπὶ τοῦ ἦθους, καὶ οὗτος.

XXX. Συμβεβηκὸς λέγεται ὁ ὑπάρχει μὲν τι καὶ
 15 ἀληθῆς εἰπεῖν, οὐ μέντοι οὐτ' ἐξ ἀνάγκης οὔτε
 <ὡς>¹ ἐπὶ τὸ πολὺ, οἷον εἴ τις ὀρύττων φυτῶ
 βόθρον εὔρε θησαυρόν. τοῦτο τοῖνυν συμβεβηκὸς
 τῷ ὀρύττοντι τὸν βόθρον, τὸ εὔρειν θησαυρόν· οὔτε
 γὰρ ἐξ ἀνάγκης τοῦτο ἐκ τούτου ἢ μετὰ τούτου,
 οὔθ' ὡς ἐπὶ τὸ πολὺ ἂν τις φυτεύῃ θησαυρόν
 20 εὐρίσκει. καὶ μουσικὸς γ' ἂν τις εἴη λευκός· ἀλλ'
 ἐπεὶ οὔτε ἐξ ἀνάγκης οὔθ' ὡς ἐπὶ τὸ πολὺ τοῦτο
 γίνεταί, συμβεβηκὸς αὐτὸ λέγομεν. ὥστ' ἐπεὶ
 ἔστιν ὑπάρχον τι καὶ τινί, καὶ ἕνα τούτων καὶ ποῦ
 καὶ ποτέ, ὁ τι ἂν ὑπάρχη μὲν, ἀλλὰ μὴ διότι τοδί

¹ ὡς Asclepius, Eucken: δὲ A^b: om. E.J.

^o Plato, *Hippias Minor* 365-375.

so. But it is possible to describe everything not only by its own definition but by that of something else; quite falsely, and yet also in a sense truly—e.g., 8 may be described as "double" by the definition of 2.

Such are the meanings of "false" in these cases. 5 (iii.) A false man is one who readily and deliberately makes such statements, for the sake of doing so and for no other reason; and one who induces such statements in others—just as we call things false which induce a false impression. Hence the proof in the *Hippias*^a that the same man is false and true is misleading; for it assumes (a) that the false man 6 is he who is able to deceive, i.e. the man who knows and is intelligent; (b) that the man who is willingly bad is better. This false assumption is due to the induction; for when he says that the man who limps willingly is better than he who does so unwillingly, he means by limping *pretending* to limp. For if he is willingly lame, he is presumably worse in this case just as he is in the case of moral character.

XXX. "Accident" <or "attribute"> means that "Accident" or "attribute" which applies to something and is truly stated, but neither necessarily nor usually; as if, for example, while digging a hole for a plant one found a treasure. Then the finding of treasure is an accident to the man who is digging the hole; for the one thing is not a necessary consequence or sequel of the other, nor does one usually find treasure while planting. And a cultured man might be white; but since this 2 does not happen necessarily or usually, we call it an accident. Thus since there are attributes and subjects, and some attributes apply to their subjects only at a certain place and time, any attribute which applies to a subject, but not because it was a parti-

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ἦν ἢ νῦν ἢ ἐνταῦθα, συμβεβηκός ἐσται. οὐδὲ δὴ
 25 αἴτιον ὠρισμένον οὐδὲν τοῦ συμβεβηκότος ἀλλὰ
 τὸ τυχόν· τοῦτο δ' ἀόριστον. συνέβη τῷ εἰς Αἴγιαν
 ἐλθεῖν, εἰ μὴ διὰ τοῦτο ἀφίκετο ὅπως ἐκεῖ ἔλθῃ,
 ἀλλ' ὑπὸ χειμῶνος ἐξωσθεῖς ἢ ὑπὸ ληστῶν ληφθεῖς.
 γέγονε μὲν δὴ καὶ ἔστι τὸ συμβεβηκός, ἀλλ' οὐχ
 ἢ αὐτὸ ἀλλ' ἢ ἕτερον· ὁ γὰρ χειμῶν αἴτιος τοῦ μὴ
 30 ὅπου ἔπλει ἐλθεῖν, τοῦτο δ' ἦν Αἴγινα. Λέγεται
 δὲ καὶ ἄλλως συμβεβηκός, οἷον ὅσα ὑπάρχει ἐκάστῳ
 καθ' αὐτὸ μὴ ἐν τῇ οὐσίᾳ ὄντα, οἷον τῷ τριγώνῳ
 τὸ δύο ὀρθὰς ἔχειν. καὶ ταῦτα μὲν ἐνδέχεται
 αἰτία εἶναι, ἐκείνων δὲ οὐδέν. λόγος δὲ τούτου ἐν
 ἑτέροις.

¹ καὶ ΕΓ Asclepius: om. J: ἢ A^b: ἢ Alexander, Ross.

cular subject or time or place, will be an accident. Nor is there any definite cause for an accident, but ³ only a chance, *i.e.* indefinite, cause. It was by accident that X went to Aegina if he arrived there, not because he intended to go there but because he was carried out of his course by a storm, or captured by pirates. The accident has happened or exists, but ⁴ in virtue not of itself but of something else; for it was the storm which was the cause of his coming to a place for which he was not sailing—*i.e.* Aegina.

"Accident" has also another sense,^a namely, whatever belongs to each thing in virtue of itself, but is not in its essence; *e.g.* as having the sum of its angles equal to two right angles belongs to the triangle. Accidents of this kind may be eternal, but none of the former kind can be. There is an account of this elsewhere.^b

^a *i.e.* "property."

^b The reference is probably to the *Analytica Posteriora* 75 a 18, 39-41.

1025 b I. Αἱ ἀρχαὶ καὶ τὰ αἷτια ζητεῖται τῶν ὄντων, δῆλον
 δὲ ὅτι ἢ ὄντα. ἔστι γάρ τι αἷτιον ὑγιείας καὶ
 5 εὐεξίας, καὶ τῶν μαθηματικῶν εἰσὶν ἀρχαὶ καὶ
 στοιχεῖα καὶ αἷτια, καὶ ὅλως δὲ πᾶσα ἐπιστήμη
 διανοητικὴ ἢ μετέχουσά τι διανοίας περὶ αἷτίας
 καὶ ἀρχάς ἐστιν ἢ ἀκριβεστέρας ἢ ἀπλουστέρας.
 ἀλλὰ πᾶσαι αὐταὶ περὶ ὄν¹ τι καὶ γένος τι περι-
 γραφάμεναι περὶ τούτου πραγματεύονται, ἀλλ' οὐχί
 10 περὶ ὄντος ἀπλῶς οὐδὲ ἢ ὄν, οὐδὲ τοῦ τί ἐστιν
 οὐθένα λόγον ποιοῦνται· ἀλλ' ἐκ τούτου αἱ μὲν
 αἰσθήσει ποιήσασαι αὐτὸ δῆλον, αἱ δ' ὑπόθεσιν
 λαβοῦσαι τὸ τί ἐστιν, οὕτω τὰ καθ' αὐτὰ ὑπ-
 ἀρχοντα τῷ γένει περὶ ὃ εἰσὶν ἀποδεικνύουσιν ἢ
 ἀναγκαιότερον ἢ μαλακώτερον· διόπερ φανερόν ὅτι
 15 οὐκ ἔστιν ἀπόδειξις οὐσίας οὐδὲ τοῦ τί ἐστιν ἐκ τῆς
 τοιαύτης ἐπαγωγῆς, ἀλλὰ τις ἄλλος τρόπος τῆς δη-
 λώσεως. ὁμοίως δὲ οὐδ' εἰ ἔστιν ἢ μὴ ἔστι τὸ γένος
 περὶ ὃ πραγματεύονται οὐδὲν λέγουσι, διὰ τὸ τῆς
 αὐτῆς εἶναι διανοίας τό τε τί ἐστι δῆλον ποιεῖν καὶ
 εἰ ἔστιν. ἐπεὶ δὲ καὶ ἡ φυσικὴ ἐπιστήμη τυγχάνει
 20 οὕσα περὶ γένος τι τοῦ ὄντος (περὶ γὰρ τὴν τοι-
 αύτην ἐστὶν οὐσίαν ἐν ἣ ἡ ἀρχὴ τῆς κινήσεως καὶ

¹ ἐν EJP.

I. It is the principles and causes of the *things* BOOK VI.
which are that we are seeking; and clearly of the C. I. CLASSI-
 things which are *qua* being. There is a cause of FICATION
 health and physical fitness; and mathematics has OF THE
 principles and elements and causes; and in general SCIENCES.
 every intellectual science or science which involves The particu-
 intellect deals with causes and principles, more or lar sciences
 less exactly or simply considered. But all these study some
 sciences single out some existent thing or class, and one aspect
 concern themselves with that; not with Being of reality,
 unqualified, nor *qua* Being, nor do they give any whose exist-
 account of the essence; but starting from it, some 2
 making it clear to perception, and others assuming ence they
 it as a hypothesis, they demonstrate, more or less assume.
 cogently, the essential attributes of the class with 3
 which they are dealing. Hence obviously there is no
 no demonstration of substance or essence from this demonstration
 method of approach, but some other means of ex- of approach,
 hibiting it. And similarly they say nothing as to but some other means of
 whether the class of objects with which they are exhibiting it.
 concerned exists or not; because the demonstration And similarly they say nothing as to
 of its essence and that of its existence belong to whether the class of objects with which they are
 the same intellectual process. And since physical concerned exists or not; because the demonstration
 science also happens to deal with a genus of Being of its essence and that of its existence belong to
 (for it deals with the sort of substance which contains the same intellectual process.
 in itself the principle of motion and rest), obviously And since physical
4 Physics is a
speculative
science
which

1025 b

στάσεως ἐν αὐτῇ), δῆλον ὅτι οὔτε πρακτικὴ ἐστὶν οὔτε ποιητικὴ· τῶν μὲν γὰρ ποιητῶν¹ ἐν τῷ ποιῶντι ἢ ἀρχή, ἢ νοῦς ἢ τέχνη ἢ δύναμις τις, τῶν δὲ πρακτῶν² ἐν τῷ πράττοντι ἢ προαίρεσις· τὸ
 25 αὐτὸ γὰρ τὸ πρακτὸν καὶ τὸ προαιρετὸν ὥστε εἰ πᾶσα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητικὴ, ἢ φυσικὴ θεωρητικὴ τις ἂν εἴη, ἀλλὰ θεωρητικὴ περὶ τοιοῦτον ὃν ὅ ἐστι δυνατὸν κινεῖσθαι, καὶ περὶ οὐσίαν τὴν κατὰ τὸν λόγον ὡς ἐπὶ τὸ πολὺ ὡς οὐ³ χωριστὴν μόνον. δεῖ δὲ τὸ τί τῆν εἶναι καὶ τὸν
 30 λόγον πῶς ἐστὶ μὴ λαθάνειν, ὡς ἄνευ γε τούτου τὸ ζητεῖν μηδὲν ἐστὶ ποιεῖν. Τῶν δ'⁴ ὀριζομένων καὶ τῶν τί ἐστὶ τὰ μὲν οὕτως ὑπάρχει⁵ ὡς τὸ σιμὸν, τὰ δ' ὡς τὸ κοῦλον. διαφέρει δὲ ταῦτα ὅτι τὸ μὲν σιμὸν συνεληγμένον ἐστὶ μετὰ τῆς ὕλης (ἐστὶ γὰρ τὸ⁶ σιμὸν κοίλη ρίς), ἢ δὲ κοιλότης ἄνευ ὕλης αἰσθητῆς. εἰ δὴ πάντα τὰ φυσικὰ ὁμοίως τῷ
 1026 a σιμῷ λέγονται, οἷον ρίς ὀφθαλμὸς πρόσωπον σὰρξ ὄστον, ὄλως ζῶον, φύλλον ρίζα φλοιός, ὄλως φυτῶν (οὐθενὸς γὰρ ἄνευ κινήσεως ὁ λόγος αὐτῶν, ἀλλ' αἰεὶ ἔχει ὕλην), δῆλον πῶς δεῖ ἐν τοῖς φυσικοῖς
 5 τὸ τί ἐστὶ ζητεῖν καὶ ὀρίζεσθαι, καὶ διότι καὶ περὶ ψυχῆς ἐνίας θεωρήσαι τοῦ φυσικοῦ, ὅση μὴ ἄνευ τῆς ὕλης ἐστίν.

Ὅτι μὲν οὖν ἢ φυσικὴ θεωρητικὴ τίς ἐστὶ, φανερὸν ἐκ τούτων· ἀλλ' ἐστὶ καὶ ἢ μαθηματικὴ θεωρητικὴ· ἀλλ' εἰ ἀκίνητα καὶ χωριστῶν ἐστὶ, νῦν ἀδῆλον, ὅτι μέντοι ἔνια μαθήματα ἢ ἀκίνητα

¹ ποιητῶν A^b: ποιητικῶν.

² πρακτῶν EA^b Alexander: πρακτικῶν.

³ ὡς οὐ ET: οὐ.

⁴ τῶν δ' EJT: τῶν δὴ γρ. E: ἐστὶ δὲ τῶν A^b Alexander.

⁵ οὕτως ὑπάρχει om. A^b Alexander (?). ⁶ τὸ: τὸ μὲν A^b.

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it is neither a practical nor a productive science. For 5 in the case of things produced the principle of studies mut- able objects; i.e., essence in combina- tion with sensible matter. motion (either mind or art or some kind of potency) is in the producer; and in the case of things done the will is the agent—for the thing done and the thing willed are the same. Thus if every intel- lectual activity is either practical or productive or speculative, physics will be a speculative science; but speculative about that kind of Being which can be moved, and about formulated substance for the most part only *qua* inseparable from matter. But 6 we must not fail to observe *how* the essence and the formula exist, since without this our inquiry is in- effectual.

Now of things defined, *i.e.* of essences, some apply in the sense that "snub" does, and some in the sense that "concave" does. The difference is that "snub" is a combination of form with matter; because "the snub" is a concave *nose*, whereas concavity is independent of sensible matter. Now if all 7 physical terms are used in the same sense as "snub" —*e.g.* nose, eye, face, flesh, bone, and in general animal; leaf, root, bark, and in general vegetable (for not one of these has a definition without motion; the definition invariably includes matter)—it is clear how we should look for and define the essence in physical things, and why it is the province of the physicist to study even some aspects of the soul, so far as it is not independent of matter.

It is obvious, then, from these considerations, that 8 physics is a form of speculative science. And mathe- matics is also speculative; but it is not clear at present whether its objects are immutable and separ- able from matter; it is clear, however, that some

Mathema- tics is also speculative; whether its objects are immutable

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10 καὶ ἥ χωριστὰ θεωρεῖ, δῆλον. εἰ δέ τί ἐστιν αἰδῖον καὶ ἀκίνητον καὶ χωριστόν, φανερόν ὅτι θεωρητικῆς τὸ γινῶναι· οὐ μέντοι φυσικῆς γε (περὶ κινήτων γάρ τινων ἢ φυσικῆ), οὐδὲ μαθηματικῆς, ἀλλὰ προτέρας ἀμφοῖν. ἢ μὲν γὰρ φυσικὴ περὶ χωριστὰ¹ μὲν ἀλλ' οὐκ ἀκίνητα, τῆς

15 δὲ μαθηματικῆς ἕνια περὶ ἀκίνητα μὲν οὐ χωριστὰ δ' ἴσως, ἀλλ' ὡς ἐν ὕλῃ· ἢ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα. ἀνάγκη δὲ πάντα μὲν τὰ αἷτια αἰδῖα εἶναι, μάλιστα δὲ ταῦτα· ταῦτα γὰρ αἷτια τοῖς φανεροῖς τῶν θεῶν. ὥστε τρεῖς ἂν εἶεν φιλοσοφίαι θεωρητικαί, μαθηματικὴ, φυσικὴ, θεο-

20 λογικὴ (οὐ γὰρ ἄδηλον ὅτι, εἴ που τὸ θεῖον ὑπάρχει, ἐν τῇ τοιαύτῃ φύσει ὑπάρχει), καὶ τὴν τιμιωτάτην δεῖ περὶ τὸ τιμιώτατον γένος εἶναι. Αἰ μὲν οὖν θεωρητικαὶ τῶν ἄλλων ἐπιστημῶν αἰρετώτερας, αὕτη δὲ τῶν θεωρητικῶν. ἀπορήσειε γὰρ ἂν τις πότερόν ποθ' ἢ πρώτη φιλοσοφία καθόλου ἐστίν,

25 ἢ περὶ τι γένος καὶ φύσιν τινὰ μίαν. οὐ γὰρ ὁ αὐτὸς τρόπος οὐδ' ἐν ταῖς μαθηματικαῖς, ἀλλ' ἢ μὲν γεωμετρία καὶ ἀστρολογία περὶ τινα φύσιν εἰσίν, ἢ δὲ καθόλου πασῶν κοινή. εἰ μὲν οὖν μὴ ἔστι τις ἑτέρα οὐσία παρὰ τὰς φύσει συνεστηκυίας, ἢ φυσικὴ ἂν εἴη πρώτη ἐπιστήμη· εἰ δ' ἔστι τις

30 οὐσία ἀκίνητος, αὕτη προτέρα καὶ φιλοσοφία

¹ χωριστὰ Schwegler: ἀχώριστα.

branches of mathematics study their objects *qua* and separable and *qua* separable from matter. Obviously it is the province of a speculative science to discover whether a thing is eternal and immutable and separable from matter; not, however, of physics⁹ (since physics deals with mutable objects) nor of mathematics, but of a science prior to both. For physics deals with things which exist separately but are not immutable; and some branches of mathematics deal with things which are immutable, but presumably not separable, but present in matter; but the primary science treats of things which are both separable and immutable. Now all causes must¹⁰ be eternal, but these especially; since they are the causes of what is visible of things divine. Hence there will be three speculative philosophies: mathematics, physics, and theology—since it is obvious that if the divine is present anywhere, it is present in this kind of entity; and also the most honourable science must deal with the most honourable class of subject.

The speculative sciences, then, are to be preferred¹¹ to the other sciences, and "theology" to the other speculative sciences. One might indeed raise the question whether the primary philosophy is universal or deals with some one genus or entity; because even the mathematical sciences differ in this respect—geometry and astronomy deal with a particular kind of entity, whereas universal mathematics applies to all kinds alike. Then if there is not some¹² other substance besides those which are naturally composed, physics will be the primary science; but if there is a substance which is immutable, the science which studies this will be prior to physics,

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πρώτη, καὶ καθόλου οὕτως ὅτι πρώτη· καὶ περὶ τοῦ ὄντος ἢ ὄν, ταύτης ἂν εἴη θεωρησαί, καὶ τί ἐστὶ καὶ τὰ ὑπάρχοντα ἢ ὄν.

II. Ἄλλ' ἐπεὶ τὸ ὄν τὸ ἀπλῶς λεγόμενον λέγεται πολλαχῶς, ὧν ἓν μὲν ἦν τὸ κατὰ συμβεβηκός, 35 ἕτερον δὲ τὸ ὡς ἀληθές, καὶ τὸ μὴ ὄν ὡς τὸ ψεῦδος, παρὰ ταῦτα δ' ἐστὶ τὰ σχήματα τῆς κατηγορίας, οἷον τὸ μὲν τί, τὸ δὲ ποιόν, τὸ δὲ ποσόν, τὸ δὲ 1026 b πού, τὸ δὲ ποτέ, καὶ εἴ τι ἄλλο σημαίνει τὸν τρόπον τοῦτον· ἐτι παρὰ ταῦτα πάντα τὸ δυνάμει καὶ ἐνεργείᾳ—ἐπεὶ δὴ¹ πολλαχῶς λέγεται τὸ ὄν, πρῶτον περὶ τοῦ κατὰ συμβεβηκός λεκτέον, ὅτι οὐδεμία ἐστὶ περὶ αὐτὸ θεωρία. σημεῖον δέ· 5 οὐδεμιᾶ γὰρ ἐπιστήμη ἐπιμελές περὶ αὐτοῦ οὔτε πρακτικῇ οὔτε ποιητικῇ οὔτε θεωρητικῇ. οὔτε γὰρ ὁ ποιῶν οἰκίαν ποιεῖ ὅσα συμβαίνει ἅμα τῇ οἰκίᾳ γιγνομένη· ἄπειρα γάρ ἐστιν· τοῖς μὲν γὰρ ἡδεῖαν τοῖς δὲ βλαβερὰν τοῖς δ' ὠφέλιμον οὐδὲν εἶναι κωλύει τὴν ποιηθείσαν, καὶ ἕτεραν ὡς εἰπεῖν 10 πάντων τῶν ὄντων· ὧν οὐθενός ἐστιν ἡ οἰκοδομικῇ ποιητικῇ· τὸν αὐτὸν δὲ τρόπον οὐδ' ὁ γεωμέτρης θεωρεῖ τὰ οὕτω συμβεβηκότα τοῖς σχήμασιν, οὐδ' εἰ ἕτερόν ἐστι τρίγωνον καὶ τρίγωνον δύο ὀρθὰς ἔχον. καὶ τοῦτο εὐλόγως συμπίπτει· ὥσπερ γὰρ ὄνομά τι² μόνον τὸ συμβεβηκός ἐστιν. διὸ Πλά- 15 των τρόπον τινὰ οὐ κακῶς τὴν σοφιστικὴν περὶ τὸ μὴ ὄν ἔταξεν. εἰσὶ γὰρ οἱ τῶν σοφιστῶν λόγοι περὶ τὸ συμβεβηκός ὡς εἰπεῖν μάλιστα πάντων,

¹ ἐπεὶ δὲ A^b.² ὄνομά τι Alexander, Asclepius: ὄνοματι codd.

and will be primary philosophy, and universal in this sense, that it is primary. And it will be the province of this science to study Being *qua* Being; what it is, and what the attributes are which belong to it *qua* Being.

II. But since the simple term "being" is used in various senses, of which we saw that one was *accidental*, and another *true* (not-being being used in the sense of "false"); and since besides these there are the categories, e.g. the "what," quality, quantity, place, time, and any other similar meanings; and further besides all these the *potential* and *actual*: since the term "being" has various senses, it must first be said of what "is" accidentally, that there can be no speculation about it. This is shown by the fact that no science, whether practical, productive or speculative, concerns itself with it. The man who produces a house does not produce all the attributes which are accidental to the house in its construction; for they are infinite in number. There is no reason why the house so produced should not be agreeable to some, injurious to others, and beneficial to others, and different perhaps from every other existing thing; but the act of building is productive of none of these results. In the same way the geometrician does not study the accidental attributes of his figures, nor whether a triangle is different from a triangle the sum of whose angles is equal to two right angles. And this accords with what we should reasonably expect, because "accident" is only, as it were, a sort of name. Hence in a way Plato^a was not far wrong in making sophistry deal with what is non-existent; because the sophists discuss the accident⁴ more, perhaps, than any other people—whether

c. ff. There is no science of accidental Being.

^a Cf. *Sophist* 254 Δ.

1026 b

πότερον ἕτερον ἢ ταῦτόν μουσικόν καὶ γραμματικόν, καὶ μουσικός Κορίσκος καὶ Κορίσκος, καὶ εἰ πᾶν ὃ ἂν ἦ, μὴ αἰεὶ δέ, γέγονε, ὥστ' εἰ μουσικός ὢν
 20 γραμματικός γέγονε, καὶ γραμματικός ὢν μουσικός, καὶ ὅσοι δὴ ἄλλοι τοιοῦτοι τῶν λόγων εἰσίν· φαίνεται γὰρ τὸ συμβεβηκὸς ἐγγύς τι τοῦ μὴ ὄντος. δῆλον δὲ καὶ ἐκ τῶν τοιούτων λόγων· τῶν μὲν γὰρ ἄλλον τρόπον ὄντων ἔστι γένεσις καὶ φθορά, τῶν δὲ κατὰ συμβεβηκὸς οὐκ ἔστιν. ἀλλ'
 25 ὅμως λεκτέον ἔτι περὶ τοῦ συμβεβηκώτος ἐφ' ὅσον ἐνδέχεται, τίς ἢ φύσις αὐτοῦ καὶ διὰ τίν' αἰτίαν ἐστίν· ἅμα γὰρ δῆλον ἴσως ἔσται καὶ διὰ τί ἐπιστήμη οὐκ ἔστιν αὐτοῦ. Ἐπεὶ οὖν ἐστὶν ἐν τοῖς οὐσι τὰ μὲν αἰεὶ ὡσαύτως ἔχοντα καὶ ἐξ ἀνάγκης, οὐ τῆς κατὰ τὸ βίαιον λεγομένης ἀλλ'
 30 ἦν λέγομεν τῷ μὴ ἐνδέχεσθαι ἄλλως, τὰ δ' ἐξ ἀνάγκης μὲν οὐκ ἔστιν οὐδ' αἰεὶ, ὡς δ' ἐπὶ τὸ πολὺ, αὐτῆ ἀρχῆ καὶ αὐτῆ αἰτία ἐστὶ τοῦ εἶναι τὸ συμβεβηκός· ὃ γὰρ ἂν ἦ μὴτ' αἰεὶ μὴθ' ὡς ἐπὶ τὸ πολὺ, τοῦτό φαμεν συμβεβηκὸς εἶναι. οἷον ἐπὶ κυνὶ ἂν χειμῶν γένηται καὶ ψῦχος, τοῦτο συμβῆναι φαμεν, ἀλλ' οὐκ ἂν πῆγος καὶ ἀλά,

^a *i.e.* able to read and write. The sophistic argument is given by Alexander as follows: A is grammatical; ∴ grammatical A = A. A is cultured; ∴ cultured A = A. ∴ Grammatical = cultured, and he who is grammatical must be cultured. But B, though grammatical, is not cultured. ∴ The grammatical is not the same as the cultured.

^b If Coriscus is the same as cultured Coriscus, he is the same as cultured cultured Coriscus, and so *ad infinitum*. Cf. *Soph. Elench.* 173 a 34.

^c If A, being cultured, has become grammatical, then being cultured he is grammatical. Then being grammatical he is cultured. But he has not always, being grammatical, been cultured. So if that which is but has not always been

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“cultured” and “grammatical,”^a and “cultured Coriscus” and “Coriscus,”^b are the same or different; and whether everything that is, but has not always been, has come into being, so that if a man who is cultured has become grammatical, he has also, being grammatical, become cultured^c; and all other such discussions. Indeed it seems that the accidental is something closely akin to the non-existent. This is clear too from such considerations
 5 as the following: of things which *are* in other senses there is generation and destruction, but of things which *are* accidentally there is not.^d Nevertheless we must state further, so far as it is possible, with regard to the accidental, what its nature is and through what cause it exists. At the same time it will doubtless also appear why there is no science of it.

Since, then, there are among existing things some
 6 which are invariable and of necessity (not necessity in the sense of compulsion,^e but that by which we mean that it cannot be otherwise^f), and some which are not necessarily so, nor always, but usually: this is the principle and this the cause of the accidental. For whatever is neither always nor usually so, we call an accident. *E.g.*, if in the dog-days^g we have storm
 7 and cold, we call it an accident; but not if we have

must have come to be, then being grammatical he has become cultured; *i.e.*, he must have been both grammatical before he was cultured and cultured before he was grammatical; which is absurd (Ross).

^d *i.e.*, the process of becoming or change takes place in the subject—the *man*, who is accidentally cultured, becomes grammatical, and when the process is complete “the cultured” is accidentally grammatical; but it does not become so. ^e Cf. V. v. 2. ^f *Ibid.* § 3.

^g The period from July 3 to August 11, during which the dog-star Sirius rises and sets with the sun.

Nature and
cause of the
accidental.

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35 ὅτι τὸ μὲν αἰεὶ ἢ ὡς ἐπὶ τὸ πολὺ, τὸ δ' οὐ. καὶ τὸν
 ἀνθρώπου λευκὸν εἶναι συμβέβηκεν (οὔτε γὰρ αἰεὶ
 οὐθ' ὡς ἐπὶ τὸ πολὺ), ζῶον δ' οὐ κατὰ συμβεβη-
 1027 a κός. καὶ τὸ ὑγιαίνειν δὲ τὸν οἰκοδόμον¹ κατὰ²
 συμβεβηκός, ὅτι οὐ πέφυκε τοῦτο ποιεῖν οἰκοδόμος
 ἀλλ' ἰατρός, ἀλλὰ συνέβη ἰατρὸν εἶναι τὸν οἰκο-
 δόμον. καὶ ὀψοποιὸς ἡδονῆς στοχαζόμενος ποιή-
 σειεν ἂν τι ὑγιεινόν, ἀλλ' οὐ κατὰ τὴν ὀψοποιή-
 5 τικὴν διὸ συνέβη, φάμεν, καὶ ἔστιν ὡς ποιεῖ,
 ἀπλῶς δ' οὐ. τῶν μὲν γὰρ ἄλλων³ [ἐνίοτε]⁴
 δυνάμεις εἰσὶν αἰ⁵ ποιητικαί, τῶν δ' οὐδεμία
 τέχνη οὐδὲ δύναμις ὠρισμένη. τῶν γὰρ κατὰ
 συμβεβηκός ὄντων ἢ γιγνομένων καὶ τὸ αἰτιὸν
 ἔστι κατὰ συμβεβηκός. ὥστ' ἐπεὶ οὐ πάντα ἔστιν
 ἐξ ἀνάγκης καὶ αἰεὶ ἢ ὄντα ἢ γιγνόμενα, ἀλλὰ τὰ
 10 πλείστα ὡς ἐπὶ τὸ πολὺ, ἀνάγκη εἶναι τὸ κατὰ
 συμβεβηκός ὄν· οἷον οὐτ' αἰεὶ οὐθ' ὡς ἐπὶ τὸ πολὺ
 ὁ λευκὸς μουσικὸς ἔστιν, ἐπεὶ δὲ γίγνεται ποτε,
 κατὰ συμβεβηκός ἔσται· εἰ δὲ μή, πάντ' ἔσται
 ἐξ ἀνάγκης· ὥστε ἡ ὕλη ἔσται αἰτία ἢ ἐνδεχομένη
 15 παρὰ τὸ ὡς ἐπὶ τὸ πολὺ ἄλλως τοῦ συμβεβηκότος.
 Ἄρχῃν δὲ τηρῶν ληπτέον, πότερον οὐδὲν ἔστιν
 οὐτ' αἰεὶ οὐθ' ὡς ἐπὶ τὸ πολὺ, ἢ τοῦτο ἀδύνατον.
 ἔστιν ἄρα τι παρὰ ταῦτα, τὸ ὁπότερ' ἔτυχε
 καὶ κατὰ συμβεβηκός. ἀλλὰ πότερον τὸ ὡς ἐπὶ
 τὸ πολὺ, τὸ δ' αἰεὶ οὐθενὶ ὑπάρχει, ἢ ἔστιν ἅττα
 αἰδία; περὶ μὲν οὖν τούτων ὕστερον σκεπτέον,

¹ τὸ . . . οἰκοδόμον; τὸ τὸν οἰκοδόμον ὑγείαν ποιῆσαι EJ
 Asclepius.

² κατὰ om. E.J.

³ ἄλλαι A^bJ.

⁴ secl. Ross, om. fort. comm.

⁵ αἰ scripsi: αἰ.

⁶ ἐπειδὴ E.J.

stifling and intense heat, because the latter always
 or usually comes at this time, but not the former. It
 is accidental for a man to be white (since this is
 neither always nor usually so), but it is not accidental
 for him to be an animal. It is by accident that a
 8 builder restores to health, because it is not a builder
 but a doctor who naturally does this; but the builder
 happened accidentally to be a doctor. A confec-
 tioner, aiming at producing enjoyment, may produce
 something health-giving; but not in virtue of his
 confectioner's art. Hence, we say, it was accidental;
 and he produces it in a sense, but not in an unqualified
 sense. For there are potencies which produce other
 9 things, but there is no art or determinate potency
 of accidents, since the cause of things which exist or
 come to be by accident is also accidental. Hence,
 10 since not everything is or comes to be of necessity
 and always, but most things happen usually, the
 accidental must exist. *E.g.*, the white man is
 neither always nor usually cultured; but since this
 sometimes happens, it must be regarded as accidental.
 Otherwise, everything must be regarded as of neces-
 sity. Therefore the cause of the accidental is the
 11 matter, which admits of variation from the usual.

We must take this as our starting-point: Is every-
 thing either "always" or "usually"? This is
 surely impossible. Then besides these alternatives
 there is something else: the fortuitous and acci-
 dental. But again, are things *usually* so, but nothing
always, or are there things which are eternal?
 These questions must be inquired into later^a; but

^a Cf. XII. vi.-viii.

1027^a 20 ὅτι δ' ἐπιστήμη οὐκ ἔστι τοῦ συμβεβηκότος φανερόν· ἐπιστήμη μὲν γὰρ πᾶσα ἢ τοῦ ἀεὶ ἢ τοῦ ὡς ἐπὶ τὸ πολὺ. πῶς γὰρ ἢ μαθήσεται ἢ διδάξει ἄλλον; δεῖ γὰρ ὠρίσθαι ἢ τῷ ἀεὶ ἢ τῷ ὡς ἐπὶ τὸ πολὺ, οἷον ὅτι ὠφέλιμον τὸ μελίκρατον τῷ πυρέττοντι ὡς ἐπὶ τὸ πολὺ· τὸ δὲ παρὰ τοῦτο 25 οὐχ ἔξει λέγειν πότε οὐ, οἷον νομηνία· ἢ γὰρ ἀεὶ ἢ ὡς ἐπὶ τὸ πολὺ καὶ τὸ τῇ νομηνία· τὸ δὲ συμβεβηκός ἐστι παρὰ ταῦτα. τί μὲν οὖν ἔστι τὸ συμβεβηκός καὶ διὰ τίν' αἰτίαν, καὶ ὅτι ἐπιστήμη οὐκ ἔστιν αὐτοῦ, εἴρηται.

III. Ὅτι δ' εἰσὶν ἀρχαὶ καὶ αἰτία γεννητὰ καὶ 30 φθαρτὰ ἄνευ τοῦ γίνεσθαι καὶ φθειρεσθαι, φανερόν. εἰ γὰρ μὴ τοῦτ', ἐξ ἀνάγκης πάντ' ἔσται, εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκός αἰτιόν τι ἀνάγκη εἶναι. πότερον γὰρ ἔσται τοδὶ ἢ οὐ; εἴαν γε τοδὶ γένηται· εἰ δὲ μὴ, οὐ. τοῦτο δὲ εἴαν' ἄλλο. καὶ οὕτω δῆλον ὅτι ἀεὶ 1027^b χρόνου ἀφαιρουμένου ἀπὸ πεπερασμένου χρόνου ἦξει ἐπὶ τὸ νῦν· ὥστε οὐδὲ ἀποθανεῖται νόσω ἢ βία, εἴαν γε ἐξέλθῃ· τοῦτο δὲ εἴαν διψήσῃ· τοῦτο δὲ εἴαν ἄλλο· καὶ οὕτως ἦξει εἰς ὃ νῦν ὑπάρχει, ἢ εἰς τῶν γεγονότων τι. οἷον εἴαν διψήσῃ· τοῦτο δ' εἰ ἐσθίει 5 δριμέα· τοῦτο δ' ἦτοι ὑπάρχει ἢ οὐ· ὥστ' ἐξ ἀνάγκης ἀποθανεῖται ἢ οὐκ ἀποθανεῖται. ὁμοίως δὲ κἂν ὑπερπηδήσῃ τις εἰς τὰ γενόμενα, ὃ αὐτὸς λόγος· ἤδη γὰρ ὑπάρχει τοῦτο ἐν τινι,

¹ εἴαν om. EJ Asclepius.

² νόσω ἢ secl. Ross.

it is clear that there is no science of the accidental—because all scientific knowledge is of that which is *always* or *usually* so. How else indeed can one learn it or teach it to another? For a fact must be defined by being so always or usually; e.g., honey-water is usually beneficial in case of fever. But science will 13 not be able to state the exception to the rule: when it is not beneficial—e.g. at the new moon; because that which happens at the new moon also happens either always or usually; but the accidental is contrary to this. We have now explained the nature and cause of the accidental, and that there is no science of it.

III. It is obvious that there are principles and causes which are generable and destructible apart from the actual processes of generation and destruction^a; for if this is not true, everything will be of necessity: that is, if there must necessarily be some cause, other than accidental, of that which is generated and destroyed. Will A be, or not? Yes, if B happens; otherwise not. And B will happen if C does. It is clear that in this way, as time is continu- 2 ally subtracted from a limited period, we shall come to the present. Accordingly So-and-so will die by disease or violence if he goes out; and this if he gets thirsty; and this if something else happens; and thus we shall come to what is the case now, or to something which has already happened. E.g. "if he is thirsty"; this will happen if he is eating pungent food, and this is either the case or not. Thus of necessity he will either die or not die. And 3 similarly if one jumps over to the past, the principle is the same; for this—I mean that which has just happened—is already present in something. Every-

If no cause is purely accidental, everything must be of necessity.

^a On the analogy of accidental events; see ii. 5.

1027 b

λέγω δὲ τὸ γεγονός· ἐξ ἀνάγκης ἄρα πάντα ἔσται
τὰ ἐσόμενα, οἷον τὸ ἀποθανεῖν τὸν ζῶντα· ἥδη γάρ
10 τι γέγονεν, οἷον τὰ ἐναντία ἐν τῷ αὐτῷ σώματι·
ἀλλ' εἰ νόσῳ ἢ βία, οὐπω, ἀλλὰ ἐὰν τοδὶ γένηται.
δηλον ἄρα ὅτι μέχρι τινὸς βαδίζει ἀρχῆς, αὕτη δ'
οὐκέτι εἰς ἄλλο. ἔσται οὖν ἡ τοῦ ὁπότερ' ἔτυχεν
αὕτη, καὶ αἴτιον τῆς γενέσεως αὐτῆς ἄλλο οὐθέν.
ἀλλ' εἰς ἀρχὴν ποίαν καὶ αἴτιον ποῖον ἢ ἀναγωγῆ
15 ἢ τοιαύτη, πότερον ὡς εἰς ὕλην ἢ ὡς εἰς τὸ οὐ
ἐνεκα ἢ ὡς εἰς τὸ κινήσαν, μάλιστα σκεπτέον.

IV. Περὶ μὲν οὖν τοῦ κατὰ συμβεβηκός ὄντος
ἀφείσθω· διώριστα γὰρ ἰκανῶς· τὸ δὲ ὡς ἀληθές
ὄν, καὶ μὴ ὄν ὡς ψεῦδος, ἐπειδὴ παρὰ συνθεσίν
20 ἔστι καὶ διαίρεσιν, τὸ δὲ σύνολον περὶ μερισμὸν
ἀντιφάσεως (τὸ μὲν γὰρ ἀληθές τὴν κατάφασιν
ἐπὶ τῷ συγκεκριμένῳ ἔχει, τὴν δ' ἀπόφασιν ἐπὶ τῷ
διηρημένῳ, τὸ δὲ ψεῦδος τούτου τοῦ μερισμοῦ
τὴν ἀντίφασιν· πῶς δὲ τὸ ἅμα ἢ τὸ χωρὶς νοεῖν
συμβαίνει, ἄλλος λόγος· λέγω δὲ τὸ ἅμα καὶ τὸ
25 χωρὶς ὥστε μὴ τὸ ἐφεξῆς ἀλλ' ἐν τι γίνεσθαι).
οὐ γάρ ἔστι τὸ ψεῦδος καὶ τὸ ἀληθές ἐν τοῖς
πράγμασι, οἷον τὸ μὲν ἀγαθὸν ἀληθές, τὸ δὲ
κακὸν εὐθὺς ψεῦδος, ἀλλ' ἐν διανοίᾳ· περὶ δὲ τὰ
ἀπλᾶ καὶ τὰ τί ἔστιν οὐδ' ἐν τῇ διανοίᾳ—ὅσα
μὲν οὖν δεῖ θεωρῆσαι περὶ τὸ οὕτως ὄν καὶ μὴ
30 ὄν, ὕστερον ἐπισκεπτέον. ἐπεὶ δὲ ἡ συμπλοκὴ
ἔστιν καὶ ἡ διαίρεσις ἐν διανοίᾳ ἀλλ' οὐκ ἐν τοῖς
πράγμασι, τὸ δ' οὕτως ὄν ἔτερον ὄν τῶν κυρίως

¹ περὶ recc.

^a sc., "or not as a unity but as a succession" (this is separating in thought).

thing, then, which is to be, will be of necessity; e.g., he who is alive must die—for some stage of the process has been reached already; e.g., the contraries are present in the same body—but whether by disease or violence is not yet determined; it depends upon whether so-and-so happens. Clearly, then, the 4 series goes back to some starting-point, which does not go back to something else. This, therefore, will be the starting-point of the fortuitous, and nothing else is the cause of its generation. But to what sort of starting-point and cause this process of tracing back leads, whether to a material or final or moving cause, is a question for careful consideration.

IV. So much, then, for the accidental sense of "being"; we have defined it sufficiently. As for "being" *qua* truth, and "not-being" *qua* falsity, since they depend upon combination and separation, and taken together are concerned with the arrangement of the parts of a contradiction (since the true has affirmation when the subject and predicate are combined, and negation where they are divided; but the false has the contrary arrangement. How 2 it happens that we combine or separate in thought is another question. By "combining or separating in thought" I mean thinking them not as a succession but as a unity^a); for "falsity" and "truth" are not in things—the good, for example, being true, and the bad false—but in thought; and with regard to simple concepts and essences there is no truth or falsity even in thought;—what points we must study 3 in connexion with being and not-being in this sense, we must consider later. But since the combination and separation exists in thought and not in things, and this sense of "being" is different from the proper

Being as truth is not being in the primary sense.

1027^b

(ἢ γὰρ τὸ τί ἐστίν ἢ ὅτι ποιὸν ἢ ὅτι ποσὸν ἢ εἴ τι ἄλλο συνάπτει ἢ ἀφαιρεῖ ἢ διάνοια), τὸ μὲν ὡς συμβεβηκὸς καὶ τὸ ὡς ἀληθὲς ὄν ἀφετέον· τὸ

1028^a γὰρ αἴτιον τοῦ μὲν ἀόριστον, τοῦ δὲ τῆς διανοίας τι πάθος, καὶ ἀμφότερα περὶ τὸ λοιπὸν γένος τοῦ ὄντος, καὶ οὐκ ἔξω δηλοῦσιν οὐδ' ἂν τινα φύσιν τοῦ ὄντος· διὸ ταῦτα μὲν ἀφείσθω, σκεπτέον δὲ τοῦ ὄντος αὐτοῦ τὰ αἴτια καὶ τὰς ἀρχὰς ἢ ὄν.
⁵ [φανερὸν δ' ἐν οἷς διωρισάμεθα περὶ τοῦ ποσαχῶς λέγεται ἕκαστον, ὅτι πολλαχῶς λέγεται τὸ ὄν.]¹

¹ φανερὸν . . . ὄν damnait Christ.

senses (since thought attaches or detaches essence or quality or quantity or some other category), we may dismiss the accidental and real senses^a of "being." For the cause of the one is indeterminate,⁴ and of the other an affection of thought; and both are connected with the remaining genus of "being," and do not indicate any objective reality. Let us therefore dismiss them, and consider the causes and principles of Being itself *qua* Being. [We have made it clear in our distinction of the number of senses in which each term is used that "being" has several senses.]^b

^a i.e., the senses in which the verb "to be" is used to express an accidental or a true relation.

^b This sentence is almost certainly a later and clumsy addition to show the connexion with the following book.

10 I. Τὸ ὄν λέγεται πολλαχῶς, καθάπερ διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς· σημαίνει γὰρ τὸ μὲν τί ἐστὶ καὶ τόδε τι, τὸ δὲ ποιὸν ἢ ποσὸν ἢ τῶν ἄλλων ἕκαστον τῶν οὕτω κατηγορουμένων. τοσαυταχῶς δὲ λεγομένου τοῦ ὄντος φανερόν ἐστι τούτων πρῶτον ὄν τὸ τί ἐστίν, ὅπερ
15 σημαίνει τὴν οὐσίαν· ὅταν μὲν γὰρ εἴπωμεν ποιὸν τι τόδε, ἢ ἀγαθὸν λέγομεν ἢ κακόν, ἀλλ' οὐ τρίπηχυν ἢ ἄνθρωπον· ὅταν δὲ τί ἐστίν, οὐ λευκὸν οὐδὲ θερμὸν οὐδὲ τρίπηχυν, ἀλλὰ ἄνθρωπον ἢ θεόν. τὰ δ' ἄλλα λέγεται ὄντα τῷ τοῦ οὕτως ὄντος τὰ μὲν ποσότητες εἶναι, τὰ δὲ ποιότητες,² τὰ δὲ πάθη, τὰ
20 δὲ ἄλλο τι τοιοῦτον. Διὸ κἂν ἀπορήσειε τις πότερον τὸ βαδίζειν καὶ τὸ ὑγιαίνειν καὶ τὸ καθῆσθαι ἕκαστον αὐτῶν ὄν σημαίνει,³ ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων ὁτουοῦν τῶν τοιούτων· οὐδὲν γὰρ αὐτῶν ἐστὶν οὔτε καθ' αὐτὸ πεφυκὸς οὔτε χωρίζεσθαι δυνατὸν τῆς οὐσίας, ἀλλὰ μᾶλλον, εἴπερ, τὸ βαδίζειν
25 τῶν ὄντων τι⁴ καὶ τὸ καθήμενον καὶ τὸ ὑγιαίνον. ταῦτα δὲ μᾶλλον φαίνεται ὄντα, διότι ἐστὶ τι τὸ

¹ δὲ ἔτι E.J.F.

² ποσότητος . . . ποιότητος E.J.

³ σημαίνει A^b: ἢ μὴ ἔν.

⁴ τι om. A^b Alexander.

I. The term "being" has several senses, which we have classified in our discussion^a of the number of senses in which terms are used. It denotes first the "what" of a thing, i.e. the individuality; and then the quality or quantity or any other such category. Now of all these senses which "being" has, the primary sense is clearly the "what," which denotes the *substance* (because when we describe the quality of a particular thing we say that it is "good" or "bad," and not "five feet high" or "a man"; but when we describe *what* it is, we say not that it is "white" or "hot" or "five feet high," but that it is "a man" or "a god"), and all other things are said to "be" because they are either quantities or qualities or affections or some other such thing.

Hence one might raise the question whether the terms "to walk" and "to be well" and "to sit" signify each of these things as "being," or not; and similarly in the case of any other such terms; for not one of them by nature has an independent existence or can be separated from its substance. Rather, if anything it is the *thing* which walks or sits or is well that is existent. The reason why these⁴ terms are more truly existent is because their subject

BOOK VII.
SUBSTANCE.
"Being" in
the primary
sense is
Substance.

1028 a ὑποκείμενον αὐτοῖς ὠρισμένον· τοῦτο δ' ἐστὶν ἡ οὐσία καὶ τὸ καθ' ἕκαστον, ὅπερ ἐμφαίνεται ἐν τῇ κατηγορίᾳ τῇ τοιαύτῃ· τὸ ἀγαθὸν γὰρ ἢ τὸ καθήμενον οὐκ ἄνευ τούτου λέγεται. δῆλον οὖν ὅτι διὰ 30 ταύτην κἀκείνων ἕκαστον ἐστίν, ὥστε τὸ πρῶτως ὄν καὶ οὐ τί ὄν ἀλλ' ὄν ἀπλῶς ἡ οὐσία ἄν εἴη. Πολλὰ μὲν οὖν λέγεται τὸ πρῶτον· ὁμως δὲ πάντως¹ ἡ οὐσία πρῶτον καὶ λόγῳ καὶ γνώσει καὶ χρόνῳ. τῶν μὲν γὰρ ἄλλων κατηγορημάτων οὐθέν χωριστόν, αὐτῇ δὲ μόνη· καὶ τῷ λόγῳ δὲ τοῦτο πρῶτον· 35 ἀνάγκη γὰρ ἐν τῷ ἐκάστου λόγῳ τὸν τῆς οὐσίας ἐνυπάρχειν· καὶ εἰδέναι δὲ² τότ' οἴομεθα ἕκαστον μάλιστα, ὅταν τί ἐστίν ὁ ἄνθρωπος γινώμεν ἢ τὸ 1028 b πῦρ, μᾶλλον ἢ τὸ ποιὸν ἢ τὸ ποσὸν ἢ τὸ πού, ἐπεὶ καὶ αὐτῶν τούτων τότε ἕκαστον ἴσμεν ὅταν τί ἐστὶ τὸ ποσὸν ἢ τὸ ποιὸν γινώμεν. καὶ δὴ καὶ τὸ πάλαι τε καὶ νῦν καὶ αἰεὶ ζητούμενον καὶ αἰεὶ ἀπορούμενον, τί τὸ ὄν, τοῦτό ἐστι, τίς ἡ οὐσία· τοῦτο γὰρ οἱ μὲν 5 ἐν εἶναί φασιν, οἱ δὲ πλείω ἢ ἓν, καὶ οἱ μὲν πεπερασμένα, οἱ δὲ ἄπειρα· διὸ καὶ ἡμῶν καὶ μάλιστα καὶ πρῶτον καὶ μόνον ὧς εἰπεῖν περὶ τοῦ οὕτως ὄντος θεωρητέον τί ἐστίν.

II. Δοκεῖ δ' ἡ οὐσία ὑπάρχειν φανερώτατα μὲν τοῖς σώμασιν· διὸ τὰ τε ζῶα καὶ τὰ φυτὰ καὶ τὰ μόρια 10 αὐτῶν οὐσίας εἶναι φάμεν, καὶ τὰ φυσικὰ σώματα, οἶον πῦρ καὶ ὕδωρ καὶ γῆν καὶ τῶν τοιούτων ἕκαστον, καὶ ὅσα ἢ μόρια τούτων ἢ ἐκ τούτων ἐστίν, ἢ μορίων ἢ πάντων, οἶον ὁ τε οὐρανὸς καὶ τὰ μόρια

¹ πάντως A^b γρ E: πάντων.

² δὲ om. A^b.

^a The Milesians and Eleatics.

^b The Pythagoreans and Empedocles.

^c Anaxagoras and the Atomists.

is something definite; *i.e.* the substance and the individual, which is clearly implied in a designation of this kind, since apart from it we cannot speak of "the good" or "the sitting." Clearly then it is by reason of the substance that each of the things referred to exists. Hence that which is primarily, 5 not in a qualified sense but absolutely, will be substance.

Now "primary" has several meanings; but 7
nevertheless substance is primary in all senses, both in definition and in knowledge and in time. For none of the other categories can exist separately, but substance alone; and it is primary also in definition, 6 because in the formula of each thing the formula of substance must be inherent; and we assume that we know each particular thing most truly when we know *what* "man" or "fire" is—rather than its quality or quantity or position; because we know each of these points too when we know *what* the quantity or quality is. Indeed, the question which 7 was raised long ago, is still and always will be, and which always baffles us—"What is Being?"—is in other words "What is substance?" Some say that it is one^a; others, more than one; some, finite^b; others, infinite.^c And so for us too our chief and primary and practically our only concern is to investigate the nature of "being" in the sense of substance.

II. Substance is thought to be present most obviously in bodies. Hence we call animals and plants and their parts substances, and also natural bodies, such as fire, water, earth, etc., and all things which are parts of these or composed of these, either of parts of them or of their totality; *e.g.* the visible

Substance is primary in all senses of the word.

Hence substance is the main subject of our inquiry.

Different views about substance.

1028 b

αὐτοῦ, ἄστρα καὶ σελήνη καὶ ἥλιος. πότερον δὲ αὐται μόναι οὐσίαι εἰσὶν ἢ καὶ ἄλλαι, ἢ τούτων
 15 τινὲς ἢ καὶ ἄλλαι,¹ ἢ τούτων μὲν οὐθέν ἕτεραι δέ
 τινες, σκεπτέον. δοκεῖ δὲ τισι τὰ τοῦ σώματος
 πέρατα, ὅον ἐπιφάνεια καὶ γραμμὴ καὶ στιγμὴ
 καὶ μονάς, εἶναι οὐσίαι, καὶ μᾶλλον ἢ τὸ σῶμα
 καὶ τὸ στερεόν. ἔτι παρὰ τὰ αἰσθητὰ οἱ μὲν οὐκ
 20 μᾶλλον ὄντα αἰδία, ὥσπερ Πλάτων τά τε εἶδη καὶ
 τὰ μαθηματικὰ δύο οὐσίας, τρίτην δὲ τὴν τῶν
 αἰσθητῶν σωμάτων οὐσίαν, Σπενύσιππος δὲ καὶ
 πλείους οὐσίας ἀπὸ τοῦ ἑνὸς ἀρξάμενος, καὶ ἀρχὰς
 ἐκάστης οὐσίας ἄλλην μὲν ἀριθμῶν, ἄλλην δὲ
 25 μεγεθῶν, ἔπειτα ψυχῆς· καὶ τοῦτον δὴ τὸν τρόπον
 ἔπεκτείνει τὰς οὐσίας. ἔνιοι δὲ τὰ μὲν εἶδη καὶ τοὺς
 ἀριθμοὺς τὴν αὐτὴν ἔχειν φασὶ φύσιν, τὰ δὲ ἄλλα
 ἐχόμενα, γραμμὰς καὶ ἐπίπεδα, μέχρι πρὸς τὴν τοῦ
 οὐρανοῦ οὐσίαν καὶ τὰ αἰσθητά. περὶ δὲ τούτων
 30 τί λέγεται καλῶς ἢ μὴ καλῶς, καὶ τίνες εἰσὶν
 οὐσίαι, καὶ πότερον εἰσὶ τινες παρὰ τὰς αἰσθητάς
 ἢ οὐκ εἰσὶ, καὶ αὐται πῶς εἰσὶ, καὶ πότερόν ἔστι
 τις χωριστὴ οὐσία, καὶ διὰ τί καὶ πῶς, ἢ οὐδεμία
 παρὰ τὰς αἰσθητάς, σκεπτέον, ὑποτυπωσαμένους
 τὴν οὐσίαν πρῶτον τί ἔστιν.

III. Λέγεται δ' ἡ οὐσία, εἰ μὴ πλεοναχῶς, ἀλλ' ἐν
 35 τέτταρσί γε μάλιστα· καὶ γὰρ τὸ τί ἦν εἶναι καὶ τὸ
 καθόλου καὶ τὸ γένος οὐσία δοκεῖ εἶναι ἐκάστου,

¹ ἢ τούτων τινὲς ἢ καὶ ἄλλαι T: ἢ . . . ἄλλων EJ Asclepius:
 ἢ τούτων τινὲς καὶ ἄλλων A^b: om. Γ' Alexander.

^a The Pythagoreans.

^b The pre-Socratics.

^c Plato's nephew and successor as head of the Academy.

^d The followers of Xenocrates, successor to Speusippus.

universe and its parts, the stars and moon and sun. We must consider whether (a) these are the only 2 substances, or (b) these and some others, or (c) some of these, or (d) some of these and some others, or (e) none of these, but certain others. Some ^a hold that the bounds of body—i.e. the surface, line, point and unit—are substances, and in a truer sense than body or the solid. Again, some ^b believe that there is 3 nothing of this kind besides sensible things, while others believe in eternal entities more numerous and more real than sensible things. Thus Plato posited the Forms and the objects of mathematics as two kinds of substance, and as a third the substance of sensible bodies; and Speusippus ^c assumed still more 4 kinds of substances, starting with “the One,” and positing principles for each kind: one for numbers, another for magnitudes, and then another for the soul. In this way he multiplies the kinds of substance. Some ^d again hold that the Forms and numbers have the same nature, and that other things—lines and planes—are dependent upon them; and so on back to the substance of the visible universe and sensible things. We must consider, then, with 5 regard to these matters, which of the views expressed is right and which wrong; and what things are substances; and whether there are any substances besides the sensible substances, or not; and how sensible substances exist; and whether there is any separable substance (and if so, why and how) or no substance besides the sensible ones. We must first give a rough sketch of what substance is.

III. The term “substance” is used, if not in more, at least in four principal cases; for both the essence and the universal and the genus are held to be

The term “substance” is applied to essence,

1028 b καὶ τέταρτον τούτων τὸ ὑποκείμενον. τὸ δ' ὑπο-
κείμενόν ἐστι καθ' οὗ τὰ ἄλλα λέγεται, ἐκείνο δὲ
1029 a αὐτὸ μηκέτι κατ' ἄλλου· διὸ πρῶτον περὶ τούτου
διοριστέον· μάλιστα γὰρ δοκεῖ εἶναι οὐσία τὸ ὑπο-
κείμενον πρῶτον. Τοιοῦτον δὲ τρόπον μὲν τινα
ἢ ὕλη λέγεται, ἄλλον δὲ τρόπον ἢ μορφή, τρίτον
δὲ τὸ ἐκ τούτων· λέγω δὲ τὴν μὲν ὕλην οἶον τὸν
5 χαλκόν, τὴν δὲ μορφήν τὸ σχῆμα τῆς ιδέας, τὸ δ'
ἐκ τούτων τὸν ἀνδριάντα τὸ σύνολον· ὥστε εἰ τὸ
εἶδος τῆς ὕλης πρότερον καὶ μᾶλλον ὄν, καὶ τοῦ
ἐξ ἀμφοῖν πρότερον ἔσται διὰ τὸν αὐτὸν λόγον.

Νῦν μὲν οὖν τύπῳ εἴρηται τί ποτ' ἐστὶν ἡ οὐσία,
ὅτι τὸ μὴ καθ' ὑποκειμένου ἀλλὰ καθ' οὗ τὰ ἄλλα·
10 δεῖ δὲ μὴ μόνον οὕτως· οὐ γὰρ ἰκανόν· αὐτὸ τε γὰρ
τοῦτο ἄδηλον, καὶ ἔτι ἡ ὕλη οὐσία γίγνεται. εἰ
γὰρ μὴ αὕτη οὐσία, τίς ἐστὶν ἄλλη διαφεύγει·
περιαιρουμένων γὰρ τῶν ἄλλων οὐ φαίνεται οὐδὲν
ὑπομένον. τὰ μὲν γὰρ ἄλλα τῶν σωμάτων πάθη
καὶ ποιήματα καὶ δυνάμεις, τὸ δὲ μῆκος καὶ
15 πλάτος καὶ βάθος ποσότητές τινες ἀλλ' οὐκ οὐσίαι·
τὸ γὰρ ποσὸν οὐκ οὐσία, ἀλλὰ μᾶλλον ὧ ὑπάρχει
ταῦτα πρῶτον, ἐκείνὸ ἐστὶν οὐσία.¹ ἀλλὰ μὴν
ἀφαιρουμένου μήκους καὶ πλάτους καὶ βάθους
οὐδὲν ὀρῶμεν ὑπολειπόμενον, πλὴν εἴ τί ἐστι τὸ
ὀριζόμενον ὑπὸ τούτων, ὥστε τὴν ὕλην ἀνάγκη
20 φαίνεσθαι μόνην οὐσίαν οὕτω σκοπούμενοις. λέγω
δ' ὕλην ἢ καθ' αὐτὴν μήτε τί μήτε ποσὸν μήτε

¹ ἡ οὐσία EJ.

the substance of the particular, and fourthly the ^{universal, genus, and above all to} substrate. The substrate is that of which the rest are predicated, while it is not itself predicated of anything else. Hence we must first determine its nature, for the primary substrate is considered to be in the truest sense substance.

Now in one sense we call the *matter* the substrate ; 2 in another, the *shape* ; and in a third, the combination of the two. By matter I mean, for instance, bronze ; by shape, the arrangement of the form ; and by the combination of the two, the concrete thing : the statue. Thus if the form is prior to the matter and more truly existent, by the same argument it will also be prior to the combination.

We have now stated in outline the nature of sub- 3 stance—that it is not that which is predicated of a subject, but that of which the other things are predicated. But we must not merely define it so, for it is not enough. Not only is the statement itself obscure, but also it makes matter substance ; for if matter is not substance, it is beyond our power to say what else is. For when everything else is removed, 4 clearly nothing but matter remains ; because all the other things are affections, products and potencies of bodies, and length, breadth and depth are kinds of quantity, and not substances. For quantity is not a substance ; rather the substance is that to which these affections primarily belong. But when we take 5 away length and breadth and depth we can see nothing remaining, unless it be the something bounded by them ; so that on this view matter must appear to be the only substance. By matter I mean that which in itself is neither a particular thing nor a quantity nor designated by any of the categories

1029^a ἄλλο μηδὲν λέγεται οἷς ὄρισται τὸ ὄν. ἔστι γάρ
 τι καθ' οὗ κατηγορεῖται τούτων ἕκαστον, ᾧ τὸ
 εἶναι ἕτερον καὶ τῶν κατηγοριῶν ἐκάστη· τὰ μὲν
 γὰρ ἄλλα τῆς οὐσίας κατηγορεῖται, αὕτη δὲ τῆς
 ὕλης. ὥστε τὸ ἔσχατον καθ' αὐτὸ οὔτε τί οὔτε
 25 ποσὸν οὔτε ἄλλο οὐδὲν ἔστιν· οὐδὲ δὴ αἱ ἀπο-
 φάσεις· καὶ γὰρ αὐταὶ ὑπάρξουσι κατὰ συμβεβηκός.

Ἐκ μὲν οὖν τούτων θεωροῦσι συμβαίνει οὐσίαν
 εἶναι τὴν ὕλην· ἀδύνατον δέ· καὶ γὰρ τὸ χωριστὸν
 καὶ τὸ τὸδε τι ὑπάρχειν δοκεῖ μάλιστα τῇ οὐσίᾳ,
 διὸ τὸ εἶδος καὶ τὸ ἐξ ἀμφοῖν οὐσία δόξειεν ἂν
 30 εἶναι μᾶλλον τῆς ὕλης. τὴν μὲν τοίνυν ἐξ ἀμφοῖν
 οὐσίαν, λέγω δὲ τὴν ἐκ τε τῆς ὕλης καὶ τῆς μορφῆς,
 ἀφετέον· ὑστέρα γὰρ καὶ δήλη· φανερὰ δὲ πως καὶ
 ἡ ὕλη· περὶ δὲ τῆς τρίτης σκεπτέον, αὕτη γὰρ
 ἀπορωτάτη.

Ὁμολογοῦνται δ' οὐσίαι εἶναι τῶν αἰσθητῶν
 1029^b τινες, ὥστε ἐν ταύταις ζητητέον πρῶτον. IV. «πρὸ
 ἔργου γὰρ τὸ μεταβαίνειν εἰς τὸ γνωριμώτερον. ἡ
 γὰρ μάθησις οὕτω γίγνεται πᾶσι διὰ τῶν ἡττων
 5 γνωρίμων φύσει εἰς τὰ γνώριμα μᾶλλον· καὶ τοῦτο
 ἔργον ἔστιν, ὥσπερ ἐν ταῖς πράξεσι τὸ ποιῆσαι
 ἐκ τῶν ἐκάστω ἀγαθῶν τὰ ὅλως ἀγαθὰ ἐκάστω
 ἀγαθὰ, οὕτως ἐκ τῶν αὐτῶ γνωριμωτέρων τὰ τῇ
 φύσει γνώριμα αὐτῶ γνώριμα. τὰ δ' ἐκάστοις
 γνώριμα καὶ πρῶτα πολλάκις ἡρέμα ἔστι γνώριμα,

^a sc. by nature. All learning proceeds by induction from that which is intelligible to us (i.e., the complex facts and objects of our experience, which are bound up with sensation and therefore less intelligible in themselves), to that which is intelligible in itself (i.e., the simple universal principles of scientific knowledge).

which define Being. For there is something of which 6
 each of these is predicated, whose being is different
 from that of each one of the categories; because all
 other things are predicated of substance, but this is
 predicated of matter. Thus the ultimate substrate
 is in itself neither a particular thing nor a quantity
 nor anything else. Nor indeed is it the negations
 of these; for the negations too will only apply to it
 accidentally.

If we hold this view, it follows that matter is sub- 7
 stance. But this is impossible; for it is accepted
 that separability and individuality belong especially
 to substance. Hence it would seem that the form
 and the combination of form and matter are more
 truly substance than matter is. The substance, then, 8
 which consists of both—I mean of matter and form
 —may be dismissed, since it is posterior and obvious.
 Matter too is in a sense evident. We must consider
 the third type, for this is the most perplexing.

Now it is agreed that some sensible things are sub-
 stances, and so we should begin our inquiry in con-
 nexion with these. IV. It is convenient to advance to 2
 the more intelligible^a; for learning is always acquired
 in this way, by advancing through what is less in-
 telligible by nature to what is more so. And just
 as in actions it is our task to start from the good of
 the individual and make absolute good good for
 the individual,^b so it is our task to start from what
 is more intelligible to oneself and make what is by
 nature intelligible intelligible to oneself. Now that 3
 which is intelligible and primary to individuals is
 often but slightly intelligible, and contains but little

^b Cf. *Ethics* 1129 b 5.

1029 b

10 καὶ μικρὸν ἢ οὐθὲν ἔχει τοῦ ὄντος· ἀλλ' ὁμως ἐκ
 11 τῶν φαύλως μὲν γνωστῶν, αὐτῷ δὲ γνωστῶν, τὰ
 12 ὅλως γνωστὰ γινῶναι πειρατέον, μεταβαίνοντας,
 ὡς περ εἴρηται, διὰ τούτων αὐτῶν.¹
 1 Ἐπεὶ δ' ἐν ἀρχῇ διειλόμεθα πόσοις ὀρίζομεν τὴν
 2 οὐσίαν, καὶ τούτων ἐν τι ἐδόκει εἶναι τὸ τί ἦν εἶναι,
 13 θεωρητέον περὶ αὐτοῦ. καὶ πρῶτον εἴπωμεν ἕνα
 περὶ αὐτοῦ λογικῶς, ὅτι ἐστὶ τὸ τί ἦν εἶναι ἐκάστου²
 δ λέγεται καθ' αὐτό. οὐ γὰρ ἐστὶ τὸ σοὶ εἶναι τὸ
 15 μουσικῶ εἶναι· οὐ γὰρ κατὰ σαυτὸν εἰ μουσικός.
 ὁ ἄρα κατὰ σαυτὸν. οὐδὲ δὴ τοῦτο πᾶν· οὐ γὰρ τὸ
 οὕτως καθ' αὐτό ὡς ἐπιφανεία³ λευκόν, ὅτι οὐκ
 ἐστὶ τὸ ἐπιφανεία εἶναι τὸ λευκῶ εἶναι. ἀλλὰ μὴν
 οὐδὲ τὸ ἐξ ἀμφοῖν τὸ ἐπιφανεία λευκῆ εἶναι. διὰ
 20 τί;⁴ ὅτι πρόσεστιν αὐτό. ἐν ᾧ ἄρα μὴ ἐνέσται
 λόγῳ αὐτό, λέγοντι αὐτό, οὗτος ὁ λόγος τοῦ τί ἦν
 εἶναι ἐκάστῳ· ὡστ' εἰ τὸ ἐπιφανεία λευκῆ εἶναι
 ἐστὶ τὸ ἐπιφανεία εἶναι λεῖα, τὸ λευκῶ καὶ λεῖω
 εἶναι τὸ αὐτὸ καὶ ἐν. Ἐπεὶ δ' ἐστὶ καὶ κατὰ
 τὰς ἄλλας κατηγορίας σύνθετα (ἐστὶ γὰρ τι ὑπο-
 κείμενον ἐκάστῳ, οἷον τῷ ποιῶ καὶ τῷ ποσῶ καὶ
 25 τῷ ποτέ καὶ τῷ πού καὶ τῇ κινήσει), σκεπτέον ἄρ'
 ἐστὶ λόγος τοῦ τί ἦν εἶναι ἐκάστῳ αὐτῶν, καὶ
 ὑπάρχει καὶ τούτοις τὸ τί ἦν εἶναι, οἷον λευκῶ

¹ πρὸ ἔργου . . . αὐτῶν hic ponenda censuit Bonitz: habent
 codd. post περὶ αὐτοῦ infra.

² Ross: ἐκάστῳ Bonitz: ἐκαστον.

³ ἐπιφάνεια A^b. ⁴ διὰ τί; om. A^b Alexander.

^a c. iii. 1.

^b Cf. V. xviii. 3, 4.

^c The statement that "to be a white surface" is the
 same as "to be a smooth surface" tells us nothing fresh

reality; but nevertheless, starting from that which is
 imperfectly intelligible but intelligible to oneself,
 we must try to understand the absolutely intelligible;
 advancing, as we have said, by means of these very
 things which are intelligible to us.

Since we distinguished at the beginning^a the
 number of ways in which substance is defined, and
 since one of these appeared to be essence, we must
 investigate this. First, let us make certain linguistic
 statements about it.

The essence of each thing is that which it is said
 to be *per se*. "To be you" is not "to be cultured,"
 because you are not of your own nature cultured.
 Your essence, then, is that which you are said to be
 of your own nature. But not even all of this is the
 essence; for the essence is not that which is said to
 be *per se* in the sense that whiteness is said to belong
 to a surface,^b because "being a surface" is not
 "being white." Nor is the essence the combination
 of both, "being a white surface." Why? Because
 the word itself is repeated. Hence the formula of
 the essence of each thing is that which defines the
 term but does not contain it. Thus if "being a white
 surface" is the same as "being a smooth surface,"
 "white" and "smooth" are one and the same.^c

But since in the other categories too there are com-
 pounds with substance (because there is a substrate
 for each category, e.g. quality, quantity, time, place
 and motion), we must inquire whether there is a
 formula of the essence of each one of them; whether
 about surface; it simply identifies "white" with "smooth."
 Aristotle has in mind Democritus's theory of colour (that it is
 an impression conveyed to our eyes from the superficial
 texture of the object; Theophrastus, *De Sensu* 73-75); cf.
De Sensu 442 b 11, *De Gen. et Corr.* 316 a 1.

1029 b

ἀνθρώπων [τί ἦν λευκῶ ἀνθρώπων].¹ ἔστω δὴ ὄνομα αὐτῶ ἱμάτιον. τί ἐστι τὸ ἱματίω εἶναι;

Ἄλλα μὴν οὐδὲ τῶν καθ' αὐτὸ λεγομένων οὐδὲ

30 τοῦτο. ἢ τὸ οὐ καθ' αὐτὸ λέγεται διχῶς, καὶ τοῦτου ἐστὶ τὸ μὲν ἐκ προσθέσεως, τὸ δὲ οὐ. τὸ μὲν γὰρ τῶ αὐτὸ ἄλλω προσκείσθαι λέγεται ὃ ὀρίζεται, οἷον εἰ τὸ λευκῶ εἶναι ὀριζόμενος λέγει λευκοῦ ἀνθρώπου λόγον· τὸ δὲ τῶ ἄλλο αὐτῶ, οἷον εἰ σημαίνει τὸ ἱμάτιον λευκὸν ἀνθρώπων, ὃ δὲ ὀρίζοιτο

1030 a τὸ ἱμάτιον ὡς λευκόν. τὸ δὲ λευκὸς ἀνθρωπὸς ἐστὶ μὲν λευκόν, οὐ μέντοι <τὸ>² τί ἦν εἶναι λευκῶ εἶναι. ἀλλὰ τὸ ἱματίω εἶναι ἄρα ἐστὶ τί ἦν εἶναι τι [ἦ]³ ὅλως; ἢ οὐ; ὅπερ γὰρ τίς ἐστι τὸ τί ἦν εἶναι· ὅταν δ' ἄλλο καθ' ἄλλου λέγηται, οὐκ
5 ἐστὶν ὅπερ τόδε τι, οἷον ὃ λευκὸς ἀνθρώπος οὐκ ἐστὶν ὅπερ τόδε τι, εἴπερ τὸ τόδε τι ταῖς οὐσίαις ὑπάρχει μόνον· ὥστε τὸ τί ἦν εἶναι ἐστὶν ὅσων ὃ λόγος ἐστὶν ὀρισμός. ὀρισμός δ' ἐστὶν οὐκ ἂν ὄνομα λόγῳ ταῦτο σημαίνῃ (πάντες γὰρ ἂν εἶεν οἱ λόγοι ὅροι· ἐσται γὰρ ὄνομα ὄρωον λόγῳ,⁴ ὥστε
10 καὶ ἡ Ἰλιάς ὀρισμός ἐσται), ἀλλ' εἰάν πρώτου τινὸς ἦ· τοιαῦτα δ' ἐστὶν ὅσα λέγεται μὴ τῶ ἄλλο καθ' ἄλλου λέγεσθαι. οὐκ ἐσται ἄρα οὐδενὶ τῶν μὴ γένους εἰδῶν ὑπάρχον τὸ τί ἦν εἶναι, ἀλλὰ τούτοις μόνον· ταῦτα γὰρ δοκεῖ οὐ κατὰ μετοχὴν λέγεσθαι καὶ πάθος, οὐδ' ὡς συμβεβηκός· ἀλλὰ λόγος μὲν
15 ἐσται ἐκάστου καὶ τῶν ἄλλων τί σημαίνει, εἰάν ἦ

¹ om. A^b. ² ὀρίζοιτο τὸ E²: ὀρίζοι τὸ E¹: ὀρίζοιτο cet.

³ Ross. ⁴ Bonitz. ⁵ τί: τι ἦν εἶναι E^J.

⁶ λόγῳ ταῦτων E^JG.

^o Literally "cloak," but the word is chosen quite arbitrarily. Cf. VIII. vi. 4.

these compounds, e.g. "white man," also have an essence. Let the compound be denoted by X.^a 7 What is the essence of X?

"But this is not even a *per se* expression." We ^{Compound expressions have no essence.} reply that there are two ways in which a definition can be not *per se* true of its subject: (a) by an addition, and (b) by an omission. In one case the definition is not *per se* true because the term which is being defined is combined with something else; as if, e.g., in defining whiteness one were to state the definition of a white man. In the other, because something else (which is not in the definition) is combined with the subject; as if, e.g., X were to denote "white man," and X were defined as "white." "White man" is white, but its essence is not "to be white." But is "to be X" an essence at all? Surely not. 9 The essence is an individual type; but when a subject has something distinct from it predicated of it, it is not an individual type. E.g., "white man" is not an individual type; that is, assuming that individuality belongs only to substances. Hence essence belongs to all things the account of which is a definition. We have a definition, not if the name and 10 the account signify the same (for then all accounts would be definitions; because any account can have a name, so that even "the *Iliad*" will be a definition), but if the account is of something primary. Such are all statements which do not involve the predication of one thing of another. Hence essence will belong 11 to nothing except species of a genus, but to these only; for in these the predicate is not considered to be related to the subject by participation or affection, nor as an accident. But of everything else as well, if it has a name, there will be a formula of *what*

^o Essence belongs only to species of a genus.

1030 a ὄνομα ὅτι τόδε τῷδε ὑπάρχει, ἢ ἀντὶ λόγου ἀπλοῦ ἀκριβέστερος· ὀρισμὸς δ' οὐκ ἔσται οὐδὲ τὸ τί ἦν εἶναι.

Ἡ καὶ ὁ ὀρισμὸς ὥσπερ καὶ τὸ τί ἐστὶ πλεοναχῶς λέγεται; καὶ γὰρ τὸ τί ἐστὶν ἓνα μὲν τρόπον σημαίνει τὴν οὐσίαν καὶ τὸ τόδε τι, ἄλλον 20 δὲ ἕκαστον τῶν κατηγορουμένων, ποσόν, ποιὸν καὶ ὅσα ἄλλα τοιαῦτα. ὥσπερ γὰρ καὶ τὸ ἔστιν ὑπάρχει πᾶσι, ἀλλ' οὐχ ὁμοίως ἀλλὰ τῷ μὲν πρώτῳ τοῖς δ' ἐπομένως, οὕτω καὶ τὸ τί ἐστὶν ἀπλῶς μὲν τῇ οὐσίᾳ, πῶς δὲ τοῖς ἄλλοις· καὶ γὰρ τὸ ποιὸν ἐροίμεθ' ἂν τί ἐστὶν, ὥστε καὶ τὸ ποιὸν 25 τῶν τί ἐστὶν,¹ ἀλλ' οὐχ ἀπλῶς, ἀλλ' ὥσπερ ἐπὶ τοῦ μὴ ὄντος λογικῶς φασὶ τινες εἶναι τὸ μὴ ὄν, οὐχ ἀπλῶς ἀλλὰ μὴ ὄν, οὕτω καὶ τὸ ποιόν. Δεῖ μὲν οὖν σκοπεῖν καὶ τὸ πῶς δεῖ λέγειν περὶ ἕκαστον, οὐ μὴν μᾶλλον γε ἢ τὸ πῶς ἔχει· διὸ καὶ νῦν ἐπεὶ τὸ λεγόμενον φανερόν, καὶ τὸ τί ἦν εἶναι ὁμοίως 30 ὑπάρξει πρώτῳ μὲν καὶ ἀπλῶς τῇ οὐσίᾳ, εἶτα καὶ τοῖς ἄλλοις, ὥσπερ καὶ τὸ τί ἐστὶν οὐχ ἀπλῶς τί ἦν εἶναι, ἀλλὰ ποιῶ ἢ ποσῶ τί ἦν εἶναι. δεῖ γὰρ ἢ ὁμωνύμως ταῦτα φάναι εἶναι ὄντα, ἢ προστιθέντας καὶ ἀφαιρούντας, ὥσπερ καὶ τὸ μὴ ἐπιστητὸν ἐπιστητόν, ἐπεὶ τό γε ὀρθόν ἐστὶ μήτε ὁμωνύμως φάναι μήτε ὡσαύτως, ἀλλ' ὥσπερ τὸ ἰατρικὸν τῷ πρὸς τὸ αὐτὸ μὲν καὶ ἓν, οὐ τὸ αὐτὸ δὲ καὶ 35 ἓν, οὐ μέντοι οὐδὲ ὁμωνύμως· οὐδὲν γὰρ ἰατρικὸν σῶμα καὶ ἔργον καὶ σκευὸς λέγεται οὔτε ὁμωνύμως

¹ ἐστὶ μὲν E.J.

^a sc. to be unknowable.

it means—that X belongs to Y; or instead of a simple formula one more exact—but no definition, nor essence.

Or perhaps "definition," like the "what," has 12 more than one sense. For the "what" in one sense means the substance and the individual, and in another each one of the categories: quantity, quality, etc. Just as "is" applies to everything, although not 13 in the same way, but primarily to one thing and secondarily to others; so "what it is" applies in an unqualified sense to substance, and to other things in a qualified sense. For we might ask also what quality "is," so that quality also is a "what it is"; not however without qualification, but just as in the case of not-being some say by a verbal quibble that not-being "is"—not in an unqualified sense, but "is" not-being—so too with quality.

Now although we must also consider how we should 14 express ourselves in each particular case, it is still more important to consider what the facts are. Hence now, since the language which we are using is clear, similarly essence also will belong primarily and simply to substance, and secondarily to other things as well; just as the "what it is" is not essence simply, but the essence of a quality or quantity. For it must be either by equivocation that we 15 say that these things *are*, or by adding and subtracting qualifications, as we say that the unknowable is known^a; since the truth is that we use the terms neither equivocally nor in the same sense, but just as we use the term "medical" in *relation* to one and the same thing; but not *of* one and the same thing, nor yet equivocally. The term "medical" is applied to a body and a function and an instrument,

1030 b

οὔτε καθ' ἓν, ἀλλὰ πρὸς ἓν. Ἄλλα ταῦτα μὲν
 ὁποτέρως τις ἐθέλει λέγειν διαφέρει οὐδέν· ἐκεῖνο
 5 δὲ φανερόν ὅτι ὁ πρῶτως καὶ ἀπλῶς ὀρισμὸς καὶ
 τὸ τί ἦν εἶναι τῶν οὐσιῶν ἐστίν. οὐ μὴν ἀλλὰ καὶ
 τῶν ἄλλων ὁμοίως ἐστί, πλὴν οὐ πρῶτως. οὐ γὰρ
 ἀνάγκη, ἂν τοῦτο τιθῶμεν, τοῦτου ὀρισμὸν εἶναι
 ὃ ἂν λόγῳ τὸ αὐτὸ σημαίνει, ἀλλὰ τινὲ λόγῳ.
 τοῦτο δ' ἐὰν ἐνὸς ἦ, μὴ τῷ συνεχεῖ ὡσπερ ἡ Ἰλιάς
 10 ἢ ὅσα συνδέσμων, ἀλλ' ἐὰν ὄσαχῶς λέγεται τὸ ἐν·
 τὸ δ' ἐν λέγεται ὡσπερ τὸ ὄν· τὸ δὲ ὄν τὸ μὲν τόδε
 τι, τὸ δὲ ποσόν, τὸ δὲ ποιόν τι σημαίνει. διὸ καὶ
 λευκοῦ ἀνθρώπου ἔσται λόγος καὶ ὀρισμὸς· ἄλλον
 δὲ τρόπον καὶ τοῦ λευκοῦ καὶ οὐσίας.

V. Ἐχει δ' ἀπορίαν, ἐάν τις μὴ φῆ ὀρισμὸν εἶναι
 15 τὸν ἐκ προσθέσεως λόγον, τίνος ἔσται ὀρισμὸς τῶν
 οὐχ ἀπλῶν ἀλλὰ συνδεδασμένων· ἐκ προσθέσεως
 γὰρ ἀνάγκη δηλοῦν. λέγω δ' οἶον ἔστι ρίς καὶ
 κοιλότης, καὶ σιμότης τὸ ἐκ τῶν δυοῖν λεγόμενον,
 τῷ τόδε ἐν τῷδε, καὶ οὐ κατὰ συμβεβηκός γε οὐθ'
 ἢ κοιλότης οὐθ' ἢ σιμότης πάθος τῆς ῥίνος, ἀλλὰ
 20 καθ' αὐτήν· οὐδ' ὡς τὸ λευκὸν Καλλία ἢ ἀνθρώπων,
 ὅτι Καλλίας λευκὸς ᾧ συμβέβηκεν ἀνθρώπων εἶναι,
 ἀλλ' ὡς τὸ ἄρρεν τῷ ζώῳ καὶ τὸ ἴσον τῷ ποσῷ
 καὶ πάντα ὅσα λέγεται καθ' αὐτὰ ὑπάρχειν. ταῦτα

^a Cf. IV. ii. 2.

^b Snubness is a *per se* affection of the nose, because it applies only to the nose and cannot be explained apart from it, but the same can hardly be said of concavity. Aristotle himself uses the word (κοιλότης) elsewhere in other connexions.

neither equivocally nor in one sense, but in relation to one thing.^a

However, in whichever way one chooses to speak 16 of these things, it matters nothing; but this point is clear: that the primary and unqualified definition, and the essence, belong to substances. It is true that they belong equally to other things too, but not *primarily*. For if we assume this, it does not necessarily follow that there is a definition of anything which means the same as any formula; it must mean the same as a particular kind of formula, *i.e.* the formula of one thing—one not by continuity, 17 like the *Iliad*, or things which are arbitrarily combined, but in one of the proper senses of "one." And "one" has the same variety of senses as "being." "Being" means sometimes the individual thing, sometimes the quantity, sometimes the quality. Hence even "white man" will have a formula and definition; but in a different sense from the definition of "whiteness" and "substance."

V. The question arises: If one denies that a formula involving an added determinant is a definition, how can there be a definition of terms which are not simple but coupled? Because they can only be explained by adding a determinant. I mean, *e.g.*, 2 there is "nose" and "concavity" and "snubness," the term compounded of the two, because the one is present in the other. Neither "concavity" nor "snubness" is an accidental, but a *per se* affection of the nose.^b Nor are they attributes in the sense that "white" is of Callias or a man, because Callias is white and is by accident a man; but in the sense that "male" is an attribute of animal, and equality of quantity, and all other attributes which we say

Definition and essence belong primarily to substance.

There is no definition, in the strict sense, of coupled terms.

1030 b

δ' ἐστὶν ἐν ὅσοις ὑπάρχει ἢ ὁ λόγος ἢ τὸ ὄνομα οὐ
 ἐστὶ τοῦτο τὸ πάθος, καὶ μὴ ἐνδέχεται δηλωσά-
 25 χωρίς, ὥσπερ τὸ λευκὸν ἄνευ τοῦ ἀνθρώπου ἐν-
 δέχεται, ἀλλ' οὐ τὸ θῆλυ ἄνευ τοῦ ζώου. ὥστε
 τούτων τὸ τί ἦν εἶναι καὶ ὁ ὀρισμὸς ἢ οὐκ ἔστιν
 οὐδενὸς ἢ, εἰ¹ ἔστιν, ἄλλως, καθάπερ εἰρήκαμεν.

"Ἔστι δ' ἀπορία καὶ ἕτερα περὶ αὐτῶν. εἰ μὲν γὰρ
 τὸ αὐτὸ ἐστὶ σιμῆ ρίς καὶ κοίλη ρίς, τὸ αὐτὸ ἔσται
 30 τὸ σιμὸν καὶ τὸ κοῖλον· εἰ δὲ μή, διὰ τὸ ἀδύνατον
 εἶναι εἰπεῖν τὸ σιμὸν ἄνευ τοῦ πράγματος οὐ ἐστὶ
 πάθος καθ' αὐτό (ἔστι γὰρ τὸ σιμὸν κοιλότης ἐν
 ῥίνι), τὸ ῥίνα σιμῆν εἰπεῖν ἢ οὐκ ἔστιν ἢ δις τὸ
 αὐτὸ ἔσται εἰρημένον, ρίς ρίς κοίλη (ἢ γὰρ ρίς ἢ
 σιμῆ, ρίς ρίς κοίλη ἔσται), διὸ ἄτοπον τὸ ὑπάρχειν
 35 τοῖς τοιούτοις τὸ τί ἦν εἶναι· εἰ δὲ μή, εἰς ἄπειρον
 1031 a εἰσὼν· ῥίνι γὰρ ῥίνι σιμῆ ἔτι ἄλλο ἐνέσται. Δῆλον
 τοίνυν ὅτι μόνης τῆς οὐσίας ἐστὶν ὁ ὀρισμὸς. εἰ
 γὰρ καὶ τῶν ἄλλων κατηγοριῶν, ἀνάγκη ἐκ προσ-
 θέσεως εἶναι, οἷον τοῦ ποιοῦ,² καὶ περιττοῦ· οὐ
 γὰρ ἄνευ ἀριθμοῦ, οὐδὲ τὸ θῆλυ ἄνευ ζώου· τὸ
 5 δὲ ἐκ προσθέσεως λέγω ἐν οἷς συμβαίνει δις τὸ
 αὐτὸ λέγειν, ὥσπερ ἐν τούτοις· εἰ δὲ τοῦτο ἀληθές,
 οὐδὲ συνδυαζομένων ἔσται, οἷον ἀριθμοῦ περιττοῦ·
 ἀλλὰ λανθάνει ὅτι οὐκ ἀκριβῶς λέγονται οἱ λόγοι.
 εἰ δ' εἰσὶ καὶ τούτων ὄροι, ἤτοι ἄλλον τρόπον εἰσὶν

¹ εἰ om. A^b Alexander.² ποσοῦ Alexander: ἀρτίου Bonitz: πολλοῦ Goebel.

belong *per se*. That is, all things which involve the ³
 formula or name of the subject of the affection, and
 cannot be explained apart from it. Thus "white"
 can be explained apart from "man," but not
 "female" apart from "animal." Thus either these
 terms have no essence or definition, or else they
 have it in a different sense, as we have said.

But there is also another difficulty about them. ⁴
 If "snub nose" is the same as "concave nose,"
 "snub" will be the same as "concave." But if not,
 since it is impossible to speak of "snub" apart from
 the thing of which it is a *per se* affection (because
 "snub" means a concavity in the nose), either it is
 impossible to call the nose snub, or it will be a
 tautology, "concave-nose nose" because "snub
 nose" will equal "concave-nose nose." Hence it ⁵
 is absurd that such terms as these should have an
 essence. Otherwise there will be an infinite re-
 gression; for in "snub-nose nose" there will be yet
 another nose.

Clearly, then, there is definition of substance
 alone. If there were definition of the other cate-
 gories also, it would have to involve an added deter-
 minant, as in the case of the qualitative; and of the
 odd, for this cannot be defined apart from number;
 nor can "female" apart from "animal." By "in-
 6 volving an added determinant" I mean descrip-
 tions which involve a tautology, as in the above
 examples. Now if this is true, there will be no
 definition of compound expressions either; e.g.,
 "odd number." We fail to realize this because our
 terms are not used accurately. If on the other hand
 there are definitions of these too, either they are
 defined in a different way, or, as we have said,

1031 a

ἢ καθάπερ ἐλέχθη πολλαχῶς λεκτέον εἶναι τὸν ὀρισμὸν καὶ τὸ τί ἦν εἶναι· ὥστε ὡδὶ μὲν οὐδενὸς ἔσται ὀρισμὸς, οὐδὲ τὸ τί ἦν εἶναι οὐδενὶ ὑπάρξει πλὴν ταῖς οὐσίαις, ὡδὶ δ' ἔσται. ὅτι μὲν οὖν ἐστὶν ὁ ὀρισμὸς ὁ τοῦ τί ἦν εἶναι λόγος, καὶ τὸ τί ἦν εἶναι ἡ μόνων τῶν οὐσιῶν ἐστὶν ἢ μάλιστα καὶ πρώτως καὶ ἀπλῶς, δηλον.

15 VI. Πότερον δὲ ταῦτόν ἐστιν ἢ ἕτερον τὸ τί ἦν εἶναι καὶ ἕκαστον, σκεπτέον. ἔστι γάρ τι πρὸ ἔργου πρὸς τὴν περὶ τῆς οὐσίας σκέψιν· ἕκαστόν τε γὰρ οὐκ ἄλλο δοκεῖ εἶναι τῆς ἑαυτοῦ οὐσίας, καὶ τὸ τί ἦν εἶναι λέγεται εἶναι ἢ ἕκαστου οὐσία. ἐπὶ μὲν δὴ τῶν λεγομένων κατὰ συμβεβηκὸς δόξειεν ἂν ἕτερον εἶναι, οἷον λευκὸς ἄνθρωπος ἕτερον καὶ τὸ λευκῷ ἄνθρωπῳ εἶναι. εἰ γὰρ τὸ αὐτό, καὶ τὸ ἄνθρωπῳ εἶναι καὶ τὸ λευκῷ ἄνθρωπῳ τὸ αὐτό· τὸ αὐτὸ γὰρ ἄνθρωπος καὶ λευκὸς ἄνθρωπος, ὡς φασίν, ὥστε καὶ τὸ λευκῷ ἄνθρωπῳ καὶ τὸ ἄνθρωπῳ. ἢ οὐκ ἀνάγκη ὅσα κατὰ συμβεβηκὸς εἶναι ταῦτά· οὐ γὰρ ὡσαύτως τὰ ἄκρα γίνονται ταῦτά, ἀλλ' ἴσως γ' ἐκεῖνο δόξειεν ἂν συμβαίνειν, τὰ ἄκρα γίνεσθαι ταῦτά τὰ¹ κατὰ συμβεβηκός, οἷον τὸ λευκῷ εἶναι καὶ τὸ μουσικῷ εἶναι· δοκεῖ δὲ οὐ.

¹ τὰ A^b Alexander: om. EJT Asclepius.

^a The argument consists of two syllogisms:
White man = essence of white man.
Man = white man.
∴ man = essence of white man.
But essence of man = man.
∴ essence of man = essence of white man.

The conclusion is faulty because whereas the first identity is assumed to be absolute, the second is accidental.

^b Aristotle seems to mean that both "essence of white

"definition" and "essence" must be used in more than one sense; thus in one sense there will be no definition of anything, and nothing will have an essence, except substances; and in another those other things will have a definition and essence. It is obvious, then, that the definition is the formula of the essence, and that the essence belongs either only to substances, or especially and primarily and simply.

VI. We must inquire whether the essence is the same as the particular thing, or different. This is useful for our inquiry about substance; because a particular thing is considered to be nothing other than its own substance, and the essence is called the substance of the thing. In accidental predications, indeed, the thing itself would seem to be different from its essence; e.g., "white man" is different from "essence of white man." If it were the same, "essence of man" and "essence of white man" would be the same. For "man" and "white man" are the same, they say, and therefore "essence of white man" is the same as "essence of man." But perhaps it is not necessarily true that the essence of accidental combinations is the same as that of the simple terms; because the extremes of the syllogism are not identical with the middle term in the same way.^a Perhaps it might be thought to follow that the accidental extremes are identical; e.g. "essence of white" and "essence of cultured"; but this is not admitted.^b

man" and "essence of cultured man" might be proved by the former syllogism to be identical in the same way with the middle term "man," in which case it would seem that "essence of white" and "essence of cultured" are the same. There is, however, the same fallacy as before.

Is a thing the same as its essence

Not in the case of accidental predications.

1031 a Ἐπὶ δὲ τῶν καθ' αὐτὰ λεγομένων ἀρ' ἀνάγκη
ταυτὸ εἶναι, οἷον εἴ τινες εἰσὶν οὐσίαι ὧν ἕτεραι
30 μὴ εἰσὶν οὐσίαι μηδὲ φύσεις ἕτεραι πρότεραι, οἷας
φασὶ τὰς ἰδέας εἶναι τινας; εἰ γὰρ ἔσται ἕτερον
αὐτὸ τὸ ἀγαθὸν καὶ τὸ ἀγαθῶ εἶναι, καὶ ζῶον καὶ
1031 b τὸ ζῶον, καὶ τὸ ὄντι καὶ τὸ ὄν, ἔσονται ἄλλαι τε
οὐσίαι καὶ φύσεις καὶ ἰδέαι παρὰ τὰς λεγομένας,
καὶ πρότεραι οὐσίαι ἐκείναι, εἰ τὸ τί ἦν εἶναι
οὐσία¹ ἐστίν. καὶ εἰ μὲν ἀπολελυμένα ἁλλήλων,
τῶν μὲν οὐκ ἔσται ἐπιστήμη, τὰ δ' οὐκ ἔσται ὄντα
5 (λέγω δὲ τὸ ἀπολελυθῆναι, εἰ μήτε τῶ ἀγαθῶ αὐτῶ
ὑπάρχει τὸ εἶναι ἀγαθῶ, μήτε τούτῳ τὸ εἶναι
ἀγαθόν). ἐπιστήμη γὰρ² ἐκάστου ἐστίν ὅταν³ τὸ
τί ἦν ἐκείνῳ εἶναι γινώμεν.⁴ καὶ ἐπὶ ἀγαθοῦ καὶ
τῶν ἄλλων ὁμοίως ἔχει ὥστε εἰ μηδὲ τὸ⁵ ἀγαθῶ
εἶναι ἀγαθόν, οὐδὲ τὸ⁵ ὄντι ὄν, οὐδὲ τὸ⁵ ἐνὶ ἑν.
10 ὁμοίως δὲ πάντα ἐστίν ἢ οὐθὲν τὰ τί ἦν εἶναι.
ὥστ' εἰ μηδὲ τὸ ὄντι ὄν, οὐδὲ τῶν ἄλλων οὐδέν.
ἔτι ᾧ μὴ ὑπάρχει ἀγαθῶ εἶναι, οὐκ ἀγαθόν.
ἀνάγκη ἄρα ἐν εἶναι τὸ ἀγαθόν καὶ ἀγαθῶ εἶναι καὶ
καλὸν καὶ καλῶ εἶναι, <καὶ>⁶ ὅσα μὴ κατ' ἄλλο
λέγεται, ἀλλὰ καθ' αὐτὰ καὶ πρῶτα· καὶ γὰρ
15 τοῦτο ἰκανὸν ἐὰν ὑπάρχη, κἂν μὴ ἦ εἶδη· μᾶλλον
δ' ἴσως κἂν ἦ εἶδη. ἅμα δὲ δῆλον καὶ ὅτι εἴπερ
εἰσὶν αἱ ἰδέαι οἷας τινὲς φασιν, οὐκ ἔσται τὸ ὑπο-
κείμενον οὐσία· ταύτας γὰρ οὐσίας μὲν ἀναγκαῖον

¹ οὐσία A^b comm. : οὐσίας E.J.F.

² γὰρ A^b Alexander : τε γὰρ cet.

³ ἐστίν ὅταν A^b Alexander : αὐτῆ E.J.

⁴ γινώμεν A^b Alexander : om. E.J.

⁵ τῶ A^b.

⁶ καὶ Alexander, Joachim.

But in *per se* expressions, is the thing necessarily 4
the same as its essence, e.g., if there are sub- A *per se*
stances which have no other substances or entities term is the
prior to them, such as some hold the Ideas to be? same as its
essence.
For if the Ideal Good is to be different from the 5
essence of good, and the Ideal Animal and Being
from the essence of animal and being, there will
be other substances and entities and Ideas besides
the ones which they describe; and prior to them, if
essence is substance. And if they are separate from
each other, there will be no knowledge of the Ideas,
and the essences will not exist (by "being separate" 6
I mean if neither the essence of good is present in the
Ideal Good, nor "being good" in the essence of
good); for it is when we know the essence of it that
we have knowledge of a thing. And it is the same
with other essences as with the essence of good;
so that if the essence of good is not good, neither will
the essence of being "be," nor the essence of one be
one. Either all essences exist alike, or none of 7
them; and so if not even the essence of being "is,"
neither will any other essence exist. Again that to
which "essentially good" does not apply cannot be
good. Hence "the good" must be one with the
essence of good, "the beautiful" with the essence
of beauty, and so with all terms which are not de-
pendent upon something else, but self-subsistent and
primary.^a For it is enough if this is so, even if they 8
are not Forms; or perhaps rather even if they are.
(At the same time it is clear also that if the Ideas
are such as some hold, the substrate will not be
substance; for the Ideas must be substances, but

Aristotle to show incidentally the fallacy of the Ideal theory :
there can be no self-subsistent entity apart from the essence.

^a The example of the Ideas as *per se* terms is used by

1031 b

εἶναι, μὴ καθ' ὑποκειμένου δέ· ἔσονται γὰρ κατὰ μέθεξιν.

Ἔκ τε δὴ τούτων τῶν λόγων ἐν καὶ ταῦτό οὖ
 20 κατὰ συμβεβηκός αὐτὸ ἕκαστον καὶ τὸ τί ἦν εἶναι,
 καὶ ὅτι γε τὸ ἐπίστασθαι ἕκαστον τοῦτό ἐστι, τὸ τί
 ἦν εἶναι ἐπίστασθαι, ὥστε καὶ κατὰ τὴν ἔκθεσιν
 ἀνάγκη ἐν τι εἶναι ἄμφω. τὸ δὲ κατὰ συμβεβηκός
 λεγόμενον, οἷον τὸ μουσικὸν ἢ λευκόν, διὰ τὸ
 25 διπτὸν σημαίνει οὐκ ἀληθὲς εἰπεῖν ὡς ταῦτό τὸ
 τί ἦν εἶναι καὶ αὐτό· καὶ γὰρ ᾧ συμβέβηκε λευκόν
 καὶ τὸ συμβεβηκός, ὥστ' ἔστι μὲν ὡς ταῦτόν, ἔστι
 δὲ ὡς οὐ ταῦτό τὸ τί ἦν εἶναι καὶ αὐτό· τῷ μὲν
 γὰρ ἀνθρώπῳ καὶ τῷ λευκῷ ἀνθρώπῳ οὐ ταῦτό,
 τῷ πάθει δὲ ταῦτό. Ἄτοπον δ' ἂν φανείη κἂν εἶ
 30 ται ἕκαστω ὄνομα θεῖτο τῶν τί ἦν εἶναι· ἔσται γὰρ
 καὶ παρ' ἐκεῖνο ἄλλο, οἷον τῷ τί ἦν εἶναι ἵππῳ τί
 ἦν εἶναι [ἵππῳ]¹ ἕτερον. καίτοι τί κωλύει καὶ νῦν
 εἶναι ἓνα εὐθύς τί ἦν εἶναι, εἴπερ οὐσία τὸ τί ἦν
 1032 a εἶναι; ἀλλὰ μὴν οὐ μόνον ἐν, ἀλλὰ καὶ ὁ λόγος ὁ
 αὐτὸς αὐτῶν, ὡς δῆλον καὶ ἐκ τῶν εἰρημένων· οὐ
 γὰρ κατὰ συμβεβηκός ἐν τὸ ἐν εἶναι καὶ ἐν. ἔτι εἰ
 ἄλλο ἔσται, εἰς ἄπειρον εἰσιν· τὸ μὲν γὰρ ἔσται τί
 ἦν εἶναι τοῦ ἐνός, τὸ δὲ τὸ ἐν, ὥστε καὶ ἐπ' ἐκεῖνων
 5 ὁ αὐτὸς ἔσται λόγος. ὅτι μὲν οὖν ἐπὶ τῶν πρώτων
 καὶ καθ' αὐτὰ λεγομένων τὸ ἕκαστω εἶναι καὶ

¹ secl. Bonitz.

^a This criticism is irrelevant to the point under discussion. It simply points out that the Ideal theory conflicts with received opinion (*cf.* iii. 1).

^b *i.e.* to avoid the infinite series implied in the last sentence.

^c *i.e.* since there is a distinct term "essence of one" besides "one," there will be a third distinct term "essence of essence of one"; and so on as in the case of "horse" above.

not involving a substrate, because if they did involve one they would exist in virtue of its participation in them.)^a

That each individual thing is one and the same⁹ with its essence, and not merely accidentally so, is apparent, not only from the foregoing considerations, but because to have knowledge of the individual is to have knowledge of its essence; so that by setting out examples it is evident that both must be identical. But as for the accidental term, *e.g.* "cultured" or 10 "white," since it has two meanings, it is not true to say that the term itself is the same as its essence; for both the accidental term and that of which it is an accident are "white," so that in one sense the essence and the term itself are the same, and in another they are not, because the essence is not the same as "the man" or "the white man," but it is the same as the affection.

The absurdity <of separating a thing from its 11 essence> will be apparent also if one supplies a name for each essence; for then there will be another essence besides the original one, *e.g.* the essence of "horse" will have a further essence. Yet why should not some things be identified with their essence from the outset,^b if essence is substance? Indeed not only are the thing and its essence one, but their formula is the same, as is clear from what we have just stated; for it is not by accident that the essence of "one," and "the one," are one. Moreover, if they are different, there will be an 12 infinite series; for the essence of "one" and "the one" will both exist; so that in that case too the same principle will apply.^c Clearly, then, in the case of primary and self-subsistent terms, the in-

1032^a ἕκαστον τὸ αὐτὸ καὶ ἓν ἐστὶ, δῆλον. Οἱ δὲ
σοφιστικοὶ ἔλεγχοι πρὸς τὴν θέσιν ταύτην φανερόν
ὅτι τῇ αὐτῇ λύονται λύσεις καὶ εἰ ταὐτὸ Σωκράτης
καὶ Σωκράτει εἶναι· οὐδὲν γὰρ διαφέρει οὔτε ἐξ ὧν
10 ἐρωτήσκειν ἂν τις, οὔτε ἐξ ὧν λύων ἐπιτύχοι. πῶς
μὲν οὖν τὸ τί ἦν εἶναι ταὐτὸν καὶ πῶς οὐ ταὐτὸν
ἐκάστω, εἴρηται.

VII. Τῶν δὲ γιγνομένων τὰ μὲν φύσει γίνεταί,
τὰ δὲ τέχνη, τὰ δὲ ἀπὸ ταυτομάτου, πάντα δὲ τὰ
γιγνώμενα ὑπὸ τέ τιος γίνεταί καὶ ἕκ τιος καὶ
15 τί· τὸ δὲ τί λέγω καθ' ἐκάστην κατηγορίαν· ἢ γὰρ
τόδε ἢ ποσὸν ἢ ποιὸν ἢ πού. Αἱ δὲ γενέσεις αἱ
μὲν φυσικαὶ αὐταὶ εἰσὶν ὧν ἡ γένεσις ἐκ φύσεώς
ἐστίν· τὸ δὲ ἐξ οὗ γίνεταί, ἣν λέγομεν ὕλην· τὸ
δὲ ὑφ' οὗ τῶν φύσει τι ὄντων· τὸ δὲ τί ἄνθρωπος
ἢ φυτὸν ἢ ἄλλο τι τῶν τοιούτων, ἃ δὴ μάλιστα
20 λέγομεν οὐσίας εἶναι. ἅπαντα δὲ τὰ γιγνώμενα ἢ
φύσει ἢ τέχνη ἔχει ὕλην· δυνατόν γὰρ καὶ εἶναι
καὶ μὴ εἶναι ἕκαστον αὐτῶν, τοῦτο δ' ἐστὶν
ἢ¹ ἐν τῷ ἐκάστω ὕλη. καθόλου δὲ καὶ ἐξ οὗ
φύσις καὶ καθ' ὃ φύσις· τὸ γὰρ γιγνόμενον ἔχει
φύσιν, οἷον φυτὸν ἢ ζῶον· καὶ ὑφ' οὗ ἢ κατὰ τὸ
25 εἶδος λεγομένη φύσις ἢ ὁμοειδής (αὕτη δὲ ἐν

¹ ἢ om. A^b Asclepius.

dividual thing and its essence are one and the same.

It is obvious that the sophistical objections to ¹³ this thesis are met in the same way as the question whether Socrates is the same as the essence of Socrates; for there is no difference either in the grounds for asking the question or in the means of meeting it successfully. We have now explained in what sense the essence is, and in what sense it is not, the same as the individual thing.

VII. Of things which are generated, some are ^{Modes of generation.} generated naturally, others artificially, and others spontaneously; but everything which is generated is generated by something and from something and becomes something. When I say "becomes something" I mean in any of the categories; it may come to be either a particular thing or of some quantity or quality or in some place.

Natural generation is the generation of things whose generation is by nature. That from which ² they are generated is what we call matter; that by which, is something which exists naturally; and ^{Natural generation.} that which they become is a man or a plant or something else of this kind, which we call substance in the highest degree. All things which are generated naturally or artificially have matter; for it is possible for each one of them both to be and not to be, and this possibility is the matter in each individual thing. And in general both that from which and ³ that in accordance with which they are generated, is nature; for the thing generated, e.g. plant or animal, has a nature. And that by which they are generated is the so-called "formal" nature, which has the same form as the thing generated

1032^a ἄλλω)· ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ. Οὕτω
 μὲν οὖν γίνεταί τὰ γινόμενα διὰ τὴν φύσιν, αἱ
 δ' ἄλλαι γενέσεις λέγονται ποιήσεις. πᾶσαι δὲ
 εἰσὶν αἱ ποιήσεις ἢ ἀπὸ τέχνης ἢ ἀπὸ δυνάμεως
 ἢ ἀπὸ διανοίας. τούτων δὲ τινες γίνονται καὶ
 30 ἀπὸ ταυτομάτου καὶ ἀπὸ τύχης παραπλησίως
 ὡσπερ ἐν τοῖς ἀπὸ φύσεως γινομένοις· ἓνα
 γὰρ κακεῖ ταῦτά καὶ ἐκ σπέρματος γίνεταί καὶ
 ἄνευ σπέρματος. περὶ μὲν οὖν τούτων ὕστερον
 1032^b ἐπισκεπτέον. Ἀπὸ τέχνης δὲ γίνεταί ὅσων
 τὸ εἶδος ἐν τῇ ψυχῇ· εἶδος δὲ λέγω τὸ τί ἦν εἶναι
 ἐκάστου καὶ τὴν πρώτην οὐσίαν· καὶ γὰρ τῶν
 ἐναντίων τρόπον τινὰ τὸ αὐτὸ εἶδος· τῆς γὰρ
 στερήσεως οὐσία ἢ οὐσία ἢ ἀντικειμένη, οἶον
 5 ὑγίεια νόσου· ἐκείνης γὰρ ἀπουσία¹ ἢ νόσος, ἢ δὲ
 ὑγίεια ὁ ἐν τῇ ψυχῇ λόγος καὶ ἡ ἐπιστήμη.²
 γίνεταί δὴ³ τὸ ὑγιές νοήσαντος οὕτως· ἐπειδὴ
 τοδὶ ὑγίεια, ἀνάγκη, εἰ ὑγιές ἔσται, τοδὶ ὑπάρξει,
 οἶον ὁμαλότητα, εἰ δὲ τοῦτο, θερμότητα· καὶ
 οὕτως αἰεὶ νοεῖ ἕως ἂν ἀγάγη εἰς τοῦτο ὁ αὐτὸς
 10 δύναται ἔσχατον ποιεῖν. εἶτα ἤδη ἢ ἀπὸ τούτου
 κινήσει ποιήσις καλεῖται, ἢ ἐπὶ τὸ ὑγιαίνειν.
 ὥστε συμβαίνει τρόπον τινὰ τὴν ὑγίειαν ἐξ ὑγείας⁴
 γίνεσθαι καὶ τὴν οἰκίαν ἐξ οἰκίας, τῆς ἀνευ ὑλῆς
 τὴν ἔχουσαν ὕλην· ἢ γὰρ ἰατρικὴ ἔστι καὶ ἡ
 οἰκοδομικὴ τὸ εἶδος τῆς ὑγείας καὶ τῆς οἰκίας·

¹ ἀπουσία A^b: ἀπουσία δηλοῦται.

² ἡ ἐπιστήμη: ἐν τῇ ἐπιστήμῃ E.J.

³ δὲ A^b Asclepius.

⁴ τὴν ὑγίειαν ἐξ ὑγείας: ἐξ ὑγείας τὴν ὑγίειαν E.J.

^a e.g. fish (*Hist. An.* 569 a 11) and insects (*ibid.* 539 a 24).

^b In c. ix.

^c The logical connexion is: It is sufficient to say that the

(although it is in something else); for man begets man.

Such is the generation of things which are naturally ^{Production.} generated; the other kinds of generation are called productions. All productions proceed from either art or potency or thought. Some of them are also ⁴ generated spontaneously and by chance in much the same way as things which are naturally generated; for sometimes even in the sphere of nature the same things are generated both from seed and without it.^a We shall consider cases of this kind later.^b

Things are generated artificially whose form is contained in the soul (by "form" I mean the essence of each thing, and its primary substance); for even ⁵ contraries have in a sense the same form.^c For the substance of the privation is the opposite substance; e.g., health is the substance of disease; for disease is the absence of health, and health is the formula and knowledge in the soul. Now the healthy subject is produced as the result of this reasoning: since health is so-and-so, if the subject is to be healthy, it must have such-and-such a quality, e.g. homogeneity; and if so, it must have heat. And the physician ⁶ continues reasoning until he arrives at what he himself finally can do; then the process from this point onwards, i.e. the process towards health, is called "production." Therefore it follows in a sense that health comes from health and a house from a house; that which has matter from that which has not (for the art of medicine or of building is the *form* of health form of objects which are artificially produced is contained in the soul; for although artificial production can produce contrary effects, the form of the positive effect is the absence of the form of the negative effect, so that in a sense they have the same form.

1032 b

15 λέγω δὲ οὐσίαν ἀνευ ὕλης τὸ τί ἦν εἶναι. Τῶν δὲ γενέσεων καὶ κινήσεων ἢ μὲν νόησις καλεῖται ἢ δὲ ποίησις, ἢ μὲν ἀπὸ τῆς ἀρχῆς καὶ τοῦ εἶδους νόησις, ἢ δ' ἀπὸ τοῦ τελευταίου τῆς νοήσεως ποίησις. ὁμοίως δὲ καὶ τῶν ἄλλων τῶν μεταξὺ ἕκαστον γίνεσθαι. λέγω δ' οἶον εἰ ὑγιαίνει, δεῖο ἂν ὁμαλυνθῆναι. τί οὖν ἐστὶ τὸ ὁμαλυνθῆναι; τοδί·
 20 τοῦτο δ' ἐστὶ εἰ θερμανθῆσεται. τοῦτο δὲ τί ἐστὶ; τοδί· ὑπάρχει δὲ τοδί· δυνάμει, τοῦτο δὲ ἤδη ἐπ' αὐτῷ. Τὸ δὲ ποιῶν καὶ ὅθεν ἄρχεται ἢ κίνησις τοῦ ὑγιαίνειν, εἰ μὲν ἀπὸ τέχνης, τὸ εἶδος ἐστὶ τὸ ἐν τῇ ψυχῇ, εἰ δ' ἀπὸ ταυτομάτου, ἀπὸ τούτου ὃ ποτε τοῦ ποιεῖν ἄρχει τῷ ποιῶντι
 25 ἀπὸ τέχνης, ὡσπερ καὶ ἐν τῷ ἰατρεῦεν ἴσως ἀπὸ τοῦ θερμαίνειν ἢ ἀρχῇ· τοῦτο δὲ ποιεῖ τῇ τρῖψει· ἢ θερμότης τοῖνον ἢ ἐν τῷ σώματι ἢ μέρος τῆς ὑγείας ἢ ἐπεταί τι αὐτῇ τοιοῦτον ὃ ἐστὶ μέρος τῆς ὑγείας, ἢ διὰ πλειόνων· τοῦτο δ' ἔσχατον, τὸ ποιῶν καὶ τὸ οὕτως μέρος² τῆς ὑγείας,—καὶ
 30 τῆς οἰκίας, οἶον οἱ λίθοι, καὶ τῶν ἄλλων· ὥστε καθάπερ λέγεται, ἀδύνατον γενέσθαι εἰ μὴδὲν προϋπάρχοι. ὅτι μὲν οὖν τι μέρος ἐξ ἀνάγκης
 1033 a ὑπάρξει, φανερόν· ἢ γὰρ ὕλη μέρος· ἐνυπάρχει γὰρ καὶ γίνεσθαι αὐτῇ. ἀλλ' ἄρα³ καὶ τῶν ἐν τῷ λόγῳ; ἀμφοτέρως δὲ⁴ λέγομεν τοὺς χαλκοῦς

¹ τοδί A^{b2} γρ. E J Γ Alexander: τῷδὲ EA^{b1} Asclepius.

² καὶ τὸ οὕτως μέρος Shute: καὶ τὸ οὕτως μέρος ἐστὶ E J Γ: καὶ . . . ἐστὶν ὕλη Christ: τὸ μέρος A^b Alexander.

³ ἄρα Asclepius, Bessarion: ἄρα. ⁴ Bullinger: δὲ.

^a There is no real analogy between the causal relationship of heat to health and of stones to a house. The former is both material and efficient; the latter only material. Cf. ix. 1.

or the house). By substance without matter I mean the essence.

In generations and motions part of the process is 7 called cogitation, and part production—that which Artificial production consists of two processes: (a) cogitation; (b) production proper. proceeds from the starting-point and the form is cogitation, and that which proceeds from the conclusion of the cogitation is production. Each of the other intermediate measures is carried out in the same way. I mean, e.g., that if A is to be healthy, his physical condition will have to be made uniform. What, then, does being made uniform entail? So-and-so; and this will be achieved if he is made hot. What does this entail? So-and-so; now this is potentially present, and the thing is now in his power.

The thing which produces, and from which the 8 process of recovering health begins, is the form in the soul, if the process is artificial; if spontaneous, it is whatever is the starting-point of the production for the artificial producer; as in medical treatment the starting-point is, perhaps, the heating of the patient; and this the doctor produces by friction. Heat in the body, then, is either a part of health, or is followed (directly or through several intermediaries) by something similar which is a part of health. This is the ultimate thing, namely that produces, and in this sense is a part of, health—or of the house (in the form of stones)^a or of other things. There- 9 fore, as we say, generation would be impossible if nothing were already existent. It is clear, then, that some part must necessarily pre-exist; because the matter is a part, since it is matter which pre-exists in the product and becomes something. But then is matter part of the formula? Well, we define

1033 a

κύκλους τί εἶσι, καὶ τὴν ὕλην λέγοντες ὅτι χαλκός, καὶ τὸ εἶδος ὅτι σχῆμα τοιόνδε, καὶ τοῦτό ἐστι τὸ γένος εἰς ὃ πρῶτον τίθεται. ὁ δὲ χαλκοῦς κύκλος ἔχει ἐν τῷ λόγῳ τὴν ὕλην. ἐξ οὗ δὲ ὡς ὕλης γίνεταί ἕνα λέγεται, ὅταν γένηται, οὐκ ἐκείνο ἀλλ' ἐκείνῳ, οἷον ὁ ἀνδριάς οὐ λίθος ἀλλὰ λίθῳ. ὁ δὲ ἄνθρωπος ὁ ὑγιαίνων οὐ λέγεται ἐκείνο ἐξ οὗ· αἴτιον δὲ ὅτι γίνεταί ἐκ τῆς στε-
 10 ρήσεως καὶ τοῦ ὑποκειμένου ὃ λέγομεν τὴν ὕλην, οἷον καὶ ὁ ἄνθρωπος καὶ ὁ κάμνων γίνεταί ὑγιής· μᾶλλον μέντοι λέγεται γίνεσθαι ἐκ τῆς στερήσεως, οἷον ἐκ κάμνοντος ὑγιής, ἢ ἐξ ἀνθρώπου· διὸ κάμνων μὲν ὃ ὑγιής οὐ λέγεται, ἄνθρωπος δέ, καὶ ἄνθρωπος ὑγιής. ὦν δ' ἢ στέρησις ἄδηλος καὶ ἀνώνυμος, οἷον ἐν χαλκῷ σχήματος
 15 ὁποιοῦν ἢ ἐν πλίνθοις καὶ ξύλοις οἰκίας, ἐκ τούτων δοκεῖ γίνεσθαι ὡς ἐκεῖ ἐκ κάμνοντος. διὸ ὡσπερ οὐδ' ἐκεῖ ἐξ οὗ τοῦτο ἐκείνο οὐ λέγεται, οὐδ' ἐνταῦθα ὁ ἀνδριάς ξύλον, ἀλλὰ παράγεται ξύλινος, οὐ ξύλον, καὶ χαλκοῦς ἀλλ' οὐ χαλκός, καὶ λίθῳ ἀλλ' οὐ λίθος, καὶ ἡ οἰκία πλινθίνη
 20 ἀλλ' οὐ πλίνθοι, ἐπεὶ οὐδὲ ὡς ἐκ ξύλου γίνεταί ἀνδριάς ἢ ἐκ πλίνθων οἰκία, ἕαν τις ἐπιβλέπη σφόδρα,³ οὐκ ἂν ἀπλῶς εἴποι,⁴ διὰ τὸ δεῖν μετα-

¹ ὁ om. A^b Asclepius.² καὶ Asclepius: καὶ ἰ.³ ἐπιβλέπη σφόδρα: σφόδρα ἐπιβλέπη A^bΓ.⁴ εἴποι Alexander, Asclepius: εἴποιε E: εἴπει J: εἶπε A^b.

bronze circles in both ways; we describe the matter as bronze, and the form as such-and-such a shape; and this shape is the proximate genus in which the circle is placed. The bronze circle, then, has its matter in its formula. Now as for that from which, as matter, things are generated, some things when they are generated are called not "so-and-so," but "made of so-and-so"; e.g., a statue is not called stone, but made of stone. But the man who becomes healthy is not called after that from which he becomes healthy. This is because the generation proceeds from the privation and the substrate, which we call matter (e.g., both "the man" and "the invalid" become healthy), but it is more properly said to proceed from the privation; e.g., a man becomes healthy from being an invalid rather than from being a man. Hence a healthy person is not called an invalid, but a man, and a healthy man. But where the privation is obscure and has no name—e.g. in bronze the privation of any given shape, or in bricks and wood the privation of the shape of a house—the generation is considered to proceed from these materials, as in the former case from the invalid. Hence just as in the former case the subject is not called that from which it is generated, so in this case the statue is not called wood, but is called by a verbal change not wood, but wooden; not bronze, but made of bronze; not stone, but made of stone; and the house is called not bricks, but made of bricks. For if we consider the matter carefully, we should not even say without qualification that a statue is generated from wood, or a house from bricks; because that from which a thing

But it is more properly said to pro-

ceed from the privation.

1033^a βάλλοντος γίνεσθαι ἐξ οὗ, ἀλλ' οὐχ ὑπομένοντος.
διὰ μὲν οὖν τούτου οὕτως λέγεται.

VIII. Ἐπεὶ δὲ ὑπὸ τινός τε γίγνεται τὸ γιγνόμενον
25 (τούτου δὲ λέγω ὅθεν ἡ ἀρχὴ τῆς γενέσεώς ἐστι)
καὶ ἕκ τινος (ἔστω δὲ μὴ ἡ στέρησις τοῦτο ἀλλ'
ἡ ἕλη· ἤδη γὰρ διώρισται ὅν τρόπον τοῦτο λέγομεν)
καὶ τί¹ γίγνεται (τούτου δ' ἐστὶν ἡ σφαῖρα ἢ κύκλος
ἢ ὁ τι ἔτυχε τῶν ἄλλων), ὥσπερ οὐδὲ τὸ ὑποκει-
μενον ποιεῖ τὸν χαλκόν, οὕτως οὐδὲ τὴν σφαῖραν,
30 εἰ μὴ κατὰ συμβεβηκός, ὅτι ἡ χαλκῆ σφαῖρα
σφαῖρά ἐστιν, ἐκείνην δὲ ποιεῖ. τὸ γὰρ τόδε τι
ποιεῖν ἐκ τοῦ ὅλως ὑποκειμένου τόδε τι ποιεῖν
ἐστίν. λέγω δ' ὅτι τὸν χαλκόν στρογγύλον ποιεῖν
ἐστὶν οὐ τὸ στρογγύλον ἢ τὴν σφαῖραν ποιεῖν,
ἀλλὰ ἕτερόν τι, οἷον τὸ εἶδος τοῦτο ἐν ἄλλῳ. εἰ
1033^b γὰρ ποιεῖ, ἕκ τινος ἂν ποιούη ἄλλου· τοῦτο γὰρ
ὑπέκειτο. οἷον ποιεῖ χαλκὴν σφαῖραν· τοῦτο δὲ
οὕτως ὅτι ἐκ τοῦδι, ὃ ἐστὶ χαλκός, τοῦδι ποιεῖ, ὃ
ἐστὶ σφαῖρα. εἰ οὖν καὶ τοῦτο ποιεῖ αὐτό, δῆλον
ὅτι ὡσαύτως ποιήσει, καὶ βαδιούνται αἱ γενέσεις
5 εἰς ἄπειρον. Φανερόν ἄρα ὅτι οὐδὲ τὸ εἶδος, ἢ
ὀτιδήποτε χρῆ καλεῖν τὴν ἐν τῷ αἰσθητῷ μορφήν,
οὐ γίγνεται, οὐδ' ἔστω αὐτοῦ γένεσις, οὐδὲ τὸ τί
ἦν εἶναι· τοῦτο γὰρ ἐστὶν ὃ ἐν ἄλλῳ γίγνεται ἢ
ὑπὸ τέχνης ἢ ὑπὸ φύσεως ἢ δυνάμεως. τὸ δὲ
χαλκῆν σφαῖραν εἶναι ποιεῖ· ποιεῖ γὰρ ἐκ χαλκοῦ

¹ τὶ Alexander, Bonitz: δ.

is generated should not persist, but be changed.
This, then, is why we speak in this way.

VIII. Now since that which is generated is
generated *by* something (by which I mean the
starting-point of the process of generation), and
from something (by which let us understand not
the privation but the matter; for we have already
distinguished the meanings of these), and *becomes*
something (*i.e.* a sphere or circle or whatever else it
may be); just as the craftsman does not produce the
substrate, *i.e.* the bronze, so neither does he produce
the sphere; except accidentally, inasmuch as the
bronze sphere is a sphere, and he makes the former.
For to make an individual thing is to make it out of²
the substrate in the fullest sense. I mean that to
make the bronze round is not to make the round
or the sphere, but something else; *i.e.* to produce
this form in another medium. For if we make the
form, we must make it out of something else; for
this has been assumed.^a *E.g.*, we make a bronze
sphere; we do this in the sense that from A, *i.e.*
bronze, we make B, *i.e.* a sphere. If, then, we make³
the spherical form itself, clearly we shall have to
make it in the same way; and the processes of
generation will continue to infinity.

It is therefore obvious that the form (or whatever
we should call the shape in the sensible thing) is
not generated—generation does not apply to it—
nor is the essence generated; for this is that which
is induced in something else either by art or by
nature or by potency. But we do cause a bronze⁴
sphere to be, for we produce it from bronze and a
sphere; we induce the form into this particular
matter, and the result is a bronze sphere. But if

Neither
form nor
matter is
generated,
but only the
combination
of the two.

^a § 1.

1033 b

10 καὶ σφαίρας· εἰς τοδὶ γὰρ τὸ εἶδος ποιεῖ, καὶ ἔστι
 τοῦτο σφαῖρα χαλκῆ. τοῦ δὲ σφαῖρα εἶναι ὅλως
 εἰ ἔστι γένεσις, ἕκ τινος τὶ ἔσται. δεήσει γὰρ
 διαιρετὸν εἶναι αἰεὶ τὸ γιγνόμενον, καὶ εἶναι τὸ
 μὲν τότε τὸ δὲ τότε, λέγω δ' ὅτι τὸ μὲν ὕλην τὸ
 δὲ εἶδος. εἰ δὴ ἔστι σφαῖρα τὸ ἐκ τοῦ μέσου
 15 σχῆμα ἴσον, τοῦτου τὸ μὲν ἐν ᾧ ἔσται ὁ ποιεῖ,
 τὸ δ' ἐν ἐκείνῳ, τὸ δὲ ἅπαν τὸ γεγονός, οἶον ἢ
 χαλκῆ σφαῖρα. φανερόν δὴ ἐκ τῶν εἰρημένων
 ὅτι τὸ μὲν ὡς εἶδος ἢ οὐσία λεγόμενον οὐ γίνεταί,
 ἢ δὲ σύνολος¹ ἢ κατὰ ταύτην λεγομένη γίνεταί,
 καὶ ὅτι ἐν παντὶ τῷ γεννωμένῳ² ὕλη ἐνεστί, καὶ
 20 ἔστι τὸ μὲν τότε τὸ δὲ τότε. Πότερον οὖν ἔστι
 τις σφαῖρα παρὰ τάσδε ἢ οἰκία παρὰ τὰς πλίνθους;
 ἢ οὐδ' ἂν ποτε ἐγίγνετο, εἰ οὕτως ἦν, τότε τι,
 ἀλλὰ τὸ τοιόνδε σημαίνει, τότε δὲ καὶ ὠρισμένον
 οὐκ ἔστιν, ἀλλὰ ποιεῖ καὶ γεννᾷ ἐκ τοῦδε τοιόνδε·
 καὶ ὅταν γεννηθῆ, ἔστι τότε τοιόνδε. τὸ δὲ ἅπαν
 25 τότε Καλλίας ἢ Σωκράτης ἐστὶν ὡσπερ ἢ σφαῖρα
 ἢ χαλκῆ ἢ δίδι, ὁ δ' ἄνθρωπος καὶ τὸ ζῶον ὡσπερ
 σφαῖρα χαλκῆ ὅλως. Φανερόν ἄρα ὅτι ἢ τῶν
 εἰδῶν αἰτία, ὡς εἰώθασί τινες λέγειν τὰ εἶδη, εἰ
 ἔστιν ἅττα παρὰ τὰ καθ' ἕκαστα, πρὸς γε³ τὰς
 γένεσις καὶ τὰς οὐσίας οὐθὲν χρήσιμη⁴. οὐδ' ἂν
 εἶεν διὰ γε ταῦτα οὐσίαι καθ' αὐτάς. ἐπὶ μὲν

¹ σύνολος Jaeger: σύνοδος.² γεννωμένῳ EJ: γενομένῳ A^b: γινόμενῳ comm.³ τε EJ Asclepius.⁴ χρήσιμη A^b: χρήσιμα.

* If forms are self-subsistent substances, individual substances cannot be generated from them; for the individual contains the form, but one substance cannot contain another actually existing substance (ch. xiii. 8). Form, however, is not a substance but a characteristic.

the essence of sphere in general is generated, something must be generated from something; for that which is generated will always have to be divisible, and be partly one thing and partly another; I mean partly matter and partly form. If then a sphere is the figure whose circumference is every-
 5 where equidistant from the centre, part of this will be the medium in which that which we produce will be contained, and part will be in that medium; and the whole will be the thing generated, as in the case of the bronze sphere. It is obvious, then, from what we have said, that the thing in the sense of form or essence is not generated, whereas the concrete whole which is called after it is generated; and that in everything that is generated matter is present, and one part is matter and the other form.

Is there then some sphere besides the particular
 6 spheres, or some house besides the bricks? Surely
 no individual thing would ever have been generated
 if form had existed thus independently.^a Form
 means "of such a kind"; it is not a definite individual, but we produce or generate from the individual
 something "of such a kind"; and when it is gener-
 ated it is an individual "of such a kind." The whole
 7 individual, Callias or Socrates, corresponds to "this
 bronze sphere," but "man" and "animal" corre-
 spond to bronze sphere in general.

Obviously therefore the cause which consists of the Forms (in the sense in which some speak of them, assuming that there are certain entities besides
 particulars), in respect at least of generation and
 destruction, is useless; nor, for this reason at any
 rate, should they be regarded as self-subsistent
 substances. Indeed in some cases it is even obvious
 8

If forms exist independently of individual things, the latter cannot be generated.

1033 b

³⁰ δὴ τινῶν καὶ φανερόν ὅτι τὸ γεννῶν τοιοῦτον μὲν οἶον τὸ γεννώμενον, οὐ μέντοι τὸ αὐτὸ γε, οὐδ' ἐν τῷ ἀριθμῷ ἀλλὰ τῷ εἶδει, οἶον ἐν τοῖς φυσικοῖς (ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ) ἂν μὴ τι παρὰ φύσιν γένηται, οἶον ἵππος ἡμίονον. καὶ ταῦτα δὲ ὁμοίως· ὁ γὰρ ἂν κοινὸν εἶη ἐφ' ἵππου καὶ ^{1034 a} ὄνου οὐκ ὠνόμασται, τὸ ἐγγυτάτα γένος, εἶη δ' ἂν ἄμφω ἴσως οἶον ἡμίονος. Ὡστε φανερόν ὅτι οὐθὲν δεῖ ὡς παράδειγμα εἶδος κατασκευάζειν (μάλιστα γὰρ ἂν ἐν τούτοις ἐπεξητοῦντο· οὐσίαι γὰρ αἱ μάλιστα αὗται), ἀλλὰ ἰκανὸν τὸ γεννῶν ⁵ ποιῆσαι καὶ τοῦ εἶδους αἴτιον εἶναι ἐν τῇ ὕλῃ. τὸ δ' ἅπαν ἤδη, τὸ τοιόνδε εἶδος ἐν ταῖσδε ταῖς σαρκί καὶ ὀστοῖς, Καλλίας καὶ Σωκράτης· καὶ ἕτερον μὲν διὰ τὴν ὕλην, ἕτερα γὰρ ταῦτ' οὐκ εἶδει· ἄτομον γὰρ τὸ εἶδος.

IX. Ἀπορήσειε δ' ἂν τις διὰ τί τὰ μὲν γίνεται καὶ ¹⁰ τέχνη καὶ ἀπὸ ταυτομάτου, οἶον ὑγίεια, τὰ δ' οὐ, οἶον οἰκία. αἴτιον δὲ ὅτι τῶν μὲν ἡ ὕλη ἡ ἄρχουσα τῆς γενέσεως ἐν τῷ ποιῆν καὶ γίνεσθαι τι τῶν ἀπὸ τέχνης, ἐν ἣ ὑπάρχει τι μέρος τοῦ πράγματος, ἡ μὲν τοιαύτη ἐστὶν οἷα κινεῖσθαι ὑφ' αὐτῆς, ἡ δ' οὐ, καὶ ταύτης ἡ μὲν ὠδὶ οἷα τε, ἡ δὲ ἀδύνατος· ¹⁵ πολλὰ γὰρ δύναται μὲν ὑφ' αὐτῶν κινεῖσθαι ἀλλ' οὐκ ὠδί, οἶον ὀρχήσασθαι. ὄσων οὖν τοιαύτη ἡ ὕλη, οἶον οἱ λίθοι, ἀδύνατον ὠδί κινηθῆναι εἰ μὴ

^a Normally the sire communicates his form to the offspring. In the case of a mule, the material element contributed by the dam, which is an ass, limits the effect of the formal element contributed by the sire, which is a horse; but even so the form of the sire is generically the same as that of the offspring.

that that which generates is of the same kind as that which is generated—not however identical with it, nor numerically one with it, but formally one—e.g. in natural productions (for man begets man), unless something happens contrary to nature, as when a horse sires a mule. And even these cases are similar; for that which would be common to both horse and ass, the genus immediately above them, has no name; but it would probably be both, just as the mule is both.^a

Thus obviously there is no need to set up a form as ⁹ a pattern (for we should have looked for Forms in these cases especially, since living things are in a special sense substances); the thing which generates is sufficient to produce, and to be the cause of the form in the matter. The completed whole, such-and-such a form induced in this flesh and these bones, is Callias or Socrates. And it is different from that which generated it, because the matter is different; but identical in form, because the form is indivisible.

IX. The question might be raised why some things are generated both artificially and spontaneously—e.g. health—and others not; e.g. a house. The reason is that in some cases the matter—which is the starting-point of the process in the production and generation of artificial things, and in which some part of the result is already existent—is such that it can initiate its own motion, and in other cases it is not; and of the former kind some can initiate motion in a particular way, and some cannot. For many things can move themselves, but not in a particular way, e.g. so as to dance. It is impossible, then, for ² any things whose matter is of this kind (e.g. stones) to be moved in *this* particular way except by some-

Spontaneous generation considered in relation to artificial and natural generation.

1034 a ὑπ' ἄλλου, ὡδὶ μέντοι ναί· καὶ τὸ πῦρ. διὰ τοῦτο
 τὰ μὲν οὐκ ἔσται ἄνευ τοῦ ἔχοντος τὴν τέχνην,
 τὰ δὲ ἔσται· ὑπὸ γὰρ τούτων κινηθήσεται τῶν
 20 οὐκ ἔχόντων μὲν τὴν τέχνην, κινεῖσθαι δὲ δυνα-
 μένων αὐτῶν, ἢ ὑπ' ἄλλων οὐκ ἔχόντων τὴν τέχνην,
 ἢ ἐκ μέρους. Δῆλον δ' ἐκ τῶν εἰρημένων καὶ ὅτι
 τρόπον τιὰ πάντα γίνεται ἐξ ὁμωνύμου, ὥσπερ
 τὰ φύσει, ἢ ἐκ μέρους ὁμωνύμου (οἶον ἢ οἰκία ἐξ
 οἰκίας, ἢ ὑπὸ νοῦ· ἢ γὰρ τέχνη τὸ εἶδος) [ἢ ἐκ
 25 μέρους]¹ ἢ ἔχοντός τι μέρος, ἐὰν μὴ κατὰ συμ-
 βεβηκὸς γίνηται· τὸ γὰρ αἴτιον τοῦ ποιεῖν πρῶτον
 καθ' αὐτὸ μέρος. θερμότης γὰρ ἢ ἐν τῇ κινήσει
 θερμότητα ἐν τῷ σώματι ἐποίησεν· αὕτη δ' ἐστὶν
 ἢ ὑγίεια ἢ μέρος, ἢ ἀκολουθεῖ αὐτῇ μέρος τι τῆς
 ὑγείας ἢ αὐτῇ ἢ ὑγίεια· διὸ καὶ λέγεται ποιεῖν, ὅτι
 30 ἐκεῖνο ποιεῖ [τὴν ὑγίειαν]² ᾧ ἀκολουθεῖ καὶ συμ-
 βέβηκε [θερμότης].⁴ ὥστε ὥσπερ ἐν τοῖς συλ-
 λογισμοῖς πάντων ἀρχὴ ἢ οὐσία (ἐκ γὰρ τοῦ τί
 ἐστὶν οἱ συλλογισμοὶ εἰσιν), ἐνταῦθα δὲ αἱ γενέσεις.
 Ὅμοίως δὲ καὶ τὰ φύσει συνιστάμενα τούτοις ἔχει.
 τὸ μὲν γὰρ σπέρμα ποιεῖ ὥσπερ τὰ ἀπὸ τέχνης· ἔχει
 1034 b γὰρ δυνάμει τὸ εἶδος, καὶ ἀφ' οὗ τὸ σπέρμα ἐστὶ
 πως ὁμώνυμον (οὐ γὰρ πάντα οὕτω δεῖ ζητεῖν ὡς

¹ ἢ Robin: ἦ.³ om. Alexander, secl. Bonitz.² Ross.⁴ Jaeger.^a Stones can fall by themselves, but cannot by themselves build a house; fire can rise by itself, but cannot boil a kettle.^b e.g., health can be produced as the result of the activity set up by heat in the body.

thing else; but in *that* particular way it is possible. And it is so with fire.^a For this reason some things cannot exist apart from the possessor of the art, and others can; because the motion can be initiated by those things which do not indeed possess the art, but can themselves be moved either by other things which do not possess the art, or by the motion from the part of the product which pre-exists in them.^b

It is clear also from what we have said that in a ³ sense all artificial things are generated either from something which bears the same name (as is the case with natural objects) or from a part of themselves which bears the same name as themselves (e.g. a house from a house, inasmuch as it is generated by mind; for the art is the form), or from something which contains some part; that is if the generation is not accidental; for the direct and independent cause of the production is a part of the product. Heat in the motion produces heat in the body; and either this is health or a part of health, or a part of health or health accompanies it. And this is why heat is said to produce health, because it produces that of which health is a concomitant and consequence. Therefore as essence is the starting-point of everything in syllogisms (because syllogisms start from the "what" of a thing), so too generation proceeds from it.

And it is the same with natural formations as it is ⁵ with the products of art. For the seed produces just as do those things which function by art. It contains the form potentially, and that from which the seed comes has in some sense the same name as the product (for we must not expect that all should have

ἔξ ἀνθρώπου ἀνθρώπος· καὶ γὰρ γυνή ἐξ ἀνδρός)
 ἔάν μὴ πῆρωμα ἦ¹. διὸ ἡμίονος οὐκ ἐξ ἡμίονου.
⁵ Ὅσα δὲ ἀπὸ ταυτομάτου ὥσπερ ἐκεῖ γίνεταί,
 ὅσων ἢ ὕλη δύναται καὶ ὑφ' αὐτῆς κινεῖσθαι ταύτην
 τὴν κίνησιν ἢν τὸ σπέρμα κινεῖ. ὅσων δὲ μὴ, ταῦτα
 ἀδύνατα γίνεσθαι ἄλλως πως ἢ ἐξ αὐτῶν. Οὗ
 μόνον δὲ περὶ τῆς οὐσίας ὁ λόγος δηλοῖ τὸ μὴ
 γίνεσθαι τὸ εἶδος, ἀλλὰ περὶ πάντων ὁμοίως τῶν
¹⁰ πρώτων κοινὸς ὁ λόγος, οἷον ποσοῦ ποιοῦ καὶ τῶν
 ἄλλων κατηγοριῶν. γίνεταί γὰρ ὥσπερ ἡ χαλκῆ
 σφαῖρα, ἀλλ' οὐ σφαῖρα οὐδὲ χαλκός, καὶ ἐπὶ
 χαλκοῦ, εἰ γίνεταί (ἀεὶ γὰρ δεῖ προϋπάρχειν τὴν
 ὕλην καὶ τὸ εἶδος), οὕτως καὶ ἐπὶ τοῦ τί ἐστι καὶ
 ἐπὶ τοῦ ποιοῦ καὶ ποσοῦ καὶ τῶν ἄλλων ὁμοίως
¹⁵ κατηγοριῶν· οὐ γὰρ γίνεταί τὸ ποιὸν ἀλλὰ τὸ
 ποιὸν ξύλον, οὐδὲ τὸ ποσὸν ἀλλὰ τὸ ποσὸν ξύλον
 ἢ ζῶον. ἀλλ' ἴδιον τῆς οὐσίας ἐκ τούτων λαβεῖν
 ἔστιν ὅτι ἀνάγκη προϋπάρχειν ἑτέραν οὐσίαν
 ἐντελεχεία οὔσαν ἢ ποιεῖ, οἷον ζῶον εἰ γίνεταί
 ζῶον· ποιὸν δὲ ἢ ποσὸν οὐκ ἀνάγκη ἀλλ' ἢ δυνάμει
 μόνον.

²⁰ X. Ἐπεὶ δὲ ὁ ὀρισμὸς λόγος ἐστί, πᾶς δὲ λόγος
 μέρη ἔχει, ὡς δὲ ὁ λόγος πρὸς τὸ πρᾶγμα, καὶ τὸ
 μέρος τοῦ λόγου πρὸς τὸ μέρος τοῦ πράγματος
 ὁμοίως ἔχει, ἀπορεῖται ἤδη πότερον δεῖ τὸν τῶν
 μερῶν λόγον ἐνυπάρχειν ἐν τῷ τοῦ ὅλου λόγῳ ἢ οὐ.

¹ ἔάν . . . ἢ hic posuit Ross: habent codd. post ἡμίονου.
 ἔάν. A^b comm.: ἀλλ' ἔάν.

² ὁ om. E.J.

^a The questions discussed in chs. x. xii. arise out of the consideration of essence as definition.

the same name in the sense that "man" is produced by "man"—since woman is also produced by man); unless the product is a freak. This is why a mule is not produced by a mule.

Those natural objects which are produced, like ⁶ artificial objects, spontaneously, are those whose matter can also initiate for itself that motion which the seed initiates. Those whose matter cannot do this cannot be generated otherwise than by their proper parents.

It is not only with reference to substance that our argument shows that the form is not generated; the same argument is common in its application to all the primary divisions, *i.e.* quantity, quality and the other categories. For just as the bronze sphere ⁷ is generated, but not the sphere nor the bronze; and as in the case of bronze, if it is generated the form and matter are not (because they must always pre-exist), so it is too with the "what" and the quality and quantity and the other categories similarly; for it is not the quality that is generated, but the wood of that quality; nor is it the size, but the wood or animal of that size. But a peculiarity ⁸ of substance may be gathered from this: that some other substance must pre-exist in actuality which produces it; *e.g.* an animal, if an animal is being generated; but a quality or quantity need not pre-exist otherwise than potentially.

X. Since a definition is a formula, and every formula has parts; and since the formula is related to the thing in the same way as the part of the formula to the part of the thing, the question ^a now arises: Must the formula of the parts be contained in the formula of the whole, or not? It seems clear that

As in the case of substance, so too in the other categories form is not generated.

The relation of the parts of a definition to the whole

1034 b

ἐπ' ἐνίων¹ μὲν γὰρ φαίνονται ἐνόητες,² ἐνίων δ' οὐ.
 25 τοῦ μὲν γὰρ κύκλου ὁ λόγος οὐκ ἔχει τὸν τῶν τμη-
 μάτων, ὁ δὲ τῆς συλλαβῆς ἔχει τὸν τῶν στοιχείων·
 καίτοι διαιρεῖται καὶ ὁ κύκλος εἰς τὰ τμήματα ὡς-
 περ καὶ ἡ συλλαβὴ εἰς τὰ στοιχεῖα. Ἔτι δὲ
 εἰ πρότερα τὰ μέρη τοῦ ὅλου, τῆς δὲ ὀρθῆς ἢ ὀξεία
 μέρος καὶ ὁ δάκτυλος τοῦ ζώου, πρότερον ἂν εἴη
 30 ἢ ὀξεία τῆς ὀρθῆς καὶ ὁ δάκτυλος τοῦ ἀνθρώπου.
 δοκεῖ δ' ἐκεῖνα εἶναι πρότερα· τῷ λόγῳ γὰρ λέ-
 γονται ἐξ ἐκείνων, καὶ τῷ εἶναι δὲ ἄνευ ἀλλήλων
 πρότερα. ἢ πολλαχῶς λέγεται τὸ μέρος, ὧν εἰς
 μὲν τρόπος τὸ μετροῦν κατὰ τὸ ποσόν. ἀλλὰ
 τοῦτο μὲν ἀφείσθω· ἐξ ὧν δὲ ἡ οὐσία ὡς μερῶν,
 1035 a τοῦτο σκεπτέον. Εἰ οὖν ἐστὶ τὸ μὲν ὕλη τὸ δὲ
 εἶδος τὸ δ' ἐκ τούτων, καὶ οὐσία ἢ τε ὕλη καὶ τὸ
 εἶδος καὶ τὸ ἐκ τούτων, ἔστι μὲν ὡς καὶ ἡ ὕλη
 μέρος τινὸς λέγεται, ἔστι δ' ὡς οὐ, ἀλλ' ἐξ ὧν ὁ
 τοῦ εἶδους λόγος. οἷον τῆς μὲν κοιλότητος οὐκ
 5 ἔστι μέρος ἢ σὰρξ (αὕτη γὰρ ἡ ὕλη ἐφ' ἧς γίννε-
 ται), τῆς δὲ σιμότητος μέρος· καὶ τοῦ μὲν συνόλου
 ἀνδριάντος μέρος ὁ χαλκός, τοῦ δ' ὡς εἶδους
 λεγομένου ἀνδριάντος οὐ. λεκτέον γὰρ τὸ εἶδος
 καὶ ἡ εἶδος ἔχει ἕκαστον, τὸ δ' ὑλικὸν οὐδέποτε
 καθ' αὐτὸ λεκτέον. διὸ ὁ μὲν τοῦ κύκλου λόγος
 10 οὐκ ἔχει τὸν τῶν τμημάτων, ὁ δὲ τῆς συλλαβῆς

¹ ἐπ' ἐνίων A^b Asclepius: ἐρίων.
² ἐνόητος J: ἐνόητα recc.

it is so in some cases, but not in others. The formula ² of the circle does not include that of the segments, but the formula of the syllable includes that of the letters. And yet the circle is divisible into its segments in just the same way as the syllable into its letters.

Again, if the parts are prior to the whole, and the acute angle is part of the right angle, and the finger part of the animal, the acute angle will be prior to the right angle, and the finger to the man. But it ³ is considered that the latter are prior; for in the formula the parts are explained from them; and the wholes are prior also in virtue of their ability to exist independently. The truth probably is that "part" has several meanings, one of which is "that which measures in respect of quantity." However, let us dismiss this question and consider of what, in the sense of parts, substance consists.

If then matter, form, and the combination of the ⁴ two are distinct, and if both matter and form and their combination are substance, there is one sense in which even matter may be called "part" of a thing; and another in which it is not, but the only parts are those elements of which the formula of the form consists. E.g., flesh is not a part of concavity, because flesh is the matter in which concavity is induced; but it is a part of snubness. And bronze is part of the statue as a concrete whole, but not of the statue in the sense of form. We may speak of ⁵ the form (or the thing as having a form) as an individual thing, but we may never so speak of that which is material by itself. This is why the formula of the circle does not contain that of the segments, whereas the formula of the syllable does contain

1035 a

τὸν τῶν στοιχείων· τὰ μὲν γὰρ στοιχεῖα τοῦ λόγου
 μέρη τοῦ εἶδους καὶ οὐχ ὕλη, τὰ δὲ τμήματα οὕτως
 μέρη ὡς ὕλη ἐφ' ἧς¹ ἐπιγίγνεται· ἐγγυτέρω μέντοι
 τοῦ εἶδους ἢ ὁ χαλκός, ὅταν ἐν χαλκῷ ἢ στρογ-
 γυλότης ἐγγένηται. ἔστι δ' ὡς οὐδὲ τὰ στοιχεῖα
¹⁵ πάντα τῆς συλλαβῆς ἐν τῷ λόγῳ ἐνέσται, οἷον ταδί
 τὰ κήρινα ἢ τὰ ἐν τῷ ἀέρι· ἤδη γὰρ καὶ ταῦτα
 μέρος τῆς συλλαβῆς ὡς ὕλη αἰσθητή· καὶ γὰρ ἡ
 γραμμὴ οὐκ εἰ διαιρουμένη εἰς τὰ ἡμίση φθείρεται,
 ἢ ὁ ἄνθρωπος εἰς τὰ ὀσᾶ καὶ νεῦρα καὶ σάρκας,
²⁰ διὰ τοῦτο καὶ εἰσὶν ἐκ τούτων οὕτως ὡς ὄντων τῆς
 οὐσίας μερῶν, ἀλλ' ὡς ἐξ ὕλης, καὶ τοῦ μὲν
 συνόλου μέρη, τοῦ εἶδους δὲ καὶ οὐ ὁ λόγος οὐκέτι·
 διόπερ οὐδ' ἐν τοῖς λόγοις. τῶν μὲν οὖν ἐνέσται
 ὁ τῶν τοιούτων μερῶν λόγος, τῶν δ' οὐ δεῖ ἐνεῖναι,
 ἂν μὴ ἢ τοῦ συνευλημμένου· διὰ γὰρ τοῦτο ἕνια μὲν
²⁵ ἐκ τούτων ὡς ἀρχῶν ἐστὶν εἰς ἃ φθείρονται, ἕνια
 δ' οὐκ ἔστιν. ὅσα μὲν οὖν συνευλημμένα τὸ εἶδος
 καὶ ἡ ὕλη ἐστίν, οἷον τὸ σιμὸν ἢ ὁ χαλκοῦς κύκλος,
 ταῦτα μὲν φθείρεται εἰς ταῦτα, καὶ μέρος αὐτῶν
 ἡ ὕλη· ὅσα δὲ μὴ συνευληπται τῇ ὕλει ἀλλὰ ἀνευ
 ὕλης, ὧν οἱ λόγοι τοῦ εἶδους μόνον, ταῦτα δ' οὐ
³⁰ φθείρεται, ἢ ὅλως ἢ οὔτοι οὕτω γε. ὥστ' ἐκεῖνων
 μὲν ἀρχαὶ καὶ μέρη ταῦτα². τοῦ δὲ εἶδους οὔτε
 μέρη οὔτε ἀρχαί.³ καὶ διὰ τοῦτο φθείρεται ὁ

¹ ἢ Jaeger: οἷς.² ταῦτα A^b Alexander (?): τὰ ὑφ' αὐτὰ E J Γ: τὰ ὑφ' αὐτῶν
 Asclepius: τὰ ἰλικὰ Bonitz.³ ἀρχαὶ A^b Alexander: ἀρχαὶ ταῦτα E J Γ.

* i.e. written on a waxed tablet.

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that of the letters; for the letters are parts of the
 formula of the form; they are not matter; but the
 segments are parts in the sense of matter in which
 the form is induced. They approximate, however,
 more closely to the form than does the bronze when
 roundness is engendered in bronze. But there is ⁶
 a sense in which not even all the letters will be con-
 tained in the formula of the syllable; e.g. particular
 letters on wax^a or sounds in the air; for these too
 are part of the syllable in the sense that they are its
 sensible matter. For even if the line is divided and ⁷
 resolved into its halves, or if the man is resolved into
 bones and muscles and flesh, it does not follow that
 they are composed of these as parts of their essence,
 but as their matter; and these are parts of the
 concrete whole, but not of the form, or that to which
 the formula refers. Hence they are not in the
 formulae. Accordingly in some cases the formula ⁸
 will include the formula of such parts as the above,
 but in others it need not necessarily contain their
 formula, unless it is the formula of the concrete object.
 It is for this reason that some things are composed
 of parts in the sense of principles into which they
 can be resolved, while others are not. All things ⁹
 which are concrete combinations of form and matter
 (e.g. "the snub" or the bronze circle) can be resolved
 into form and matter, and the matter is a part of
 them; but such as are not concrete combinations
 with matter, but are without matter—whose formulae
 refer to the form only—cannot be resolved; either
 not at all, or at least not in this way. Thus these ¹⁰
 material components are principles and parts of the
 concrete objects, but they are neither parts nor
 principles of the form. For this reason the clay

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1035 a πῆλιγος ἀνδριάς εἰς πηλὸν καὶ ἡ σφαῖρα εἰς χαλκὸν
καὶ ὁ Καλλίας εἰς σάρκα καὶ ὀστέα, ἔτι δὲ ὁ κύκλος
εἰς τὰ τμήματα· ἔστι γάρ τι ὁ συνειληπταὶ τῆ
1035 b ὕλη· ὁμωνύμως γὰρ λέγεται κύκλος ὁ τε ἀπλῶς
λεγόμενος καὶ ὁ καθ' ἕκαστα, διὰ τὸ μὴ εἶναι ἴδιον
ὄνομα τοῖς καθ' ἕκαστον. Εἴρηται μὲν οὖν καὶ
νῦν τὸ ἀληθές, ὅμως δ' ἔτι σαφέστερον εἴπωμεν
5 ἐπαναλαβόντες. ὅσα μὲν γὰρ τοῦ λόγου μέρη καὶ
εἰς ἅ διαμερίζεται ὁ λόγος, ταῦτα πρότερα, ἢ πάντα ἡ
ἓνα· ὁ δὲ τῆς ὀρθῆς λόγος οὐ διαμερίζεται εἰς ὀξείας
λόγον, ἀλλ' <ὁ>¹ τῆς ὀξείας εἰς ὀρθήν· χρῆται γὰρ
ὁ ὀριζόμενος τὴν ὀξείαν τῆ ὀρθῆ· ἐλάττων γὰρ
ὀρθῆς ἢ ὀξεία. ὁμοίως δὲ καὶ ὁ κύκλος καὶ τὸ
10 ἡμικύκλιον ἔχουσιν· τὸ γὰρ ἡμικύκλιον τῷ κύκλῳ
ὀρίζεται, καὶ ὁ δάκτυλος τῷ ὄλῳ· τὸ γὰρ τοιόνδε
μέρος ἀνθρώπου δάκτυλος. ὥσθ' ὅσα μὲν μέρη
ὡς ὕλη καὶ εἰς ἅ διαμερίζεται ὡς ὕλην, ὕστερα· ὅσα
δὲ ὡς τοῦ λόγου καὶ τῆς οὐσίας τῆς κατὰ τὸν λόγον,
πρότερα, ἢ πάντα ἡ ἓνα. ἐπεὶ δὲ ἡ τῶν ζώων
15 ψυχὴ (τοῦτο γὰρ οὐσία τοῦ ἐμφύχου) ἢ κατὰ τὸν
λόγον οὐσία καὶ τὸ εἶδος καὶ τὸ τί ἦν εἶναι τῷ
τοιῷδε σώματι (ἕκαστον γοῦν τὸ μέρος ἐὰν ὀρί-
ζηται καλῶς, οὐκ ἄνευ τοῦ ἔργου ὀριεῖται, ὁ οὐχ
ὑπάρξει ἄνευ αἰσθήσεως), ὥστε τὰ ταύτης μέρη
πρότερα, ἢ πάντα ἡ ἓνα, τοῦ συνόλου ζώου, καὶ
20 καθ' ἕκαστον δὴ ὁμοίως. τὸ δὲ σῶμα καὶ τὰ τού-

¹ ἀλλ' <ὁ> ex Alexandro (?) Ross: ἀλλά.

^a Which implies soul.

statue can be resolved into clay, and the sphere into bronze, and Callias into flesh and bones, and the circle too into segments, because it is something which is combined with matter. For we use the same name for the absolute circle and for the particular circle, since there is no special name for the particular circles.

We have now stated the truth; nevertheless let 11 us recapitulate and state it more clearly. All constituents which are parts of the formula, and into which the formula can be divided, are prior to their wholes—either all or some of them. But the formula of the right angle is not divisible into the formula of an acute angle, but *vice versa*; since in defining the acute angle we use the right angle, because “the acute angle is less than a right angle.” It is the 12 same with the circle and the semicircle; for the semicircle is defined by means of the circle. And the finger is defined by means of the whole body; for a finger is a particular kind of part of a man. Thus such parts as are material, and into which the whole is resolved as into matter, are posterior to the whole; but such as are parts in the sense of parts of the formula and of the essence as expressed in the formula, are prior; either all or some of them. And 13 since the soul of animals (which is the substance of the living creature) is their substance in accordance with the formula, and the form and essence of that particular kind of body (at least each part, if it is to be properly defined, will not be defined apart from its function; and this will not belong to it apart from perception^a); therefore the parts of the soul are prior, either all or some of them, to the concrete animal; and similarly in other individual cases. But 14

του μόρια ὕστερα ταύτης τῆς οὐσίας, καὶ διαιρεῖται εἰς ταῦτα ὡς εἰς ὕλην οὐχ ἢ οὐσία ἀλλὰ τὸ σύνολον. τοῦ μὲν οὖν συνόλου πρότερα ταῦτ' ἔστιν ὡς, ἔστι δ' ὡς οὐ. οὐδὲ γὰρ εἶναι δύναται χωριζόμενα· οὐδὲ γὰρ ὁ πάντως ἔχων δάκτυλος ζῶου, ἀλλ' ὁ μώνυμος ὁ τεθνεώς. ἓνα δὲ ἅμα, ὅσα κύρια καὶ ἐν ᾧ πρῶτον ὁ λόγος καὶ ἢ οὐσία, οἷον εἰ τοῦτο καρδία ἢ ἐγκέφαλος· διαφέρει γὰρ οὐθὲν πότερον τοιοῦτον. ὁ δ' ἄνθρωπος καὶ ὁ ἵππος καὶ τὰ οὕτως ἐπὶ τῶν καθ' ἕκαστα, καθόλου δέ, οὐκ ἔστιν οὐσία, ἀλλὰ σύνολόν τι ἐκ τουδὶ τοῦ λόγου καὶ τησὶ τῆς ὕλης ὡς καθόλου· καθ' ἕκαστον δ' ἐκ τῆς ἐσχάτης ὕλης ὁ Σωκράτης ἤδη ἔστιν, καὶ ἐπὶ τῶν ἄλλων ὁμοίως.

Μέρος μὲν οὖν ἐστὶ καὶ τοῦ εἶδους (εἶδος δὲ λέγω τὸ τί ἦν εἶναι) καὶ τοῦ συνόλου τοῦ ἐκ τοῦ εἶδους καὶ τῆς ὕλης <καὶ τῆς ὕλης>¹ αὐτῆς. ἀλλὰ τοῦ λόγου μέρη τὰ τοῦ εἶδους μόνον ἐστίν, ὁ δὲ λόγος ἐστὶ τοῦ καθόλου· τὸ γὰρ κύκλω εἶναι καὶ κύκλος καὶ ψυχῇ εἶναι καὶ ψυχὴ ταυτό. τοῦ δὲ συνόλου ἤδη, οἷον κύκλου τουδί, τῶν καθ' ἕκαστά τινος ἢ αἰσθητοῦ ἢ νοητοῦ (λέγω δὲ νοητοὺς μὲν οἷον τοὺς μαθηματικούς, αἰσθητοὺς δὲ οἷον τοὺς χαλκοῦς καὶ τοὺς ξυλίνους), τούτων δὲ οὐκ ἔστιν ὀρισμός, ἀλλὰ μετὰ νοήσεως ἢ αἰσθήσεως γνωρίζονται ἀπελθόντες² δὲ ἐκ τῆς ἐντελεχείας οὐ δῆλον πότερον³ εἰσὶν ἢ οὐκ εἰσίν, ἀλλ' αἰεὶ λέγονται

¹ Bonitz.² ἀπελθόντας recc.³ πότερόν ποτε E.J.F.^a Cf. V. i. 1.^b i.e., something very similar to the Platonic "intermediates." Cf. *Introd.* pp. xxiii f.

the body and its parts are posterior to this substance, and it is not the substance, but the concrete whole, which is resolved into these parts as into matter. Therefore in one sense these parts are prior to the concrete whole, and in another not; for they cannot exist in separation. A finger cannot in every state be a part of a living animal; for the dead finger has only the name in common with the living one. Some parts are contemporary with the whole: such as are indispensable and in which the formula and the essence are primarily present; e.g. the heart or perhaps the brain,^a for it does not matter which of them is of this nature. But "man" and "horse" and terms which are applied in this way to individuals, but universally, are not substance, but a kind of concrete whole composed of *this* particular formula and *this* particular matter regarded as universal. But individually Socrates is already composed of ultimate matter; and similarly in all other cases.

A part, then, may be part of the form (by form I mean essence), or of the concrete whole composed of form and matter, or of the matter itself. But only the parts of the form are parts of the formula, and the formula refers to the universal; for "circle" is the same as "essence of circle," and "soul" the same as "essence of soul." But when we come to the concrete thing, e.g. *this* circle—which is a particular individual, either sensible or intelligible (by intelligible circles I mean those of mathematics,^b and by sensible those which are of bronze or wood)—of these individuals there is no definition; we apprehend them by intelligence or perception; and when they have passed from the sphere of actuality it is uncertain whether they exist or not, but they are

καὶ γνωρίζονται τῷ καθόλου λόγῳ· ἡ δ' ὕλη ἄγνωστος καθ' αὐτήν. ὕλη δὲ ἡ μὲν αἰσθητὴ ἔστω ἡ δὲ νοητὴ, αἰσθητὴ μὲν οἷον χαλκὸς καὶ ξύλον καὶ ὄση κινητὴ ὕλη, νοητὴ δὲ ἡ ἐν τοῖς αἰσθητοῖς ὑπάρχουσα μὴ ἢ αἰσθητά, οἷον τὰ μαθηματικά.

Πῶς μὲν οὖν ἔχει περὶ ὅλου καὶ μέρους, καὶ περὶ τοῦ προτέρου καὶ ὑστέρου, εἴρηται. πρὸς δὲ τὴν ἐρώτησιν ἀνάγκη ἀπαντᾶν, ὅταν τις ἔρηται πότερον ἡ ὀρθὴ καὶ ὁ κύκλος καὶ τὸ ζῶον πρότερον, ἢ εἰς ἃ διαιροῦνται καὶ ἐξ ὧν εἰσὶ, τὰ μέρη, ὅτι οὐχ ἀπλῶς. εἰ μὲν γάρ ἐστι καὶ ἡ ψυχὴ ζῶον ἢ ἔμψυχον, ἢ ἕκαστον ἢ ἑκάστου, καὶ κύκλος τὸ κύκλω εἶναι, καὶ ὀρθὴ τὸ ὀρθῇ εἶναι καὶ ἡ οὐσία ἡ τῆς ὀρθῆς, τί μὲν καὶ τιτὸς φατέον ὕστερον, οἷον τῶν ἐν τῷ λόγῳ καὶ τιτὸς ὀρθῆς (καὶ γὰρ ἡ μετὰ τῆς ὕλης, ἢ χαλκῆ ὀρθῆ, καὶ ἡ ἐν ταῖς γραμμαῖς ταῖς καθ' ἕκαστα), ἢ δ' ἄνευ ὕλης τῶν μὲν ἐν τῷ λόγῳ ὕστερα, τῶν δ' ἐν τῷ καθ' ἕκαστα μορίων προτέρα. ἀπλῶς δ' οὐ φατέον. εἰ δ' ἕτερα καὶ μὴ ἔστω ἡ ψυχὴ ζῶον, καὶ οὕτω τὰ μὲν φατέον τὰ δ' οὐ φατέον, ὡσπερ εἴρηται.

XI. Ἀπορείται δὲ εἰκότως καὶ ποῖα τοῦ εἶδους μέρη καὶ ποῖα οὐ, ἀλλὰ τοῦ συνειλημμένου. καίτοι τούτου μὴ δήλου ὄντος οὐκ ἔστιν ὀρίσασθαι ἕκαστον· τοῦ γὰρ καθόλου καὶ τοῦ εἶδους ὁ ὀρισμός·

¹ ἢ codd. Alexander: om. rec. : ἢ Christ.

² ἢ J γρ. E.

³ καὶ ἢ EJ.

^a See XIII. ii., iii.

always spoken of and apprehended by the universal formula. But the matter is in itself unknowable. Some matter is sensible and some intelligible; sensible, such as bronze and wood and all movable matter; intelligible, that which is present in sensible things not *qua* sensible, e.g. the objects of mathematics.^a

We have now discussed the case of the whole and part, and of prior and posterior. But we must answer the question, when we are asked which is prior—the right angle and circle and animal, or that into which they are resolved and of which they are composed, i.e. their parts—by saying that neither is *absolutely* prior. For if the soul also is the animal or living thing, or the soul of the individual is the individual, and “being a circle” is the circle, and “being a right angle” or the essence of the right angle is the right angle, then we must admit that the whole in one sense is posterior to the part in one sense: e.g. to the parts in the formula and the parts of a particular right angle (since both the material right angle of bronze and the right angle included by individual lines are posterior to their parts), but the immaterial angle is posterior to the parts in the formula, but prior to the parts in the individual. We must not give an unqualified answer. And if the soul is not the animal but something else, even so we must say that some wholes are prior and some are not, as has been stated.

XI. The question naturally presents itself, what sort of parts belong to the form and what sort belong not to it but to the concrete object. Yet if this is not plain it is impossible to define the particular; because the definition refers to the universal and the

In some cases the whole is prior to the part; in others, the part to the whole.

20

21

Relation of material elements to form in concrete objects.

1036 a ποῖα οὖν ἐστὶ τῶν μερῶν ὡς ὕλη καὶ ποῖα
 30 οὐ, ἐὰν μὴ ἦ φανερά, οὐδὲ ὁ λόγος ἔσται φανερός
 ὁ τοῦ πράγματος. ὅσα μὲν οὖν φαίνεται ἐπι-
 γιγνώμενα ἐφ' ἑτέρων τῶ ἐίδει, οἷον κύκλος ἐν
 χαλκῷ καὶ λίθῳ καὶ ξύλῳ, ταῦτα μὲν δῆλα εἶναι
 δοκεῖ ὅτι οὐδὲν τῆς τοῦ κύκλου οὐσίας ὁ χαλκὸς
 οὐδ' ὁ λίθος, διὰ τὸ χωρίζεσθαι αὐτῶν· ὅσα δὲ
 35 μὴ ὁράται χωριζόμενα, οὐδὲν μὲν κωλύει ὁμοίως
 1036 b ἔχειν τοῦτοις, ὥσπερ κἂν εἰ οἱ κύκλοι πάντες
 ἐωρῶντο χαλκοῖ· οὐδὲν γὰρ ἂν ἦττον ἦν ὁ χαλκὸς
 οὐδὲν τοῦ εἶδους, χαλεπὸν δὲ ἀφελεῖν τοῦτον¹ τῇ
 διανοίᾳ. οἷον τὸ τοῦ ἀνθρώπου εἶδος αἰεὶ ἐν
 σαρκί φαίνεται καὶ ὄστοις καὶ τοῖς τοιοῦτοις μέρε-
 5 σιν· ἄρ' οὖν καὶ ἐστὶ ταῦτα μέρη τοῦ εἶδους καὶ
 τοῦ λόγου; ἢ οὐ, ἀλλ' ὕλη, ἀλλὰ διὰ τὸ μὴ καὶ
 ἐπ' ἄλλων ἐπιγίγνεσθαι ἀδυνατοῦμεν χωρίσαι;
 ἐπεὶ δὲ τοῦτο δοκεῖ μὲν ἐνδέχεσθαι, ἀδηλον δὲ
 πότε, ἀποροῦσί τινας ἤδη καὶ ἐπὶ τοῦ κύκλου καὶ
 τοῦ τριγώνου, ὡς οὐ προσήκον γραμμαῖς ὀρίξε-
 10 σθαι καὶ τῶ συνεχεῖ, ἀλλὰ πάντα καὶ² ταῦτα
 ὁμοίως λέγεσθαι ὡσανεὶ σάρκες καὶ³ ὄσῳ τοῦ
 ἀνθρώπου καὶ χαλκὸς καὶ λίθος τοῦ ἀνδριάντου·
 καὶ ἀνάγουσι πάντα εἰς τοὺς ἀριθμούς, καὶ γραμ-
 μῆς τὸν λόγον τὸν τῶν δύο εἶναι φασί. καὶ τῶν
 τὰς ἰδέας λεγόντων οἱ μὲν αὐτογραμμῆν τὴν
 15 δυάδα, οἱ δὲ τὸ εἶδος τῆς γραμμῆς· ἐνια μὲν γὰρ
 εἶναι τὸ αὐτὸ⁴ τὸ εἶδος καὶ οὐ τὸ εἶδος, οἷον
 δυάδα καὶ τὸ εἶδος δυάδος· ἐπὶ γραμμῆς δὲ οὐκέτι.⁵

¹ τοῦτο E.JΓ.² om. E.JΓ.³ ἢ E.J.⁴ ταύτῃ E.J.⁵ οὐκ ἔστιν E.^a The Pythagoreans.^b The distinction seems to be that given in VIII. iii. 1.

form. Therefore if it is not clear what kind of parts are material and what kind are not, the formula of the thing will not be clear either. In the case of 2 things which can be seen to be induced in specifically different materials, as, e.g., a circle is in bronze and stone and wood, it seems clear that these things, the bronze and the stone, are in no sense part of the essential substance of the circle, because it is separable from them. As for things which are not visibly 3 separable, there is no reason why the same should not apply to them; e.g., if all the circles that had ever been seen were bronze; for the bronze would be none the less no part of the form, but it is difficult to separate it in thought. For example, the 4 form of "man" is always manifested in flesh and bones and elements of this kind; then are these actually parts of the form and formula, or are they not so, but matter, though since the form is not induced in other materials, we cannot separate it? Now since this seems to be possible, but it is not clear 5 when, some thinkers^a are doubtful even in the case of the circle and the triangle, considering that it is not proper to define them by lines and continuous space, but that all these are to the circle or triangle as flesh or bone is to man, and bronze or stone to the statue; and they reduce everything to numbers, and say that the formula of "line" is the formula of 2. And of the exponents of the Forms, some make 6 2 the Ideal line, and some the form of the line^b; for they say that in some cases the form and that of which it is the form, e.g. 2 and the form of 2, are the same; but in the case of "line" this is no longer so.

Some held that the line, considered absolutely, is simply "twoness"; others that it is "twoness in length."

1036 b

συμβαίνει δὴ ἐν τε πολλῶν εἶδος εἶναι, ὧν τὸ
εἶδος φαίνεται ἕτερον, ὅπερ καὶ τοῖς Πυθαγο-
ρείοις συνέβαιεν· καὶ ἐνδέχεται ἐν πάντων ποιεῖν
20 αὐτὸ εἶδος, τὰ δ' ἄλλα μὴ εἶδη· καίτοι οὕτως ἐν
πάντα ἔσται. Ὅτι μὲν οὖν ἔχει τινὰ ἀπορίαν τὰ
περὶ τοὺς ὁρισμούς, καὶ διὰ τίν' αἰτίαν, εἴρηται.
διὸ καὶ τὸ πάντα ἀνάγειν οὕτω καὶ ἀφαιρεῖν τὴν
ὑλὴν περιέρχον· ἕνια γὰρ ἴσως τόδ' ἐν τῷδ' ἐστίν,
ἢ ὡδι ταδί ἔχοντα. καὶ ἡ παραβολὴ ἢ ἐπὶ τοῦ
25 ζώου ἢ ἐν εἰώθει λέγειν Σωκράτης ὁ νεώτερος οὐ
καλῶς ἔχει· ἀπάγει γὰρ ἀπὸ τοῦ ἀληθοῦς, καὶ
ποιεῖ ὑπολαμβάνειν ὡς ἐνδεχόμενον εἶναι τὸν
ἄνθρωπον ἀνευ τῶν μερῶν, ὡπερ ἀνευ τοῦ
χαλκοῦ τὸν κύκλον. τὸ δ' οὐχ ὅμοιον· αἰσθητὸν
γάρ τι τὸ ζῶον, καὶ ἀνευ κινήσεως οὐκ ἔστιν
30 ὀρίσασθαι, διὸ οὐδ' ἀνευ τῶν μερῶν ἐχόντων πῶς.
οὐ γὰρ πάντως τοῦ ἀνθρώπου μέρος ἢ χεῖρ, ἀλλ'
ἢ δυναμένη τὸ ἔργον ἀποτελεῖν, ὥστε ἔμφυχος
οὔσα· μὴ ἔμφυχος δὲ οὐ μέρος. Περὶ δὲ τὰ
μαθηματικά, διὰ τί οὐκ εἰσὶ μέρη οἱ λόγοι τῶν
λόγων, οἷον τοῦ κύκλου τὰ ἡμικύκλια; οὐ γὰρ
35 ἔστιν αἰσθητὰ ταῦτα. ἢ οὐδὲν διαφέρει; ἔσται
1037 a γὰρ ὑλὴ ἐνίων καὶ μὴ αἰσθητῶν· καὶ παντὸς γὰρ
ὑλὴ τίς ἐστὶν ὃ μὴ ἐστὶ τίς ἢ εἶναι καὶ εἶδος αὐτὸ
καθ' αὐτὸ ἀλλὰ τόδε τι. κύκλου μὲν οὖν οὐκ
ἔσται τοῦ καθόλου, τῶν δὲ καθ' ἕκαστα ἔσται μέρη

^a Cf. I. v. 17.

^b In ch. v.

^c A "disciple" of the great Socrates; one of the speakers in the *Politicus* and referred to in *Theaetetus* 147 c, *Sophist* 218 b.

It follows, then, that there is one form of many things ⁷ whose form is clearly different (a consequence which confronted the Pythagoreans too^a), and that it is possible to make one supreme Form of everything, and not to regard the rest as forms. In this way, however, all things would be one.

Now we have stated that the question of definitions ⁸ involves some difficulty, and have shown why this is so.^b Hence to reduce everything in this way and to dispose of the matter is going too far; for some things are presumably a particular form in particular matter, or particular things in a particular state. And the analogy in the case of the living thing which ⁹ the younger Socrates^c used to state is not a good one; for it leads one away from the truth, and makes one suppose that it is possible for a man to exist without his parts, as a circle does without the bronze. But the case is not similar; for the animal is sensible and cannot be defined without motion, and hence not unless its parts are in some definite condition; for it is not the hand in *any* condition that is a part ¹⁰ of a man, but only when it can perform its function, and so has life in it. Without life in it it is not a part.

And with respect to mathematical objects, why are the formulae of the parts not parts of the formulae of the whole; e.g., why are the formulae of the semicircles not parts of the formula of the circle? for they are not sensible. Probably this makes no ¹¹ difference; because there will be matter even of some things which are not sensible. Indeed there will be matter in some sense in everything which is not essence or form considered independently, but a particular thing. Thus the semicircles will be parts not of the universal circle but of the particular circles,

It is a mistake to try to eliminate matter altogether

from the essential nature of things.

1037 a

ταῦτα, ὡςπερ εἴρηται πρότερον· ἔστι γὰρ ἡ ὕλη
 5 ἢ μὲν αἰσθητὴ ἢ δὲ νοητή. δῆλον δὲ καὶ ὅτι ἡ
 μὲν ψυχὴ οὐσία ἢ πρώτη, τὸ δὲ σῶμα ὕλη, ὃ δ'
 ἄνθρωπος ἢ τὸ ζῶον τὸ ἐξ ἀμφοῖν ὡς καθόλου·
 Σωκράτης δὲ καὶ Κορίσκος, εἰ μὲν καὶ ἡ ψυχὴ
 Σωκράτης,¹ διπτόν (οἱ μὲν γὰρ ὡς ψυχὴν, οἱ δ'
 ὡς τὸ σύνολον), εἰ δ' ἀπλῶς ἡ ψυχὴ ἦδε καὶ <τὸ>²
 10 σῶμα τόδε, ὡςπερ τὸ καθόλου <οὕτω>³ καὶ τὸ
 καθ' ἕκαστον. Πότερον δὲ ἔστι παρὰ τὴν ὕλην
 τῶν τοιούτων οὐσιῶν τις ἄλλη, καὶ δεῖ ζητεῖν
 οὐσίαν αὐτῶν ἑτέραν τινὰ οἷον ἀριθμοὺς ἢ τι
 τοιοῦτον, σκεπτέον ὕστερον. τούτου γὰρ χάριν
 καὶ περὶ τῶν αἰσθητῶν οὐσιῶν πειρώμεθα δι-
 15 ορίζειν, ἐπεὶ τρόπον τινὰ τῆς φυσικῆς καὶ δευ-
 τέρας φιλοσοφίας ἔργον ἢ περὶ τὰς αἰσθητὰς
 οὐσίας θεωρία· οὐ γὰρ μόνον περὶ τῆς ὕλης δεῖ
 γνωρίζειν τὸν φυσικόν, ἀλλὰ καὶ τῆς κατὰ τὸν
 λόγον, καὶ μᾶλλον. ἐπὶ δὲ τῶν ὀρισμῶν πῶς
 μέρη τὰ ἐν τῷ λόγῳ, καὶ διὰ τί εἰς λόγος ὁ
 ὀρισμὸς (δῆλον γὰρ ὅτι τὸ πρᾶγμα ἐν, τὸ δὲ
 20 πρᾶγμα τίνι ἐν, μέρη γε ἔχον;) σκεπτέον ὕστερον.
 Τί μὲν οὖν ἐστὶ τὸ τί ἦν εἶναι καὶ πῶς
 αὐτὸ καθ' αὐτό, καθόλου περὶ παντὸς εἴρηται,
 καὶ διὰ τί τῶν μὲν ὁ λόγος ὁ τοῦ τί ἦν εἶναι
 ἔχει τὰ μόρια τοῦ ὀριζομένου, τῶν δ' οὐ, καὶ
 25 ὅτι ἐν μὲν τῷ τῆς οὐσίας λόγῳ τὰ οὕτω μόρια
 ὡς ὕλη οὐκ ἐνέσται—οὐδὲ γὰρ ἔστιν ἐκείνης μόρια

¹ om. E.JI' Asclepius.² Aldine.³ Apelt: τε codd. Asclepius: om. Alexander Aldine.^a Ch. x. 17.^b In Books XIII. and XIV.^c VIII. vi.^d Ch. iv.

as we said before ^a—for some matter is sensible, and
 some intelligible. It is clear also that the soul is the ¹²
 primary substance, and the body matter; and
 “man” or “animal” is the combination of both
 taken universally. And “Socrates” or “Coriscus”
 has a double sense, that is if the soul too can be called
 Socrates (for by Socrates some mean the soul and
 some the concrete person); but if Socrates means
 simply *this* soul and *this* body, the individual is com-
 posed similarly to the universal.

Whether there is some other material component ¹³
 of these substances besides their matter, and whether
 we should look for some further substance in them,
 such as numbers or something of that kind, must
 be considered later.^b It is with a view to this that
 we are trying to determine the nature of sensible
 substances, since in a sense the study of sensible
 substances belongs to physics or secondary philo-
 sophy; for the physicist must know not only about
 the matter, but also about the substance according
 to the formula; this is even more essential. And ¹⁴
 in the case of definitions, in what sense the elements
 in the formula are parts of the definition, and why
 the definition is one formula (for the thing is clearly
 one, but in virtue of what is it one, seeing that it has
 parts?); this must be considered later.^c

We have stated, then, in a general account which ¹⁵
 covers all cases, what essence is, and how it is inde-
 pendent ^d; and why the formula of the essence of
 some things contains the parts of the thing defined,
 while that of others does not; and we have shown
 that the material parts of a thing cannot be present
 in the formula of the substance (since they are not
 even parts of the substance in that sense, but of the

Summary of
preceding
chapters.

1037 a

τῆς οὐσίας ἀλλὰ τῆς συνόλου.¹ ταύτης δὲ γ' ἔστι πως λόγος καὶ οὐκ ἔστιν· μετὰ μὲν γὰρ τῆς ὕλης οὐκ ἔστιν (ἀόριστον γάρ), κατὰ τὴν πρώτην δ' οὐσίαν ἔστιν, οἷον ἀνθρώπου ὁ τῆς ψυχῆς λόγος· ἡ γὰρ οὐσία² ἔστι τὸ εἶδος τὸ ἐνόν, ³⁰ ἔξ οὗ καὶ τῆς ὕλης ἡ σύνολος³ λέγεται οὐσία· οἷον ἡ κοιλότης· ἐκ γὰρ ταύτης καὶ τῆς ῥινός συμῆ ρίς καὶ ἡ συμότης ἔστι· δις γὰρ ἐν τούτοις ὑπάρξει ἡ ρίς⁴—ἐν δὲ τῇ συνόλω οὐσία, οἷον ῥινὶ συμῆ ἢ Καλλία, ἐνέσται καὶ ἡ ὕλη. καὶ ὅτι τὸ ^{1037 b} τί ἦν εἶναι καὶ⁵ ἔκαστον ἐπὶ τῶν μὲν ταυτό, ὡσπερ ἐπὶ τῶν πρώτων οὐσιῶν· οἷον καμπυλότης καὶ καμπυλότητι εἶναι, εἰ πρώτη ἔστι· λέγω δὲ πρώτην ἢ μὴ λέγεται τῷ ἄλλο ἐν ἄλλῳ εἶναι καὶ ⁵ ὑποκειμένῳ ὡς ὕλη⁶. ὅσα δ' ὡς ὕλη ἢ ὡς συνειλημμένα τῇ ὕλη, οὐ ταυτό, οὐδ' <εἰ>⁷ κατὰ συμβεβηκός ἐν, οἷον ὁ Σωκράτης καὶ τὸ μουσικόν· ταῦτα γὰρ ταῦτα κατὰ συμβεβηκός.

XII. Νῦν δὲ λέγωμεν πρώτον ἐφ' ὅσον ἐν τοῖς ἀναλυτικοῖς περὶ ὀρισμοῦ μὴ εἴρηται· ἡ γὰρ ἐν ¹⁰ ἐκείνοις ἀπορία λεχθεῖσα πρὸ ἔργου τοῖς περὶ τῆς οὐσίας ἔστι λόγους. λέγω δὲ ταύτην τὴν ἀπορίαν, διὰ τί ποτε ἐν ἔστιν οὐ τὸν λόγον ὀρισμὸν εἶναι φαμεν, οἷον τοῦ ἀνθρώπου τὸ ζῶον δῖπουν· ἔστω γὰρ οὗτος αὐτοῦ λόγος. διὰ τί δὴ τοῦτο ἐν ἔστιν ἀλλ' οὐ πολλά, ζῶον καὶ δῖπουν; ἐπὶ μὲν γὰρ τοῦ

¹ T Aldine Alexander: συνόλης EA^bJ.

² γὰρ οὐσία EJ Asclepius: οὐσία γὰρ A^b Alexander.

³ συνόδος A^b.

⁴ δις . . . ρίς secl. Ross. ⁵ καὶ om. recce.

⁶ ὕλη A^b.

⁷ οὐδ' εἰ Ross: οὐδὲ codd.

^b Ch. vi.

^a Chs. x. xi.; and cf. ch. v.

^c An. Post. 92 a 29.

concrete substance; and of this in one sense there is a formula, and in another sense there is not. There ¹⁶ is no formula involving the matter, for this is indeterminate; but there is a formula in accordance with the primary substance, e.g., in the case of a man, the formula of the soul; because the substance is the indwelling form, of which and of the matter the so-called concrete substance is composed. E.g., concavity is such a form, since from this and "nose" is derived "snub nose" and "snubness"—for "nose" will be present twice over in these expressions); but in the concrete substance, e.g. snub nose ¹⁷ or Callias, matter will be present too.^a We have stated also that the essence and the individual are in some cases the same, as in the case of the primary substances; e.g. crookedness and "essence of crookedness," if this is primary. By primary I mean ¹⁸ that which does not imply the presence of something in something else as a material substrate. But such things as are material or are compounded with matter are not the same as their essence; not even if they are accidentally one, e.g. Socrates and "cultured"; for these are only accidentally the same.^b

XII. Now let us first deal with definition, in so ^{How is it that the subject of definition is a unity?} far as it has not been dealt with in the *Analytics*; for the problem stated there^c has a bearing upon our discussion of substance. The problem I mean is this: what constitutes the unity of the thing of which we say that the formula is a definition? E.g., in the case of man, "two-footed animal"; for let us take this as the formula of "man." Why, ² then, is this a unity and not a plurality, "animal" and "two-footed"? For in the case of "man"

1037 b
 15 ἄνθρωπος καὶ λευκὸν πολλὰ μὲν ἔστιν ὅταν μὴ
 ὑπάρχη θατέρω θάτερον, ἐν δὲ ὅταν ὑπάρχη καὶ
 πάθη τι τὸ ὑποκείμενον ὁ ἄνθρωπος· τότε γὰρ ἐν
 γίγνεται καὶ ἔστιν ὁ λευκὸς ἄνθρωπος· ἐνταῦθα
 δ' οὐ μετέχει θατέρω θάτερον, τὸ γὰρ γένος οὐ
 δοκεῖ μετέχειν τῶν διαφορῶν· ἅμα γὰρ ἂν τῶν
 20 ἐναντίων τὸ αὐτὸ μετεῖχεν, αἱ γὰρ διαφοραὶ
 ἐναντίαι, αἷς διαφέρει τὸ γένος. εἰ δὲ καὶ μετέχει,
 ὁ αὐτὸς λόγος, εἴπερ εἰσὶν αἱ διαφοραὶ πλείους,
 οἷον πεζόν, δίπουν, ἄπτερον. διὰ τί γὰρ ταῦθ'
 ἐν ἄλλ' οὐ πολλά; οὐ γὰρ ὅτι ἐνυπάρχει· οὕτω
 25 μὲν γὰρ ἐξ ἀπάντων ἔσται ἐν. δεῖ δὲ γε ἐν εἶναι
 ὅσα ἐν τῷ ὀρισμῶ· ὁ γὰρ ὀρισμὸς λόγος τίς ἐστιν
 εἰς καὶ οὐσίας, ὥστε ἐνός τιως δεῖ αὐτὸν εἶναι
 λόγον· καὶ γὰρ ἢ οὐσία ἐν τι καὶ τόδε τι σημαίνει,
 ὡς φαμέν.

Δεῖ δ' ἐπισκοπεῖν πρῶτον περὶ τῶν κατὰ τὰς
 διαιρέσεις ὀρισμῶν. οὐδὲν γὰρ ἕτερόν ἐστιν ἐν
 30 τῷ ὀρισμῷ πλὴν τὸ τε πρῶτον λεγόμενον γένος
 καὶ αἱ διαφοραί· τὰ δ' ἄλλα γένη ἐστὶ τὸ
 τε πρῶτον καὶ μετὰ τούτου αἱ συλλαμβανόμεναι
 διαφοραί, οἷον τὸ πρῶτον ζῶον, τὸ δὲ ἐχόμενον
 ζῶον δίπουν, καὶ πάλιν ζῶον ἄπτερον·
 1038 a ὁμοίως δὲ καὶ διὰ πλειόνων λέγεται. ὅλως δ'
 οὐδὲν διαφέρει διὰ πολλῶν ἢ δι' ὀλίγων λέγεσθαι,
 ὥστ' οὐδὲ δι' ὀλίγων ἢ διὰ δυοῖν· τοῖν δυοῖν δὲ
 τὸ μὲν διαφορά τὸ δὲ γένος, οἷον τοῦ ζῶον δίπουν

^a The other type of definition, that which states the constituent parts of a thing, is not discussed here.

and "white" we have a plurality when the latter does not refer to the former, but a unity when it does refer to it, and the subject, "man," has an attribute; for then they become a unity and we have "the white man." But in the case before us ³ one term does not partake of the other; the genus is not considered to partake of its differentiae, for then the same thing would be partaking simultaneously of contraries, since the differentiae by which the genus is distinguished are contrary. And even if it does partake of them, the same argument applies, since the differentiae are many; e.g. terrestrial, two-footed, wingless. Why is it that these are a ⁴ unity and not a plurality? Not because they are present in one genus, for in that case all the differentiae of the genus will form a unity. But all the elements in the definition must form a unity, because the definition is a kind of formula which is one and defines substance, so that it must be a formula of one particular thing; because the substance denotes one thing and an individual, as we say.

We must first^a examine definitions which are ^{Definition} reached by the process of division. For there is ⁵ nothing else in the definition but the primary genus and the differentiae; the other genera consist of the ^{by the process of} primary genus together with the differentiae which ^{division.} are taken with it. E.g., the primary genus is "animal"; the next below it, "two-footed animal"; and again, "two-footed wingless animal"; and similarly also if the expression contains more terms still. In general it does not matter whether it contains ⁶ many or few terms, nor, therefore, whether it contains few or two. Of the two one is differentia and the other genus; e.g., in "two-footed animal"

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5 τὸ μὲν ζῶον γένος, διαφορὰ δὲ θάτερον. εἰ οὖν τὸ γένος ἀπλῶς μὴ ἔστι παρὰ τὰ ὡς γένους εἶδη, ἢ εἰ ἔστι μὲν ὡς ὕλη δ' ἔστιν (ἢ μὲν γὰρ φωνὴ γένος καὶ ὕλη, αἱ δὲ διαφοραὶ τὰ εἶδη καὶ τὰ στοιχεῖα ἐκ ταύτης ποιούσιν), φανερόν ὅτι ὁ ὀρισμός ἐστιν ὁ ἐκ τῶν διαφορῶν λόγος. Ἄλλα 10 μὴν καὶ δεῖ γε διαιρεῖσθαι τῇ τῆς διαφορᾶς διαφορᾷ,¹ οἷον ζῶου διαφορὰ τὸ ὑπόπουν· ἄλιν τοῦ ζῶου τοῦ ὑπόποδος τὴν διαφορὰν δεῖ εἰδέναι ἢ ὑπόπουν. ὥστε οὐ λεκτέον τοῦ ὑπόποδος τὸ μὲν πτερωτὸν τὸ δὲ ἄπτερον, ἔάνπερ λέγῃ καλῶς, ἀλλὰ διὰ τὸ ἀδυνατεῖν ποιήσει τοῦτο· ἀλλ' ἢ τὸ 15 μὲν σχιζόπουν τὸ δ' ἄσχιστον· αὐταὶ γὰρ διαφοραὶ ποδός· ἢ γὰρ σχιζοποδία ποδότης τις. καὶ οὕτως αἰεὶ βούλεται βαδίζειν ἕως ἂν ἔλθῃ εἰς τὰ ἀδιάφορα. τότε δ' ἔσονται τοσαῦτα εἶδη ποδὸς ὅσαιπερ αἱ διαφοραὶ, καὶ τὰ ὑπόποδα ζῶα ἴσα ταῖς διαφοραῖς. εἰ δὴ ταῦτα οὕτως ἔχει, φανερόν ὅτι ἡ τελευταία 20 διαφορὰ ἢ οὐσία τοῦ πράγματος ἔσται καὶ ὁ ὀρισμός, εἴπερ μὴ δεῖ πολλάκις ταῦτὰ λέγειν ἐν τοῖς ὅροις· περιέρχον γάρ. συμβαίνει δέ γε τοῦτο· ὅταν γὰρ εἴπη ζῶον ὑπόπουν δίπουν, οὐδὲν ἄλλο εἴρηκεν ἢ ζῶον πόδας ἔχον, δύο πόδας ἔχον· κἀν τοῦτο διαιρῆ τῇ οἰκείᾳ διαιρέσει, πλεονάκις ἐρεῖ 25 καὶ ἰσάκις ταῖς διαφοραῖς. ἐὰν μὲν δὴ διαφορᾶς διαφορὰ γίνηται, μία ἔσται ἡ τελευταία τὸ εἶδος

¹ τῇ . . . διαφορᾷ Joachim: τὴν . . . διαφορᾶν.

“animal” is genus, and the other term differentia. If, then, the genus absolutely does not exist apart 7 from the species which it includes, or if it exists, but only as matter (for speech is genus and matter, and the differentiae make the species, *i.e.* the letters, out of it), obviously the definition is the formula composed of the differentiae.

But further we must also divide by the differentia 8 of the differentia. *E.g.*, “having feet” is a differentia of “animal”; then in turn we must discover the differentia of “animal having feet” *qua* “having feet.” Accordingly we should not say that of “that which has feet” one kind is winged and another wingless, (that is if we are to speak correctly; if we say this it will be through incapability), but only that one kind is cloven-footed and another not; because these are differentiae of “foot,” since cloven-footedness is a kind of footedness. And thus we 9 tend always to progress until we come to the species which contain no differentiae. At this point there will be just as many species of foot as there are differentiae, and the kinds of animals having feet will be equal in number to the differentiae. Then, if this is so, obviously the ultimate differentia will be the substance and definition of the thing, since we need not state the same things more than once in definitions, because this is superfluous. However, 10 it does happen; for when we say “footed two-footed animal” we have simply said “animal having feet, having two feet.” And if we divide this by its proper division, we shall be stating the same thing several times, as many times as there are differentiae.

If, then, we keep on taking a differentia of a 11 differentia, one of them, the last, will be the form

1038 a καὶ ἡ οὐσία· εἰδὲν δὲ κατὰ συμβεβηκός, ὅσον εἰ
 διαιροῖ τοῦ ὑπόποδος τὸ μὲν λευκὸν τὸ δὲ μέλαν,
 τσαυταῖται ὅσαι ἂν αἱ τομαὶ ᾧσιν. ὥστε φανερόν
 ὅτι ὁ ὀρισμὸς λόγος ἐστὶν ὁ ἐκ τῶν διαφορῶν, καὶ
 30 τούτων τῆς τελευταίας κατὰ γὰρ τὸ ὀρθόν. δῆλον δ'
 ἂν εἶη, εἴ τις μετατάξειε τοὺς τοιοῦτους ὀρισμούς,
 οἷον τὸν τοῦ ἀνθρώπου, λέγων ζῶον δίπονον ὑπόπονον·
 περιέρχον γὰρ τὸ ὑπόπονον εἰρημένον τοῦ δίποδος.
 τάξις δὲ οὐκ ἔστιν ἐν τῇ οὐσίᾳ· πῶς γὰρ δεῖ νοῆσαι
 τὸ μὲν ὕστερον τὸ δὲ πρότερον; Περὶ μὲν οὖν τῶν
 35 κατὰ τὰς διαιρέσεις ὀρισμῶν τσαυτα εἰρήσθω
 τῆν πρώτην, ποιοὶ τινές εἰσιν.

1038 b XIII. Ἐπεὶ δὲ περὶ τῆς οὐσίας ἡ σκέψις ἐστὶ, πάλιν
 ἐπανέλθωμεν. λέγεται δ' ὥσπερ τὸ ὑποκειμένον
 οὐσία εἶναι καὶ τὸ τί ἦν εἶναι καὶ τὸ ἐκ τούτων καὶ
 τὸ καθόλου. περὶ μὲν οὖν τοῖν δυοῖν εἴρηται· καὶ
 5 γὰρ περὶ τοῦ τί ἦν εἶναι καὶ τοῦ ὑποκειμένου, ὅτι
 διχῶς ὑπόκειται, ἢ τόδε τι ὄν, ὥσπερ τὸ ζῶον τοῖς
 πάθεσιν, ἢ ὡς ἡ ὕλη τῇ ἐντελεχείᾳ. δοκεῖ δὲ καὶ
 τὸ καθόλου αἰτιὸν τισιν εἶναι μάλιστα, καὶ εἶναι
 ἀρχὴ τὸ καθόλου· διὸ ἐπέλθωμεν καὶ περὶ τούτου.
 εἴκοι γὰρ ἀδύνατον εἶναι οὐσίαν εἶναι ὅτιοῦν τῶν
 10 καθόλου λεγομένων. Πρῶτον¹ μὲν γὰρ οὐσία
 ἐκάστου ἢ² ἴδιος ἐκάστω, ἢ οὐχ ὑπάρχει ἄλλω, τὸ
 δὲ καθόλου κοινόν· τοῦτο γὰρ λέγεται καθόλου ὁ
 πλείοσιν ὑπάρχειν πέφυκεν. τίνος οὖν οὐσία τοῦτ'

¹ πρώτη EJ.

² οὐσία ἐκάστου ἢ Ross: οὐσία ἢ ἐκάστου EJT Asclepius;
 ἢ οὐσία A^b.

^a Chs. iv.-vi., x.-xii.

^b Ch. iii.

^c The Platonists.

and the substance. But if we proceed with reference to accidental qualities—e.g. if we divide “that which has feet” into white and black—there will be as many differentiae as there are divisions. It is therefore obvious that the definition is the formula derived from the differentiae, and strictly speaking from the last of them. This will be clear if we change the 12 order of such definitions, e.g. that of man, saying “two-footed footed animal”; for “footed” is superfluous when we have already said “two-footed.” But there is no question of order in the substance; for how are we to think of one part as posterior and the other prior?

With regard, then, to definitions by division, let this suffice as a preliminary statement of their nature.

XIII. Since the subject of our inquiry is substance, let us return to it. Just as the substrate and the essence and the combination of these are called substance, so too is the universal. With two of these we have already dealt, i.e. with the essence ^a and the substrate ^b; of the latter we have said that it underlies in two senses—either being an individual thing (as the animal underlies its attributes), or as matter underlies the actuality. The universal also 2 is thought by some ^c to be in the truest sense a cause and a principle. Let us therefore proceed to discuss this question too; for it seems impossible that any universal term can be substance.

First, the substance of an individual is the substance which is peculiar to it and belongs to nothing else; whereas the universal is common; for by universal we mean that which by nature appertains to several things. Of what particular, then, will 3

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ἔσται; ἢ γὰρ πάντων¹ ἢ οὐδενός. πάντων² δὲ οὐχ οἶόν τε· ἐνός δ' εἰ ἔσται, καὶ τᾶλλα τοῦτ'³
 15 ἔσται· ὧν γὰρ μία ἡ οὐσία, καὶ τὸ τί ἦν εἶναι ἐν καὶ αὐτὰ ἔν. "Ἐτι οὐσία λέγεται τὸ μὴ καθ' ὑποκειμένου, τὸ δὲ καθόλου καθ' ὑποκειμένου τινός λέγεται αἰεί. Ἄλλ' ἄρα οὕτω μὲν οὐκ ἐνδέχεται ὡς τὸ τί ἦν εἶναι, ἐν τούτῳ δὲ ἐνυπάρχειν, οἷον τὸ ζῶον ἐν τῷ ἀνθρώπῳ καὶ ἵππῳ; οὐκοῦν δῆλον ὅτι ἔστι τις αὐτοῦ λόγος. διαφέρει δ' οὐθὲν οὐδ'⁴
 20 εἰ μὴ πάντων λόγος ἐστὶ τῶν ἐν τῇ οὐσίᾳ· οὐδὲν γὰρ ἦττον οὐσία τοῦτ' ἔσται τινός, ὡς ὁ ἄνθρωπος τοῦ ἀνθρώπου ἐν ᾧ ὑπάρχει. ὥστε τὸ αὐτὸ συμβήσεται πάλιν· ἔσται γὰρ⁵ ἐκείνου οὐσία, οἷον τὸ ζῶον, ἐν ᾧ ὡς ἴδιον ὑπάρχει. "Ἐτι δὲ καὶ ἀδύνατον καὶ ἄτοπον τὸ τόδε καὶ οὐσίαν, εἰ ἔστιν
 25 ἕκ τινων, μὴ ἐξ οὐσιῶν εἶναι μῆδ' ἐκ τοῦ τόδε τι, ἀλλ' ἐκ ποιού· πρότερον γὰρ ἔσται μὴ οὐσία τε καὶ τὸ ποιὸν οὐσίας τε καὶ τοῦ τόδε. ὅπερ ἀδύνατον· οὔτε λόγῳ γὰρ οὔτε χρόνῳ οὔτε γενέσει οἶόν τε τὰ πάθη τῆς οὐσίας εἶναι πρότερα· ἔσται γὰρ χωριστά. "Ἐτι τῷ Σωκράτει ἐνυπάρξει οὐσία
 30 οὐσία,⁶ ὥστε δυοὶν ἔσται οὐσία. ὅλως δὲ συμβαίνει, εἰ ἔστιν οὐσία ὁ ἄνθρωπος καὶ ὅσα οὕτω λέγεται, μῆθὲν τῶν ἐν τῷ λόγῳ εἶναι μῆδειός

¹ ἀπάντων recc.² ἀπάντων A^b comm.³ γὰρ οὐσία E.J.F.⁴ ἐνυπάρξει οὐσία οὐσία Γ (οὐσία οὐσία γρ. E, οὐσία οὐσία J, οὐσία A^b): οὐσία ἐνυπάρξει οὐσία recc.^a i.e., the argument in § 3 will apply to this case also.

the universal be the substance? Either of all or of none. But it cannot be the substance of all; while, if it is to be the substance of one, the rest also will be that one; because things whose substance is one have also one essence and are themselves one.

Again, substance means that which is not predicated of a subject, whereas the universal is always predicated of some subject.

But perhaps although the universal cannot be substance in the sense that essence is, it can be present in the essence, as "animal" can be present in "man" and "horse." Then clearly there is in some sense a formula of the universal. It makes no difference even if there is not a formula of everything that is in the substance; for the universal will be none the less the substance of something; e.g., "man" will be the substance of the man in whom it is present. Thus the same thing will happen again^a; e.g. "animal" will be the substance of that in which it is present as peculiar to it.

Again, it is impossible and absurd that the individual or substance, if it is composed of anything, should be composed not of substances nor of the individual, but of a quality: for then non-substance or quality will be prior to substance or the individual. Which is impossible; for neither in formula nor in time nor in generation can the affections of substance be prior to the substance, since then they would be separable.

Again, a substance will be present in "Socrates,"⁶ who is a substance; so that it will be the substance of two things. And in general it follows that if "man" and all terms used in this way are substance, none of the elements in the formula is the substance of

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οὐσίαν, μηδὲ χωρὶς ὑπάρχειν αὐτῶν μηδ' ἐν ἄλλῳ, λέγω δ' οἷον οὐκ εἶναι τι ζῶον παρὰ τὰ τινά, οὐδ' ἄλλο τῶν ἐν τοῖς λόγοις οὐδέν. Ἐκ τε δὴ

35 τούτων θεωροῦσι φανερόν ὅτι οὐδὲν τῶν καθόλου ὑπαρχόντων οὐσία ἐστί, καὶ ὅτι οὐδὲν σημαίνει τῶν κοινῇ κατηγορουμένων τόδε τι, ἀλλὰ τοιόνδε· εἰ δὲ μή, ἄλλα τε πολλὰ συμβαίνει καὶ ὁ τρίτος ἄνθρωπος.

Ἐτι δὲ καὶ ᾧδε δῆλον. ἀδύνατον γὰρ οὐσίαν ἐξ οὐσιῶν εἶναι ἐνυπαρχουσῶν ὡς ἐντελεχεία· τὰ

5 γὰρ δύο οὕτως ἐντελεχεία οὐδέποτε ἐν ἐντελεχεία, ἀλλ' ἐὰν δυνάμει δύο ἢ, ἔσται ἓν, οἷον ἡ διπλασία ἐκ δύο ἡμίσεων δυνάμει γε· ἡ γὰρ ἐντελέχεια χωρίζει. ὥστε εἰ ἡ οὐσία ἓν, οὐκ ἔσται ἐξ οὐσιῶν ἐνυπαρχουσῶν καὶ κατὰ τοῦτον τὸν τρόπον, ὃ¹ λέγει Δημόκριτος ὀρθῶς· ἀδύνατον γὰρ εἶναι φησὶν ἐκ

10 δύο ἐν ἡ ἐξ ἐνὸς δύο γενέσθαι· τὰ γὰρ μεγέθη τὰ ἄτομα τὰς οὐσίας ποιεῖ. ὁμοίως τοῖνον δῆλον ὅτι καὶ ἐπ' ἀριθμοῦ ἔξει, εἴπερ ἐστὶν ὁ ἀριθμὸς σύνθεσις μονάδων, ὥσπερ λέγεται ὑπὸ τινων· ἡ γὰρ οὐχ ἐν ἡ δυάς, ἡ οὐκ ἔστι μονὰς ἐν αὐτῇ ἐντελεχεία.

15 Ἐχει δὲ τὸ συμβαῖνον ἀπορίαν. εἰ γὰρ μήτε ἐκ τῶν καθόλου οἷον τ' εἶναι μηδεμίαν οὐσίαν διὰ τὸ τοῖονδε ἀλλὰ μὴ τόδε τι σημαίνεν, μήτ' ἐξ οὐσιῶν ἐνδέχεται ἐντελεχεία εἶναι μηδεμίαν οὐσίαν σύνθετον, ἀσύνθετον ἂν εἴη οὐσία πᾶσα, ὥστ' οὐδὲ λόγος ἂν εἴη οὐδεμιᾶς οὐσίας. ἀλλὰ
20 μὴν δοκεῖ γε πᾶσι καὶ ἐλέχθη πάλαι ἡ μόνον εἶναι

¹ δ T, ci. Ross: δν.

^a See note on I. ix. 3.

^b Cf. *De Caelo* 303 a 6, *De Gen. et Corr.* 325 a 35.

anything, nor can it exist apart from the species or in anything else; I mean, *e.g.*, that neither "animal" nor any other element of the formula can exist apart from the particular species.

If we look at the question from this standpoint it 7 is obvious that no universal attribute is substance; and it is also clear from the fact that none of the common predicates means "so-and-so," but "such-and-such." Otherwise amongst many other awkward consequences we have the "third man."^a

Again, it is clear in this way too. Substance can- 8 not consist of substances actually present in it; for that which is actually two can never be actually one, whereas if it is potentially two it can be one. *E.g.*, the double consists of two halves—that is, potentially; for the actualization separates the halves. Thus if substance is one, it cannot consist 9 of substances present in it even in this sense, as Democritus rightly observes; he says that it is impossible for two to come from one, or one from two, because he identifies substance with the atoms.^b Clearly then the same will also hold good in the case 10 of number (assuming that number is a composition of units, as it is said to be by some); because either 2 is not 1, or there is not *actually* a unit in it.

The consequence involves a difficulty; for if no 11 substance can consist of universals, because they mean "of such a kind," and not a particular thing; and if no substance can be actually composed of substances, every substance will be incomposite, and so there will be no formula of any substance. But in point of fact it is universally held, and has 12 been previously stated,^c that substance is the only

^c Ch. v. 5-7.

1039 a οὐσίας ὄρον ἢ μάλιστα· νῦν δ' οὐδὲ ταύτης. οὐδενὸς ἄρ' ἔσται ὄρισμός· ἢ τρόπον μὲν τινα ἔσται, τρόπον δέ τινα οὐ. δῆλον δ' ἔσται τὸ λεγόμενον ἐκ τῶν ὕστερον μάλλον.

XIV. Φανερόν δ' ἐξ αὐτῶν τούτων τὸ συμβαῖνον
 25 καὶ τοῖς τὰς ἰδέας λέγουσιν οὐσίας τε καὶ χωριστὰς εἶναι, καὶ ἅμα τὸ εἶδος ἐκ τοῦ γένους ποιούσι καὶ τῶν διαφορῶν. εἰ γὰρ ἔστι τὰ εἶδη, καὶ τὸ ζῶον ἐν τῷ ἀνθρώπῳ καὶ ἵππῳ, ἥτοι ἐν καὶ ταυτόν τῷ ἀριθμῷ ἔστιν ἢ ἕτερον (τῷ μὲν γὰρ λόγῳ δῆλον
 30 ὅτι ἐν· τὸν γὰρ αὐτὸν διέξεισι λόγον ὁ λέγων ἐν ἑκατέρῳ). εἰ οὖν ἔστι τις ἄνθρωπος αὐτὸς καθ' αὐτὸν τόδε τι καὶ κεχωρισμένον, ἀνάγκη καὶ ἐξ ὧν, οἷον τὸ ζῶον καὶ τὸ δίπονον, τόδε τι σημαίνειν καὶ εἶναι χωριστὰ καὶ οὐσίας· ὥστε καὶ τὸ ζῶον.

Εἰ μὲν οὖν τὸ αὐτὸ καὶ ἐν τῷ ἐν τῷ ἵππῳ καὶ τῷ
 1039 b ἀνθρώπῳ, ὥσπερ σὺ σαυτῷ, πῶς τὸ ἐν ἐν τοῖς οὐσι χωρὶς ἐν ἔσται, καὶ διὰ τί οὐ καὶ χωρὶς αὐτοῦ ἔσται τὸ ζῶον τοῦτο; ἔπειτα εἰ μὲν μετέξει τοῦ δίποδος καὶ τοῦ πολύποδος, ἀδύνατόν τι συμβαίνει· τάναντία γὰρ ἅμα ὑπάρξει αὐτῷ ἐνὶ καὶ τῷδέ τι ὄντι. εἰ
 5 δὲ μή, τίς ὁ τρόπος ὅταν εἴπη τις τὸ ζῶον εἶναι δίπονον ἢ πεζόν; ἀλλ' ἴσως σύγκειται καὶ ἄπτεται ἢ μέμικται. ἀλλὰ πάντα ἄτοπα. Ἄλλ' ἕτερον ἐν

* Ch. xv., VIII. vi.

or chief subject of definition; but on this showing there is no definition even of substance. Then there can be no definition of anything; or rather in a sense there can, and in a sense cannot. What this means will be clearer from what follows later.^a

XIV. From these same considerations it is clear also what consequence follows for those who maintain that the Forms are substances and separable, and who at the same time make the species consist of the genus and the differentiae. If there are Forms, and if "animal" is present in the man and the horse, it is either numerically one and the same with them, or not. (In formula they are clearly one; ² for in each case the speaker will enunciate the same formula.) If, then, there is in some sense an Absolute Man, who is an individual and exists separately, then the constituents, e.g. "animal" and "two-footed," must have an individual meaning and be separable and substances. Hence there must be an Absolute Animal too.

(i) Then if the "animal" which is in the horse and ³ the man is one and the same, as you are one and the same with yourself, how can the one which in things that exist separately be one, and why should not this "animal" also be separated from itself? Again, if it is to partake of "two-footed" and of "many-footed," an impossibility follows; for contrary attributes will belong to it although it is one and individual. But if it does not, in what sense is it ⁴ that one calls an animal "two-footed" or "terrestrial"? Perhaps the terms are "combined" and "in contact" or "mixed." But all these expressions are absurd.

(ii) "But there is a different 'animal' in each

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ἐκάστῳ. οὐκοῦν ἄπειρα ὡς ἔπος εἰπεῖν ἔσται ὦν
 ἢ οὐσία ζῶον· οὐ γὰρ κατὰ συμβεβηκὸς ἐκ ζῶου ὁ
 ἄνθρωπος. ἔτι πολλὰ ἔσται αὐτὸ τὸ ζῶον· οὐσία
 10 τε γὰρ τὸ ἐν ἐκάστῳ ζῶον· οὐ γὰρ κατ' ἄλλο
 λέγεται· εἰ δὲ μή, ἐξ ἐκείνου ἔσται ὁ ἄνθρωπος
 καὶ γένος αὐτοῦ ἐκείνο· καὶ ἔτι ἰδέαι ἅπαντα ἐξ
 ὦν ὁ ἄνθρωπος. οὐκοῦν οὐκ ἄλλου μὲν ἰδέα ἔσται
 ἄλλου δ' οὐσία (ἀδύνατον γάρ)· αὐτὸ ἄρα ζῶον ἐν
 ἕκαστον ἔσται τῶν ἐν τοῖς ζῴοις. Ἔτι ἐκ τίνος
 15 τοῦτο καὶ πῶς ἐξ αὐτοῦ ζῴου; ἢ πῶς οἶόν τε
 εἶναι τὸ ζῶον, ᾧ³ οὐσία τοῦτο αὐτό, παρ' αὐτὸ τὸ
 ζῶον; ἔτι δ' ἐπὶ τῶν αἰσθητῶν ταυτά τε συμ-
 βαίνει καὶ τούτων ἀποπώτερα. εἰ δὲ ἀδύνατον
 οὕτως ἔχειν, δῆλον ὅτι οὐκ ἔστιν εἶδη αὐτῶν οὕτως
 ὡς τινές φασιν.
 20 XV. Ἐπεὶ δ' ἡ οὐσία ἑτέρα τὸ τε σύνολον καὶ ὁ
 λόγος (λέγω δ' ὅτι ἡ μὲν οὕτως ἐστὶν οὐσία σὺν τῇ
 ἕλῃ συνειλημμένος ὁ λόγος, ἡ δ' ὁ λόγος ὅλως), ὅσαι
 μὲν οὖν οὕτω λέγονται, τούτων μὲν ἔστι φθορά·
 καὶ γὰρ γένεσις· τοῦ δὲ λόγου οὐκ ἔστιν οὕτως
 25 ὡστε φθειρεσθαι· οὐδὲ γὰρ γένεσις (οὐ γὰρ γίνεταί
 τὸ οἰκία εἶναι ἀλλὰ τὸ τῆδε τῇ οἰκία), ἀλλ' ἄνευ
 γενέσεως καὶ φθορᾶς εἰσὶ καὶ οὐκ εἰσὶν· δέδεικται

³ ᾧ fort. Alexander, ci. Bonitz: δ EJ Asclepius: om. A^b.

^a Cf. ch. viii. 3.

species." Then there will be practically an infinity of things of which "animal" is the substance, since it is not in an accidental sense that "man" is derived from "animal." Again, the Absolute Animal ⁵ will be a plurality. For (a) the "animal" in each species will be the substance of that species, since the species is called after it and no other thing. Otherwise "man" would be derived from that other thing, which would be the genus of "man." (b) Further, all the constituents of "man" will be Ideas. Then, since nothing can be the Idea of one thing and the substance of another (for this is impossible), each and every "animal" in the ⁶ various species will be the Absolute Animal.

Further, from what will these Forms be derived, and how can they be derived from the Absolute Animal? Or how can "the animal," whose very essence is "animal," exist apart from the Absolute Animal? And further, in the case of sensible things both these and still more absurd consequences follow. If, then, these consequences are impossible, clearly there are not Forms of sensible things in the sense in which some hold that there are.

XV. Since substance is of two kinds, the concrete thing and the formula (I mean that one kind of substance is the formula in combination with the matter, and the other is the formula in its full sense), substances in the former sense admit of destruction, for they also admit of generation. But the formula does not admit of destruction ^a in the sense that it is ever *being* destroyed, since neither does it so admit of generation (for the essence of house is not generated, but only the essence of *this* house); formulae *are*, and *are not*, independently of generation and destruction;

There is no definition of individual things;

γὰρ ὅτι οὐδείς ταῦτα γεννᾶ οὐδὲ ποιεῖ. διὰ τοῦτο
 δὲ καὶ τῶν οὐσιῶν τῶν αἰσθητῶν τῶν καθ' ἕκαστα
 οὔτε ὀρισμὸς οὔτε ἀπόδειξις ἔστιν, ὅτι ἔχουσι
 30 ἕλλην ἧς ἡ φύσις τοιαύτη ὥστ' ἐνδέχεται καὶ εἶναι
 καὶ μὴ· διὸ φθαρτὰ πάντα τὰ καθ' ἕκαστα αὐτῶν.
 εἰ οὖν ἢ τε ἀπόδειξις τῶν ἀναγκαίων καὶ ὁ ὀρισμὸς
 ἐπιστημονικόν,¹ καὶ οὐκ ἐνδέχεται, ὥσπερ οὐδ'
 ἐπιστήμην ὅτε μὲν ἐπιστήμην ὅτε δ' ἄγνοιαν εἶναι,
 ἀλλὰ δόξα τὸ τοιοῦτόν ἐστιν, οὕτως οὐδ' ἀπό-
 1040 a δειξιν οὐδ' ὀρισμόν, ἀλλὰ δόξα ἐστὶ τοῦ ἐνδεχομένου
 ἄλλως ἔχειν, δηλον ὅτι οὐκ ἂν εἴη αὐτῶν οὔτε ὀρι-
 σμὸς οὔτε ἀπόδειξις. ἀδηλά τε γὰρ τὰ φθιρόμενα
 τοῖς ἔχουσι τὴν ἐπιστήμην, ὅταν ἐκ τῆς αἰσθήσεως
 ἀπέλθῃ· καὶ σωζομένων τῶν λόγων ἐν τῇ ψυχῇ τῶν
 5 αὐτῶν οὐκ ἔσται οὔτε ὀρισμὸς ἔτι οὔτε ἀπόδειξις.
 διὸ δεῖ τῶν πρὸς ὄρον, ὅταν τις ὀρίζηται τι τῶν
 καθ' ἕκαστον,² μὴ ἀγνοεῖν ὅτι αἰεὶ ἀναιρεῖν ἔστιν·
 οὐ γὰρ ἐνδέχεται ὀρίσασθαι. Οὐδὲ δὴ ιδέαν
 οὐδεμίαν ἔστιν ὀρίσασθαι· τῶν γὰρ καθ' ἕκαστον ἡ
 ιδέα, ὡς φασί, καὶ χωριστὴ ἀναγκαῖον δὲ ἐξ
 10 ὀνομάτων εἶναι τὸν λόγον· ὄνομα δ' οὐ ποιήσει ὁ
 ὀριζόμενος· ἄγνωστον γὰρ ἔσται. τὰ δὲ κείμενα
 κοινὰ πᾶσιν ἀνάγκη ἄρα ὑπάρχειν καὶ ἄλλω ταῦτα-
 οῖον εἴ τις σὲ ὀρίσαιτο, ζῶον ἐρεῖ ἰσχυρόν ἢ λευκόν

¹ ἐπιστημονικός EJ Asclepius.

² ἕκαστα GECC.

^a Cf. ch. viii. 3.

for it has been shown ^a that no one either generates or creates them. For this reason also there is no ² definition or demonstration of particular sensible substances, because they contain matter whose nature is such that it can both exist and not exist. Hence all the individual instances of them are perishable. If, then, the demonstration and definition of ³ necessary truths requires scientific knowledge, and if, just as knowledge cannot be sometimes knowledge and sometimes ignorance (it is opinion that is of this nature), so too demonstration and definition cannot vary (it is opinion that is concerned with that which can be otherwise than it is)—then clearly there can be neither definition nor demonstration of individual sensible substances. For (a) things which perish ⁴ are obscure to those who have knowledge of them when they are removed from the sphere of their perception, and (b) even though their formulae are preserved in the soul, there will no longer be either definition or demonstration of them. Therefore in cases relating to definition, when we are trying to define any individual, we must not fail to realize that our definition may always be upset; because it is impossible to define these things.

Nor, indeed, can any Idea be defined; for the ⁵ Idea is an individual, as they say, and separable; and the formula must consist of words, and the man who is defining must not coin a word, because it would not be comprehensible. But the words which are in use are common to all the things which they denote; and so they must necessarily apply to something else as well. E.g., if a man were to define you, he would say that you are an animal which is lean or white or has some other attribute, which will apply

and there-
fore Ideas
cannot be
defined.

2040 a ἢ ἕτερόν τι ὁ καὶ ἄλλω ὑπάρξει. εἰ δέ τις φαίη
 15 μηδὲν κωλύειν χωρὶς μὲν πάντα πολλοῖς, ἅμα δὲ
 μόνω τούτῳ ὑπάρχειν, λεκτέον πρῶτον μὲν ὅτι καὶ
 ἀμφοῖν, ὅλον τὸ ζῶον δίπουν τῷ ζῳῷ καὶ τῷ δίποδι
 (καὶ τοῦτο ἐπὶ μὲν τῶν αἰδίων καὶ ἀνάγκη εἶναι,
 πρότερά γ' ὄντα καὶ μέρη τοῦ συνθέτου· ἀλλὰ μὴν
 καὶ χωριστά, εἴπερ τὸ ἄνθρωπος χωριστόν· ἢ γὰρ
 20 οὐθέν ἢ ἄμφω· εἰ μὲν οὖν μηθέν, οὐκ ἔσται τὸ
 γένος παρὰ τὰ εἶδη· εἰ δ' ἔσται, καὶ ἡ διαφορά·
 εἴθ' ὅτι πρότερα τῷ εἶναι· ταῦτα δὲ οὐκ ἀνταν-
 αιρεῖται.

Ἐπειτα¹ εἰ ἐξ ἰδεῶν αἱ ἰδέαι (ἀσυνθετώτερα
 γὰρ τὰ ἐξ ὧν), ἔτι ἐπὶ πολλῶν δεήσει κάκεῖνα
 κατηγορεῖσθαι ἐξ ὧν ἡ ἰδέα, ὅλον τὸ ζῶον καὶ τὸ
 25 δίπουν. εἰ δὲ μή, πῶς γνωρισθήσεται; ἔσται γὰρ
 ἰδέα τις ἣν ἀδύνατον ἐπὶ πλειόνων κατηγορῆσαι
 ἢ ἐνός. οὐ δοκεῖ δέ, ἀλλὰ πᾶσα ἰδέα εἶναι μεθ-
 εκτή.

Ὡσπερ οὖν εἴρηται, λανθάνει ὅτι ἀδύνατον ὀρί-
 σασθαι ἐν τοῖς αἰδίοις, μάλιστα δὲ ὅσα μοναχά,
 30 ὅλον ἥλιος ἢ σελήνη. οὐ μόνον γὰρ διαμαρτάνουσι
 τῷ προστιθέναι τοιαῦτα ὧν ἀφαιρουμένων ἔτι ἔσται
 ἥλιος, ὡσπερ τὸ περὶ γῆν ἰὸν ἢ νυκτικρυφές (ἂν γὰρ

¹ ἔπειτα δὲ EJ: ἐτι δ' γρ. E: ἐτι (om. ei) Alexander.

^a The statement has only been implied in the preceding arguments.

to something else as well. And if it should be said ⁶
 that there is no reason why all the attributes separ-
 ately should not belong to several things, and yet
 in combination belong to this alone, we must reply,
 (i.) that they also belong to both the elements; e.g.,
 "two-footed animal" belongs both to "animal"
 and to "two-footed" (and in the case of eternal
 elements this is even necessarily so; since they are
 prior to the compound, and parts of it. Indeed they ⁷
 are also separable, if the term "man" is separable—
 for either neither can be separable, or both are so.
 If neither, the genus will not exist apart from the
 species, or if it is so to exist, so will the differentia);
 (ii.) that "animal" and "two-footed" are prior in
 being to "two-footed animal," and that which is
 prior to something else is not destroyed together
 with it.

Again, if the Ideas are composed of Ideas (for ⁸
 constituents are less composite than that which they
 compose), still the elements of which the Idea is
 composed (e.g. "animal" and "two-footed") will
 have to be predicated of many particulars. Other-
 wise, how can they be known? For there would be
 an Idea which cannot be predicated of more than one
 thing. But this is not considered possible; every
 Idea is thought to admit of participation.

Thus, as we have said,^a the impossibility of defining ⁹
 individuals is hard to realize when we are dealing
 with eternal entities, especially in the case of such
 as are unique, e.g. the sun and moon. For people
 go wrong not only by including in the definition
 attributes on whose removal it will still be sun—e.g.,
 "that which goes round the earth," or "night-
 hidden" (for they suppose that if it stops or becomes

1040 a στῆ ἢ φανῆ, οὐκέτι ἔσται ἥλιος· ἀλλ' ἄτοπον εἰ μὴ·
 ὁ γὰρ ἥλιος οὐσίαν τιὰ σημαίνει)—ἔτι ὅσα ἐπ'
 1040 b δῆλον ὅτι ἥλιος ἔσται. κοινὸς ἄρα ὁ λόγος. ἀλλ'
 ἦν τῶν καθ' ἕκαστα ὁ ἥλιος, ὡσπερ Κλέων ἢ
 Σωκράτης, ἐπεὶ διὰ τί οὐδεὶς ὄρον ἐκφέρει αὐ-
 τῶν ἰδέας; γένοιτο γὰρ ἂν δῆλον πειρωμένων ὅτι
 ἀληθὲς τὸ νῦν εἰρημένον.

5 XVI. Φανερόν δὲ ὅτι καὶ τῶν δοκουσῶν εἶναι
 οὐσιῶν αἱ πλείοται δυνάμεις εἰσί, τὰ τε μόρια τῶν
 ζώων (οὐδὲν γὰρ κεχωρισμένον αὐτῶν ἔστιν· ὅταν δὲ
 χωρισθῆ, καὶ τότε ὄντα ὡς ὕλη πάντα) καὶ γῆ καὶ
 πῦρ καὶ ἀήρ· οὐδὲν γὰρ αὐτῶν ἔν ἐστιν, ἀλλ' οἶον
 10 σωρός,¹ πρὶν ἢ πεφθῆ καὶ γένηται τι ἐξ αὐτῶν ἔν.
 μάλιστα δ' ἂν τις τὰ τῶν ἐμφύχων ὑπολάβοι
 μόρια καὶ τὰ τῆς ψυχῆς πάρεγγυς ἄμφω γίνεσθαι,
 ὄντα καὶ ἐντελεχεία καὶ δυνάμει, τῷ ἀρχὰς ἔχειν
 κινήσεως ἀπὸ τιως ἐν ταῖς καμπαῖς· διὸ ἔνια ζῶα
 15 διαιρούμενα ζῆ. ἀλλ' ὁμως δυνάμει πάντ' ἔσται,
 ὅταν ἦ ἔν καὶ συνεχὲς φύσει, ἀλλὰ μὴ βία ἢ
 συμφύσει· τὸ γὰρ τοιοῦτον πῆρωσις. Ἐπεὶ δὲ
 τὸ ἐν λέγεται ὡσπερ καὶ τὸ ὄν, καὶ ἡ οὐσία ἢ τοῦ
 ἐνὸς μία καὶ ὦν μία ἀριθμῶ ἐν ἀριθμῶ, φανερόν
 ὅτι οὔτε τὸ ἐν οὔτε τὸ ὄν ἐνδέχεται οὐσίαν εἶναι

¹ σωρός EJ Asclepius: ὁ σωρός A^b Alexander: ὁ ὄρρος γρ
 E γρ. Alexander.

² ἢ καὶ A^b.

^a sc. in the night.

^b e.g. wasps, bees, tortoises (*P. Nat.* 467 a 18, 468 a 25).

^c i.e., it is only when they do not properly constitute a
 unity that parts can be said to exist actually.

visible^a it will no longer be sun; but it is absurd that
 this should be so, since "the sun" denotes a definite
 substance)—they also mention attributes which may
 apply to something else; e.g., if another thing with
 those attributes comes into being, clearly it will be
 a sun. The formula, then, is general; but the sun
 was supposed to be an individual, like Cleon or
 Socrates. Why does not one of the exponents of
 the Ideas produce a definition of them? If they
 were to try, it would become obvious that what we
 have just said is true.

XVI. It is obvious that even of those things which
 are thought to be substances the majority are
 potentialities; both the parts of living things (for
 none of them has a separate substantial existence;
 and when they are separated, although they still
 exist, they exist as matter), and earth, fire and air;
 for none of these is one *thing*—they are a mere
 aggregate before they are digested and some one
 thing is generated from them. It might be supposed²
 very reasonably that the parts of living things and
 the corresponding parts of their vital principle are
 both, i.e. exist both actually and potentially, because
 they contain principles of motion derived from some-
 thing in their joints; and hence some animals^b live
 even when they are divided. Nevertheless it is only
 potentially that all of them will exist when they are
 one and continuous by nature and not by force or
 concretion; for this sort of thing is malformation.^c

And since "unity" has the same variety of senses³
 as "being," and the substance of Unity is one,
 and things whose substance is numerically one are
 numerically one, evidently neither Unity nor Being
 can be the substance of things, just as neither

Most so-
 called sub-
 stances are
 poten-
 tialities.

Universals
 are not
 substance.

1040 b

τῶν πραγμάτων, ὥσπερ οὐδὲ τὸ στοιχείω εἶναι ἢ ἀρχῇ· ἀλλὰ ζητοῦμεν τίς οὖν ἢ ἀρχή, ἵνα εἰς γνωριμώτερον ἀναγάγωμεν. μᾶλλον μὲν οὖν τούτων οὐσία τὸ ὄν καὶ ἐν ἢ ἢ τε ἀρχή καὶ τὸ στοιχεῖον καὶ τὸ αἴτιον, οὐπω δὲ οὐδὲ ταῦτα, εἴπερ μηδ' ἄλλο κοινὸν μηδὲν οὐσία· οὐδενὶ γὰρ ὑπάρχει ἢ οὐσία ἀλλ' ἢ αὐτῇ τε καὶ τῷ ἔχοντι αὐτήν, οὐδ' ἐστὶν οὐσία. ἔτι τὸ ἐν πολλαχῇ οὐκ ἂν εἴη ἅμα, τὸ δὲ κοινὸν ἅμα πολλαχῇ ὑπάρχει· ὥστε δῆλον ὅτι οὐδὲν τῶν καθόλου ὑπάρχει παρὰ τὰ καθ' ἕκαστα χωρὶς, ἀλλ' οἱ τὰ εἶδη λέγοντες εἶναι τῇ μὲν ὀρθῶς λέγουσι χωρίζοντες αὐτά, εἴπερ οὐσίαι εἰσὶ, τῇ δ' οὐκ ὀρθῶς, ὅτι τὸ ἐν ἐπὶ πολλῶν εἶδος λέγουσιν. αἴτιον δ' ὅτι οὐκ ἔχουσι ἀποδοῦναι τίνες αἱ τοιαῦται οὐσίαι αἱ ἀφθαρτοὶ παρὰ τὰς καθ' ἕκαστα καὶ αἰσθητάς. ποιούσιν οὖν τὰς αὐτὰς τῷ εἶδει τοῖς φθαρτοῖς (ταύτας γὰρ ἴσμεν), αὐτοάνθρωπον καὶ αὐτούππον, προστιθέντες τοῖς αἰσθητοῖς

1041 a τὸ ῥῆμα τὸ "αὐτό." καίτοι κἂν εἰ μὴ ἐωράκειμεν τὰ ἄστρα, οὐδὲν ἂν ἦττον, οἴμαι, ἦσαν οὐσίαι αἰδίοι παρ' ἃς ἡμεῖς ἠδεύμεν· ὥστε καὶ νῦν εἰ μὴ ἔχομεν² τίνες εἰσὶν, ἀλλ' εἶναι γέ τινας ἴσως ἀναγκαῖον. Ὅτι μὲν οὖν οὔτε τῶν καθόλου λεγομένων οὐδὲν οὐσία, οὔτ' ἐστὶν οὐσία οὐδεμία ἐξ οὐσιῶν, δῆλον.

XVII. Τί δὲ χρὴ λέγειν καὶ ὁποῖόν τι τὴν οὐσίαν,

¹ εἶναι A^b Alexander; om. EJ Asclepius.

² ἔχομεν recc.

^a i.e., a thing is a principle in relation to something else which it explains; therefore a principle is less substantial than unity or being, which belong to a thing in itself.

^b i.e. universal; cf. I. ix. 1.

"being an element" or "principle" can be the substance; but we ask what the principle is so that we may refer to something more intelligible.^a Now of these concepts Being and Unity are more nearly substance than are principle, element and cause; but not even the former are quite substance, since nothing else that is common is substance; for substance belongs to nothing except itself and that which contains it and of which it is the substance. Again, Unity cannot exist in many places at the same time, but that which is common is present in many things at the same time. Hence it is clear that no universal exists in separation apart from its particulars. The exponents of the Forms are partly right in their account when they make the Forms separate; that is, if the Forms are substances, but they are also partly wrong, since by "Form" they mean the "one-over-many."^b The reason for this is that they cannot explain what are the imperishable substances of this kind which exist besides particular sensible substances; so they make them the same in kind as perishable things (for these we know); i.e., they make "Ideal Man" and "Ideal Horse," adding the word "Ideal" to the names of sensible things. However, I presume that even if we had never seen the stars, none the less there would be eternal substances besides those which we knew; and so in the present case even if we cannot apprehend what they are, still there must be eternal substances of some kind.

It is clear, then, both that no universal term is substance and that no substance is composed of substances.

XVII. As for what and what sort of thing we mean

πάλιν ἄλλην οἶον ἀρχὴν ποιησάμενοι λέγωμεν· ἴσως γὰρ ἐκ τούτων ἔσται δῆλον καὶ περὶ ἐκείνης τῆς οὐσίας ἣτις ἐστὶ κεχωρισμένη τῶν αἰσθητῶν οὐσιῶν. ¹⁰ ἔπει οὖν ἡ οὐσία ἀρχὴ καὶ αἰτία τις ἐστίν, ἐντεῦθεν μετυτέον.

Ζητεῖται δὲ τὸ διὰ τί αἰεὶ οὕτως, διὰ τί ἄλλο ἄλλω τινὶ ὑπάρχει. τὸ γὰρ ζητεῖν διὰ τί ὁ μουσικός ἀνθρωπος μουσικός ἀνθρωπός¹ ἐστίν, ἣτοι ἐστὶ τὸ εἰρημένον ζητεῖν διὰ τί ὁ ἀνθρωπος μουσικός ἐστίν, ἢ ἄλλο. τὸ μὲν οὖν διὰ τί αὐτὸ ἐστίν αὐτό, ¹⁵ οὐδὲν ἐστὶ ζητεῖν· δεῖ γὰρ τὸ ὅτι καὶ τὸ εἶναι ὑπάρχειν δῆλα εἶναι, λέγω δ' οἶον ὅτι ἡ σελίγη ἐκλείπει· αὐτὸ δὲ ὅτι αὐτὸ εἰς λόγος καὶ μία αἰτία ἐπὶ πάντων, διὰ τί ὁ ἀνθρωπος ἀνθρωπος ἢ ὁ μουσικός μουσικός (πλὴν εἴ τις λέγοι ὅτι ἀδιαίρετον πρὸς αὐτὸ ἕκαστον, τοῦτο δ' ἦν τὸ ἐνὶ εἶναι)· ἀλλὰ ²⁰ τοῦτο κοινόν τε κατὰ πάντων καὶ τὸ σύντομον· ζητήσῃε δ' ἂν τις διὰ τί ὁ ἀνθρωπός ἐστὶ ζῶον τοιονδί. τοῦτο μὲν τοῖνυν δῆλον, ὅτι οὐ ζητεῖ διὰ τί ὅς ἐστιν ἀνθρωπος ἀνθρωπός ἐστιν· τί ἄρα κατὰ τίνος ζητεῖ διὰ τί ὑπάρχει (ὅτι δ' ὑπάρχει, δεῖ δῆλον εἶναι· εἰ γὰρ μὴ οὕτως, οὐδὲν ζητεῖ)· οἶον ²⁵ διὰ τί βροντᾶ; διὰ τί² ψόφος γίγνεται ἐν τοῖς νέφεσιν; ἄλλο γὰρ οὕτως κατ' ἄλλου ἐστὶ τὸ ζητούμενον. καὶ διὰ τί ταδί, οἶον πλίνθοι καὶ λίθοι,

¹ μουσικός ἀνθρωπός codd. comm.: ἀνθρωπος μουσικός recs.

² διὰ τί A Alexander: διότι.

³ The argument is: The question "Why is the cultured man a cultured man?" if it does not mean "Why is the man cultured?" can only mean "Why is a thing itself?" But when we ask a question the fact must be obvious; and since it is obvious that a thing is itself, "because it is itself" (or "because each thing is indivisible from itself") is the one

by substance, let us explain this by making, as it were, another fresh start. Perhaps in this way we shall also obtain some light upon that kind of substance which exists in separation from sensible substances. Since, then, substance is a kind of principle and cause, we had better pursue our inquiry from this point.

Now when we ask why a thing is, it is always in the sense "why does A belong to B?" To ask why the cultured man is a cultured man is to ask either, as we have said, why the man is cultured, or something else. Now to ask why a thing is itself is no question; because when we ask the reason of a thing the fact must first be evident; e.g., that the moon suffers eclipse; and "because it is itself" is the one explanation and reason which applies to all questions such as "why is man man?" or "why is the cultured person cultured?" (unless one were to say that each thing is indivisible from itself, and that this is what "being one" really means); but this, besides being a general answer, is a summary one.^a We may, however, ask why a man is an animal of such-and-such a kind. It is clear, then, that we are not asking why he who is a man is a man; therefore we are asking why A, which is predicated of B, belongs to B. (The fact that A does belong to B must be evident, for if this is not so, the question is pointless.) E.g., "Why does it thunder?" means "why is a noise produced in the clouds?" for the true form of the question is one thing predicated in this way of another. Or again, "why are these things, e.g. bricks and stones,

and only complete answer to all questions of this type. Since this answer (in either form) is clearly unsatisfactory, the question which it answers cannot be a proper question

A fresh approach to the question "What is substance?"

"Why?"

2

always

means

"Why does

A belong

to B?"

3

4

5

1041 a οἰκία ἐστίν; φανερόν τοίνυν ὅτι ζητεῖ τὸ αἴτιον (τοῦτο δ' ἐστὶ τὸ τί ἦν εἶναι, ὡς εἰπεῖν λογικῶς), ὃ ἐπ' ἐνίων μὲν ἐστὶ τίνος ἕνεκα, οἷον ἴσως ἐπ' οἰκίας ἢ 30 κλίνης, ἐπ' ἐνίων δὲ τί ἐκίνησε πρῶτον· αἴτιον γὰρ καὶ τοῦτο. ἀλλὰ τὸ μὲν τοιοῦτον αἴτιον ἐπὶ τοῦ γίνεσθαι ζητεῖται καὶ φθείρεσθαι, θάτερον δὲ καὶ ἐπὶ τοῦ εἶναι. Λανθάνει δὲ μάλιστα τὸ ζη-

1041 b τούμενον ἐν τοῖς μὴ κατ' ἀλλήλων¹ λεγομένοις, οἷον ἄνθρωπος τί ἐστὶ ζητεῖται, διὰ τὸ ἀπλῶς λέγεσθαι ἀλλὰ μὴ διορίζεσθαι ὅτι τάδε² τόδε. ἀλλὰ δεῖ διαρθρώσαντας ζητεῖν· εἰ δὲ μὴ, κοινὸν τοῦ μηδὲν ζητεῖν καὶ τοῦ ζητεῖν τι γίνεσθαι. ἐπεὶ δὲ δεῖ ἔχειν 5 τε καὶ ὑπάρχειν τὸ εἶναι, δηλὸν δὴ ὅτι τὴν ὕλην ζητεῖ διὰ τί <τί>³ ἐστίν· οἷον οἰκία ταδὶ διὰ τί; ὅτι ὑπάρχει ὃ ἦν οἰκία εἶναι. καὶ ἄνθρωπος τοδί,⁴ ἢ τὸ σῶμα τοῦτο τοδί ἔχον. ὥστε τὸ αἴτιον ζητεῖται τῆς ὕλης (τοῦτο δ' ἐστὶ τὸ εἶδος) ᾧ τί ἐστίν· τοῦτο δ' ἡ οὐσία. Φανερόν τοίνυν ὅτι ἐπὶ τῶν

10 ἀπλῶν οὐκ ἐστὶ ζήτησις οὐδὲ διδαξις, ἀλλ' ἕτερος τρόπος τῆς ζητήσεως τῶν τοιούτων. Ἐπεὶ δὲ τὸ ἕκ τινος σύνθετον οὕτως ὥστε ἐν εἶναι τὸ πᾶν, ἀλλὰ⁵ μὴ ὡς σωρός, ἀλλ' ὡς ἡ συλλαβὴ—ἡ δὲ συλλαβὴ οὐκ ἐστὶ τὰ στοιχεῖα, οὐδὲ τῶ βα⁷ ταῦτο

¹ μὴ κατ' ἀλλήλων γρ. E: μὴ καταλλήλως A^b Alexander: μὴ κατ' ἄλλων μένοις E: μὴ κατ' ἄλλων JΓ.

² τάδε ἢ E J: τόδε ἢ Γ.

³ Christ, fort. Alexander.

⁴ ὅτι ταδὶ E J Alexander (ταδὶ post ὑπάρχει recc.).

⁵ τοδί A^b Alexander: ὀδί.

⁶ ἄν A^b.

⁷ τῶ βα^a Alexander: τὸ βα recc.: om. E J Γ.

^a Pure forms which contain no matter; in their case the

a house?" Clearly then we are inquiring for the cause (*i.e.*, to speak abstractly, the essence); which is in the case of some things, *e.g.* house or bed, the *end*, and in others the prime mover—for this also is a cause. We look for the latter kind of cause in the case of generation and destruction, but for the former also in the case of existence.

Wears really looking for the essence.

What we are now looking for is most obscure when 6 one term is not predicated of another; *e.g.* when we inquire what man is; because the expression is a simple one not analysed into subject and attributes. We must make the question articulate before we ask it; otherwise we get something which shares the nature of a pointless and of a definite question. Now since we must know that the fact actually 7 exists, it is surely clear that the question is "why is the matter so-and-so?" *e.g.* "why are these materials a house?" Because the essence of house is present in them. And this matter, or the body containing this particular form, is man. Thus what we are seeking is the caused (*i.e.* the form) in virtue of which the matter is a definite thing; and this is the substance of the thing.

This is less obvious when the question is of the form "What is A?" but it is equally true.

Thus substance is form.

Clearly then in the case of simple entities ^a inquiry and explanation are impossible; in such cases there is a different mode of inquiry.

Now since that which is composed of something in 8 such a way that the whole is a unity; not as an aggregate is a unity, but as a syllable is ^b—the syllable is not the letters, nor is BA the same as B

It is form that determines the material ele-

method just described obviously will not apply. They can only be apprehended intuitively (*cf.* IX. x.).

^b This sentence is not finished; the parenthesis which follows lasts until the end of the chapter.

1041 b τὸ¹ β̄ καὶ ᾱ, οὐδ' ἢ σὰρξ πῦρ καὶ γῆ· διαλυθέντων
 15 γὰρ τὰ μὲν οὐκέτι ἔστιν, οἷον ἢ σὰρξ καὶ ἢ συλ-
 λαβή, τὰ δὲ στοιχεῖα ἔστι, καὶ τὸ πῦρ καὶ ἢ γῆ.
 ἔστιν ἄρα τι ἢ συλλαβή, οὐ μόνον τὰ στοιχεῖα τὸ
 φωνῆεν καὶ ἄφωνον, ἀλλὰ καὶ ἕτερόν τι· καὶ ἢ
 σὰρξ οὐ μόνον πῦρ καὶ γῆ ἢ τὸ θερμόν καὶ ψυχρόν,
 ἀλλὰ καὶ ἕτερόν τι. εἰ τοίνυν ἀνάγκη κάκεινο ἢ
 20 στοιχεῖον ἢ ἐκ στοιχείων εἶναι, εἰ μὲν στοιχεῖον,
 πάλιν ὁ αὐτὸς ἔσται λόγος· ἐκ τούτου γὰρ καὶ
 πυρὸς καὶ γῆς ἔσται ἢ σὰρξ καὶ ἔτι ἄλλου, ὥστ'
 εἰς ἄπειρον βαδιεῖται· εἰ δὲ ἐκ στοιχείου, δῆλον
 ὅτι οὐχ ἑνὸς ἀλλὰ πλειόνων, ἢ ἐκείνο αὐτὸ ἔσται,
 ὥστε πάλιν ἐπὶ τούτου τὸν αὐτὸν ἐροῦμεν λόγον
 25 καὶ ἐπὶ τῆς σαρκὸς ἢ συλλαβῆς. δόξειε δ' ἂν εἶναι
 τι τοῦτο καὶ οὐ στοιχεῖον, καὶ αἰτίον γε τοῦ εἶναι
 τοδὶ μὲν σάρκα, τοδὶ δὲ συλλαβὴν. ὁμοίως δὲ καὶ
 ἐπὶ τῶν ἄλλων. οὐσία δὲ ἐκάστου μὲν τοῦτο·
 τοῦτο γὰρ αἴτιον πρῶτον τοῦ εἶναι· ἐπεὶ δ' ἔνια
 οὐκ οὐσίαι τῶν πραγμάτων, ἀλλ' ὅσαι οὐσίαι κατὰ
 30 φύσιν καὶ φύσει συνεστήκασιν, φανείη ἂν [καὶ]²
 αὕτη ἢ φύσις οὐσία, ἢ ἔστιν οὐ στοιχεῖον ἀλλ'
 ἀρχή. στοιχεῖον δ' ἔστιν εἰς ὃ διαιρεῖται ἐνυπάρχον
 ὡς ὕλην, οἷον τῆς συλλαβῆς τὸ ᾱ καὶ τὸ β̄.

¹ ταῦτὸ τὸ EJI' Alexander: ταῦτὸ τῶ rec. : αὐτὸ τῶ A^b.

² Christ.

^a i.e. the formal cause. Cf. V. iv. 4-6.

and A ; nor is flesh fire and earth ; because after ^{ments of all}
 dissolution the compounds, e.g. flesh or the syllable, ^{composite}
 no longer exist ; but the letters exist, and so do fire ^{individuals.}
 and earth. Therefore the syllable is some particular ⁹
 thing ; not merely the letters, vowel and con-
 sonant, but something else besides. And flesh is not
 merely fire and earth, or hot and cold, but something
 else besides. Since then this something else must ¹⁰
 be either an element or composed of elements, (a)
 if it is an element, the same argument applies again ;
 for flesh will be composed of *this* and fire and earth,
 and again of another element, so that there will be
 an infinite regression. And (b) if it is composed of
 elements, clearly it is composed not of one (other-
 wise it will itself be that element) but of several ;
 so that we shall use the same argument in this case
 as about the flesh or the syllable. It would seem, ¹¹
 however, that this "something else" is something
 that is not an element, but is the cause that *this*
 matter is flesh and *that* matter a syllable, and simi-
 larly in other cases. And this is the substance of ¹²
 each thing, for it is the primary cause of its existence.
 And since, although some things are not substances,
 all substances are constituted in accordance with and
 by nature, substance would seem to be this "nature,"
 which is not an element but a principle.^a An element
 is that which is present as matter in a thing, and into
 which the thing is divided ; e.g., A and B are the
 elements of the syllable.

1042 a 3 I. Ἐκ δὴ τῶν εἰρημένων συλλογίσασθαι δεῖ, καὶ συναγαγόντας τὸ κεφάλαιον τέλος ἐπιθεῖναι. εἴρη-
 5 ται δὴ ὅτι τῶν οὐσιῶν ζητεῖται τὰ αἷτια καὶ αἱ ἀρχαὶ καὶ τὰ στοιχεῖα. οὐσίαι δὲ αἱ μὲν ὁμολογούμεναί εἰσιν ὑπὸ πάντων, περὶ δὲ ἐνίων ἰδίᾳ τινὲς ἀπεφῆναντο. ὁμολογούμεναι μὲν αἱ φυσικαί, οἷον πῦρ γῆ ὕδωρ ἀήρ καὶ τᾶλλα τὰ ἀπλᾶ σώματα,
 10 ἐπεὶ τὰ φυτὰ καὶ τὰ μόρια αὐτῶν, καὶ τὰ ζῶα καὶ τὰ μόρια τῶν ζώων, καὶ τέλος ὁ οὐρανὸς καὶ τὰ μόρια τοῦ οὐρανοῦ· ἰδίᾳ δὲ τινες οὐσίας λέγουσιν εἶναι τὰ τ' εἶδη καὶ τὰ μαθηματικά. ἄλλας δὲ δὴ συμβαίνει ἐκ τῶν λόγων οὐσίας εἶναι, τὸ τί ἦν εἶναι καὶ τὸ ὑποκείμενον. ἔτι ἄλλως τὸ γένος
 15 μᾶλλον τῶν εἰδῶν καὶ τὸ καθόλου τῶν καθ' ἕκαστα. τῶ δὲ καθόλου καὶ τῶ γένει καὶ αἱ ιδεαὶ συναπτουσιν· κατὰ τὸν αὐτὸν γὰρ λόγον οὐσίαι δοκοῦσιν εἶναι. ἐπεὶ δὲ τὸ τί ἦν εἶναι οὐσία, τούτου δὲ λόγος ὁ ὀρισμὸς, διὰ τοῦτο περὶ ὀρισμοῦ καὶ περὶ τοῦ καθ' αὐτὸ διώρισται. ἐπεὶ δὲ ὁ ὀρισμὸς λόγος,
 20 ὁ δὲ λόγος μέρη ἔχει, ἀναγκαῖον καὶ περὶ μέρους

^a Cf. VII. i.

^b Cf. VII. ii.

^c Cf. VII. iii., iv.

^d Cf. VII. xiii.

^e Cf. VII. xiv.

^f Cf. VII. iv.-vi., xii., xv.

I. We must now draw our conclusions from what has
 been said, and after summing up the result, bring
 our inquiry to a close. We have said^a that the
 objects of our inquiry are the causes and principles
 and elements of substances. Now some substances
 are agreed upon by all; but about others certain
 thinkers have stated individual theories. Those²
 about which there is agreement are natural sub-
 stances: e.g. fire, earth, water, air and all the other
 simple bodies; next, plants and their parts, and
 animals and the parts of animals; and finally the
 sensible universe and its parts; and certain thinkers
 individually include as substances the Forms and
 the objects of mathematics.^b And arguments show³
 that there are yet other substances: the essence and
 the substrate.^c Again, from another point of view,
 the genus is more nearly substance than the species,
 and the universal than the particulars^d; and there
 is a close connexion between the universal and
 genus and the Ideas, for they are thought to be sub-
 stance on the same grounds.^e And since the essence⁴
 is substance, and definition is the formula of the
 essence, we have therefore systematically examined
 definition and essential predication.^f And since
 the definition is a formula, and the formula has parts,
 we have been compelled to investigate "parts,"

BOOK VIII.
 MATTER
 AND FORM.
 Summary of
 the preced-
 ing Book.

1042 a

ἢν ἰδεῖν, ποῖα τῆς οὐσίας μέρη καὶ ποῖα οὐ, καὶ εἰ ταῦτα καὶ τοῦ ὀρισμοῦ. ἔτι τοίνυν οὔτε τὸ καθόλου οὐσία οὔτε τὸ γένος. περὶ δὲ τῶν ἰδεῶν καὶ τῶν μαθηματικῶν ὕστερον σκεπτέον· παρὰ γὰρ τὰς αἰσθητὰς οὐσίας ταύτας λέγουσιν εἶναι. νῦν δὲ περὶ τῶν ὁμολογουμένων οὐσιῶν ἐπέλωμεν.

Ἄνται δ' εἰσὶν αἱ αἰσθηταί· αἱ δ' αἰσθηταὶ οὐσίαι πάσαι ὕλην ἔχουσιν. ἔστι δ' οὐσία τὸ ὑποκείμενον, ἄλλως μὲν ἢ ὕλη (ὕλην δὲ λέγω ἢ μὴ τὸδε τι οὐσα ἐνεργείᾳ δυνάμει ἐστὶ τὸδε τι), ἄλλως δ' ὁ λόγος καὶ ἡ μορφή, ὃ τὸδε τι ὄν τῷ λόγῳ χωριστόν ἐστιν· τρίτον δὲ τὸ ἐκ τούτων, οὐ γένεσις μόνου καὶ φθορὰ ἐστὶ, καὶ χωριστόν ἀπλῶς· τῶν γὰρ κατὰ τὸν λόγον οὐσιῶν αἱ μὲν αἱ δ' οὐ. "Ὅτι δ' ἐστὶν οὐσία καὶ ἡ ὕλη, δῆλον· ἐν πάσαις γὰρ ταῖς ἀντικειμέναις μεταβολαῖς ἐστὶ τι τὸ ὑποκείμενον ταῖς μεταβολαῖς, οἷον κατὰ τόπον τὸ νῦν μὲν ἐνταῦθα, πάλιν δ' ἄλλοθι, καὶ κατ' αὔξησιν ὃ νῦν μὲν τηλικόνδε, πάλιν δ' ἔλαττον ἢ μείζον, καὶ κατ' ἀλλοίωσιν ὃ νῦν μὲν ὑγιές, πάλιν δὲ κάμνον. ὁμοίως δὲ καὶ κατ' οὐσίαν ὃ νῦν μὲν ἐν γενέσει, πάλιν δ' ἐν φθορᾷ, καὶ νῦν μὲν ὑποκείμενον ὡς τὸδε τι, πάλιν δ' ὑποκείμενον ὡς κατὰ στέρησιν. καὶ ἀκολουθοῦσι δὴ ταύτῃ αἱ ἄλλαι μεταβολαί.

^a Cf. VII. x., xi.

^b Cf. VII. xiii., xvi.

^c Books XIII. and XIV.

^d Cf. VII. viii.

^e In point of fact the only form which is absolutely separable is Mind or Reason. Cf. XII. vii., ix.

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and to discover what things are parts of the substance, and what are not; and whether the parts of the substance are also parts of the definition.^a Further, then, neither the universal nor the genus is substance.^b As for the Ideas and the objects of⁵ mathematics (for some say that these exist apart from sensible substances) we must consider them later.^c But now let us proceed to discuss those substances which are generally accepted as such.

Now these are the sensible substances, and all sensible substances contain matter. And the substance⁶ is substance; in one sense matter (by matter ^{Substance as substrate} I mean that which is not actually, but is potentially, an individual thing); and in another the formula and the specific shape (which is an individual thing and is theoretically separable); and thirdly there is the combination of the two, which alone admits of generation and destruction,^d and is separable in an unqualified sense—for of substances in the sense of formula some are separable^e and some are not.

That matter is also substance is evident; for in⁷ all opposite processes of change there is something ^{Substance as matter.} that underlies those processes; e.g., if the change is of *place*, that which is now in one place and subsequently in another; and if the change is of *magnitude*, that which is now of such-and-such a size, and subsequently smaller or greater; and if the change is of *quality*, that which is now healthy and subsequently diseased. Similarly, if the change is⁸ in respect of *being*, there is something which is now in course of generation, and subsequently in course of destruction, and which is the underlying substance, now as *this* individual thing, and subsequently as deprived of its individuality. In this last process

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1042 b

5 τῶν δ' ἄλλων ἢ μιᾶ ἢ δυοῖν αὐτῆ οὐκ ἀκολουθεῖ·
οὐ γὰρ ἀνάγκη, εἴ τι ὕλην ἔχει τοπικὴν, τοῦτο καὶ
γεννητὴν καὶ φθαρτὴν ἔχειν. τίς μὲν οὖν διαφορὰ
τοῦ ἀπλῶς γίνεσθαι καὶ μὴ ἀπλῶς, ἐν τοῖς
φυσικοῖς εἴρηται.

10 II. Ἐπεὶ δ' ἡ μὲν ὡς ὑποκειμένη καὶ ὡς ὕλη οὐσία
ἀμολογεῖται, αὐτῆ δ' ἐστὶν ἡ δυνάμει, λοιπὸν τὴν
ὡς ἐνέργειαν οὐσίαν τῶν αἰσθητῶν εἰπεῖν τίς ἐστίν.
Δημόκριτος μὲν οὖν τρεῖς διαφορὰς ἔοικεν οἰομένῳ
εἶναι· τὸ μὲν γὰρ ὑποκείμενον σῶμα τὴν ὕλην ἐν
καὶ ταῦτόν, διαφέρειν δὲ ἡ ῥυμίῳ, ὃ ἐστὶ σχῆμα,
15 ἡ τροπῆ, ὃ ἐστὶ θέσις, ἡ διαλιγῆ, ὃ ἐστὶ τάξις.
φαίνονται δὲ πολλαὶ διαφοραὶ οὔσαι, οἷον τὰ μὲν
συνθέσει λέγεται τῆς ὕλης, ὡσπερ ὅσα κράσει
καθάπερ μελίκρατον, τὰ δὲ δεσμῶ οἷον φάκελος,
τὰ δὲ κόλλῃ οἷον βιβλίον, τὰ δὲ γόμφῳ οἷον
κιβώτιον, τὰ δὲ πλείοσι τούτων, τὰ δὲ θέσει οἷον
20 οὐδὸς καὶ ὑπέρθυρον (ταῦτα γὰρ τῷ κείσθαι πως
διαφέρει), τὰ δὲ χρόνῳ οἷον δεῖπνον καὶ ἄριστον,
τὰ δὲ τόπῳ οἷον τὰ πνεύματα, τὰ δὲ τοῖς τῶν
αἰσθητῶν πάθει οἷον σκληρότητι καὶ μαλακότητι
καὶ πυκνότητι καὶ μονότητι καὶ ξηρότητι καὶ
ὕγρότητι· καὶ τὰ μὲν ἐνίοις τούτων τὰ δὲ πᾶσι
25 τούτοις, καὶ ὅλως τὰ μὲν ὑπεροχῆ τὰ δὲ ἐλλείψει.

Ὡστε δῆλον ὅτι καὶ τὸ ἔστι τσσαυταχῶς λέγεται·
οὐδὸς γάρ ἐστίν ὅτι οὕτως κείται, καὶ τὸ εἶναι τὸ

^a *i.e.*, locomotion does not involve substantial change; alteration may or may not involve it (in IX. viii. 17 we find that it does not); increase or decrease does involve it.

^b *e.g.*, the heavenly bodies, though imperishable, can move in space (ch. iv. 7, XII. ii. 4).

^c *Physics* 225 a 12-20; *cf. De Gen. et Corr.* 317 a 17-31.

of change the others are involved, but in either one or two ^a of the others it is not involved; for it does not necessarily follow that if a thing contains matter that admits of change of place, it also contains matter that is generable and destructible.^b The difference between absolute and qualified generation has been explained in the *Physics*.^c

II. Since substance in the sense of substrate ^{Substance as form or actuality.} or matter is admittedly substance, and this is potential substance, it remains to explain the nature of the actual substance of sensible things. Now ^{The kinds of constitutive form.} Democritus ^a apparently assumes three differences in substance; for he says that the underlying body is one and the same in material, but differs in figure, *i.e.* shape; or inclination, *i.e.* position; or inter-contact, *i.e.* arrangement. But evidently there are ² many differences; *e.g.* some things are defined by the way in which their materials are combined, as, for example, things which are unified by mixture, as honey-water; or by ligature, as a faggot; or by glue, as a book; or by clamping, as a chest; or by more than one of these methods. Other things are defined by their position, *e.g.* threshold and lintel (for these differ in being situated in a particular way); and others by place (or direction), *e.g.* the winds; others by time, *e.g.* dinner and breakfast; and others by the attributes peculiar to sensible things, *e.g.* hardness and softness, density and rarity, dryness and humidity. Some are distinguished by some of these differences, and others by all of them; and in general some by excess and some by defect.

Hence it is clear that "is" has the same number ³ of senses; for a thing "is" a threshold because it is

^d *Cf. I. iv. 11.*

1042 b

οὕτως αὐτὸ κείσθαι σημαίνει, καὶ τὸ κρύσταλλον
 εἶναι τὸ οὕτω πεπυκνωσθαι. ἐνίων δὲ τὸ εἶναι καὶ
 πᾶσι τούτοις ὀρισθήσεται, τῷ τὰ μὲν μεμίχθαι, τὰ
 30 δὲ κεκράσθαι, τὰ δὲ δεδέσθαι, τὰ δὲ πεπυκνωσθαι,
 τὰ δὲ ταῖς ἄλλαις διαφοραῖς κεχρησθαι, ὥσπερ
 χεῖρ¹ ἢ πούς. ληπτέα οὖν τὰ γένη τῶν διαφορῶν
 αὐταὶ γὰρ ἀρχαὶ ἔσονται τοῦ εἶναι, οἷον τὰ τῷ
 μᾶλλον καὶ ἥττον ἢ πυκνῷ καὶ μαιῶν καὶ τοῖς
 35 ἄλλοις τοῖς τοιούτοις· πάντα γὰρ ταῦτα ὑπεροχῇ
 καὶ ἔλλειψίς ἐστιν. εἰ δὲ τι σχήματι ἢ λειότητι
 καὶ τραχύτητι, πάντα εὐθεί καὶ καμπύλῳ. τοῖς δὲ
 1043 a τὸ εἶναι τὸ μεμίχθαι ἔσται, ἀντικειμένως δὲ τὸ
 μὴ εἶναι.

Φανερόν δὴ ἐκ τούτων ὅτι εἴπερ ἡ οὐσία αἰτία
 τοῦ εἶναι ἕκαστον, ὅτι ἐν τούτοις ζητητέον τί
 τὸ αἴτιον τοῦ εἶναι τούτων ἕκαστον. οὐσία μὲν
 5 οὖν οὐδὲν τούτων οὐδὲ συνδυαζόμενον, ὅμως δὲ τὸ
 ἀνάλογον ἐν ἐκάστῳ. καὶ ὡς ἐν ταῖς οὐσίαις τὸ
 τῆς ὕλης κατηγορούμενον αὐτῇ ἢ ἐνέργεια, καὶ ἐν
 τοῖς ἄλλοις ὀρισμοῖς μάλιστα. οἷον εἰ οὐδὸν δέοι
 ὀρίσασθαι, ξύλον ἢ λίθον ὡδὶ κείμενον ἐροῦμεν,
 καὶ οἰκίαν πλίνθους καὶ ξύλα ὡδὶ κείμενα· ἢ ἔτι
 10 καὶ τὸ οὐ ἔνεκα ἐπ' ἐνίων ἐστίν. εἰ δὲ κρύσταλλον,
 ὕδωρ πεπηγὸς ἢ πεπυκνωμένον ὡδί. συμφωνία δὲ

¹ χεῖρ] ἢ χεῖρ E: ἢ χεῖρ J.

situated in a particular way, and "to be a threshold" means to be situated in this particular way; and "to be ice" means to be condensed in this particular way. Some things have their being defined in all these ways: by being partly mixed, partly blended, partly bound, partly condensed, and partly subjected to all the other different processes; as, for example, a hand or a foot. We must therefore comprehend the ⁴ various kinds of differences—for these will be principles of being—i.e. the differences in degree, or in density and rarity, and in other such modifications; for they are all instances of excess and defect. And ⁵ if anything differs in shape or in smoothness or roughness, all these are differences in straightness and curvature. For some things mixture will constitute being, and the opposite state not-being.

From this it is evident that if substance is the cause of the existence of each thing, we must look among these "differences" for the cause of the being of each thing. No one of them, nor the combination of ⁶ any two of them, is substance, but nevertheless each one of them contains something analogous to substance. And just as in the case of substances that which is predicated of the matter is the actuality itself, so in the other kinds of definition it is the nearest approximation to actuality. E.g., if we have to define a threshold, we shall call it "a piece of wood or stone placed in such-and-such a way"; and we shall define a house as "bricks and timber arranged in such-and-such a way"; or again in ⁷ some cases there is the final cause as well. And if we are defining ice, we shall describe it as "water congealed or condensed in such-and-such a way"; and a harmony is "such-and-such a com-

1043^a ὀξέος καὶ βαρέος μίξις τοιαδί· τὸν αὐτὸν δὲ τρόπον
καὶ ἐπὶ τῶν ἄλλων. Φανερόν δὴ ἐκ τούτων
ὅτι ἡ ἐνέργεια ἄλλη ἄλλης ὕλης καὶ ὁ λόγος· τῶν
μὲν γὰρ ἡ σύνθεσις, τῶν δ' ἡ μίξις, τῶν δ' ἄλλο
15 τι τῶν εἰρημένων. διὸ τῶν ὀριζομένων οἱ μὲν λέ-
γοντες τί ἐστὶν οἰκία, ὅτι λίθοι πλίνθοι ξύλα, τὴν
δυνάμει οἰκίαν λέγουσιν· ὕλη γὰρ ταῦτα· οἱ δὲ
ἀγγεῖον σκεπαστικὸν χρημάτων καὶ σωμάτων,¹ ἢ
τι² ἄλλο τοιοῦτον [προσθέντες],³ τὴν ἐνέργειαν⁴
λέγουσιν· οἱ δ' ἄμφω ταῦτα συντιθέντες τὴν τρίτην
καὶ τὴν ἐκ τούτων οὐσίαν. ἔοικε γὰρ ὁ μὲν διὰ
20 τῶν διαφορῶν λόγος τοῦ εἴδους καὶ τῆς ἐνεργείας
εἶναι, ὁ δ' ἐκ τῶν ἐνυπαρχόντων τῆς ὕλης μάλλον.
ὁμοίως δὲ καὶ οἴους Ἀρχύτας ἀπεδέχετο ὄρους· τοῦ
συνάμφω γὰρ εἶσιν. οἶον τί ἐστὶ νημεμία; ἡρεμία
ἐν πλήθει ἀέρος· ὕλη μὲν γὰρ ὁ ἀήρ, ἐνέργεια δὲ καὶ
οὐσία ἡ ἡρεμία. τί ἐστὶ γαλήνη; ὁμαλότης θα-
25 λάττης· τὸ μὲν ὑποκείμενον ὡς ὕλη ἢ θάλαττα, ἢ
δὲ ἐνέργεια καὶ ἡ μορφή ἢ ὁμαλότης. Φανερόν
δὴ ἐκ τῶν εἰρημένων τίς ἡ αἰσθητὴ οὐσία ἐστὶ καὶ
πῶς· ἢ μὲν γὰρ ὡς ὕλη, ἢ δ' ὡς μορφή καὶ⁵
ἐνέργεια· ἢ δὲ τρίτη ἢ ἐκ τούτων.

III. Δεῖ δὲ μὴ ἀγνοεῖν ὅτι ἐνίοτε λαμβάνει πότερον
30 σημαίνει τὸ ὄνομα τὴν σύνθετον οὐσίαν ἢ τὴν
ἐνέργειαν καὶ τὴν μορφήν, οἶον ἢ οἰκία πότερον

¹ σωμάτων καὶ χρημάτων recc.

² τι καὶ recc.

³ Christ.

⁴ ἐνεργεία Bekker.

⁵ καὶ Alexander, Bonitz: ὅτι.

^a A celebrated Pythagorean, contemporary with Plato.

bination of high and low"; and similarly in the other cases.

From this it is evident that the actuality or formula is different in the case of different matter; for in some cases it is a combination, in others a mixture, and in others some other of the modes which we have described. Hence in defining the nature of a house,⁸ those who describe it as stones, bricks and wood, describe the potential house, since these things are its matter; those who describe it as "a receptacle for containing goods and bodies," or something else for the same effect, describe its actuality; but those who combine these two definitions describe the third kind of substance, that which is composed of matter and form. For it would seem that the formula which involves the differentiae is that of the form and the actuality, while that which involves the constituent parts is rather that of the matter. The same is true of the kind of definitions which Archytas^a used to accept; for they are definitions of the combined matter and form. E.g., what is "windlessness?" Stillness in a large extent of air; for the air is the matter, and the stillness is the actuality and substance. What is a calm? Levelness of sea.¹⁰ The sea is the material substrate, and the levelness is the actuality or form.

From the foregoing account it is clear what sensible substance is, and in what sense it exists; either as matter, or as form and actuality, or thirdly as the combination of the two.

III. We must not fail to realize that sometimes it is doubtful whether a name denotes the composite substance or the actuality and the form—e.g. whether "house" denotes the composite thing, "a covering

Actuality or form distinguished from the concrete substance.

1043 a σημείοι τοῦ κοινοῦ ὅτι σκέπασμα ἐκ πλίνθων καὶ
λίθων ὡδὲ κειμένων, ἢ τῆς ἐνεργείας καὶ τοῦ εἶδους
ὅτι σκέπασμα, καὶ γραμμὴ πότερον δυὰς ἐν μήκει
35 ἢ [ὅτι]² δυὰς, καὶ ζῶον πότερον ψυχὴ ἐν σώματι ἢ
ψυχὴ· αὕτη γὰρ οὐσία καὶ ἐνέργεια σώματος τιнос.
εἷη δ' ἂν καὶ ἐπ' ἀμφοτέροις τὸ ζῶον, οὐχ ὡς ἐν
λόγῳ λεγόμενον ἀλλ' ὡς πρὸς ἓν. ἀλλὰ ταῦτα
πρὸς μὲν τι ἄλλο διαφέρει, πρὸς δὲ τὴν ζήτησιν τῆς
1043 b οὐσίας τῆς αἰσθητῆς οὐδέν· τὸ γὰρ τί ἦν εἶναι τῶ
εἶδει καὶ τῇ ἐνεργείᾳ ὑπάρχει. ψυχὴ μὲν γὰρ καὶ
ψυχῇ εἶναι ταῦτόν, ἀνθρώπῳ δὲ καὶ ἀνθρωπος οὐ
ταῦτόν, εἰ μὴ καὶ ἡ ψυχὴ ἀνθρωπος λεχθήσεται.
5 οὕτω δὲ τινὶ μὲν τινὶ δ' οὐ. Οὐ φαίνεται δὲ ζη-
τοῦσθαι ἢ συλλαβῇ ἐκ τῶν στοιχείων οὐσα καὶ συν-
θέσεως, οὐδ' ἡ οἰκία πλίνθοι τε καὶ σύνθεσις· καὶ
τοῦτο ὀρθῶς· οὐ γὰρ ἐστὶν ἡ σύνθεσις οὐδ' ἡ μίξις
ἐκ τούτων ὧν ἐστὶ² σύνθεσις ἢ μίξις. ὁμοίως δὲ
οὐδὲ τῶν ἄλλων οὐθέν, οἷον εἰ ὁ οὐδὸς θέσει, οὐκ
10 ἐκ τοῦ οὐδοῦ ἢ θέσει, ἀλλὰ μάλλον οὗτος ἐξ
ἐκείνης. οὐδὲ δὲ ὁ ἀνθρωπός ἐστι τὸ ζῶον καὶ
δίπουν, ἀλλὰ τι δεῖ εἶναι ὁ παρὰ ταῦτά ἐστιν, εἰ
ταῦθ' ὕλη, οὔτε δὲ στοιχείον οὔτ' ἐκ στοιχείου, ἀλλ'
ἢ οὐσία· ὁ ἐξαιρούντες τὴν ὕλην λέγουσιν. εἰ
οὖν τοῦτ' αἴτιον τοῦ εἶναι καὶ οὐσία τοῦτο, αὐτὴν
ἂν τὴν οὐσίαν οὐ³ λέγοιεν. Ἄνάγκη δὲ ταύτην

¹ Bywater.

² ἐστὶν ἢ A^b.

³ οὐ om. E²A^b Alexander.

^o Cf. VII. xi. 6.

^b Cf. Plato, *Theaetetus* 204 a ff.

made of bricks and stones arranged in such-and-such a way," or the actuality and form, "a covering"; and whether "line" means "duality in length" or "duality"^a; and whether "animal" means "a soul in a body" or "a soul"; for the soul is the substance and actuality of some body. The term ² "animal" would be applicable to both cases; not as being defined by one formula, but as relating to one concept. These distinctions are of importance from another point of view, but unimportant for the investigation of sensible substance; because the essence belongs to the form and the actualization. Soul and essence of soul are the same, but man and ³ essence of man are not, unless the soul is also to be called man; and although this is so in one sense, it is not so in another.

It appears, then, upon inquiry into the matter,^b that a syllable is not derived from the phonetic elements *plus* combination, nor is a house bricks *plus* combination. And this is true; for the combination or mixture is not derived from the things of which it is a combination or mixture, nor, similarly, is any ⁴ other of the "differences." E.g., if the threshold is defined by its position, the position is not derived from the threshold, but rather *vice versa*. Nor, indeed, is man "animal" *plus* "two-footed"; there must be something which exists besides these, if they are matter; but it is neither an element nor derived from an element, but the substance; and those who offer the definition given above are omitting this and describing the matter. If, then, this something else ⁵ is the cause of a man's being, and this is his substance, they will not be stating his actual substance.

Now the substance must be either eternal or

1043 b
 15 ἢ αἰδιον εἶναι ἢ φθαρτὴν ἄνευ τοῦ φθειρεσθαι καὶ
 γεγονέναι ἄνευ τοῦ γίνεσθαι. δέδεικται δὲ καὶ
 δεδηλωται ἐν ἄλλαις ὅτι τὸ εἶδος οὐθεὶς ποιεῖ οὐδὲ
 γεννᾷ, ἀλλὰ ποιεῖται τὸδε, γίνεται δὲ τὸ ἐκ τού-
 των. εἰ δ' εἰσὶ τῶν φθαρτῶν αἰ οὐσίαι χωρισταί,
 οὐδέν πω δῆλον· πλὴν ὅτι γ' ἐνίων οὐκ ἐνδέχεται
 20 δῆλον, ὅσα μὴ οἷον τε παρὰ τὰ τινὰ εἶναι, οἷον
 οἰκίαν ἢ σκεῦος. ἴσως μὲν οὖν οὐδ' οὐσίαι εἰσὶν
 οὐτ' αὐτὰ ταῦτα οὔτε τι τῶν ἄλλων ὅσα μὴ φύσει
 συνέστηκεν· τὴν γὰρ φύσιν μόνην ἂν τις θείη τὴν¹
 ἐν τοῖς φθαρτοῖς οὐσίαν. ὥστε ἡ ἀπορία ἦν οἱ
 Ἄντισθένοι καὶ οἱ οὕτως ἀπαίδευτοι ἠπόρουν
 25 ἔχει τινὰ καιρόν, ὅτι οὐκ ἔστι τὸ τί ἔστιν ὀρί-
 σασθαι (τὸν γὰρ ὄρον εἶναι λόγον μακρόν), ἀλλὰ
 ποῖον μὲν τί ἔστιν ἐνδέχεται καὶ διδάξαι, ὥσπερ
 ἄργυρον, τί μὲν ἔστιν οὐ, ὅτι δὲ οἷον καττίτερος.
 ὥστ' οὐσίας ἔστι μὲν ἧς ἐνδέχεται εἶναι ὄρον καὶ
 30 λόγον, οἷον τῆς συνθέτου, εἰάν τε αἰσθητῆ ἔάν τε
 νοητῆ ἢ· ἐξ ὧν δ' αὕτη πρώτων, οὐκέτι,² εἴπερ
 τι κατὰ τινος σημαίνει ὁ λόγος ὁ ὀριστικός, καὶ
 δεῖ τὸ μὲν ὥσπερ ἕλλην εἶναι, τὸ δὲ ὡς μορφῆν.
 Φανερόν δὲ καὶ διότι, εἴπερ εἰσὶ πῶς ἀριθμοὶ
 αἰ οὐσίαι, οὕτως εἰσὶ καὶ οὐχ ὡς τινες λέγουσι
 35 μονάδων· ὁ τε γὰρ ὀρισμὸς ἀριθμὸς τις· διαιρετός

¹ τὴν Bessarion, Aldine, Alexander: τῶν.

² οὐκ ἔστι E J F Alexander.

⁰ Cf. VII. viii.

⁰ Cf. VII. viii. 6.

⁰ Aristotle is referring to the Pythagoreans and Platonists, but seems as usual to misrepresent their views. His object in this section is to show that the relation of number

perishable without ever being in process of perishing, and generated without ever being in process of generation. It has been clearly demonstrated elsewhere^a that no one generates or creates the form; it is the individual thing that is created, and the compound that is generated. But whether the substances of perishable things are separable or not is not yet at all clear^b; only it is clear that this is impossible in some cases, *i.e.* in the case of all things which cannot exist apart from the particular instances; *e.g.* house or implement.^c Probably, then, neither these things themselves, nor anything else which is not naturally composed, are substances; for their nature is the only substance which one can assume in the case of perishable things. Hence the difficulty which perplexed the followers of Antisthenes^d and others similarly unlearned has a certain application; I mean the difficulty that it is impossible to define *what* a thing is (for the definition, they say, is a lengthy formula), but it is possible actually to teach others what a thing *is like*; *e.g.*, we cannot say *what* silver is, but we can say that it is like tin. Hence there can be definition and formula of one kind of substance, *i.e.* the composite, whether it is sensible or intelligible; but not of its primary constituents, since the defining formula denotes something predicated of something, and this must be partly of the nature of matter and partly of the nature of form.

It is also obvious that, if numbers are in any sense^e substances, they are such in this sense, and not, as some^e describe them, aggregates of units. For (*a*) the definition is a kind of number, since it is divisible,

to substance is only one of analogy. Cf. XIII. vi., vii., and see *Introd.* pp. xvii f., xxiii f.

Analogies between number and substance as definition.

1043 b

τε γάρ, καὶ εἰς ἀδιαίρετα (οὐ γὰρ ἄπειροι οἱ λόγοι),
καὶ ὁ ἀριθμὸς δὲ τοιοῦτον.¹ καὶ ὡσπερ οὐδ' ἀπ'
ἀριθμοῦ ἀφαιρεθέντος τινὸς ἢ προστεθέντος ἐξ ὧν
ὁ ἀριθμὸς ἔστιν, οὐκέτι ὁ αὐτὸς ἀριθμὸς ἔστιν
1044 a ἀλλ' ἕτερος, κὰν τοῦλάχιστον ἀφαιρεθῆ ἢ προστεθῆ,
οὕτως οὐδὲ ὁ ὀρισμὸς οὐδὲ τὸ τί ἦν εἶναι οὐκέτι
ἔσται ἀφαιρεθέντος τινὸς ἢ προστεθέντος. καὶ τὸν
ἀριθμὸν δεῖ εἶναι τι ᾧ εἰς, ὃ νῦν οὐκ ἔχουσι λέγειν
τίνι εἰς, εἴπερ ἔστιν εἰς. ἢ γὰρ οὐκ ἔστιν ἀλλ' οἶον
σωρός, ἢ εἴπερ ἔστί, λεκτέον τί τὸ ποιοῦν ἐν ἐκ
5 πολλῶν. καὶ ὁ ὀρισμὸς εἰς ἐστίν· ὁμοίως δὲ οὐδὲ
τοῦτον ἔχουσι λέγειν. καὶ τοῦτ' εἰκότως συμβαίνει·
τοῦ αὐτοῦ γὰρ λόγον, καὶ ἡ οὐσία ἐν οὕτως, ἀλλ'
οὐχ ὡς λέγουσιν οἱ οἶον μονάς τις οὐσα ἢ στιγμή,
ἀλλ' ἐντελέχεια καὶ φύσις τις ἐκάστη. καὶ ὡσπερ
10 οὐδὲ ὁ ἀριθμὸς ἔχει τὸ μᾶλλον καὶ ἥττον, οὐδ' ἡ
κατὰ τὸ εἶδος οὐσία, ἀλλ' εἴπερ, ἢ μετὰ τῆς ὕλης.

Περὶ μὲν οὖν γενέσεως καὶ φθορᾶς τῶν λεγομένων
οὐσιῶν, πῶς τ' ἐνδέχεται καὶ πῶς ἀδύνατον, καὶ
περὶ τῆς εἰς τὸν ἀριθμὸν ἀναγωγῆς, ἔστω μέχρι
τούτων διωρισμένον.

15 IV. Περὶ δὲ τῆς ὑλικῆς οὐσίας δεῖ μὴ λανθάνειν
ὅτι εἰ καὶ ἐκ τοῦ αὐτοῦ πάντα πρῶτου ἢ τῶν
αὐτῶν ὡς πρῶτων καὶ ἡ αὐτῆ ὕλη ὡς ἀρχὴ τοῖς
γεννομένοις, ὁμως ἔστι τις οἰκεία ἐκάστου, οἶον

¹ τοιοῦτος recc.

^a In *Categories* 3 b 33-4 a 9 Aristotle does not allow this exception.

^b i.e. from prime matter or the four elements.

and divisible into indivisible parts (for formulae are not infinite); and number is of this nature. And 10
(b) just as when any element which composes the number is subtracted or added, it is no longer the same number but a different one, however small the subtraction or addition is; so neither the definition nor the essence will continue to exist if something is subtracted from or added to it. And (c) a number must be something in virtue of which it is a unity (whereas our opponents cannot say what makes it one); that is, if it is a unity. For either it 11
is not a unity but a kind of aggregate, or if it is a unity, we must explain what makes a unity out of a plurality. And the definition is a unity; but similarly they cannot explain the definition either. This is a natural consequence, for the same reason applies to both, and substance is a unity in the way which we have explained, and not as some thinkers say: e.g. because it is a kind of unit or point; but each substance is a kind of actuality and nature. Also (d) just as a number does not admit of variation 12
in degree, so neither does substance in the sense of form; if any substance does admit of this, it is substance in combination with matter.^a

Let this suffice as a detailed account of the generation and destruction of so-called substances, in what sense they are possible and in what sense they are not; and of the reference of things to number.

IV. As regards material substance, we must not fail to realize that even if all things are derived from the same primary cause, or from the same things as primary causes^b; i.e. even if all things that are generated have the same matter for their first principle, nevertheless each thing has some matter

Matter considered in relation to natural substances and events

1044 a φλέγματός [ἐστὶ πρώτη ὕλη]¹ τὰ γλυκέα ἢ λιπαρά,
 20 χολῆς δὲ τὰ πικρὰ ἢ ἄλλ' ἅττα· ἴσως δὲ ταῦτα ἐκ
 τοῦ αὐτοῦ. γίνονται δὲ πλείους ὕλαι τοῦ αὐτοῦ,
 ὅταν θατέρου ἢ ἑτέρα ᾗ, οἷον φλέγμα ἐκ λιπαροῦ
 καὶ γλυκέος, εἰ τὸ λιπαρὸν ἐκ τοῦ γλυκέος, ἐκ δὲ
 χολῆς τῷ ἀναλύεσθαι εἰς τὴν πρώτην ὕλην τὴν
 χολήν. διχῶς γὰρ τόδ' ἐκ τοῦδε, ἢ ὅτι πρὸ ὁδοῦ
 25 ἔσται ἢ ὅτι ἀναλυθέντος εἰς τὴν ἀρχήν. ἐνδέχεται
 δὲ μιᾶς τῆς ὕλης οὕσης ἕτερα γίνεσθαι διὰ τὴν
 κινουσαν αἰτίαν, οἷον ἐκ ξύλου καὶ κιβωτός καὶ
 κλίνη. ἐνίων δ' ἑτέρα ἢ ὕλη ἐξ ἀνάγκης ἑτέρων ὄν-
 των, οἷον πρίων οὐκ ἂν γένοιτο ἐκ ξύλου, οὐδ' ἐπὶ
 τῇ κινούσῃ αἰτία τοῦτο· οὐ γὰρ ποιήσει πρίονα ἐξ
 30 ἐρίου ἢ ξύλου. Εἰ δ' ἄρα τὸ αὐτὸ ἐνδέχεται ἐξ
 ἄλλης ὕλης ποιῆσαι, δῆλον ὅτι ἡ τέχνη καὶ ἡ ἀρχὴ
 ἢ ὡς κινουσα ἢ αὐτή· εἰ γὰρ καὶ ἡ ὕλη ἑτέρα καὶ τὸ
 κινουν, καὶ τὸ γεγονός. Ὅταν δὴ τις ζητῇ τί
 τὸ αἴτιον, ἐπεὶ πλεοναχῶς τὰ αἴτια λέγεται, πάσας
 δεῖ λέγειν τὰς ἐνδεχομένας αἰτίας. οἷον ἀνθρώπου
 35 τίς αἰτία ὡς ὕλη; ἄρα τὰ καταμήνια; τί δ' ὡς
 κινουν; ἄρα τὸ σπέρμα; τί δ' ὡς τὸ εἶδος; τὸ
 1044 b τὶ ἦν εἶναι· τί δ' ὡς οὐ ἔνεκα; τὸ τέλος. ἴσως δὲ
 ταῦτα ἄμφω τὸ αὐτό. δεῖ δὲ τὰ ἐγγύτατα αἴτια

¹ om. A^b.

peculiar to it; e.g., "the sweet" or "the viscous" is the proximate matter of mucus, and "the bitter" or some such thing is that of bile—although probably mucus and bile are derived from the same ultimate matter. The result is that there is more than one 2 matter of the same thing, when one thing is the matter of the other; e.g., mucus is derived from "the viscous"; and from "the sweet," if "the viscous" is derived from "the sweet"; and from bile, by the analysis of bile into its ultimate matter. For there are two senses in which X comes from Y; either because X will be found further on than Y in the process of development, or because X is produced when Y is analysed into its original constituents. And different things can be generated by 3 the moving cause when the matter is one and the same, e.g. a chest and a bed from wood. But some different things must necessarily have different matter; e.g., a saw cannot be generated from wood, nor does this lie in the power of the moving cause, for it cannot make a saw of wool or wood.

If, then, it is possible to make the same thing 4 from different matter, clearly the art, i.e. the moving principle, is the same; for if both the matter and the mover are different, so too is the product.

So whenever we inquire what the cause is, since there are causes in several senses, we must state all the possible causes. E.g., what is the material cause 5 of a man? The menses. What is the moving cause? The semen. What is the formal cause? The essence. What is the final cause? The end. (But perhaps both the latter are the same.) We must, however, state the most proximate causes.

1044 b

λέγειν. τίς ἢ ὕλη; μὴ πῦρ ἢ γῆν, ἀλλὰ τὴν ἴδιον.

Περὶ μὲν οὖν τὰς φυσικὰς οὐσίας καὶ γεννητὰς ἀνάγκη οὕτω μετιέναι, εἴ τις μέτεισιν ὀρθῶς, εἴπερ ἄρα αἰτία τε ταῦτα καὶ τοσαῦτα, καὶ δεῖ τὰ αἰτία γνωρίζειν. ἐπὶ δὲ τῶν φυσικῶν μὲν αἰδίων δὲ οὐσιῶν ἄλλος λόγος. ἴσως γὰρ ἓνα οὐκ ἔχει ὕλην, ἢ οὐ τοιαύτην ἀλλὰ μόνον κατὰ τόπον κινητήν. οὐδ' ὅσα δὴ φύσει μὲν, μὴ οὐσίαι¹ δέ, οὐκ ἔστι τούτοις ὕλη, ἀλλὰ τὸ ὑποκείμενον ἢ οὐσία. οἷον 10 τί αἴτιον ἐκλείψεως, τίς ὕλη; οὐ γὰρ ἔστιν, ἀλλ' ἢ σελήνην τὸ πάσχον. τί δ' αἴτιον ὡς κινήσαν καὶ φθεῖραν τὸ φῶς; ἢ γῆ. τὸ δ' οὐ ἕνεκα ἴσως οὐκ ἔστιν. τὸ δ' ὡς εἶδος ὁ λόγος, ἀλλὰ ἄδηλος ἐὰν μὴ μετὰ τῆς αἰτίας ἢ ὁ λόγος. οἷον τί ἐκλείψης; στέρησις φωτός. ἐὰν δὲ προστεθῆ τὸ ὑπὸ γῆς ἐν 15 μέσῳ γιγνομένης, ὁ σὺν τῷ αἰτίῳ λόγος οὗτος. ὕπνου δ' ἄδηλον τί τὸ πρῶτον πάσχον. ἀλλ' ὅτι τὸ ζῶον; ναί, ἀλλὰ τοῦτο κατὰ τί, καὶ τί πρῶτον; καρδία ἢ ἄλλο τι. εἶτα ὑπὸ τίνοσ; εἶτα τί τὸ πάθος τὸ ἐκείνου καὶ μὴ τοῦ ὅλου; ὅτι ἀκινήσια 20 τοιαδί; ναί, ἀλλ' αὕτη τῷ τί πάσχειν τὸ πρῶτον;

V. Ἐπεὶ δ' ἓνα ἄνευ γενέσεως καὶ φθορᾶς ἔστι καὶ οὐκ ἔστιν, οἷον αἱ στυγμαί, εἴπερ εἰσί, καὶ ὅλως τὰ εἶδη καὶ αἱ μορφαί² (οὐ γὰρ τὸ λευκόν

¹ οὐσία EA^bJ Alexander; οὐσία recc. I^o Simplicius.

² καὶ αἱ μορφαί om. EJ et fort. Alexander.

^a Cf. ch. i. 8 n.

^b Cf. VI. iii. 1, VII. viii. 3.

^c Cf. III. v. 8, 9.

What is the matter? Not fire or earth, but the matter proper to man.

Thus as regards generable natural substances we must proceed in this manner, if we are to proceed correctly; that is, if the causes are these and of this number, and it is necessary to know the causes. But in the case of substances which though natural are eternal the principle is different. For presumably some of them have no matter, or no matter of this kind, but only such as is spatially mobile.^a Moreover, things which exist by nature but are not⁷ substances have no matter; their substrate is their substance. *E.g.*, what is the cause of an eclipse; what is its matter? It has none; it is the moon which is affected. What is the moving cause which destroys the light? The earth. There is probably no final cause. The formal cause is the formula; but this is obscure unless it includes the efficient cause. *E.g.*, what is an eclipse? A privation of light; and if we add "caused by the earth's intervention," this is the definition which includes the <efficient> cause. In the case of sleep it is not clear what it is that is proximately affected. Is it the animal? Yes; but in respect of what, and of what proximately? The heart, or some other part. Again, by what is it affected? Again, what is the affection which affects that part, and not the whole animal? A particular kind of immobility? Yes; but in virtue of what affection of the proximate subject is it this?

V. Since some things both are and are not, without being liable to generation and destruction^b—*e.g.* generation and change. points,^c if they exist at all; and in general the forms and shapes of things (because white does not come to

1044 b

γίγνεται ἀλλὰ τὸ ξύλον λευκόν, εἰ ἕκ τινος καὶ τί
 25 πᾶν τὸ γιγνόμενον γίγνεται), οὐ πάντα ἂν τὰναντία
 γίγνοιτο ἐξ ἀλλήλων, ἀλλ' ἑτέρως λευκὸς ἄνθρωπος
 ἐκ μέλανος ἀνθρώπου καὶ λευκὸν ἐκ μέλανος· οὐδὲ
 παντὸς ὕλη ἔστιν ἀλλ' ὅσων γένεσις ἔστι καὶ μετα-
 βολὴ εἰς ἀλλήλα· ὅσα δ' ἄνευ τοῦ μεταβάλλειν ἔστιν
 ἢ μὴ, οὐκ ἔστι τούτων ὕλη. Ἐχει δ' ἀπορίαν

30 πῶς πρὸς τὰναντία ἢ ὕλη ἢ ἐκάστου ἔχει. οἷον εἰ
 τὸ σῶμα δυνάμει ὑγιεινόν, ἐναντίον δὲ νόσος ὑγεία,
 ἄρα ἄμφω δυνάμει; καὶ τὸ ὕδωρ δυνάμει οἶνος
 καὶ ὄξος; ἢ τοῦ μὲν καθ' ἑξῆς καὶ κατὰ τὸ εἶδος
 ὕλη, τοῦ δὲ κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ
 φύσιν; Ἀπορία δέ τις ἔστι καὶ διὰ τί ὁ οἶνος οὐχ
 35 ὕλη τοῦ ὄξους οὐδὲ δυνάμει ὄξος (καίτοι γίγνεται
 ἐξ αὐτοῦ ὄξος) καὶ ὁ ζῶν δυνάμει νεκρός. ἢ οὐ,

1045 a ἀλλὰ κατὰ συμβεβηκὸς αἱ φθοραί, ἢ δὲ τοῦ ζώου
 ὕλη αὐτὴ κατὰ φθορὰν νεκροῦ δύναμις καὶ ὕλη,
 καὶ τὸ ὕδωρ ὄξους· γίγνεται γὰρ ἐκ τούτων ὡσπερ
 ἐξ ἡμέρας νύξ. καὶ ὅσα δὴ οὕτω μεταβάλλει εἰς
 5 ἀλλήλα, εἰς τὴν ὕλην δεῖ ἐπανελθεῖν, οἷον εἰ ἐκ
 νεκροῦ ζῶον, εἰς τὴν ὕλην πρῶτον, εἴθ' οὕτω ζῶον·
 καὶ τὸ ὄξος εἰς ὕδωρ, εἴθ' οὕτως οἶνος.

VI. Περὶ δὲ τῆς ἀπορίας τῆς εἰρημένης περὶ τε

^a i.e., we must distinguish "contraries" in the sense of
 "contrary qualities" from "contraries" in the sense of
 "things characterized by contrary qualities."

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be, but the wood becomes white, since everything
 which comes into being comes from something and
 becomes something)—not all the contraries^a can be
 generated from each other. White is not generated
 from black in the same way as a white man is gener-
 ated from a black man; nor does everything contain
 matter, but only such things as admit of generation
 and transformation into each other. And such²
 things as, without undergoing a process of change,
 both are and are not, have no matter.

There is a difficulty in the question how the matter
 of the individual is related to the contraries. *E.g.*, if
 the body is potentially healthy, and the contrary of
 health is disease, is the body potentially both healthy
 and diseased? And is water potentially wine and
 vinegar? Probably in the one case it is the matter
 in respect of the positive state and form, and in the
 other case in respect of privation and degeneration
 which is contrary to its proper nature.

There is also a difficulty as to why wine is not the³
 matter of vinegar, nor potentially vinegar (though
 vinegar comes from it), and why the living man is
 not potentially dead. In point of fact they are not;
 their degeneration is accidental, and the actual
 matter of the living body becomes by degeneration
 the potentiality and matter of the dead body, and
 water the matter of vinegar; for the one becomes
 the other just as day becomes night. All things⁴
 which change reciprocally in this way must return
 into the matter; *e.g.*, if a living thing is generated
 from a dead one, it must first become the matter,
 and then a living thing; and vinegar must first
 become water, and then wine.

VI. With regard to the difficulty which we have de-

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2045 a τούς ὀρισμοὺς καὶ περὶ τοὺς ἀριθμούς, τί αἴτιον
 τοῦ ἐν εἶναι; πάντων γὰρ ὅσα πλείω μέρη ἔχει
 10 καὶ μὴ ἔστιν οἷον σωρὸς τὸ πᾶν ἀλλ' ἔστι τι τὸ
 ὅλον παρὰ τὰ μέρη, ἔστι τι αἴτιον, ἐπεὶ καὶ ἐν
 τοῖς σώμασι τοῖς μὲν ἀφή αἰτία τοῦ ἐν εἶναι, τοῖς
 δὲ γλισχρότης ἢ τι πάθος ἕτερον τοιοῦτον. ὁ δ'
 ὀρισμὸς λόγος ἔστιν εἰς οὐ συνδέσμων καθάπερ ἢ
 Ἰλιάς, ἀλλὰ τῷ ἐνὸς εἶναι. Τί οὖν ἔστιν ὁ ποιεῖ
 15 ἐν τὸν ἄνθρωπον, καὶ διὰ τί ἐν ἀλλ' οὐ πολλά,
 οἷον τό τε ζῶον καὶ τὸ δίπουν, ἄλλως τε δὴ καὶ
 εἰ ἔστιν, ὡς περ φασί τινες, αὐτὸ τι ζῶον καὶ αὐτὸ
 δίπουν; διὰ τί γὰρ οὐκ ἐκέλευε αὐτὰ ὁ ἀνθρωπὸς
 ἔστι, καὶ ἔσονται κατὰ μέθεξιν οἱ ἄνθρωποι οὐκ
 ἀνθρώπου οὐδ' ἐνὸς¹ ἀλλὰ δυοῖν, ζῶου καὶ δίποδος;
 20 καὶ ὅλως δὴ οὐκ ἂν εἴη ὁ ἀνθρωπὸς ἐν ἀλλὰ πλείω,
 ζῶον καὶ δίπουν. φανερόν δὴ ὅτι οὕτω μὲν μετ-
 ιοῦσιν ὡς εἰώθασιν ὀρίζεσθαι καὶ λέγειν, οὐκ ἐν-
 δέχεται ἀποδοῦναι καὶ λῦσαι τὴν ἀπορίαν· εἰ δ'
 ἔστιν, ὡς περ λέγομεν, τὸ μὲν ὕλη τὸ δὲ μορφή,
 καὶ τὸ μὲν δυνάμει τὸ δὲ ἐνεργεία, οὐκέτι ἀπορία
 25 δόξειεν ἂν εἶναι τὸ ζητούμενον. ἔστι γὰρ αὕτη ἢ
 ἀπορία ἢ αὕτη κἂν εἰ δ² ὅρος εἴη ἱματίου στρογγύ-
 λους³ χαλκός· εἴη γὰρ ἂν σημείον τοῦνομα τοῦτο
 τοῦ λόγου, ὥστε τὸ ζητούμενόν ἐστι τί αἴτιον τοῦ
 ἐν εἶναι τὸ στρογγύλον καὶ τὸν χαλκόν. οὐκέτι δ'
 ἢ ἀπορία φαίνεται, ὅτι τὸ μὲν ὕλη τὸ δὲ μορφή.
 30 τί οὖν τούτου αἴτιον, τοῦ τὸ δυνάμει ὄν ἐνεργεία

¹ οὐδενὸς A^b Alexander.

² ὁ om. A^b Alexander.

³ στρογγύλος] ὁ στρογγύλος A^b Alexander.

^a VII. xii., VIII. iii. 10, 11.

^b Literally "cloak"; cf. VII. iv. 7 n.

scribed^a in connexion with definitions and numbers, ^{The unity of definition.}
 what is the cause of the unification? In all things
 which have a plurality of parts, and which are
 not a total aggregate but a whole of some sort
 distinct from the parts, there is some cause; in-
 asmuch as even in bodies sometimes contact is the
 cause of their unity, and sometimes viscosity or some
 other such quality. But a definition is *one* account,²
 not by connexion, like the *Iliad*, but because it is a
 definition of one thing.

What is it, then, that makes "man" one thing,
 and why does it make him one thing and not many,
e.g. "animal" and "two-footed," especially if, as
 some say, there is an Idea of "animal" and an
 Idea of "two-footed"? Why are not these Ideas³
 "man," and why should not man exist by participa-
 tion, not in any "man," but in two Ideas, those of
 "animal" and "two-footed"? And in general
 "man" will be not one, but two things—"animal"
 and "two-footed." Evidently if we proceed in this
 way, as it is usual to define and explain, it will be
 impossible to answer and solve the difficulty. But⁴
 if, as we maintain, man is part matter and part
 form—the matter being potentially, and the form
 actually man—, the point which we are investigat-
 ing will no longer seem to be a difficulty. For
 this difficulty is just the same as we should have if
 the definition of X^b were "round bronze"; for
 this name would give a clue to the formula, so that
 the question becomes "what is the cause of the
 unification of 'round' and 'bronze'?" The diffi-⁵
 culty is no longer apparent, because the one is matter
 and the other form. What then is it (apart from
 the active cause) which causes that which exists

1045 a

εἶναι, παρὰ τὸ ποιῆσαν, ἐν ὅσοις ἔστι γένεσις; οὐθὲν γάρ ἐστιν αἴτιον ἕτερον τοῦ τῆν δυνάμει σφαῖραν ἐνεργεῖα εἶναι σφαῖραν, ἀλλὰ τοῦτ' ἦν τὸ τί ἦν εἶναι ἑκατέρω. Ἔστι δὲ τῆς ὕλης ἢ μὲν νοητῆ δὲ ἐνεργεῖα ἐστίν, οἷον ὁ κύκλος σχῆμα ἐπίπεδον. ὅσα δὲ μὴ ἔχει ὕλην μῆτε νοητὴν μῆτε αἰσθητήν, 35 εὐθύς ὅπερ ἐν τι [εἶναι]¹ ἐστὶν ἕκαστον, ὥσπερ καὶ ὅπερ ὄν τι, τὸ τὸδε, τὸ ποιόν, τὸ ποσόν. διὸ καὶ οὐκ ἔνεστιν ἐν τοῖς ὀρισμοῖς οὔτε τὸ ὄν οὔτε τὸ ἐν, καὶ τὸ τί ἦν εἶναι εὐθύς ἐν τί ἐστὶν ὥσπερ καὶ ὄν τι. 5 διὸ καὶ οὐκ ἔστιν ἕτερόν τι αἴτιον τοῦ ἐν εἶναι οὐθενὶ τούτων, οὐδὲ τοῦ ὄν τι εἶναι. εὐθύς γὰρ ἕκαστόν ἐστιν ὄν τι καὶ ἐν τι, οὐχ ὡς ἐν γένει τῶ ὄντι καὶ τῶ ἐνί, οὐδ' ὡς χωριστῶν ὄντων παρὰ τὰ καθ' ἕκαστα. Διὰ ταύτην δὲ τὴν ἀπορίαν οἱ μὲν μέθεξιν λέγουσι, καὶ αἰτιόν τι τῆς μεθέξεως καὶ τί 10 τὸ μετέχειν ἀποροῦσιν· οἱ δὲ συνουσίαν [ψυχῆς],¹ ὥσπερ Λυκόφρων φησὶν εἶναι τὴν ἐπιστήμην τοῦ ἐπίστασθαι καὶ ψυχῆς· οἱ δὲ σύνθεσιν ἢ σύνδεσμον ψυχῆς σώματι τὸ ζῆν. καίτοι ὁ αὐτὸς λόγος ἐπὶ πάντων· καὶ γὰρ τὸ ὑγαίειν ἔσται ἢ συνουσία ἢ σύνδεσμος ἢ σύνθεσις ψυχῆς καὶ ὑγείας, καὶ τὸ 15 τὸν χαλκὸν εἶναι τρίγωνον σύνθεσις χαλκοῦ καὶ τριγώνου, καὶ τὸ λευκὸν εἶναι σύνθεσις ἐπιφανείας

¹ Bonitz.

^a i.e., it was the essence of the potential sphere to become the actual sphere, and of the actual sphere to be generated from the potential sphere.

^b Even formulae contain matter in a sense ("intelligible matter"); i.e. the generic element in the species. "Plane figure" is the generic element of "circle."

^c The highest genera, or categories.

potentially to exist actually in things which admit of generation? There is no other cause of the potential sphere's being an actual sphere; this was the essence of each.^a

Some matter is intelligible and some sensible, and ⁶ part of the formula is always matter and part actuality; e.g., the circle is a plane figure.^b But such things^c as have no matter, neither intelligible nor sensible, are *ipso facto* each one of them essentially something one; just as they are essentially something existent: an individual substance, a quality, or a quantity. Hence neither "existent" nor "one" is present in their definitions. And their essence is *ipso facto* something one, just as it is something existent. Hence also there is no other cause of the unity of ⁷ any of these things, or of their existence; for each one of them is "one" and "existent" not because it is contained in the genus "being" or "unity," nor because these genera exist separately apart from their particulars, but *ipso facto*.

It is because of this difficulty that some thinkers ⁸ speak of "participation," and raise the question of what is the cause of participation, and what participation means; and others speak of "communion"; e.g., Lycophron^c says that knowledge is a communion of the soul with "knowing"; and others call life a combination or connexion of soul with body. The ⁹ same argument, however, applies in every case; for "being healthy" will be the "communion" or "connexion" or "combination" of soul and health; and "being a bronze triangle" a "combination" of bronze and triangle; and "being white" a "com-

^d The Platonists.^e A sophist, disciple of Gorgias.

καὶ λευκότητος. αἴτιον δ' ὅτι δυνάμεως καὶ ἐν-
 τελεχείας ζητοῦσι λόγον ἐνοποιὸν καὶ διαφοράν.
 ἔστι δ', ὡς περ εἴρηται, ἡ¹ ἐσχάτη ὕλη καὶ ἡ μορ-
 φὴ ταυτό καὶ ἓν, <τὸ μὲν>² δυνάμει, τὸ δὲ ἐνερ-
 20 γεία. ὥστε ὁμοιον τὸ ζητεῖν τοῦ ἐνὸς τί αἴτιον
 καὶ τοῦ ἓν εἶναι. ἓν γάρ τι ἕκαστον, καὶ τὸ δυνάμει
 καὶ τὸ ἐνεργεία ἓν πῶς ἔστω. ὥστε αἴτιον οὐθὲι
 ἄλλο πλὴν εἴ τι ὡς κινήσαν ἐκ δυνάμεως εἰς
 ἐνέργειαν. ὅσα δὲ μὴ ἔχει ὕλην, πάντα ἀπλῶς
 ὅπερ ἓν³ τι.

¹ ἢ καὶ ἡ E.J.

² ἓν om. E.J.: ἓν, τὸ μὲν Bonitz: τὸ μὲν (omisso ἓν) Casaubon

³ ἓν A^b Alexander: ὅντα E.J.

bination" of surface and whiteness. The reason for this is that people look for a unifying formula, and a difference, between potentiality and actuality. But, 10 as we have said,^a the proximate matter and the shape are one and the same; the one existing potentially, and the other actually. Therefore to ask the cause of their unity is like asking the cause of unity in general; for each individual thing is one, and the potential and the actual are in a sense one. Thus there is no cause other than whatever initiates the development from potentiality to actuality. And such things as have no matter are all, without qualification, essential unities.

^a Cf. §§ 4, 5.

I. Περὶ μὲν οὖν τοῦ πρώτως ὄντος καὶ πρὸς ὃ
 πᾶσαι αἱ ἄλλαι κατηγορίαι τοῦ ὄντος ἀναφέρονται
 εἴρηται, περὶ τῆς οὐσίας. κατὰ γὰρ τὸν τῆς
 80 οὐσίας λόγον λέγεται τᾶλλα ὄντα, τό τε ποσὸν καὶ
 τὸ ποιὸν καὶ τᾶλλα τὰ οὕτως λεγόμενα· πάντα γὰρ
 ἔξει τὸν τῆς οὐσίας λόγον, ὡς περ εἶπομεν ἐν τοῖς
 πρώτοις λόγοις. ἐπεὶ δὲ λέγεται τὸ ὄν τὸ μὲν τὸ
 τι¹ ἢ ποιὸν ἢ ποσόν, τὸ δὲ κατὰ δύναμιν καὶ ἐν-
 τελέχειαν καὶ κατὰ τὸ ἔργον, διορίσωμεν καὶ περὶ
 85 δυνάμεως καὶ ἐντελεχείας, καὶ πρῶτον περὶ δυ-
 νάμεως ἢ λέγεται μὲν μάλιστα κυρίως, οὐ μὴν
 1046 α χρησιμωτάτη² γέ ἐστι πρὸς ὃ βουλόμεθα νῦν· ἐπὶ
 πλέον γὰρ ἐστὶν ἡ δύναμις καὶ ἡ ἐνέργεια τῶν
 μόνων λεγομένων κατὰ κίνησιν. ἀλλ' εἰπόντες
 περὶ ταύτης ἐν τοῖς περὶ τῆς ἐνεργείας διορισμοῖς
 δηλώσομεν καὶ περὶ τῶν ἄλλων. Ὅτι μὲν οὖν
 5 λέγεται πολλαχῶς³ ἡ δύναμις καὶ τὸ δύνασθαι,
 διωρίσται ἡμῖν ἐν ἄλλοις· τούτων δ' ὅσαι μὲν
 ὁμωνύμως λέγονται δυνάμεις ἀφείσθωσαν· εἶναι
 γὰρ ὁμοιότητί τινι λέγονται καθάπερ ἐν γεωμε-
 τρία, καὶ δυνατὰ καὶ ἀδύνατα λέγομεν τῶ εἶναι πως

² χρησίμη EJ.¹ τι Ross: τί.³ πολλαχῶς λέγεται Ab.^a VII. i.^b Cf. VI. ii. I.^c Chs. vi.-x.

BOOK IX

I. We have now dealt with Being in the primary sense, to which all the other categories of being are related; *i.e.* substance. For it is from the concept of substance that all the other modes of being take their meaning; both quantity and quality and all other such terms; for they will all involve the concept of substance, as we stated it in the beginning of our discussion.^a And since the senses of being are 2 analysable^b not only into substance or quality or quantity, but also in accordance with potentiality and actuality and function, let us also gain a clear understanding about potentiality and actuality; and first about potentiality in the sense which is most proper to the word, but not most useful for our present purpose—for potentiality and actuality extend beyond the sphere of terms which only refer to motion. When we have discussed this sense of 3 potentiality we will, in the course of our definitions of actuality,^c explain the others also.

We have made it plain elsewhere^d that “potentiality” and “can” have several senses. All senses 4 which are merely equivocal may be dismissed; for some are used by analogy, as in geometry,^e and we call things possible or impossible because they “are” or “are not” in some particular way. But the

^d V. xii.^e Cf. V. xii. 11.

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ἢ μὴ εἶναι· ὅσαι δὲ πρὸς τὸ αὐτὸ εἶδος, πᾶσαι
 10 ἀρχαὶ τινές εἰσι, καὶ πρὸς πρώτην μίαν λέγονται,
 ἢ ἔστιν ἀρχὴ μεταβολῆς ἐν ἄλλῳ ἢ ἢ ἄλλο. Ἡ
 μὲν γὰρ τοῦ παθεῖν ἐστὶ δύναμις, ἢ ἐν αὐτῷ τῷ
 πάσχοντι ἀρχὴ μεταβολῆς παθητικῆς ὑπ' ἄλλου ἢ
 ἢ ἄλλο· ἢ δ' ἕξις ἀπαθείας τῆς ἐπὶ τὸ χεῖρον καὶ
 15 φθορᾶς τῆς ὑπ' ἄλλου ἢ ἢ ἄλλο ὑπ' ἀρχῆς μετα-
 βλητικῆς. ἐν γὰρ τούτοις ἔνεστι πᾶσι τοῖς ὄροις ὁ
 τῆς πρώτης δυνάμεως λόγος. πάλιν δ' αὐται αἱ
 δυνάμεις λέγονται ἢ τοῦ μόνον ποιῆσαι ἢ [τοῦ]²
 παθεῖν ἢ τοῦ καλῶς, ὥστε καὶ ἐν τοῖς τούτων
 λόγοις ἐνυπάρχουσί πως οἱ τῶν προτέρων δυνά-
 μων λόγοι. Φανερόν οὖν ὅτι ἔστι μὲν ὡς μία
 20 δύναμις τοῦ ποιεῖν καὶ πάσχειν (δυνατὸν γὰρ ἔστι
 καὶ τῷ ἔχειν αὐτὸ δύναμιν τοῦ παθεῖν καὶ τῷ ἄλλο
 ὑπ' αὐτοῦ), ἔστι δὲ ὡς ἄλλη. ἢ μὲν γὰρ ἐν τῷ
 πάσχοντι (διὰ γὰρ τὸ ἔχειν τινὰ ἀρχήν, καὶ
 εἶναι καὶ τὴν ἕλλην ἀρχήν τινα, πάσχει τὸ πάσχον,
 25 καὶ ἄλλο ὑπ' ἄλλου· τὸ λιπαρὸν μὲν γὰρ καυστόν,
 τὸ δ' ὑπεῖκον ὡδὶ θλαστόν· ὁμοίως δὲ καὶ ἐπὶ τῶν
 ἄλλων), ἢ δ' ἐν τῷ ποιῶντι, οἷον τὸ θερμὸν καὶ ἢ
 οἰκοδομική, ἢ μὲν ἐν τῷ θερμαντικῷ ἢ δ' ἐν τῷ
 οἰκοδομικῷ· διὸ ἢ συμπέφυκεν, οὐθὲν πάσχει αὐτὸ
 ὑφ' ἑαυτοῦ· ἐν γὰρ καὶ οὐκ ἄλλο. καὶ ἢ ἀδυναμία

¹ om. A¹Γ.² Bonitz.

potentialities which conform to the same type are all principles, and derive their meaning from one primary sense of potency, which is the source of change in some other thing, or in the same thing *qua* other.

One kind of potentiality is the power of being 5 affected; the principle in the patient itself which initiates a passive change in it by the action of some other thing, or of itself *qua* other. Another is a positive state of impassivity in respect of deterioration or destruction by something else or by itself *qua* something else; *i.e.* by a transformatory principle—for all these definitions contain the formula of the primary sense of potentiality. Again, all these 6 potentialities are so called either because they merely act or are acted upon in a particular way, or because they do so *well*. Hence in their formulae also the formulae of potentiality in the senses previously described are present in some degree.

Clearly, then, in one sense the potentiality for acting and being acted upon is one (for a thing is "capable" both because it itself possesses the power of being acted upon, and also because something else has the power of being acted upon by it); and in another 7 sense it is not; for it is partly in the patient (for it is because it contains a certain principle, and because even the matter is a kind of principle, that the patient is acted upon; *i.e.*, one thing is acted upon by another: oily stuff is inflammable, and stuff which yields in a certain way is breakable, and similarly in other cases) —and partly in the agent; *e.g.* heat and the art of 8 building: the former in that which produces heat, and the latter in that which builds. Hence in so far as it is a natural unity, nothing is acted upon by itself; because it is one, and not a separate thing.

1046 a

30 καὶ τὸ ἀδύνατον ἢ τῇ τοιαύτῃ δυνάμει ἐναντία
στέρησις ἐστίν, ὥστε τοῦ αὐτοῦ καὶ κατὰ τὸ αὐτὸ
πᾶσα δύναμις ἀδυναμία. Ἡ δὲ στέρησις λέγεται
πολλαχῶς· καὶ γὰρ τὸ μὴ ἔχον καὶ τὸ πεφυκὸς
ἂν μὴ ἔχη, ἢ ὅλως ἢ ὅτε πέφυκεν, καὶ ἢ ὡδί, οἷον
παντελῶς, ἢ καὶ ὅπως οὖν. ἐπ' ἐνίων δέ, ἂν
35 πεφυκότα ἔχῃ μὴ ἔχη βία, ἐστερηῆσθαι ταῦτα
λέγομεν.

II. Ἐπεὶ δ' αἱ μὲν ἐν τοῖς ἀψύχοις ἐνυπάρχουσιν
ἀρχαὶ τοιαῦται, αἱ δ' ἐν τοῖς ἐμψύχοις καὶ ἐν ψυχῇ
1046 b καὶ τῆς ψυχῆς ἐν τῷ λόγον ἔχοντι, δηλονότι καὶ
τῶν δυνάμεων αἱ μὲν εἰσὶν ἀλογοὶ αἱ δὲ μετὰ
λόγου. διὸ πᾶσαι αἱ τέχναι καὶ αἱ ποιητικαί²
ἐπιστήμαι δυνάμεις εἰσὶν· ἀρχαὶ γὰρ μεταβλητικαί
5 εἰσὶν ἐν ἄλλῳ ἢ ἢ ἄλλο. Καὶ αἱ μὲν μετὰ λόγου
πᾶσαι τῶν ἐναντίων αἱ αὐταί, αἱ δ' ἀλογοὶ μία
ἐνός, οἷον τὸ θερμὸν τοῦ θερμαίνεω μόνον, ἢ δὲ
ιατρικὴ νόσου καὶ ὑγείας. αἴτιον δὲ ὅτι λόγος
ἐστὶν ἢ ἐπιστήμη, ὁ δὲ λόγος ὁ αὐτὸς δηλοῖ τὸ
πρᾶγμα καὶ τὴν στέρησιν, πλὴν οὐχ ὡσαύτως, καὶ
10 ἐστὶν ὡς ἀμφοῖν, ἔστι δ' ὡς τοῦ ὑπάρχοντος μᾶλλον.
ὥστ' ἀνάγκη καὶ τὰς τοιαύτας ἐπιστήμας εἶναι μὲν
τῶν ἐναντίων, εἶναι δὲ τοῦ μὲν καθ' αὐτὰς τοῦ δὲ
μὴ καθ' αὐτάς· καὶ γὰρ ὁ λόγος τοῦ μὲν καθ' αὐτό,
τοῦ δὲ τρόπον τινα κατὰ συμβεβηκός· ἀποφάσει

¹ ἢ Ab: ἢ E.² ποιητικαὶ καὶ ποικιλ. : ποιητικαὶ καὶ αἱ Alexander.³ om. E.A.b.

* Cf. V. xxii

“ Incapacity ” and “ the incapable ” is the privation
contrary to “ capacity ” in this sense ; so that every
“ capacity ” has a contrary incapacity for producing
the same result in respect of the same subject.

Privation has several senses —it is applied (i.) to 9
anything which does not possess a certain attribute ;
(ii.) to that which would naturally possess it, but does
not ; either (a) in general, or (b) when it would
naturally possess it ; and either (1) in a particular
way, e.g. entirely, or (2) in any way at all. And in
some cases if things which would naturally possess
some attribute lack it as the result of constraint, we
say that they are “ deprived.”

II. Since some of these principles are inherent in
inanimate things, and others in animate things and
in the soul and in the rational part of the soul, it is
clear that some of the potencies also will be irrational
and some rational. Hence all arts, i.e. the productive
sciences, are potencies ; because they are principles
of change in another thing, or in the artist himself
qua other.

Every rational potency admits equally of contrary 2
results, but irrational potencies admit of one result
only. E.g., heat can only produce heat, but medical
science can produce disease and health. The reason
of this is that science is a rational account, and the
same account explains both the thing and its priva-
tion, though not in the same way ; and in one sense
it applies to both, and in another sense rather to the
actual fact. Therefore such sciences must treat of 3
contraries—essentially of the one, and non-essenti-
ally of the other ; for the rational account also
applies essentially to the one, but to the other in a
kind of accidental way, since it is by negation and

Rational and
irrational
potencies.

1046 b

γὰρ καὶ ἀποφορᾷ δηλοῖ τὸ ἐναντίον. ἡ γὰρ στέ-
 15 ρησις ἢ πρώτη τὸ ἐναντίον, αὕτη δὲ ἀποφορᾷ
 θατέρου. ἐπεὶ δὲ τὰ ἐναντία οὐκ ἐγγίγνεται ἐν τῷ
 αὐτῷ, ἢ δ' ἐπιστήμη δύναμις τῷ λόγον ἔχει, καὶ
 ἢ ψυχὴ κινήσεως ἔχει ἀρχήν, τὸ μὲν ὑγιεινὸν
 ὑγίειαν μόνον ποιεῖ καὶ τὸ θερμαντικὸν θερμότητα
 20 καὶ τὸ ψυκτικὸν ψυχρότητα, ὁ δ' ἐπιστήμων ἄμφω.
 λόγος γὰρ ἐστὶν ἄμφοιν μὲν, οὐχ ὁμοίως δέ, καὶ ἐν
 ψυχῇ ἢ ἔχει κινήσεως ἀρχήν· ὥστε ἄμφω ἀπὸ τῆς
 αὐτῆς ἀρχῆς κινήσει πρὸς τὸ αὐτὸ συνάψασα· διὸ
 τὰ κατὰ λόγον δυνατὰ τοῖς ἄνευ λόγου δυνατοῖς
 ποιεῖ τὰναντία· μιᾷ γὰρ ἀρχῇ¹ περιέχεται, τῷ λόγῳ.
 25 φανερόν δὲ καὶ ὅτι τῇ μὲν τοῦ εὔ δυνάμει ἀκολου-
 θεῖ ἢ τοῦ μόνον ποιῆσαι ἢ παθεῖν δύναμις, ταύτη
 δ' ἐκείνη οὐκ ἀεί· ἀνάγκη γὰρ τὸν εὔ ποιοῦντα καὶ
 ποιεῖν, τὸν δὲ μόνον ποιοῦντα οὐκ ἀνάγκη καὶ εὔ
 ποιεῖν.

III. Εἰσὶ δὲ τινες οἱ φασιν, οἷον οἱ Μεγαρικοί,
 30 ὅταν ἐνεργῇ μόνον δύνασθαι, ὅταν δὲ μὴ ἐνεργῇ οὐ
 δύνασθαι, οἷον τὸν μὴ οἰκοδομοῦντα οὐ δύνασθαι
 οἰκοδομεῖν, ἀλλὰ τὸν οἰκοδομοῦντα ὅταν οἰκοδομῇ·
 ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. οἷς τὰ συμβαί-
 νοντα ἄτοπα οὐ χαλεπὸν ἰδεῖν. δῆλον γὰρ ὅτι οὐτ'

¹ μιᾷ γὰρ ἀρχῇ A^bJ.

^a Cf. X. iv. 7.

^b Literally "of the other," i.e. the positive term.

^c The meaning of this awkward sentence is clearly shown in the latter part of § 4.

^d Founded by Euclides of Megara, an enthusiastic admirer of Socrates. The Megarics adopted the Eleatic system and developed it along dialectical lines.

removal that it throws light on the contrary. For the contrary is the primary privation,^a and this is the removal of that to which it is contrary.^b And ⁴ since contrary attributes cannot be induced in the same subject, and science is a potency which depends upon the possession of a rational formula, and the soul contains a principle of motion, it follows that whereas "the salutary" can only produce health, and "the calefactory" only heat, and "the frigorific" only cold, the scientific man can produce both contrary results. For the rational account ⁵ includes both, though not in the same way; and it is in the soul, which contains a principle of motion, and will therefore, by means of the same principle, set both processes in motion, by linking them with the same rational account. Hence things which have a rational potency produce results contrary to those of things whose potency is irrational^c; for the results of the former are included under one principle, the rational account. It is evident also ⁶ that whereas the power of merely producing (or suffering) a given effect is implied in the power of producing that effect *well*, the contrary is not always true; for that which produces an effect well must also produce it, but that which merely produces a given effect does not necessarily produce it well.

III. There are some, e.g. the Megaric school,^d who say that a thing only has potency when it functions, and that when it is not functioning it has no potency. E.g., they say that a man who is not building cannot build, but only the man who is building, and at the moment when he is building; and similarly in the other cases. It is not difficult to see ² the absurd consequences of this theory. Obviously

^d Refutation of the Megaric view of potency.

1046 b οἰκοδόμος ἔσται ἐὰν μὴ οἰκοδομῇ (τὸ γὰρ οἰκοδόμω
 35 εἶναι τὸ δυνατῶ εἶναι ἔστιν οἰκοδομεῖν), ὁμοίως δὲ
 καὶ ἐπὶ τῶν ἄλλων τεχνῶν. εἰ οὖν ἀδύνατον τὰς
 τοιαύτας ἔχειν τέχνας μὴ μανθάνοντά¹ ποτε καὶ
 1047 a λαβόντα, καὶ μὴ ἔχειν μὴ ἀποβαλόντα ποτέ (ἢ γὰρ
 λήθη ἢ πάθει τινὶ ἢ χρόνῳ· οὐ γὰρ δὴ τοῦ γε
 πράγματος φθαρέντος, αἰεὶ γὰρ ἔστιν), ὅταν παύση-
 ται, οὐχ ἔξει τὴν τέχνην· πάλιν δ' εὐθύς οἰκοδομή-
 σει πῶς λαβών; Καὶ τὰ ἄψυχα δὲ ὁμοίως· οὔτε
 5 γὰρ ψυχρὸν οὔτε θερμὸν οὔτε γλυκὺ οὔτε ὄλως
 αἰσθητὸν οὐθέν ἔσται μὴ αἰσθανομένων². ὥστε τὸν
 Πρωταγόρου λόγον συμβῆσεται λέγειν αὐτοῖς. ἀλλὰ
 μὴν οὐδ' αἰσθησιν ἔξει οὐδὲν ἂν μὴ αἰσθάνηται
 μηδ' ἐνεργῇ. εἰ οὖν τυφλὸν τὸ μὴ ἔχον ὄψιν,
 πεφυκὸς δὲ καὶ ὅτε πέφυκε καὶ ἔτι ὄν, οἱ αὐτοὶ
 10 τυφλοὶ ἔσονται πολλάκις τῆς ἡμέρας, καὶ κωφοί.
 Ἔτι εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως, τὸ μὴ
 γιγνόμενον³ ἀδύνατον ἔσται γενέσθαι· τὸ δ' ἀδύ-
 νατον γενέσθαι ὁ λέγων ἢ εἶναι ἢ ἔσεσθαι ψεύσεται·
 τὸ γὰρ ἀδύνατον τοῦτο ἐσθμῖνεν. ὥστε οὗτοι οἱ
 15 λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν. αἰεὶ γὰρ
 τό τε ἐσθηκὸς ἐσθμῖνεται καὶ τὸ καθήμενον καθ-
 εδεῖται· οὐ γὰρ ἀναστήσεται ἂν καθέζηται· ἀδύνατον
 γὰρ ἔσται ἀναστήναι ὃ γὰρ μὴ δύναται ἀναστήναι.

¹ μαθόντα Alexander, Bonitz.

² αἰσθανόμενον recc.

³ γινόμενον E.J.

^a *i.e.* the form of "house."

^b Cf. IV. v., vi.

^c *i.e.*, we have just said that that which is incapable is deprived of its potency—in this case, of its potency for happening.

a man will not be a builder unless he is building, because "to be a builder" is "to be capable of building"; and the same will be true of the other arts. If, therefore, it is impossible to possess these³ arts without learning them at some time and having grasped them, and impossible not to possess them without having lost them at some time (through forgetfulness or some affection or the lapse of time; not, of course, through the destruction of the object of the art,^a because it exists always), when the artist ceases to practise his art, he will not possess it; and if he immediately starts building again, how⁴ will he have re-acquired the art?

The same is true of inanimate things. Neither the cold nor the hot nor the sweet nor in general any sensible thing will exist unless we are perceiving it (and so the result will be that they are affirming Protagoras' theory^b). Indeed, nothing will have the faculty of sensation unless it is perceiving, *i.e.* actually employing the faculty. If, then, that is⁵ blind which has not sight, though it would naturally have it, and when it would naturally have it, and while it still exists, the same people will be blind many times a day; and deaf too.

Further, if that which is deprived of its potency is incapable, that which is not happening will be incapable of happening; and he who says that that which is incapable of happening *is* or *will be*, will be in error, for this is what "incapable" meant.^c Thus⁶ these theories do away with both motion and generation; for that which is standing will always stand, and that which is sitting will always sit; because if it is sitting it will not get up, since it is impossible that anything which is incapable of getting up

1047 a

εἰ οὖν μὴ ἐνδέχεται ταῦτα λέγειν, φανερόν ὅτι δύναμις καὶ ἐνέργεια ἕτερόν ἐστιν· ἐκεῖνοι δ' οἱ λόγοι δύναμιν καὶ ἐνέργειαν ταῦτό ποιοῦσιν, διὸ καὶ οὐ μικρόν τι ζητοῦσιν ἀναιρεῖν. Ὡστε ἐνδέχεται δυνατόν μὲν τι εἶναι μὴ εἶναι δέ, καὶ δυνατόν μὴ εἶναι εἶναι δέ, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων κατηγοριῶν δυνατόν βαδίζειν ὃν μὴ βαδίζειν, καὶ μὴ βαδίζειν¹ δυνατόν ὃν² βαδίζειν. ἔστι δὲ δυνατόν τούτο ᾧ ἐὰν ὑπάρξῃ ἡ ἐνέργεια οὐ λέγεται ἔχειν τὴν δύναμιν, οὐθὲν ἔσται ἀδύνατον. λέγω δὲ οἶον, εἰ δυνατόν καθῆσθαι καὶ ἐνδέχεται καθῆσθαι τούτῳ, ἐὰν ὑπάρξῃ τὸ καθῆσθαι, οὐδὲν ἔσται ἀδύνατον· καὶ εἰ κινήθηναί τι ἢ κινήσῃ ἢ στήναι ἢ στήσῃ ἢ εἶναι ἢ γίγνεσθαι ἢ μὴ εἶναι ἢ μὴ γίγνεσθαι, ὁμοίως.

³⁰ Ἐλήλυθε δ' ἡ ἐνέργεια τοῦνομα, ἡ πρὸς τὴν ἐντελέχειαν συντιθεμένη, καὶ ἐπὶ τὰ ἄλλα ἐκ τῶν κινήσεων μάλιστα· δοκεῖ γὰρ ἡ ἐνέργεια μάλιστα ἢ κίνησις εἶναι. διὸ καὶ τοῖς μὴ οὖσιν οὐκ ἀποδιδόασιν τὸ κινεῖσθαι, ἄλλας δὲ τινὰς κατηγορίας, οἶον ³⁵ διανοητὰ καὶ ἐπιθυμητὰ εἶναι τὰ μὴ ὄντα, κινούμενα δὲ οὐ. τούτο δὲ ὅτι οὐκ ὄντα ἐνέργεια ἔσονται ^{1047 b} ἐνέργεια. τῶν γὰρ μὴ ὄντων ἓνια δυνάμει ἐστίν· οὐκ ἔστι δέ, ὅτι οὐκ ἐντελεχεία ἐστίν.

IV. Εἰ δ' ἐστὶ, τὸ εἰρημένον, δυνατόν <ᾧ ἀδύνατον μὴ>³ ἀκολουθεῖ, φανερόν ὅτι οὐκ ἐνδέχεται ἀληθές

¹ βαδίζειν Joachim: βαδίζον.

² ὃν Joachim: εἶναι.

³ ᾧ ἀδύνατον μὴ Zeller: ἢ JT: ἢ EA^b Alexander.

should get up. Since, then, we cannot maintain ⁷ this, obviously potentiality and actuality are different. But these theories make potentiality and actuality identical; hence it is no small thing that they are trying to abolish.

Thus it is possible that a thing may be capable of being and yet not be, and capable of not being and yet be; and similarly in the other categories that which is capable of walking may not walk, and that which is capable of not walking may walk. A thing ⁸ is capable of doing something if there is nothing impossible in its having the actuality of that of which it is said to have the potentiality. I mean, e.g., that if a thing is capable of sitting and is not prevented from sitting, there is nothing impossible in its actually sitting; and similarly if it is capable of being moved or moving or standing or making to stand or being or becoming or not being or not becoming.

The term "actuality," with its implication of ⁹ "complete reality," has been extended from motions, to which it properly belongs, to other things; for it is agreed that actuality is properly motion. Hence ¹⁰ people do not invest non-existent things with motion, although they do invest them with certain other predicates. E.g., they say that non-existent things are conceivable and desirable, but not that they are in motion. This is because, although these things do not exist actually, they will exist actually; for some non-existent things exist potentially; yet they do not exist, because they do not exist in complete reality.

IV. Now if, as we have said, that is possible which ^{That which is possible may come to be.} does not involve an impossibility, obviously it cannot be true to say that so-and-so is possible, but will not

1047 b
 5 εἶναι τὸ εἰπεῖν ὅτι δυνατόν μὲν τοδί, οὐκ ἔσται δέ·
 ὥστε τὰ ἀδύνατα εἶναι ταύτη διαφεύγειν. λέγω
 δὲ οἷον εἴ τις φαίη δυνατόν τὴν διάμετρον μετρη-
 θῆναι οὐ μέντοι μετρηθῆσθαι—ὁ μὴ λογιζόμενος
 τὸ ἀδύνατον εἶναι—ὅτι οὐθὲν κωλύει δυνατόν τι
 ὄν εἶναι ἢ γενέσθαι μὴ εἶναι¹ μηδ' ἔσσεσθαι. ἀλλ'
 10 ἐκεῖνο ἀνάγκη ἐκ τῶν κειμένων, εἰ καὶ ὑποθίμεθα
 εἶναι ἢ γεγονέναι ὁ οὐκ ἔστι μὲν δυνατόν δέ, ὅτι
 οὐθὲν ἔσται ἀδύνατον· συμβήσεται δέ γε, τὸ γὰρ
 μετρεῖσθαι ἀδύνατον. Οὐ γὰρ δὴ ἔστι ταυτό
 τὸ² ψεῦδος καὶ τὸ ἀδύνατον· τὸ γὰρ σε ἐστάναι νῦν
 ψεῦδος μὲν, οὐκ ἀδύνατον δέ. ἅμα δὲ δῆλον καὶ
 15 ὅτι, εἰ τοῦ Α ὄντος ἀνάγκη τὸ Β εἶναι, καὶ δυνατοῦ
 ὄντος εἶναι τοῦ Α³ καὶ τὸ Β ἀνάγκη εἶναι δυνατόν·
 εἰ γὰρ μὴ ἀνάγκη δυνατόν εἶναι, οὐθὲν κωλύει
 μὴ εἶναι δυνατόν εἶναι. ἔστω δὴ τὸ Α δυνατόν.
 οὐκοῦν ὅτε τὸ Α δυνατόν εἶη εἶναι, εἰ τεθείη τὸ
 Α,⁴ οὐδὲν ἀδύνατον εἶναι συνέβαιεν· τὸ δέ γε Β
 20 ἀνάγκη εἶναι. ἀλλ' ἦν ἀδύνατον. ἔστω δὴ ἀδύ-
 νατον. εἰ δὴ ἀδύνατον [ἀνάγκη]⁵ εἶναι τὸ Β,⁶ ἀνάγκη
 καὶ τὸ Α⁷ εἶναι. ἀλλ' ἦν ἄρα τὸ Α δυνατόν· καὶ
 τὸ Β ἄρα. Ἄν ἄρα ἦ τὸ Α δυνατόν, καὶ τὸ Β
 ἔσται δυνατόν, εἴπερ οὕτως εἶχον ὥστε τοῦ Α ὄντος
 25 ἀνάγκη εἶναι τὸ Β. ἐάν δὴ οὕτως ἐχόντων τῶν⁸
 Α Β μὴ ἦ δυνατόν τὸ Β οὕτως, οὐδὲ τὰ⁹ Α Β ἔξει
 ὡς ἐτέθη· καὶ εἰ τοῦ Α δυνατοῦ ὄντος ἀνάγκη τὸ
 Β δυνατόν εἶναι, εἰ ἔστι τὸ Α, ἀνάγκη εἶναι καὶ τὸ

¹ εἶναι δὲ ΕJ.² τὸ τε ΑΒΓ.³ εἶναι τοῦ Α: τοῦ εἶναι Α Brandis.⁴ Α: ΑΒ ΕJ.⁵ Bonitz.⁶ Β Γ Bonitz: Α.⁷ Α Γ Bonitz: Β.⁸ τῶν Ross: τοῦ.⁹ τὸ recc.^a If it is true to say that a thing which is possible will not be, anything may be possible, and nothing impossible.

be; this view entirely loses sight of the instances of impossibility.^a I mean, suppose that someone—i.e. the sort of man who does not take the impossible into account—were to say that it is possible to measure the diagonal of a square, but that it will not be measured, because there is nothing to prevent a thing which is capable of being or coming to be from neither being nor being likely ever to be. But from our premisses this necessarily follows: 2 that if we are to assume that which is not, but is possible, to be or to have come to be, nothing impossible must be involved. But in this case something impossible will take place; for the measuring of the diagonal is impossible.

The false is of course not the same as the impossible; for although it is false that you are now standing, it is not impossible. At the same time 3 it is also clear that if B must be real if A is, then if it is possible for A to be real, it must also be possible for B to be real; for even if B is not necessarily possible, there is nothing to prevent its being possible. Let A, then, be possible. Then when A was possible, if A was assumed to be real, nothing impossible was involved; but B was necessarily real too. But *ex hypothesi* B was impossible. Let B be impossible. Then if B is impossible, A must also be impossible. 4 But A was by definition possible. Therefore so is B.

If, therefore, A is possible, B will also be possible; that is if their relation was such that if A is real, B must be real. Then if, A and B being thus related, 5 B is not possible on this condition, A and B will not be related as we assumed; and if when A is possible B is necessarily possible, then if A is real B must

1047 b B. τὸ γὰρ δυνατόν εἶναι ἐξ ἀνάγκης τὸ B εἶναι,
εἰ τὸ A δυνατόν, τοῦτο σημαίνει, ἐὰν ἦ τὸ A καὶ
30 ὅτε καὶ ὡς ἦν δυνατόν εἶναι, κάκεινο τότε καὶ
οὕτως εἶναι ἀναγκαῖον.

V. Ἀπασῶν δὲ τῶν δυνάμεων οὐσῶν τῶν μὲν
συγγενῶν οἷον τῶν αἰσθήσεων, τῶν δὲ ἔθει οἷον
τῆς τοῦ αὐλεῖν, τῶν δὲ μαθήσει οἷον τῆς τῶν τεχ-
νῶν, τὰς μὲν ἀνάγκη προενεργήσαντας ἔχειν ὅσαι
35 ἔθει καὶ λόγῳ, τὰς δὲ μὴ τοιαύτας καὶ τὰς ἐπὶ
1048 a τοῦ πάσχειν οὐκ ἀνάγκη. Ἐπεὶ δὲ τὸ δυνατόν
τὶ δυνατόν καὶ ποτὲ καὶ πῶς καὶ ὅσα ἄλλα ἀνάγκη
προσεῖναι ἐν τῷ διορισμῷ, καὶ τὰ μὲν κατὰ λόγον
δύναται κινεῖν καὶ αἱ δυνάμεις αὐτῶν μετὰ λόγου,
τὰ δὲ ἄλογα καὶ αἱ δυνάμεις ἄλογοι, κάκεινας μὲν
5 ἀνάγκη ἐν ἐμφύχῳ εἶναι ταύτας δὲ ἐν ἀμφοῖν, τὰς
μὲν τοιαύτας δυνάμεις ἀνάγκη, ὅταν ὡς δύνανται
τὸ ποιητικὸν καὶ τὸ παθητικὸν πλησιάζωσι, τὸ
μὲν ποιεῖν τὸ δὲ πάσχειν, ἐκείνας δ' οὐκ ἀνάγκη
αὐταὶ μὲν γὰρ πᾶσαι μία ἐνός ποιητικῆ, ἐκείναι
δὲ τῶν ἐναντίων, ὥστε ἅμα ποιήσει τὰναντία·
10 τοῦτο δὲ ἀδύνατον. ἀνάγκη ἄρα ἕτερόν τι εἶναι
τὸ κύριον· λέγω δὲ τοῦτο ὄρεξιν ἢ προαίρεσιν.
ὁποτέρου γὰρ ἂν ὀρέγηται κυρίως, τοῦτο ποιήσει,
ὅταν ὡς δύναται ὑπάρχη καὶ πλησιάξῃ τῷ παθη-

^a Cf. ch. viii. 6, 7.

^b Cf. ch. ii. 4, 5.

^c *sc.*, if every potency must act automatically whenever agent and patient meet.

be real too. For to say that B must be possible if A is possible means that if A is real at the time when and in the way in which it was assumed that it was possible for it to be real, then B must be real at that time and in that way.

V. Since all potencies are either innate, like the How potencies are acquired and actualized. senses, or acquired by practice, like flute-playing, or by study, as in the arts, some—such as are acquired by practice or a rational formula—we can only possess when we have first exercised them ^a; in the case of others which are not of this kind and which imply passivity, this is not necessary.

Since anything which is possible is something possible at some time and in some way, and with any other qualifications which are necessarily included in the definition; and since some things can set up processes rationally and have rational potencies, while others are irrational and have irrational potencies; and since the former class can only belong to a living thing, whereas the latter can belong both to living and to inanimate things: it follows that as for potencies of the latter kind, when the agent and the patient meet in accordance with the potency in question, the one must act and the other be acted upon; but in the former kind of potency this is not necessary, for whereas each single potency of the latter kind is productive of a single effect, those of the former kind are productive of contrary effects,^b so that one potency will produce at the same time contrary effects.^c But this is impossible. Therefore ³ there must be some other deciding factor, by which I mean *desire* or *conscious choice*. For whichever of two things an animal desires decisively it will do, when it is in circumstances appropriate to the

¹⁰⁴⁸ ^a τικῶ. ὥστε τὸ δυνατόν κατὰ λόγον ἅπαν ἀνάγκη, ὅταν ὀρέγηται, οὐ τε ἔχει τὴν δύναμιν καὶ ὡς ἔχει, 15 τοῦτο ποιεῖν. ἔχει δὲ παρόντος τοῦ παθητικοῦ καὶ ὡδὶ ἔχοντος [ποιεῖν]¹. εἰ δὲ μή, ποιεῖν οὐ δυνήσεται (τὸ γὰρ μηθενὸς τῶν ἕξω κωλύοντος προσδιορίζεσθαι οὐθὲν ἔτι δεῖ· τὴν γὰρ δύναμιν ἔχει ὡς ἔστι δύναμις² τοῦ ποιεῖν, ἔστι δ' οὐ πάντως ἀλλ' ἐχόντων 20 πῶς, ἐν οἷς ἀφορισθήσεται καὶ τὰ ἕξω κωλύοντα· ἀφαιρείται γὰρ ταῦτα τῶν ἐν τῷ διορισμῷ προσόντων ἕνια). διὸ οὐδ' ἐὰν ἅμα βούληται ἢ ἐπιθυμῇ ποιεῖν δύο ἢ τὰ ἐναντία, οὐ ποιήσει· οὐ γὰρ οὕτως ἔχει αὐτῶν τὴν δύναμιν οὐδ' ἔστι τοῦ ἅμα ποιεῖν ἢ δύναμις, ἐπεὶ ὧν ἔστιν οὕτως ποιήσει.

25 VI. Ἐπεὶ δὲ περὶ τῆς κατὰ κίνησιν λεγομένης δυνάμεως εἴρηται, περὶ ἐνεργείας διορίσωμεν τί τέ ἐστιν ἢ ἐνέργεια καὶ ποῖόν τι. καὶ γὰρ τὸ δυνατόν ἅμα δῆλον ἔσται διαιρουσιν, ὅτι οὐ μόνον τοῦτο λέγομεν δυνατόν ὃ πέφυκε κινεῖν ἄλλο ἢ κινεῖσθαι ὑπ' ἄλλου, ἢ ἀπλῶς ἢ τρόπον τινά, 30 ἀλλὰ καὶ ἐτέρως. διὸ ζητοῦντες καὶ περὶ τούτων διήλθομεν.

Ἔστι δ' ἢ ἐνέργεια τὸ ὑπάρχειν τὸ πρᾶγμα μὴ οὕτως ὥσπερ λέγομεν δυνάμει· λέγομεν δὲ δυνάμει οἶον ἐν τῷ ξύλῳ Ἐρμῆν καὶ ἐν τῇ ὄλῃ τὴν

¹ Christ.² δυνάμει A^b.

potency and meets with that which admits of being acted upon. Therefore everything which is rationally capable, when it desires something of which it has the capability, and in the circumstances in which it has the capability, must do that thing. Now it has the capability when that which admits of being acted upon is present and is in a certain state; otherwise it will not be able to act. (To add the qualification "if nothing external prevents it" is no longer necessary; because the agent has the capability in so far as it is a capability of acting; and this is not in all, but in certain circumstances, in which external hindrances will be excluded; for they are precluded by some of the positive qualifications in the definition.) Hence even if it wishes 5 or desires to do two things or contrary things simultaneously, it will not do them, for it has not the capability to do them under these conditions, nor has it the capability of doing things simultaneously, since it will only do the things to which the capability applies and under the appropriate conditions.

VI. Since we have now dealt with the kind of ^{The nature of actuality.} potency which is related to motion, let us now discuss actuality; what it is, and what its qualities are. For as we continue our analysis it will also become clear with regard to the potential that we apply the name not only to that whose nature it is to move or be moved by something else, either without qualification or in some definite way, but also in other senses; and it is on this account that in the course of our inquiry we have discussed these as well.

"Actuality" means the presence of the thing, ² not in the sense which we mean by "potentially." ^{Actuality distinguished} We say that a thing is present potentially as Hermes

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ἡμίσειαν, ὅτι ἀφαιρεθείη ἄν, καὶ ἐπιστήμονα καὶ
 35 τὸν μὴ θεωροῦντα, ἂν δυνατὸς ἦ θεωρήσαι· τὸ
 δὲ ἐνεργεῖα. δηλον δ' ἐπὶ τῶν καθ' ἕκαστα τῆ
 ἐπαγωγῆ ὃ βουλόμεθα λέγειν, καὶ οὐ δεῖ παντὸς
 ὄρον ζητεῖν ἀλλὰ καὶ τὸ ἀνάλογον συνορᾶν, ὅτι
 1048 b ὡς τὸ οἰκοδομοῦν πρὸς τὸ οἰκοδομικόν, καὶ τὸ
 ἐργηγορὸς πρὸς τὸ καθεῦδον, καὶ τὸ ὄρων πρὸς
 τὸ μύον μὲν ὄψιν δὲ ἔχον, καὶ τὸ ἀποκεκριμένον
 ἐκ τῆς ὕλης πρὸς τὴν ὕλην, καὶ τὸ ἀπειργασμένον
 5 πρὸς τὸ ἀνέργαστον. ταύτης δὲ τῆς διαφορᾶς
 θατέρω μορίῳ¹ ἔστω ἡ ἐνέργεια ἀφωρισμένη, θα-
 τέρω δὲ τὸ δυνατόν. Λέγεται δὲ ἐνεργεῖα οὐ
 πάντα ὁμοίως, ἀλλ' ἢ τῷ² ἀνάλογον, ὡς τοῦτο ἐν
 τούτῳ ἢ πρὸς τοῦτο, τὸδ'³ ἐν τῷδε ἢ πρὸς τὸδε·
 τὰ μὲν γὰρ ὡς κίνησις πρὸς δύναμιν, τὰ δ' ὡς οὐσία
 πρὸς τινα ὕλην.

10 Ἄλλως δὲ καὶ τὸ ἄπειρον καὶ τὸ κενὸν καὶ ὅσα
 τοιαῦτα λέγεται δυνάμει καὶ ἐνεργεῖα πολλοῖς⁴
 τῶν ὄντων, οἷον τῷ ὄρωντι καὶ βαδίζοντι καὶ
 ὀρωμένῳ. ταῦτα μὲν γὰρ ἐνδέχεται καὶ ἀπλῶς
 ἀληθεύεσθαι ποτε· τὸ μὲν γὰρ ὀρώμενον ὅτι ὀράται,
 τὸ δ' ὅτι ὀράσθαι δυνατόν· τὸ δ' ἄπειρον οὐχ οὕτω
 15 δυνάμει ἐστὶν ὡς ἐνεργεῖα ἐσόμενον χωριστόν, ἀλλὰ
 γνώσει. τὸ⁵ γὰρ μὴ ὑπολείπειν τὴν διαίρεσιν ἀπο-
 δίδωσι τὸ εἶναι δυνάμει ταύτην τὴν ἐνέργειαν, τὸ⁶
 δὲ χωρίζεσθαι οὐ.

¹ θατέρον μέρος A^b Alexander.

² τὸ J, fecit E.

³ τὸ δ' J.

⁴ ἢ πολλοῖς Ross.

⁵ τὸ A^b Alexander: τῷ E.J.

⁶ τὸ Alexander, Christ: τῷ.

^a For Aristotle's views about infinity and void see *Physics* III. iv.-viii. and IV. vi.-ix. respectively.

is present in the wood, or the half-line in the whole, ^{from po-} ^{tentiality.} because it can be separated from it; and as we call even a man who is not studying "a scholar" if he is capable of studying. That which is present in the opposite sense to this is present actually. What we mean can be plainly seen in the particular cases by induction; we need not seek a definition for every term, but must comprehend the analogy: that as that which is actually building is to that which is capable of building, so is that which is awake to that which is asleep; and that which is seeing to that which has the eyes shut, but has the power of sight; and that which is differentiated out of matter to the matter; and the finished article to the raw material. Let actuality be defined by one member of this ⁴ antithesis, and the potential by the other.

But things are not all said to exist actually in the same sense, but only by analogy—as A is in B or to B, so is C in or to D; for the relation is either that of motion to potentiality, or that of substance to some particular matter.

Infinity and void and other concepts of this kind ⁵ are said to "be" potentially or actually in a different ^{Infinity, void, etc.,} sense from the majority of existing things, e.g. that which sees, or walks, or is seen. For in these latter ⁶ cases the predication may sometimes be truly made ^{have no true actuality.} without qualification, since "that which is seen" is so called sometimes because it is seen and sometimes because it is capable of being seen; but the Infinite does not exist potentially in the sense that it will ever exist separately in actuality; it is separable only in knowledge. For the fact that the process of division never ceases makes this actuality exist potentially, but not separately.^a

1048 b

ἔστι πέρας οὐδεμία τέλος ἀλλὰ τῶν περὶ τὸ τέλος,
 20 οἶον τὸ ἰσχυαίνειν [ἢ ἰσχυασία αὐτό],¹ αὐτὰ δὲ ὅταν
 ἰσχυαίνῃ οὕτως ἔστιν ἐν κινήσει, μὴ ὑπάρχοντα ὦν
 ἕνεκα ἢ κινήσεις, οὐκ ἔστι ταῦτα πράξεις. ἢ οὐ
 τελεία γε· οὐ γὰρ τέλος· ἀλλ' ἐκείνη <ἢ>² ἐνυπάρχει
 τὸ τέλος καὶ [ἢ]³ πράξις. οἶον ὄρᾶ ἅμα <καὶ
 ἑώρακε,>⁴ καὶ φρονεῖ <καὶ πεφρόνηκε,>⁵ καὶ νοεῖ
 καὶ νενόηκεν· ἀλλ' οὐ μανθάνει καὶ μεμάθηκεν,
 25 οὐδ' ὑγιάζεται καὶ ὑγιάσται. εὖ ζῆ καὶ εὖ ἔζηκεν
 ἅμα,⁶ καὶ εὐδαιμονεῖ καὶ εὐδαιμόνηκεν· εἰ δὲ μή,
 ἔδει ἂν ποτε παύεσθαι, ὡσπερ ὅταν ἰσχυαίνῃ· νῦν
 δ' οὐ, ἀλλὰ ζῆ καὶ ἔζηκεν. Τούτων δὴ <δεῖ>⁷
 τὰς μὲν κινήσεις λέγειν, τὰς δ' ἐνεργείας. πᾶσα
 γὰρ κινήσις ἀτελής, ἰσχυασία μάθησις βάδισις
 30 οἰκοδόμησις· αὐται δὴ⁸ κινήσεις, καὶ ἀτελεῖς γε.
 οὐ γὰρ ἅμα βαδίζει καὶ βεβάδικεν, οὐδ' οἰκοδομεῖ
 καὶ οἰκοδόμηκεν, οὐδὲ γίγνεται καὶ γέγονεν, ἢ
 κινεῖται καὶ κεκίνηται· ἀλλ' ἕτερον καὶ κινεῖ καὶ
 κεκίνηκεν⁹. ἑώρακε δὲ καὶ ὄρᾶ ἅμα τὸ αὐτό, καὶ
 νοεῖ καὶ νενόηκεν. τὴν μὲν οὖν τοιαύτην ἐνεργείαν
 35 λέγω, ἐκείνην δὲ κίνησιν. Τὸ μὲν οὖν ἐνεργεῖα

¹ ἢ ἰσχυασία αὐτό seclusi: αὐτό secl. Christ: τὸ ἰσχυαίνειν ἢ ἰσχυασία Bywater: τοῦ . . . ἢ codd.

² ἐκείνη ἢ Bonitz: ἐκείνη.

³ Bonitz.

⁵ Bonitz: ἀλλά.

⁷ κενεῖται recc.

⁴ ἅμα καὶ ἑώρακε Bonitz: ἀλλά codd.

⁶ δὴ Bonitz: δε.

⁸ κινεῖται recc.

Since no action which has a limit is an end, but ⁷ only a means to the end, as, e.g., the process of thinning; and since the parts of the body themselves, ^{Actuality distinguished from motion.} when one is thinning them, are in motion in the sense that they are not already that which it is the object of the motion to make them, this process is not an action, or at least not a complete one, since it is not an end; it is the process which includes the end that is an action. *E.g.*, at the same time we see ⁸ and have seen, understand and have understood, think and have thought; but we cannot at the same time learn and have learnt, or become healthy and be healthy. We are living well and have lived well, we are happy and have been happy, at the same time; otherwise the process would have had to cease at some time, like the thinning-process; but it has not ceased at the present moment: we both are living and have lived.

Now of these processes we should call the one type motions, and the other actualizations. Every ⁹ motion is incomplete—the processes of thinning, learning, walking, building—these are motions, and incomplete at that. For it is not the same thing which at the same time is walking and has walked, or is building and has built, or is becoming and has become, or is being moved and has been moved, but two different things; and that which is causing motion is different from that which has caused motion. But the same thing at the same time is ¹⁰ seeing and has seen, is thinking and has thought. The latter kind of process, then, is what I mean by actualization, and the former what I mean by motion.

What the actual is, then, and what it is like, may

1048 b

τί τέ ἐστι καὶ ποῖον, ἐκ τούτων καὶ τῶν τοιούτων
δηλον ἡμῖν ἔστω.

VII. Πότε δὲ δυνάμει ἔστιν ἕκαστον καὶ πότε

1049 a

οὐ, διοριστέον· οὐ γὰρ ὅποτεοῦν. οἶον ἢ γῆ ἀρ'
ἐστὶ δυνάμει ἄνθρωπος¹; ἢ οὐ, ἀλλὰ μᾶλλον ὅταν
ἤδη γένηται σπέρμα, καὶ οὐδὲ τότε ἴσως. ὥσπερ
οὖν οὐδὲ ὑπὸ ἰατρικῆς ἅπαν ἂν ὑγιασθεῖν οὐδ'
ἀπὸ τύχης, ἀλλ' ἔστι τι ὃ δυνατόν ἐστι, καὶ τοῦτ'
ἐστὶν ὑγιαῖνον δυνάμει. "Ὅρος δὲ τοῦ μὲν ἀπὸ
διανοίας ἐντελεχεῖα γιγνομένου ἐκ τοῦ δυνάμει
ὄντος, ὅταν βουληθέντος γίγνηται μηθενὸς κωλύον-
τος τῶν ἐκτός, ἐκεῖ δ' ἐν τῷ ὑγιαζομένῳ, ὅταν μηθὲν
κωλύῃ τῶν ἐν αὐτῷ. ὁμοίως δὲ δυνάμει καὶ οἰκία,
εἰ μὴθὲν κωλύει τῶν ἐν τούτῳ καὶ τῇ ὕλῃ τοῦ
γίγνεσθαι οἰκίαν, οὐδ' ἔστιν ὃ δεῖ προσγενέσθαι ἢ
ἀπογενέσθαι ἢ μεταβαλεῖν, τοῦτο δυνάμει οἰκία.
καὶ ἐπὶ τῶν ἄλλων ὡσαύτως, ὅσων ἔξωθεν ἢ ἀρχῇ
τῆς γενέσεως, καὶ ὅσων δὴ ἐν αὐτῷ τῷ ἔχοντι,
ὅσα μηθενὸς τῶν ἔξωθεν ἐμποδίζοντος ἔσται δι'
αὐτοῦ. οἶον τὸ σπέρμα οὕπω· δεῖ γὰρ ἐν ἄλλῳ
καὶ² μεταβάλλειν· ὅταν δ' ἤδη διὰ τῆς αὐτοῦ
ἀρχῆς ἢ τοιοῦτον, ἤδη τοῦτο δυνάμει· ἐκεῖνο δὲ
ἐτέρας ἀρχῆς δέεται, ὥσπερ ἢ γῆ οὕπω ἀνδριάς

¹ δυνάμει ἄνθρωπος EJ Alexander: ἄνθρωπος δυνάμει A^b.

² πεσεῖν καὶ Ross: εἶναι καὶ Bullinger.

^a This is inconsistent with Aristotle's doctrine that the semen is the formal element in reproduction. Cf. VIII. iv. 5, VI. ix. 5.

be regarded as demonstrated from these and similar considerations.

VII. We must, however, distinguish when a particular thing exists potentially, and when it does not; for it does not so exist at any and every time. *E.g.*, is earth potentially a man? No, but rather when it has already become semen,^a and perhaps not even then; just as not *everything* can be healed by medicine, or even by chance, but there is some definite kind of thing which is capable of it, and this is that which is potentially healthy.

How one thing is potentially another.

The definition of that which as a result of thought² comes, from existing potentially, to exist actually, is that, when it has been willed, if no external influence hinders it, it comes to pass; and the condition in the case of the patient, *i.e.* in the person who is being healed, is that nothing in him should hinder the process. Similarly a house exists potentially if there is nothing in X, the matter, to prevent it from becoming a house, *i.e.*, if there is nothing which must be added or removed or changed; then X is potentially a house; and similarly in all³ other cases where the generative principle is external. And in all cases where the generative principle is contained in the thing itself, one thing is potentially another when, if nothing external hinders, it will of itself become the other. *E.g.*, the semen is not yet potentially a man; for it must further undergo a change in some other medium.^a But when, by its own generative principle, it has already come to have the necessary attributes, in this state it is now potentially a man, whereas in the former state it has need of another principle; just as earth is not yet potentially a statue,⁴

1049 a

δυναμίει μεταβαλοῦσα¹ γὰρ ἔσται χαλκός. Ἔοικε
 δὲ ὁ λέγομεν εἶναι οὐ τὸδε ἀλλ' ἐκείνινον, οἶον τὸ
 20 κιβώτιον οὐ ξύλον ἀλλὰ ξύλινον, οὐδὲ τὸ ξύλον γῆ
 ἀλλὰ γῆνινον· πάλιν ἡ γῆ εἰ οὕτως μὴ ἄλλο ἀλλὰ
 ἐκείνινον,—ἀεὶ ἐκείνο δύναμίει ἀπλῶς τὸ ὑστερόν
 ἔστιν. οἶον τὸ κιβώτιον οὐ γῆνινον οὐδὲ γῆ, ἀλλὰ
 ξύλινον· τοῦτο γὰρ δύναμίει κιβώτιον, καὶ ὕλη κιβω-
 25 τίου αὐτῆ, ἀπλῶς μὲν τοῦ ἀπλῶς, τουδὲ δὲ τοδὲ
 τὸ ξύλον. Εἰ δὲ τί ἐστι πρῶτον ὁ μηκέτι κατ'
 ἄλλο² λέγεται ἐκείνινον, τοῦτο πρῶτη ὕλη· οἶον εἰ ἡ
 γῆ ἀερίνη, ὁ δ' ἀήρ μὴ πῦρ ἀλλὰ πύρινος, τὸ πῦρ
 ὕλη πρῶτη οὐ³ τὸδε τι οὐσα.⁴ τούτω γὰρ διαφέρει
 τὸ καθ' οὐ⁵ καὶ τὸ ὑποκείμενον, τῶ εἶναι τὸδε τι
 ἢ μὴ εἶναι. οἶον τοῖς πάθεισι τὸ ὑποκείμενον ἄν-
 30 θρωπος καὶ σῶμα καὶ ψυχὴ, πάθος δὲ τὸ μουσικόν
 καὶ λευκόν. λέγεται δὲ τῆς μουσικῆς ἐγγενομένης
 ἐκείνο οὐ μουσικὴ ἀλλὰ μουσικόν, καὶ οὐ λευκότης
 ὁ ἄνθρωπος ἀλλὰ λευκόν, οὐδὲ βάδισις ἢ κίνησις
 ἀλλὰ βαδίζον ἢ κινούμενον, ὡς τὸ ἐκείνινον. ὅσα
 35 μὲν οὖν οὕτω, τὸ ἔσχατον οὐσία· ὅσα δὲ μὴ οὕτως
 ἀλλ' εἶδός τι καὶ τὸδε τι τὸ κατηγορούμενον, τὸ
 ἔσχατον ὕλη καὶ οὐσία ὑλική. καὶ ὀρθῶς δὴ συμ-

¹ μεταβάλλουσα E²A^bJ.² ἄλλο A^b γρ. F Alexander: ἄλλου E J.³ οὐ om. Γ Alexander: εἰ δὲ A^b: ὡς E².⁴ οὐσία A^b: καὶ οὐσία recc.⁵ καθ' οὐ Apelt: καθόλου.

because it must undergo a change before it becomes bronze.

It seems that what we are describing is not a particular thing, but a definite material; e.g., a box is not wood, but wooden material,^a and wood is not earth, but earthen material; and earth also is an illustration of our point if it is similarly not some other thing, but a definite material—it is always the latter term in this series which is, in the fullest sense, potentially something else. E.g., a box is not earth, nor earthen, but wooden; for it is this that is potentially a box, and this is the matter of the box—that is, wooden material in general¹ is the matter of “box” in general, whereas the matter of a particular box is a particular piece of wood.

If there is some primary stuff, which is not further called the material of some other thing, this is primary matter. E.g., if earth is “made of air,” and air is not fire, but “made of fire,” then fire is primary matter, not being an individual thing. For the subject or substrate is distinguishable into two kinds by either being or not being an individual thing. Take for example as the subject of the attributes “man,” or “body” or “soul,” and as an attribute “cultured” or “white.” Now the subject, when culture is induced in it, is called not “culture” but “cultured,” and the man is called not whiteness but white; nor is he called “ambulation” or “motion,” but “walking” or “moving”; just as we said that things are of a definite material. Thus where “subject” has this sense, the ultimate⁷ substrate is substance; but where it has not this sense, and the predicate is a form or individuality, the ultimate substrate is matter or material sub-

^a Cf. VII. vii. 10-12.

1049 b βαίνει τὸ ἐκείνινον λέγεσθαι κατὰ τὴν ὕλην καὶ τὰ
πάθη· ἀμφω γὰρ ἀόριστα. Πότε μὲν οὖν
λεκτέον δυνάμει καὶ πότε οὐ, εἴρηται.

VIII. Ἐπεὶ δὲ τὸ πρότερον διώριστα ποσαχῶς
5 λέγεται, φανερόν ὅτι πρότερον ἐνέργεια δυνάμεως
ἔστιν. λέγω δὲ δυνάμεως οὐ μόνον τῆς ὠρισμένης
ἢ λέγεται ἀρχὴ μεταβλητικῆ ἐν ἄλλῳ ἢ ἢ ἄλλο,
ἀλλ' ὅλως πάσης ἀρχῆς κινητικῆς ἢ στατικῆς.
καὶ γὰρ ἡ φύσις ἐν ταύτῳ [γίγνεται· ἐν ταύτῳ γὰρ]²
10 γένει τῇ δυνάμει· ἀρχὴ γὰρ κινητικῆ, ἀλλ' οὐκ ἐν
ἄλλῳ ἀλλ' ἐν αὐτῷ ἢ αὐτό. πάσης δὲ τῆς τοιαύτης
πρότερα ἔστιν ἡ ἐνέργεια καὶ λόγῳ καὶ τῇ οὐσίᾳ·
χρόνῳ δ' ἔστι μὲν ὡς, ἔστι δ' ὡς οὐ. Τῷ λόγῳ
μὲν οὖν ὅτι πρότερα, δῆλον· τῷ γὰρ ἐνδέχεσθαι ἐν-
15 ἐργῆσαι δυνατόν ἐστι τὸ πρῶτως δυνατόν, οἷον λέγω
οἰκοδομικὸν τὸ δυνάμενον οἰκοδομεῖν, καὶ ὄρατικὸν
τὸ ὄρᾶν, καὶ ὄρατὸν τὸ δυνατόν ὄρασθαι· ὁ δ'
αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων, ὥστ' ἀνάγκη τὸν
λόγον προϋπάρχειν καὶ τὴν γνῶσιν τῆς γνώσεως.

Τῷ δὲ χρόνῳ πρότερον ὦδε,³ τὸ τῷ εἶδει τὸ
αὐτὸ ἐνεργοῦν πρότερον, ἀριθμῷ δ' οὐ. λέγω
20 δὲ τοῦτο ὅτι τοῦδε μὲν τοῦ ἀνθρώπου τοῦ ἦδη
ὄντος κατ' ἐνέργειαν καὶ τοῦ σίτου καὶ τοῦ ὄρων-
τος πρότερον τῷ χρόνῳ ἢ ὕλη καὶ τὸ σπέρμα

¹ ἢ om. E¹A^bJ.

² γίγνεται . . . γὰρ om. A^b Alexander: γίγνεται δυνάμει.
ἐν ταύτῳ γὰρ E.

³ ὦδε om. E¹J.

^a V. xi.

^b Cf. V. iv. I.

stance. It is quite proper that both matter and
attributes should be described by a derivative predi-
cate, since they are both indefinite.

Thus it has now been stated when a thing should
be said to exist potentially, and when it should not.

VIII. Now since we have distinguished^a the <sup>Actuality is
prior to
potentially</sup>
several senses of priority, it is obvious that actuality
is prior to potentiality. By potentiality I mean not
that which we have defined as "a principle of change
which is in something other than the thing changed,
or in that same thing *qua* other," but in general
any principle of motion or of rest; for nature also
is in the same genus as potentiality, because it is
a principle of motion, although not in some other
thing, but in the thing itself *qua* itself.^b To every²
potentiality of this kind actuality is prior, both in
formula and in substance; in time it is sometimes
prior and sometimes not.

That actuality is prior in formula is evident; for <sup>(1) in
formula or
definition;</sup>
it is because it can be actualized that the potential,
in the primary sense, is potential, I mean, *e.g.*, that
the potentially constructive is that which can con-
struct, the potentially seeing that which can see,
and the potentially visible that which can be seen.
The same principle holds in all other cases too, so³ 3
that the formula and knowledge of the actual must
precede the knowledge of the potential.

In time it is prior in this sense: the actual is <sup>(2) in time—
but it is also
in a sense
posterior;</sup>
prior to the potential with which it is formally
identical, but not to that with which it is identical
numerically. What I mean is this: that the matter⁴
and the seed and the thing which is capable of seeing,
which are potentially a man and corn and seeing,
but are not yet so actually, are prior in time to the

1049 b

καὶ τὸ ὄρατικόν, ἃ δυνάμει μὲν ἔστιν ἄνθρωπος
καὶ σῖτος καὶ ὄρων, ἐνεργεία δ' οὐπω. ἀλλὰ
τούτων πρότερα τῷ χρόνῳ ἕτερα ὄντα ἐνεργεία, ἐξ
ᾧ ταῦτα ἐγένετο· αἰεὶ γὰρ ἐκ τοῦ δυνάμει ὄντος
25 γίννεται τὸ ἐνεργεία ὄν ὑπὸ ἐνεργεία ὄντος, οἷον
ἄνθρωπος ἐξ ἀνθρώπου, μουσικὸς ὑπὸ μουσικοῦ,
αἰεὶ κινουντός τινος πρώτου· τὸ δὲ κινουὶν ἐνεργεία
ἤδη ἔστιν.

Εἴρηται δὲ ἐν τοῖς περὶ τῆς οὐσίας λόγοις ὅτι
ἄπαν τὸ γιγνόμενον γίννεται ἐκ τινός τι καὶ ὑπὸ
τινος, καὶ τοῦτο τῷ εἶδει τὸ αὐτό. διὸ καὶ δοκεῖ
30 ἀδύνατον εἶναι οἰκοδόμον εἶναι μὴ οἰκοδομήσαντα
μηδέν, ἢ κιθαριστὴν μηθὲν κιθαρίσαντα· ὁ γὰρ
μανθάνων κιθαρίζων κιθαρίζων μανθάνει κιθαρί-
ζων, ὁμοίως δὲ καὶ οἱ ἄλλοι. ὅθεν ὁ σοφιστικὸς
ἐλεγχος ἐγίνετο ὅτι οὐκ ἔχων τις τὴν ἐπι-
στήμην ποιήσει οὐδ' ἢ ἐπιστήμη· ὁ γὰρ μανθάνων
35 οὐκ ἔχει, ἀλλὰ διὰ τὸ τοῦ γιγνομένου γεγενῆσθαι τι
καὶ τοῦ ὅλως κινουμένου κενηθῆσθαι τι (δηλον δ'
1050 a ἐν τοῖς περὶ κινήσεως τοῦτο) καὶ τὸν μανθάνοντα
ἀνάγκη ἔχειν τι τῆς ἐπιστήμης ἴσως. ἀλλ' οὖν καὶ
ταύτη γε δηλον ὅτι ἢ ἐνεργεία καὶ οὕτω προτέρα
τῆς δυνάμεως κατὰ γένεσιν καὶ χρόνον. Ἄλλα
μὴν καὶ οὐσία γε, πρώτον μὲν ὅτι τὰ τῇ γενέσει
5 ὕστερα τῷ εἶδει καὶ τῇ οὐσία πρότερα, οἷον ἀνὴρ
παιδὸς καὶ ἄνθρωπος σπέρματος· τὸ μὲν γὰρ ἤδη
ἔχει τὸ εἶδος, τὸ δ' οὐ· καὶ ὅτι ἅπαν ἐπ' ἀρχὴν

* VII. vii., viii.

* *Physics*, VI. vi.

individual man and corn and seeing subject which
already exist in actuality. But prior in time to 5
these potential entities are other actual entities
from which the former are generated; for the actu-
ally existent is always generated from the potentially
existent *by* something which is actually existent—
e.g., man by man, cultured by cultured—there is
always some prime mover; and that which initiates
motion exists already in actuality.

We have said ^a in our discussion of substance that
everything which is generated is generated from
something and by something; and by something
formally identical with itself. Hence it seems im- 6
possible that a man can be a builder if he has never
built, or a harpist if he has never played a harp;
because he who learns to play the harp learns by
playing it, and similarly in all other cases. This was 7
the origin of the sophists' quibble that a man who
does not know a given science will be doing that which
is the object of that science, because the learner
does not know the science. But since something of
that which is being generated is already generated,
and something of that which is being moved as a
whole is already moved (this is demonstrated in our
discussion on Motion ^b), presumably the learner too
must possess something of the science. At any rate 8
from this argument it is clear that actuality is prior
to potentiality in this sense too, *i.e.* in respect of
generation and time.

But it is also prior in substantiality; (*a*) because ^{(3) in sub-}
things which are posterior in generation are prior
in form and substantiality; *e.g.*, adult is prior to
child, and man to semen, because the one already
possesses the form, but the other does not; and (*b*) 9

1050^a βαδίζει τὸ γιγνόμενον καὶ τέλος· ἀρχὴ γὰρ τὸ οὐ
 ἔνεκα, τοῦ τέλους δὲ ἔνεκα ἢ γένεσις. τέλος δ' ἢ
 10 ἐνέργεια, καὶ τούτου χάριν ἢ δύναμις λαμβάνεται·
 οὐ γὰρ ἵνα ὄψιν ἔχωσιν ὀρώσι τὰ ζῶα, ἀλλ' ὅπως
 ὀρώσιν ὄψιν ἔχουσιν. ὁμοίως δὲ καὶ οἰκοδομικὴν
 ἵνα οἰκοδομῶσι, καὶ τὴν θεωρητικὴν ἵνα θεωρῶσιν·
 ἀλλ' οὐ θεωροῦσιν ἵνα θεωρητικὴν ἔχωσιν, εἰ μὴ
 οἱ μελετῶντες· οὗτοι δ' οὐχὶ θεωροῦσιν, ἀλλ' ἢ ὡδὶ
 15 ἢ ὅ τι¹ οὐδὲν δέονται θεωρεῖν. Ἐπι ἢ ὕλη ἔστι
 δυνάμει, ὅτι ἔλθοι ἂν εἰς τὸ εἶδος· ὅταν δέ γε
 ἐνεργείᾳ ἦ, τότε ἐν τῷ εἶδει ἐστίν. ὁμοίως δὲ καὶ
 ἐπὶ τῶν ἄλλων καὶ ὧν κίνησις τὸ τέλος. διό
 ὥσπερ οἱ διδάσκοντες ἐνεργοῦντα ἐπιδείξαντες οἶον-
 20 ται τὸ τέλος ἀποδεδωκέναι, καὶ ἡ φύσις ὁμοίως. εἰ
 γὰρ μὴ οὕτω γίνεταί, ὁ Παύσανος ἔσται Ἑρμῆς·
 ἀδηλος γὰρ καὶ ἡ ἐπιστήμη εἰ ἔσω ἢ ἔξω, ὥσπερ
 κἀκείνος· τὸ γὰρ ἔργον τέλος, ἢ δὲ ἐνέργεια τὸ
 ἔργον. διό καὶ τοῦνομα ἐνέργεια λέγεται κατὰ τὸ
 ἔργον, καὶ συντείνει πρὸς τὴν ἐντελέχειαν. Ἐπεὶ
 δ' ἐστὶ τῶν μὲν ἔσχατον ἢ χρήσις, οἶον ὄψεως ἢ
 25 ὄρασις, καὶ οὐθὲν γίνεταί παρὰ ταύτην ἕτερον ἀπὸ
 τῆς ὄψεως [ἔργον],² ἀπ' ἐνίων δὲ γίνεταί τι, οἶον

¹ ὅ τι Bullinger: ὅτι.

² om. A^b Alexander.

^a Probably a "trick" picture of some kind. So Pausan is said to have painted a picture of a horse galloping which when inverted showed the horse rolling on its back. Cf. Aelian, *Var. Hist.* xiv. 15; Lucian, *Demosth. Enc.* 24; Plutarch, *Moralia*, 396 E; Pfuhl, *Malerei und Zeichnung der Griechen*, § 763.

because everything which is generated moves towards a principle, *i.e.* its end. For the object of a thing is its principle; and generation has as its object the end. And the actuality is the end, and it is for the sake of this that the potentiality is acquired; for animals do not see in order that they may have sight, but have sight in order that they may see. Similarly men possess the art of building 10 in order that they may build, and the power of speculation that they may speculate; they do not speculate in order that they may have the power of speculation—except those who are learning by practice; and they do not really speculate, but only in a limited sense, or about a subject about which they have no desire to speculate.

Further, matter exists potentially, because it may attain to the form; but when it exists actually, it is then *in* the form. The same applies in all other cases, including those where the end is motion. Hence, just as teachers think that they have achieved 11 their end when they have exhibited their pupil performing, so it is with nature. For if this is not so, it will be another case of "Pauson's Hermes"^a; it will be impossible to say whether the knowledge is *in* the pupil or outside him, as in the case of the Hermes. For the activity is the end, and the actuality is the activity; hence the term "actuality" is derived from "activity," and tends to have the meaning of "complete reality."

Now whereas in some cases the ultimate thing is 12 the use of the faculty, as, *e.g.*, in the case of sight seeing is the ultimate thing, and sight produces nothing else besides this; but in other cases something is produced, *e.g.* the art of building produces

1050^a ἀπὸ τῆς οἰκοδομικῆς οἰκία παρὰ τὴν οἰκοδόμησιν, ὅμως οὐθὲν ἦττον ἔνθα μὲν τέλος ἔνθα δὲ μᾶλλον τέλος τῆς δυνάμεως ἐστίν. ἡ γὰρ οἰκοδόμησις ἐν τῷ οἰκοδομουμένῳ, καὶ ἅμα γίνεταί καὶ ἐστὶ τῆ οἰκία.

30 Ὅσων μὲν οὖν ἕτερόν τι ἐστὶ παρὰ τὴν χρῆσιν τὸ γιγνόμενον, τούτων μὲν ἡ ἐνέργεια ἐν τῷ ποιουμένῳ ἐστίν, οἷον ἡ τε οἰκοδόμησις ἐν τῷ οἰκοδομουμένῳ καὶ ἡ ὕφανσις ἐν τῷ ὕφαινομένῳ, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων, καὶ ὅπως ἡ κίνησις ἐν τῷ κινουμένῳ· ὅσων δὲ μὴ ἐστὶν ἄλλο τι ἔργον
35 παρὰ τὴν ἐνέργειαν, ἐν αὐτοῖς ὑπάρχει ἡ ἐνέργεια, οἷον ἡ ὄρασις ἐν τῷ ὄρῶντι καὶ ἡ θεωρία ἐν τῷ
1050^b θεωροῦντι καὶ ἡ ζωὴ ἐν τῇ ψυχῇ (διὸ καὶ ἡ εὐδαιμονία· ζωὴ γὰρ ποιά τις ἐστίν· ὥστε φανερόν ὅτι ἡ οὐσία καὶ τὸ εἶδος ἐνέργειά ἐστιν). κατὰ τε δὴ τούτων τὸν λόγον φανερόν ὅτι πρότερον τῇ οὐσίᾳ ἐνέργεια δυνάμεως, καὶ ὥσπερ εἵπομεν, τοῦ χρόνου
5 αἰεὶ προλαμβάνει ἐνέργεια ἕτερα πρὸ ἑτέρας ἕως τῆς τοῦ αἰεὶ κινούντος πρώτως. Ἄλλὰ μὴν καὶ κυριωτέρως· τὰ μὲν γὰρ αἰδία πρότερα τῇ οὐσίᾳ τῶν φθαρτῶν, ἐστὶ δ' οὐθὲν δυνάμει αἰδίων. λόγος δὲ ὅδε· πᾶσα δύναμις ἅμα τῆς ἀντιφάσεώς ἐστιν· τὸ
10 μὲν γὰρ μὴ δυνατόν ὑπάρχειν οὐκ ἂν ὑπάρξειεν οὐθενί· τὸ δυνατόν δὲ πᾶν ἐνδέχεται μὴ ἐνεργεῖν. τὸ ἄρα δυνατόν εἶναι ἐνδέχεται καὶ εἶναι καὶ μὴ εἶναι· τὸ αὐτὸ ἄρα δυνατόν καὶ εἶναι καὶ μὴ εἶναι. τὸ δὲ δυνατόν μὴ εἶναι ἐνδέχεται μὴ εἶναι· τὸ δὲ ἐνδεχόμενον μὴ εἶναι φθαρτόν, ἢ ἀπλῶς, ἢ τοῦτο

not only the act of building but a house ; nevertheless in the one case the use of the faculty is the end, and in the other it is more truly the end than is the potentiality. For the act of building resides in the thing built ; *i.e.*, it comes to be and exists simultaneously with the house.

Thus in all cases where the result is something 13 other than the exercise of the faculty, the actuality resides in the thing produced ; *e.g.* the act of building in the thing built, the act of weaving in the thing woven, and so on ; and in general the motion resides in the thing moved. But where there is no other result besides the actualization, the actualization resides in the subject ; *e.g.* seeing in the seer, and speculation in the speculator, and life in the soul (and hence also happiness, since happiness is a 14 particular kind of life). Evidently, therefore, substance or form is actuality. Thus it is obvious by this argument that actuality is prior in substantiality to potentiality ; and that in point of time, as we have said, one actuality presupposes another right back to that of the prime mover in each case.

It is also prior in a deeper sense ; because that 15 which is eternal is prior in substantiality to that which is perishable, and nothing eternal is potential. The argument is as follows. Every potentiality is at the same time a potentiality for the opposite.^a For whereas that which is incapable of happening cannot happen to anything, everything which is capable may fail to be actualized. Therefore that which is capable 16 of being may both be and not be. Therefore the same thing is capable both of being and of not being. But that which is capable of not being may possibly not be ; and that which may possibly not be is perish-

Cf. § 19.

1050 b

15 αὐτὸ δὲ λέγεται ἐνδέχεσθαι μὴ εἶναι, ἢ κατὰ τόπον ἢ κατὰ τὸ ποσὸν ἢ ποιόν· ἀπλῶς δὲ τὸ κατ' οὐσίαν. οὐθὲν ἄρα τῶν ἀφθάρτων ἀπλῶς δυνάμει ἔστιν² ἀπλῶς· κατὰ τι δὲ οὐδὲν κωλύει, οἷον ποιόν, ἢ πού· ἐνεργεία ἄρα πάντα. οὐδὲ τῶν ἐξ ἀνάγκης ὄντων, καίτοι ταῦτα πρῶτα· εἰ γὰρ ταῦτα μὴ ἦν, οὐθὲν ἂν
20 ἦν. οὐδὲ δὴ κίνησις, εἴ τίς ἔστιν αἰδιος· οὐδ' εἴ τι κινούμενον αἰδιον, οὐκ ἔστι κατὰ δύνάμιν κινούμενον ἀλλ' ἢ πόθεν ποί· τούτου δ' ὕλην οὐδὲν κωλύει ὑπάρχειν. διὸ αἰεὶ ἐνεργεῖ ἥλιος καὶ ἄστρα καὶ ὄλος ὁ οὐρανός, καὶ οὐ φοβερὸν μὴ ποτε στηῆ, ὁ φοβοῦνται οἱ περὶ φύσεως. οὐδὲ κάμνει τοῦτο
25 δρῶντα· οὐ γὰρ περὶ τὴν δύνάμιν τῆς ἀντιφάσεως αὐτοῖς, οἷον τοῖς φθαρτοῖς, ἢ κίνησις, ὥστε ἐπίπονον εἶναι τὴν συνέχειαν τῆς κινήσεως· ἢ γὰρ οὐσία ὕλη καὶ δύναμις οὐσα, οὐκ ἐνεργεία, αἰτία τούτου.

Μιμείται δὲ τὰ ἀφθάρτα καὶ τὰ ἐν μεταβολῇ ὄντα, οἷον γῆ καὶ πῦρ. καὶ γὰρ ταῦτα αἰεὶ ἐνεργεῖ·
30 καθ' αὐτὰ γὰρ καὶ ἐν αὐτοῖς ἔχει τὴν κίνησιν. αἰ δ' ἄλλαι δυνάμεις, ἐξ ὧν διώρισται, πᾶσαι τῆς ἀντιφάσεως εἰσιν· τὸ γὰρ δυνάμενον ὡδὶ κινεῖν δύναται καὶ μὴ ὡδί, ὅσα γε κατὰ λόγον. αἰ δὲ

¹ τὸ om. EJ.² ἔστιν ὅν EJ.^a e.g. Empedocles; cf. V. xxiii. 3 n.^b Cf. *De Gen. et Corr.* 337 a 1-7. ^c Ch. v. 2.

able; either absolutely, or in the particular sense in which it is said that it may possibly not be; that is, in respect either of place or of quantity or of quality. "Absolutely" means in respect of substance. Hence 17 nothing which is absolutely imperishable is absolutely potential (although there is no reason why it should not be potential in some particular respect; e.g. of quality or place); therefore all imperishable things are actual. Nor can anything which is of necessity be potential; and yet these things are primary, for if they did not exist, nothing would exist. Nor can motion be potential, if there is any eternal motion. Nor, if there is anything eternally in motion, is it potentially in motion (except in respect of some starting-point or destination), and there is no reason why the matter of such a thing should not exist. Hence the sun and stars and the whole 18 visible heaven are always active, and there is no fear that they will ever stop—a fear which the writers^a on physics entertain. Nor do the heavenly bodies tire in their activity; for motion does not imply for them, as it does for perishable things, the potentiality for the opposite, which makes the continuity of the motion distressing; this results when the substance is matter and potentiality, not actuality.

Imperishable things are resembled in this respect 19 by things which are always undergoing transformation, such as earth and fire; for the latter too are always active, since they have their motion independently and in themselves.^b Other potentialities, according to the distinctions already made,^c all admit of the opposite result; for that which is capable of causing motion in a certain way can also cause it not in that way; that is if it acts rationally. The same 20

1050^b ἄλογοι τῶ παρεῖναι καὶ μὴ τῆς ἀντιφάσεως ἔσονται
 35 αἱ αὐταί. Εἰ ἄρα τινὲς εἰσὶ φύσεις τοιαῦται ἢ
 οὐσαὶ οἷας λέγουσιν οἱ ἐν τοῖς λόγοις τὰς ἰδέας,
 πολὺ μᾶλλον ἐπιστήμον ἂν τι εἴη ἢ αὐτὸ ἐπιστήμη
 1051^a καὶ κωούμενον ἢ κίνησις· ταῦτα γὰρ ἐνέργεια
 μᾶλλον, ἐκεῖναι δὲ δυνάμεις τούτων. ὅτι μὲν οὖν
 πρότερον ἢ ἐνέργεια καὶ δυνάμειος καὶ πάσης
 ἀρχῆς μεταβλητικῆς, φανερόν.

IX. Ὅτι δὲ καὶ βελτίων καὶ τιμωτέρα τῆς
 5 σπουδαίας δυνάμειος ἢ ἐνέργεια, ἐκ τῶνδε δῆλον.
 ὅσα γὰρ κατὰ τὸ δύνασθαι λέγεται, ταῦτόν ἐστι
 δυνατὸν τὰναντία, οἷον τὸ δύνασθαι λεγόμενον
 ὑγιαίνειν ταῦτόν ἐστι καὶ τὸ νοσεῖν,¹ καὶ ἅμα ἢ
 αὐτῇ γὰρ δύναμις τοῦ ὑγιαίνειν καὶ κάμνειν, καὶ
 ἡρεμεῖν καὶ κινεῖσθαι, καὶ οἰκοδομεῖν καὶ κατα-
 10 βάλλειν, καὶ οἰκοδομεῖσθαι καὶ καταπίπτειν. τὸ
 μὲν οὖν δύνασθαι τὰναντία ἅμα ὑπάρχει, τὰ δ'
 ἐναντία ἅμα ἀδύνατον. καὶ τὰς ἐνεργείας δὲ ἅμα
 ἀδύνατον ὑπάρχειν, οἷον ὑγιαίνειν καὶ κάμνειν.
 ὥστ' ἀνάγκη τούτων θάτερον εἶναι τὰγαθόν. τὸ
 15 δὲ δύνασθαι ὁμοίως ἀμφοτέρων ἢ οὐδέτερον· ἢ ἄρα
 ἐνέργεια βελτίων. Ἀνάγκη δὲ καὶ ἐπὶ τῶν
 κακῶν τὸ τέλος καὶ τὴν ἐνέργειαν εἶναι χείρον
 τῆς δυνάμειος· τὸ γὰρ δυνάμενον ταῦτ' ἄμφω
 τὰναντία.

Δῆλον ἄρα ὅτι οὐκ ἔστι τὸ κακὸν παρὰ τὰ πράγ-

¹ νοσεῖν Alexander (?), Bonitz (omisso τὸ): νοσοῦν codd.

^a For this description of the Platonists cf. I. vi. 7.

^b This is a passing thrust at the Ideal theory. "Absolute

irrational potentialities can only produce opposite results by their presence or absence.

Thus if there are any entities or substances such as the dialecticians^a describe the Ideas to be, there must be something which has much more knowledge than absolute knowledge, and much more mobility than motion; for they will be in a truer sense actualities, whereas knowledge and motion will be their potentialities.^b Thus it is obvious that actuality is prior both to potentiality and to every principle of change.

IX. That a good actuality is both better and more estimable than a good potentiality will be obvious from the following arguments. Everything of which we speak as capable is alike capable of contrary results; e.g., that which we call capable of being well is alike capable of being ill, and has both potentialities at once; for the same potentiality admits of health and disease, or of rest and motion, or of building and of pulling down, or of being built and of falling down. Thus the capacity for two contraries² can belong to a thing at the same time, but the contraries cannot belong at the same time; i.e., the actualities, e.g. health and disease, cannot belong to a thing at the same time. Therefore one of them must be the good; but the potentiality may equally well be both or neither. Therefore the actuality is better.

Also in the case of evils the end or actuality must³ be worse than the potentiality; for that which is capable is capable alike of both contraries.

Clearly, then, evil does not exist apart from things;

knowledge" (the faculty of knowledge) will be a mere potentiality, and therefore substantially posterior to its actualization in particular instances.

A good actuality is better, and a bad actuality worse, than the corresponding potentiality.

1051 a

ματα· ὕστερον γὰρ τῇ φύσει τὸ κακὸν τῆς δυνάμεως.
 20 οὐκ ἄρα οὐδ' ἐν τοῖς ἐξ ἀρχῆς καὶ τοῖς αἰδίοις οὐθὲν
 ἔστιν οὔτε κακὸν οὔτε ἀμάρτημα οὔτε διεφθαρμέ-
 νον· καὶ γὰρ ἡ διαφθορά τῶν κακῶν ἐστίν.

Εὐρίσκεται δὲ καὶ τὰ διαγράμματα ἐνεργείᾳ,
 διαιροῦντες γὰρ εὐρίσκουσιν· εἰ δ' ἦν διηρημένα,
 φανερά ἂν ἦν· νῦν δ' ἐνυπάρχει δυνάμει. διὰ τι
 25 δύο ὄρθαι τὸ τρίγωνον; ὅτι αἱ περὶ μίαν σιγ-
 μὴν γωνίαί ἴσαι δύο ὄρθαις. εἰ οὖν ἀνήκτο ἡ παρὰ
 τὴν πλευράν, ἰδόντι ἂν ἦν εὐθύς δηλον διὰ τί.¹
 ἐν ἡμικυκλίῳ ὀρθὴ καθόλου διὰ τί²; ἐὰν ἴσαι
 τρεῖς, ἡ τε βᾶσις δύο καὶ ἡ ἐκ μέσου ἐπισταθεῖσα

¹ post τί interpunctit Cannan: post δηλον cet.

² διότι rec. Γ.

^a The argument is presumably as follows (the fallacy, as pointed out by Bonitz, is indicated in parenthesis): That which has a separate substantial existence is actuality. Actuality is prior (substantially) to potentiality. Potentiality is prior to evil (in the moral scale. But since by evil Aristotle means the actualization of a potentiality for evil, potentiality is substantially posterior to evil). Therefore that which has a separate substantial existence is prior to evil; i.e., evil does not exist apart from particular instances of evil. The argument is directed against the Platonic Idea of evil (Plato, *Republic*, 476 A); and the corollary which follows against the identification of Evil with one of the principles of the universe

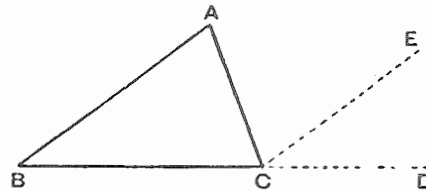
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for evil is by nature posterior to potentiality.^a Nor is there in things which are original and eternal any evil or error, or anything which has been destroyed—for destruction is an evil.

Geometrical constructions, too, are discovered by ⁴ an actualization, because it is by dividing that we discover them. If the division were already done, they would be obvious; but as it is the division is only there potentially. Why is the sum of the interior angles of a triangle equal to two right angles? Because the angles about one point (in a straight line) are equal to two right angles. If the line parallel to the side had been already drawn, the answer would have been obvious at sight.^b Why is ⁵ the angle in a semicircle always a right angle? If three lines are equal, the two forming the base, and the one set upright from the middle of the base, the answer is obvious to one who knows the former

(I. vi. 10, XII. x. 6, XIV. iv. 10, 11; cf. Plato, *Laws*, 896 E, 898 C).

^b The figure, construction and proof are as follows:



Produce the base of the $\triangle ABC$ to D (Aristotle omits this, but in Euclid i. 32, of which this proposition is the second part, it is already done); from C draw CE parallel to and in the same sense as BA. Then $\angle BCA + \angle ACE + \angle ECD = 2 \text{ rt. } \angle s$. But since CE is \parallel to BA, $\angle ACE = \angle BAC$, and $\angle ECD = \angle ABC$.
 $\therefore \angle BCA + \angle BAC + \angle ABC = 2 \text{ rt. } \angle s$.

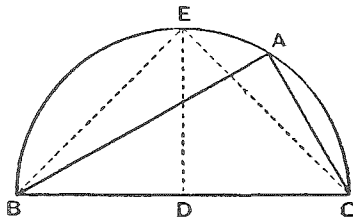
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1051^a ὀρθή, ἰδόντι δῆλον τῷ ἐκείνω εἰδῶσι. ὥστε φανερόν
 30 ὅτι τὰ δυνάμει ὄντα εἰς ἐνέργειαν ἀγόμενα¹ εὐ-
 ρίσκεται. αἴτιον δὲ ὅτι νόησις ἢ ἐνέργεια. ὥστ'
 ἐξ ἐνεργείας ἢ δύναμις· καὶ διὰ τοῦτο ποιοῦντες
 γινώσκουσιν· ὕστερον γὰρ γενέσει ἢ ἐνέργεια ἢ
 κατ' ἀριθμόν.

X. Ἐπεὶ δὲ τὸ ὄν λέγεται καὶ τὸ μὴ ὄν τὸ μὲν
 35 κατὰ τὰ σχήματα τῶν κατηγοριῶν, τὸ δὲ κατὰ
 1051^b δύναμιν ἢ ἐνέργειαν τούτων ἢ τὰναντία, τὸ δὲ
 [κυριώτατα ὄν]² ἀληθές ἢ ψεῦδος, τοῦτο δ' ἐπὶ
 τῶν πραγμάτων ἐστὶ τῷ συγκείσθαι ἢ διηρηθῆσθαι,
 ὥστε ἀληθεύει μὲν ὁ τὸ διηρημένον οἴομενος
 διηρηθῆσθαι³ καὶ τὸ συγκείμενον συγκείσθαι, ἔψευσταί
 5 δὲ ὁ ἐναντίως ἔχων ἢ τὰ πράγματα, πότ' ἐστὶν ἢ
 οὐκ ἐστὶ τὸ ἀληθές λεγόμενον ἢ ψεῦδος; τοῦτο
 γὰρ σκεπτέον τί λέγομεν. Οὐ γὰρ διὰ τὸ ἡμᾶς

¹ ἀγόμενα EJ Alexander (?): ἀναγόμενα A BΓ.
² Ross. ³ διαίρεσθαι A BΓ.

• Aristotle implies a proof something after this fashion :



BAC is an angle in a semicircle. From D, the mid-point of the diameter BC, draw a perpendicular DE to meet the circumference at E. Join EB, EC.

proposition.^a Thus it is evident that the potential constructions are discovered by being actualized. The reason for this is that the actualization is an act of thinking. Thus potentiality comes from actuality (and therefore it is by constructive action that we acquire knowledge). <But this is true only in the abstract>, for the individual actuality is posterior in generation to its potentiality.^b

X. The terms "being" and "not-being" are used not only with reference to the types of predication, and to the potentiality or actuality, or non-potentiality and non-actuality, of these types, but also (in the strictest sense ^c) to denote truth and falsity. This depends, in the case of the objects, upon their being united or divided; so that he who thinks that what is divided is divided, or that what is united is united, is right; while he whose thought is contrary to the real condition of the objects is in error. Then *when* do what we call truth and falsity exist or not exist? We must consider what we mean by these terms.

It is not because we are right in thinking that you 2

Since the radii DB, DE are equal, $\angle DBE = \angle DEB$.

But $\angle DBE + \angle DEB + \text{rt. } \angle BDE = 2 \text{ rt. } \angle \text{s.} \therefore \angle DBE + \angle DEB = \text{a rt. } \angle$, and $\angle DEB = \frac{1}{2} \text{ rt. } \angle$.

Similarly $\angle DEC = \frac{1}{2} \text{ rt. } \angle$. $\therefore \angle BEC = \angle DEB + \angle DEC = \text{a rt. } \angle$.

But $\angle BAC = \angle BEC$ (Eucl. iii. 21).

$\therefore \angle BAC$ is a rt. \angle .

The method is clumsier than Euclid's (iii. 31); but "the answer is obvious" from the construction, and the proof involves "the former proposition."

^b This whole passage (§§ 4, 5) should be compared with viii. 3-7, where it logically belongs.

^c This appears to contradict VI. iv. 3. But it is just possible to interpret *κυριώτατα* (with Jaeger) as "in the commonest sense."

1051 b
οἶσθαι ἀληθῶς σε λευκὸν εἶναι εἰ σὺ λευκός, ἀλλὰ
διὰ τὸ σέ λευκὸν εἶναι ἡμεῖς οἱ φάντες τοῦτο
ἀληθεύομεν. εἰ δὴ τὰ μὲν αἰεὶ σύγκειται καὶ
10 ἀδύνατα διαιρεθῆναι, τὰ δ' αἰεὶ διήρηται καὶ ἀδύ-
νατα συντεθῆναι, τὰ δ' ἐνδέχεται τάναντία, τὸ μὲν
εἶναι ἔστι τὸ συγκείσθαι καὶ ἐν εἶναι, τὸ δὲ μὴ
εἶναι τὸ μὴ συγκείσθαι ἀλλὰ πλείω εἶναι. περὶ
μὲν οὖν τὰ ἐνδεχόμενα ἢ αὐτὴ γίγνεται ψευδῆς καὶ
ἀληθῆς δόξα καὶ ὁ λόγος ὁ αὐτός, καὶ ἐνδέχεται
15 ὅτε μὲν ἀληθεύειν ὅτε δὲ ψεύδεσθαι· περὶ δὲ τὰ
ἀδύνατα ἄλλως ἔχειν οὐ γίγνεται ὅτε μὲν ἀληθὲς
ὅτε δὲ ψεῦδος, ἀλλ' αἰεὶ ταῦτ' ἀληθῆ καὶ ψευδῆ.

Περὶ δὲ δὴ τὰ ἀσύνθετα τί τὸ εἶναι ἢ μὴ εἶναι καὶ
τὸ ἀληθὲς καὶ τὸ ψεῦδος; οὐ γάρ ἔστι σύνθετον,
20 ὥστε εἶναι μὲν ὅταν συγκέηται, μὴ εἶναι δὲ ἐὰν
διηρημένον ἢ, ὥσπερ τὸ λευκὸν <τὸ>² ξύλον ἢ τὸ
ἀσύμμετρον τὴν διάμετρον· οὐδὲ τὸ ἀληθὲς καὶ τὸ³
ψεῦδος ὁμοίως ἔτι ὑπάρξει καὶ ἐπ' ἐκείνων. ἢ
ὥσπερ οὐδὲ τὸ ἀληθὲς ἐπὶ τούτων τὸ αὐτό, οὕτως
οὐδὲ τὸ εἶναι, ἀλλ' ἔστι τὸ μὲν ἀληθὲς τὸ δὲ⁴
ψεῦδος, τὸ μὲν θίγειν καὶ φάναι ἀληθές (οὐ γὰρ
25 ταῦτο κατάφασις καὶ φάσις), τὸ δ' ἀγνοεῖν μὴ
θιγγάνειν· ἀπατηθῆναι γὰρ περὶ τὸ τί ἔστιν οὐκ
ἔστιν ἀλλ' ἢ κατὰ συμβεβηκός. ὁμοίως δὲ καὶ περὶ
τὰς μὴ συνθετὰς οὐσίας· οὐ γὰρ ἔστιν ἀπατηθῆναι.
καὶ πᾶσαι εἰσιν ἐνεργεῖα, οὐ δυνάμει· ἐγγίγοντο
γὰρ ἂν καὶ ἐφθείροντο· νῦν δὲ τὸ ὄν αὐτὸ οὐ

¹ ταῦτα Casaubon: ταῦτα. ² Bywater. ³ τὸ om. A^b.

⁴ τὸ δὲ recc. Alexander: ἢ codd.

^a i.e. direct and accurate apprehension.

^b i.e., we cannot be mistaken with regard to a simple term X. We either apprehend it or not. Mistake arises when we

are white that you are white; it is because you are white that we are right in saying so. Now if whereas some things are always united and cannot be divided, and others are always divided and cannot be united, others again admit of both contrary states, then "to be" is to be united, i.e. a unity; and "not to be" is to be not united, but a plurality. Therefore as ³ regards the class of things which admit of both contrary states, the same opinion or the same statement comes to be false and true, and it is possible at one time to be right and at another wrong; but as regards things which cannot be otherwise the same opinion is not sometimes true and sometimes false, but the same opinions are always true or always false.

But with regard to incomposite things, what is ⁴ being or not-being, and truth or falsity? Such a thing is not composite, so as to be when it is united and not to be when it is divided, like the proposition that "the wood is white," or "the diagonal is incommensurable"; nor will truth and falsity apply in the same way to these cases as to the previous ones. In point of fact, just as truth is not the same ⁵ in these cases, so neither is being. Truth and falsity are as follows: contact ^a and assertion are truth (for assertion is not the same as affirmation), and ignorance is non-contact. I say ignorance, because it is impossible to be deceived with respect to what a thing is, except accidentally ^b; and the same applies to ⁶ incomposite substances, for it is impossible to be deceived about them. And they all exist actually, not potentially; otherwise they would be generated and destroyed; but as it is, Being itself is not gener-

either predicate something wrongly of X, or analyse X wrongly.

1051 b

30 γίγνεται οὐδὲ φθείρεται· ἕκ τινος γὰρ ἂν ἐγίγνετο.
ὅσα δὴ ἔστιν ὅπερ εἶναι τι καὶ ἐνεργεία, περὶ
ταῦτα οὐκ ἔστιν ἀπατηθῆναι, ἀλλ' ἢ νοεῖν ἢ μῆ.
ἀλλὰ τὸ τί ἐστι ζητεῖται περὶ αὐτῶν, εἰ τοιαῦτά
ἔστιν ἢ μῆ.

Τὸ δὲ εἶναι ὡς τὸ ἀληθές, καὶ τὸ μῆ εἶναι
ὡς τὸ ψεῦδος, ἐν μὲν ἔστιν, εἰ σύγκειται, ἀληθές·

35 τὸ δ' εἰ μῆ σύγκειται, ψεῦδος. τὸ δὲ ἔν, εἴπερ
1052 a ὄν, οὕτως ἐστίν· εἰ δὲ μῆ οὕτως, οὐκ ἔστιν. τὸ
δὲ ἀληθές τὸ νοεῖν ταῦτα¹. τὸ δὲ ψεῦδος οὐκ
ἔστιν, οὐδὲ ἀπάτη, ἀλλὰ ἄγνοια, οὐχ οἷα ἢ τυφ-
λότης· ἢ μὲν γὰρ τυφλότης ἐστὶν ὡς ἂν εἰ τὸ
νοητικὸν ὅλως μῆ ἔχει τις· φανερόν δὲ καὶ ὅτι
5 περὶ τῶν ἀκινήτων οὐκ ἔστιν ἀπάτη κατὰ τὸ ποτέ,
εἰ τις ὑπολαμβάνει ἀκίνητα. οἷον τὸ τρίγωνον εἰ
μῆ μεταβάλλειν οἶεται, οὐκ οἰήσεται ποτέ μὲν
δύο ὀρθὰς ἔχειν ποτέ δὲ οὐ (μεταβάλλοι γὰρ ἂν),
ἀλλὰ τί μὲν τί δ' οὐ, οἷον ἄρτιον ἀριθμὸν πρῶτον
εἶναι μηθένα, ἢ τινὰς μὲν τινὰς δ' οὐ. ἀριθμῶ δὲ
10 περὶ ἓνα οὐδὲ τοῦτο· οὐ γὰρ ἔτι τινὰ μὲν, τινὰ δὲ
οὐ οἰήσεται, ἀλλ' ἀληθεύσει ἢ ψεύσεται ὡς αἰεὶ
οὕτως ἔχοντος.

¹ ταῦτα A^b Alexander: αὐτά EJ.

ated (nor destroyed); if it were, it would be generated out of something. With respect, then, to all things which are essences and actual, there is no question of being mistaken, but only of thinking or not thinking them. Inquiry as to *what* they are takes the ⁷ form of inquiring whether they are of such-and-such a nature or not.

As for being in the sense of truth, and not-being in the sense of falsity, a unity is true if the terms are combined, and if they are not combined it is false. Again, if the unity exists, it exists in a particular way, and if it does not exist in that way, it does not exist at all. Truth means to think these objects, ⁸ and there is no falsity or deception, but only ignorance—not, however, ignorance such as blindness is; for blindness is like a total absence of the power of thinking. And it is obvious that with regard to immovable things also, if one assumes that there are immovable things, there is no deception in respect of time. *E.g.*, ⁹ if we suppose that the triangle is immutable, we shall not suppose that it sometimes contains two right angles and sometimes does not, for this would imply that it changes; but we may suppose that one thing has a certain property and another has not; *e.g.*, that no even number is a prime, or that some are primes and others are not. But about a single number we cannot be mistaken even in this way, for we can no longer suppose that one instance is of such a nature, and another not, but whether we are right or wrong, the fact is always the same.