

Pitt Press Series.

OUTLINES

OF THE

PHILOSOPHY OF ARISTOTLE

COMPILED BY

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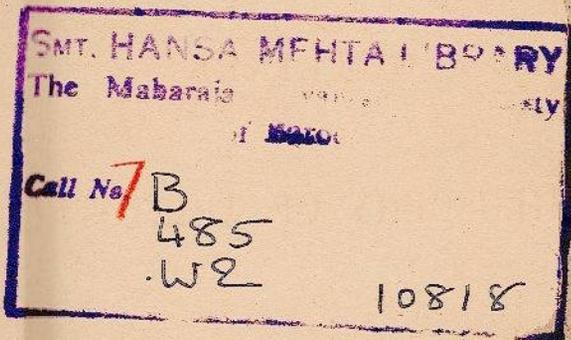
Δεί γὰρ ὡς ὑποτιπῶσαι πρῶτον, εἰθ' ὕστερον ἀναγράψαι.

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PREFACE TO PREVIOUS EDITION.

THE following pages are an expansion of a still smaller work which I published with the same title in 1875. My object in printing such a compendium was at that time limited almost entirely to the wants of my own pupils. But my *brochure*, I found, circulated outside those for whom it was originally intended, and the few copies which I could place at the disposal of the booksellers were soon exhausted. Since then I have been frequently asked to republish, but have held back from a number of considerations—not least perhaps from a hope that some day or other I might be able to fulfil the suggestion of my motto and “write out” what had been so far sketched. But I became more and more diffident about undertaking such a task. Now particularly when Prof. Zeller’s excellent statement of Aristotelianism is being translated into English it would be difficult to find a reason for attempting to do again work which has been already done so well. There may however still be room left for a smaller and less pretentious work which will string together the more important passages in Aristotle’s

writings and explain them by a brief English commentary.

A book of selections can hardly fail to prove unsatisfactory. There will always be passages omitted which one reader would have inserted and others inserted which he would have rejected. Much also is lost by having to take sentences out of their context and leave them without the setting which half explains them. I hope at the same time that I have managed to give in moderate compass the cream of Aristotle's writings and to make up in some way for the absence of context, inseparable from such work, by the English analysis which precedes each paragraph of extracts. Junior students can hardly be expected to thread their way through the quarto volumes of the Berlin Aristotle, and even those who are familiar with these volumes and with Bonitz's admirable index to them may be glad to have their favourite passages in a portable and concise form.

OXFORD,

May, 1880.

PREFACE TO THIRD EDITION.

THE success which has attended this little work will probably be allowed to be sufficient excuse for its republication. The present edition will be found to contain as compared with its predecessor a considerable amount of additional matter. For the sake of beginners I have added an introductory chapter on the way in which Aristotle sought to meet the difficulties of preceding thinkers and on the general drift of his own philosophy. I have considerably expanded the chapter on Aristotle's Logic; and, throughout, I have supplemented the Greek extracts where it seemed to me that by adding a few additional words Aristotle's meaning was made more obvious. But I have also, I hope, facilitated the study of the Greek by interpolating occasionally short explanatory notes.

I have to thank several reviewers and others for the kindly way in which they have spoken of my work. Specially am I indebted to Professor Susemihl for calling my attention (in Bursian's *Jahresbericht*) to some gaps which I have tried in this edition to fill up: and to Mr A. W. Benn for

several criticisms which appeared first in the *Westminster Review* and are now published in his important work upon the *Greek Philosophers*. Without admitting all Mr Benn's objections, I have been led by his remarks to modify in one or two passages my interpretation of Aristotle's views. But a work like this leaves no room for controversy: and as regards my exposition of Aristotle's 'creative reason' (§ 56) I must content myself by referring to the Introduction to my edition of Aristotle's *Psychology* (pp. xcvi.—cxvi.), where the grounds of my interpretation are much more fully stated.

OXFORD,
March, 1883.

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OUTLINES OF THE PHILOSOPHY OF ARISTOTLE.

CHAPTER I.

GENERAL AIM OF ARISTOTLE'S PHILOSOPHY.

THE philosophical ideas of Aristotle were, like those of every other philosopher, whether in ancient or in modern times, an outgrowth from the systems which had preceded him. For philosophy, whatever may be said to the contrary, is constantly progressing, and though its problems may recur, the recurrence is not merely iteration: the problem when it repeats itself is partly rendered easier, partly made more difficult by the attempts which have been made to solve it. And so it was that just as Socrates had tried to solve the difficulties of the pre-Socratic schools and Plato had sought to fill up the defects in Socrates, Aristotle in turn came to supplement the defects and meet the difficulties of Platonism.

Greek Philosophy had started with a very simple problem. It had asked what is the simplest explanation we can give of all existing things—what is the most universal, most comprehensive statement to which we can reduce all the objects of our experience? And the question had met with varying answers. Thales had found

the common element in water, of which every existing object was some modification or other, while Anaximenes regarded air as the universal explanation of phenomena. Pythagoras struck out a new line among these early thinkers. Abandoning their materialistic explanations, he reduced all phenomena to number. Number, he saw, was the universal attribute of all things: everything of which existence could be predicated was in some sense or other an expression of a numerical and quantitative relationship. But the pre-Socratic philosophers seldom indulged in such a supra-sensuous conception as that of number. They were principally, as Aristotle calls them, physical philosophers, students of nature; and it was in material agencies that they found the secret of the universe. Especially was this the case with Democritus and the Atomic school. Matter they found was ultimately reducible to indivisible particles, and it was the different changes in the arrangement of such particles which led to the actual form of outward things. Atoms were thus the constituent parts of which all existing things were merely particular manifestations.

Gradually, however, other problems were coming to the front. Hitherto philosophy had dealt with things as ready-made for experience, as directly known and undoubtedly knowable. But the nature of knowledge itself soon came to be a question for philosophers. Democritus had distinguished between a knowledge of the senses and a knowledge of the intellect: Empedocles had grasped the real truth that we could know things only in so far as some resemblance subsisted between the knowing mind and the known thing; and the Eleatic school of Xenophanes and Parmenides had seen, however vaguely,

that it was only in so far as we reduced our many sensations to unity and gave them a principle of reality that they could exist as objects of rational cognition. And still more strikingly Anaxagoras had hit the truth that Nous or Reason was in a way the secret support and organizer of outward things just as it was also the faculty of inward knowledge.

Thus Greek Philosophy had gradually exchanged the question of Ontology for the question of Epistemology—it had, that is, begun by asking what is Being, it had come to ask what is Knowing. And especially with the Sophists and Socrates the problem of philosophy passed from the study of the object to the study of the subject, and speculation directed itself not so much to the elementary constituents of things as to the elementary constituents of thought.

The Sophists had formulated the doctrine that knowledge was always relative to a subject, that nothing can be known except by reference to the mind which knows it. Man, said Protagoras, is the measure of all things—things, that is to say, contain within themselves no standard by which they can be judged, and it is only when man reads them and interprets them by reference to ideas of his own that they come to have a meaning. The doctrine was one which incautiously used could end in strange results. It was an apparent corollary from it that nothing was true or false in itself, but that this truth or falsity came only from the mind brought to bear upon things. But to say this was to open the way for an indifference of belief which held that one belief was as good as another, that therefore contradiction was impossible, and that the value of *any* opinion de-

pendent entirely on the person who entertained it. To him it was true: the fact that to other people it was not true was of no force as against his own conviction¹.

Against this absence of any general standard of belief Socrates set himself to indicate the permanent elements in knowledge. He shewed especially that ideas were not such fluctuating phenomena as the Sophists represented them; that amid the different phases of any term whatever, there was some *general* underlying concept which remained the same throughout the many uses to which the term could be put. He was continually, as we learn at once from Xenophon and Plato, seeking to find out *what* something or other is—shewing men that they were reasoning about words without attaching any precise fixed meaning to the words, or that they were confusing some concept or other with some particular form of its manifestation. His method in thus finding out the common usage of a term was what may be roughly called Induction: in order, that is, to discover what (say) beauty is, he took the cases of a “beautiful” woman, a “beautiful” landscape, a “beautiful” character and tried to ascertain the common characteristic which entitled us to apply the one word beautiful in all these cases. And thus, as Aristotle says, Socrates’ contributions to the history of philosophy are to be found in his use of induction on the one hand—his search for universal definitions on the other².

Socrates had so far met the sceptical teaching of the Sophists. But before his own life had closed, other and more perplexing forms of the Sophistic problems

¹ Plato Theaetetus 152 A, Euthydemus 286 B: and cf. § 30. 4.

² See the passage quoted § 28, § below.

had arisen, and Nominalism and Individualism became the current theories of the day. The Cynic and Megaric schools agreed in disbelieving in anything general or universal: there was nothing but the individual—an individual which stood alone and had no connexion with other individuals. The doctrine was one which admitted of both logical and practical application. Logically it shewed itself as the restriction of judgment to identical propositions. They were the only propositions possible: we could not say “men are good,” but only “men are men,” “good is good¹.” But this logical nominalism, this metaphysical atomism, had also its ethical counterpart. It became as selfish individualism the common principle of the Cynic and Cyrenaic schools. The one regarded virtue, the other pleasure, as the end of life: but the Cynic conception of self-sufficient, self-satisfied virtue is only a particular phase of that general selfishness which shewed another aspect of itself in the Cyrenaic ideal of pleasure. To the one school as to the other, self-satisfaction, self-gratification, is the aim of life: neither gets beyond the individual: neither sees that the individual must, in order to become himself, go beyond himself: neither had the metaphysical basis by which to reconcile the individual with the universal².

Such a metaphysical basis Plato attempted to supply. He supplied it in his doctrine of Ideas as the only Real. And such ideas were forced as it were upon him by the

¹ Plato Soph. 251 C: Theaetet. 201 E: Simplic. ad Aris. Phys. fol. 20 a (Ritter and Preller § 238).

² For the Cynic view see Aris. Eth. Nic. I. 8. 8, 1099^a1: Diog. L. VI. 11 (Ritter and Preller § 219). For the Cyrenaic, Xenoph. Memorabilia II. 1. 9, Arrian Var. Hist. XIV. 6 (Preller § 207).

very necessities of life. In an interesting passage in which Aristotle has explained to us the genesis of the Platonic Ideal Theory¹, we learn how the sensationalist results of Heraclitus woke Plato to the need of a supra-sensuous theory of knowledge much in the same way as the empirical results of Hume shewed Kant that in order to explain experience we must find a basis independent of experience. For Plato, according to the sketch which Aristotle gives us, began by accepting the Heraclitean flux of things, but drew the further consequence that things as continually changing could never become the objects of experience and be fixed for thought. But things, he argued further, *are* known: and from this he drew the new conclusion that the theory of Heraclitus applied only to things as sensible, as phenomena; and that to form an object of knowledge we must go beyond sense—we must recognise a world of thought, over and beyond a world of sensible phenomena. Knowledge, that is to say, is only possible on the assumption that there is an order, a continuity, in our sensations; it was in fact Plato who first saw clearly that a consistent sensationalism must be speechless, because the mere naming of a thing necessarily goes beyond the individual intimation of the senses, and brings it into relation with a number of other like sensations and impressions. But this relationship again implies that every object of existence and of knowledge is not only its particular self but also something universal: the particular individual man can be known and can exist only in so far as he is a man generally—a particular

¹ *Aris. Meta. A. 6, 987^a29 (below, § 31): cf. Plato Cratylus 439 C.*

object can be known to be, for instance, beautiful only in virtue of participation in an idea of beauty.

Somewhat in this fashion Plato solved what has been well called the difficulty of Plato's age—the correlation of ideas. The proposition, it followed, was no longer the impossibility which the Cynics and the Megarians had made it. For everything, it now became evident, could only be known—could only exist—in so far as it involved relations with a larger whole outside itself: Socrates was not merely Socrates, he was also a man, a virtuous man, a philosopher, &c.¹ And the object of philosophy was just the study of the compatibility and incompatibility of different ideas. Dialectic, as Plato entitled the pursuit of the philosopher, was just a study of the agreements and differences between things—it was the combination of synthesis and analysis—of definition and division—it included the comprehension of the many into a one on the one hand, the explication of a one into a many on the other. The end therefore of philosophical study was just to see the one in the many and the many in the one by recognising the fact that the many of sense could only be understood when interpreted by a unity of thought².

So far then Plato had explained the relation of the particular to the universal. Above all he had emphasized the ethical significance of his doctrine: no philosophy ever attempted to be more practical (in the best sense of the word) than Platonism. He had shewn that just as mere subjective knowledge of sense-phenomena, or opinion, had to be translated into true science or knowledge of the real, so the customary virtue which was a merely selfish conformity

¹ *Sophist. 253 B: 262 D.*

² *Phaedrus 265 B: Politicus 285 B.*

to outward rule had to be raised to real perception of the grounds of duty¹. He had shewn again in the *Republic* that it was only in connexion with his fellow-men—in a state or social organism, that man could be rightly understood—that is, not as a merely selfish individual but as one with other selves. And he had given a particular application of his ideal theory by shewing that every good act and every blessing of life involved and depended on an idea of Goodness, and that it was only in so far as we had read this ideal into our daily conduct that it acquired true moral worth².

While, however, Plato had in this way insisted on the need of universals for knowledge and for existence, he had taken but little pains to explain the relation between the two, and shew *how* it was that the one became the other. Rather, in fact, his language had been such as to lead people to imagine that the two worlds—the world of thought and the world of sense—lay apart from one another: that the universal which constituted things was something over and *beyond* the particular things themselves.

It was this lacuna in the teaching of Plato which Aristotle set himself to fill up. While Plato tried to interpret the individual by the universal, Aristotle rather sought to read the universal through the individual. He had, in other words, a healthy distrust of everything abstract, general, and transcendental: he was never satisfied with a conception until he had given it a really practical interpretation by facts. This love of the concrete displays itself in almost every section of Aris-

¹ Phaedo 69 A: 82 B.

² Republic 505 A.

totle's philosophy. Logically it appears as the syllogism, which connects a notion of lower generality with a notion of greater generality, by means of an intermediate conception, and thus enables us to pass gradually from the particular to the universal: it is equally prominent in his view that no science can be successfully studied except by reference to the peculiar principles which characterize its special sphere¹. In metaphysic, again, it appears as the doctrine that reality is to be found not in the abstract universal, but in the merging of indeterminate matter in definite form, or in the process by which an undeveloped capacity attains to fully realized activity. Psychologically again we find the same result. Soul is not some harmony of parts or some numerical abstraction: it is the *truth* of body, and therefore the constant correlative of body. And similarly in Ethics the aim of life is neither to keep our gaze directed on some abstract and absolute idea of goodness, nor to sink into the selfish individualism of the Cynic, but to realize our true human nature *as members of society* in all the ways in which psychological analysis shews it ought to be realized.

Logic is pre-eminently the creation of Aristotle. If Socrates broke ground upon the subject of the concept, and Plato laid the foundation of a theory of proposition, Aristotle in turn completed the analysis of knowledge by adding on his theory of syllogism. The characteristic feature of syllogism lies in emphasizing the fact that we discover the general characters of a notion by the help of some conception which is wider than this notion itself

¹ Cp. Eucken's *Methode der Aristotelischen Forschung*, pp. 43—56.

while narrower than the general idea with which we are seeking to connect it. And thus the aim of science is just the discovery of these *media* or middle terms by which our knowledge will be at once widened and unified. But if we take a more comprehensive view, we find that Aristotle's theory of syllogism is simply an explicit statement of the fact that all thought rests on universal truths—that all knowledge whether "deductive" or "inductive" is arrived at by the indispensable aid of general propositions. Stuart Mill, on the contrary, maintained that reasoning is perpetually "from particular to particular," and a "village matron" prescribing for her neighbour's child on the strength of what happened to her own Lucy, was introduced to illustrate the fact that everyday reasoning takes place without any thought of general propositions. We might almost as well be told that oxygen and hydrogen do not enter into the composition of water, because our village matron perpetually drinks it without passing through either element: and the analysis of the chemist would be found to be as great a fiction as the analysis of the logician. But Aristotle has supplied the links which at once upset all such superficial analysis. He has shewn that even in Analogy or Example which *apparently* proceeds in this way from one particular instance to another particular instance, we are only justified in so proceeding in so far as we have transformed the particular instance into a general proposition¹. It is only in short, Aristotle

¹ See § 21 below. Mr Benn (*Greek Philosophers*, I. 389) is mistaken in supposing that I objected to elucidating an argument by "concrete examples" or thought that "Mill wrote exclusively for College tutors." The truth is I had gained so much from Mill's

teaches, in so far as we universalize any fact that we are warranted in going beyond it, and syllogism is merely an elaborate analysis of the process.

Metaphysic applies to things the same conditions as those which Logic ascertained to hold good of thought. For the real, we find, is not the abstract universal: rather we must distinguish between an unformed matter and a determinate form which go to make up the real, just as the wide-spreading genus and the particular differentia go to make up the existing species. And in place of the dead and lifeless entities of the Platonic idealism, we must recognise the life and change of nature: and see in everything that really is, a constant progress from capacity to actuality, from potential to real, from implicit to explicit, from not-being to being.

Psychology is little but a deduction from this metaphysical foundation: Aristotle's doctrine of reality at once determines his theory of soul. For body and soul stand to one another, Aristotle holds, just as matter to form, as what is potential to what is actual: and thus soul is the *entelechy* or full realization of the body—not certainly as though it were the last result of bodily organization, but as the form which gives meaning and truth to the bodily functions. And thus in discussing psychological phenomena, Aristotle never loses sight of their concomitant physiological conditions.

But while Aristotle does not overlook the close connexion between psychology and physiology, he never,

works that I had supposed him to write for thinking Englishmen, and so far am I from thinking Mill's illustration "deserving of contempt" that I regard it as particularly valuable for bringing out, when fully analysed, the essential character of inference.

on the other hand, fails to distinguish between the physical conditions and the psychological character of a mental fact, just as he distinguishes, besides, between the psychological genesis and the metaphysical nature of a conception. His recognition of two aspects of knowledge—the study of a thing as it is known to us, and the study of it as it appears to the creative mind of God—is one which runs through all his philosophy: induction and syllogism just represent and correspond to these two ways of regarding any fact. What, then, is historically last may be metaphysically first—the last stage in the process of development may represent the original *a priori* conditions of the development itself. And in particular the faculty of thought or reason—which seems only the last result, almost the effect of all the different powers of sense and memory and imagination—turns out to be the logically first—the condition of the exercise of any perception or reminiscence. To Aristotle, as to a subtle Scotch theologian, “the real presupposition of all knowledge or the thought which is the *prius* of all things, is a thought or self-consciousness which is beyond all individual selves, which is the unity of all thinkers and all objects of thought¹.”

What is thus metaphysically the presupposition of the simplest understanding of the universe comes in turn to be also the centre of morality: a life of thought is found to be the highest life for man. Not that Aristotle arrives immediately at this conclusion. He begins by taking a midway course between the individual selfishness of the Cynic and the impracticable univer-

¹ Principal Caird's *Philosophy of Religion*, p. 158.

salism of Plato's theory. Man's happiness, he finds, involves the perfect development of human nature as a whole: and this nature is neither that of an exclusively intellectual nor that of an exclusively emotional and appetitive being, but the two in combination with each other. Virtue therefore is a *mean*—that is, consists in a moderate use of the different feelings and impulses of man's nature—a use which allows no one tendency to be developed to excess, but prevents it becoming either too much or too little. The result of course is that morality at times appears little but respectability. But in Ethics, as in other branches of philosophy, Aristotle ends with an undercurrent of that Platonism which he criticized at the beginning. And accordingly we find that man's true duty is to live a life of thought, because it is just this thought which constitutes the individual soul.

But this life of thought is not to be divorced from the conditions of everyday humanity: the eternal life at which we have to aim is not something beyond the present (*Eth. Nic. x. 7, 1177^b33*): rather the ideal must be found within the real, and Politics itself is but the testing-stone for Ethics. The two, in fact, are merely different aspects of one great Science: the chief good must be grasped “not only for the individual but also for the nation,” and the ideal of the moralist must be also the ideal of the statesman. Not that Aristotle has always taken pains to harmonize the results of one science with the conclusions of the other. But no writer has emphasized more clearly than Aristotle has the moral purpose of the State—no one has combated more effectively the view that states are merely artificial combinations for the defence of life and property—no one has brought

out more clearly the real end of the social organism as lying in the general moral welfare of its members. And a state which takes so little real interest as ours in art, and does so little for the elevation of the stage, might "take a thought and mend" if its citizens would lay to heart some parts of Aristotle's remarks on music and the moral influence exercised by tragedy.

It would take us far beyond the purpose of these introductory remarks were we to go on and discuss the objective value of Aristotle's doctrines. It may be allowed at once that many of them are superseded by modern philosophy. The student of *Metaphysics* will seek in vain for any such insight into the conditions of experience and the grounds of duty as distinguished Kant's Critiques. In *Ethics* again Aristotle's analysis of virtue is strikingly insufficient. In regarding virtue as a middle state between extremes we find a contracted stereotyped view of life which fails to realize the infinitude of duty and indeed approves of the Pythagorean representation of good as finite. And though the narrowness of this ethical standard disappears in the (still selfishly envisaged) conception of a life of thought as highest good, we are far always from the words of the divine command—"Be ye therefore perfect even as your Father in Heaven is perfect"—words which supply an inexhaustible and infinite ideal, which because infinite can never be realized and before which not highmindedness but increasing humility becomes the characteristic of the soul¹.

Although however modern thought has passed beyond and absorbed many of the results of Aristotle, it

¹ The relation of Aristotelian to Christian Ethics is thoroughly discussed in Luthardt's *Ethik des Aristoteles in ihrem Unterschied*

does not follow that his works are of no value to the student. It may be so, so far as Aristotle's strictly scientific theories are concerned. A treatise on Astronomy or Chemistry becomes, whoever be its writer, rapidly superannuated, and it is practically useless when its theories have been found out to be false. But the student of morals must always go through the *same* work as his precursors if he would understand the nature of the problems of the human mind: he must live over again the experiences of a Plato and an Aristotle if he would really know the meaning of reality and life.

The very fact again that these experiences are left us in a language not our own brings with it a distinct advantage. Philosophy indeed "perishes in the moment you would teach it": in a sense, it cannot be taught at all. The very value of metaphysical questions lies in the fact that there is no one definite answer to them but that

von der Moral des Christenthums (Leipzig 1869—1876). With most of Luthardt's conclusions I fully agree. No one can read the *Ethics* without feeling that Aristotle's ideal of perfection is selfish—that the virtuous man never really gets outside himself—and that even in discussing friendship, in which Aristotle more especially leaves his egotistic standpoint, he fails to realize the common personality of man, and attaches in consequence undue weight to social differences. And so far Luthardt is right in saying that Aristotle remains unacquainted with the universal nature of man. But I cannot but think that Luthardt insists too much on the absence in Aristotle's system of inward motive and feeling (*Gesinnung*) as constituting morality. No doubt Aristotle is not contented with a Kantian "good will" and requires the outward deed to prove the reality of the virtuous intention (*Eth. Nic.* x. 8. 4, 1178^b.30). But it was after all a somewhat questionable moralist who held "The heart's eye the part that makes us right or wrong."

we must each one decide them for ourselves : that while the truths of physical science are the same for all individuals, the truths of ethics and metaphysics must be made each one's own and must be made so by a personal effort of thought. But the training for discussing questions of this kind will be found more easily in an ancient than in a modern author. The effort of *translation* which such a study involves—a translation not of words but of ideas and their setting—constitutes itself an education which no modern manual can supply. And if it be a real gain to approach a science by taking it in its beginnings and letting its problems grow up in the natural order of their development, the writings of Aristotle must always remain a real introduction to moral and metaphysical philosophy. We are still anxious to know whether our perception of a real world comes to us by an exercise of thought or by a simple impression of sense—whether it is the universal that gives the individual reality, or the individual that shapes itself by some process not explained into a universal—whether bodily movements are the causal antecedents of mental functions; or mind rather the reality which gives truth to body—whether the highest life is practical or contemplative—whether intellectual advance involves also moral progress—whether the State is a mere combination for preserving goods and property or a moral organism developing the idea of right—or whether again art is a merely temporary and accidental adjunct or a necessary element in human life. And about these and such like questions most of those who have studied Aristotle think that he has given them many a valuable suggestion.

CHAPTER II.

ARISTOTLE'S LIFE AND WRITINGS.

1. ARISTOTLE was born at Stagira, a Chalcidian colony in Thrace, B.C. 384, and died in exile, voluntarily adopted to avoid a prosecution for impiety, at Chalchis in Euboea, B.C. 322. He studied at Athens, partly under Plato, from 367 to 347 : stayed thereafter for some time with his friend and fellow-student Hermias, despot of Atarneus in Mysia, whose near relative Pythias he married: acted as tutor to Alexander the Great from 343 to 340 B.C.; and lectured at Athens in the Walk (*περίπατος*) of the Lyceum from 335 to 323. His will and various anecdotes prove him a man of warm domestic sympathies and generous disposition.

The biography of Aristotle is treated most fully by Adolf Stahr, *Aristotelia* (Halle, 1830), and Blakesley (J. W.), *Life of Aristotle* (Cambridge, 1839). The chief original authority is Diogenes Laertius (Book v.), who himself builds upon a number of previous, no longer extant, biographies.

2. The writings of Aristotle seem only to have been first properly collected and edited by Andronicus of Rhodes (B.C. 70) after being possessed successively by Theophrastus, Neleus (of Skepsis in the Troad) and his relatives,

Apellicon (B.C. 100), Sulla (B.C. 86) and Tyrannion: but there is no reason to believe Strabo's assertion that from the time of Theophrastus to Apellicon the works of Aristotle were in great measure unknown to students.

See Strabo, XIII. p. 608, who describing Skepsis speaks of Neleus as *διαδεγμένος τὴν βιβλιοθήκην τοῦ Θεοφράστου ἐν ᾗ ἦν καὶ ἡ τοῦ Ἀριστοτέλους*: ὁ γὰρ Ἀριστοτέλης τὴν αὐτοῦ Θεοφράστου παρέδωκεν, and concludes: *συνέβη δὲ τοῖς ἐκ τῶν Περιπατητῶν, τοῖς μὲν πάλαι τοῖς μετὰ Θεοφράστου, τοῖς οὐκ ἔχουσι τὰ βιβλία, πλὴν ὀλίγων καὶ μάλιστα τῶν ἑξωτερικῶν, μηδὲν ἔχειν φιλοσοφεῖν πραγματικῶς, ἀλλὰ θέσειν λεκτικῶν* (amplify dogmas): and compare Plutarch, *Vita Sullae* c. 26, and Athenaeus, *Deipnosoph.* I. c. 2. The subject is fully discussed by Stahr (*Aristotelia*, Part 2), and Blakesley (*Life of Aristotle*, p. 137). The latter is probably right in holding the works bequeathed to Theophrastus and Neleus to have been merely autographs of "rough draughts of future works."

3. The genuineness of Aristotle's writings is rendered particularly open to debate by the fact that the catalogue of Aristotle's works given us by Diogenes Laertius corresponds only to a slight extent with our extant collection; but this difficulty is partly met by finding that Aristotle himself refers to *portions* of his works under very different names from those by which we know them—notably for instance the *Physics* are referred to as *ἐν τοῖς περὶ τῆ ἀρχῆς* (274^a 21), *ἐν τοῖς περὶ κινήσεως*, &c. The composition of Aristotle's writings is a subject on which it is impossible to dogmatize, but it would seem not unlikely that a great part of the works as we possess them are little more than lecture-notes supplemented by pupils and editors. Besides the works which we still possess, Aristotle would seem to have composed various more or less

popularly constructed Dialogues; but it seems unnecessary to identify these exclusively with *ἑξωτερικοὶ λόγοι*, by which latter phrase Aristotle would seem rather to understand any results or opinions that have become part of the common culture of the age.

It seems outside dispute that Aristotle compiled many more works than those which have been handed down to us: and Aristotle himself refers to works which do not correspond with any of those in our collection. See Heitz (E.), *Die verlorenen Schriften des Aristoteles*, 1865, pp. 54—141, where Aristotle's references to works *περὶ τροφῆς, περὶ φυτῶν, ἀνατομῆς, μεθοδικῆς*, &c. are collected and discussed. Some of these however perhaps exist in our collection under different names, e.g. Aristotle's reference to a *περὶ στοιχείων* and a *περὶ τοῦ ποιῆν καὶ πάσχειν* are probably to be found in the work we call *de Generatione et Corruptione*. Aristotle would seem also to have composed a number of dialogues on questions of philosophy, e.g. *Γρύλλος ἢ περὶ ῥητορικῆς, Εὐδήμος ἢ περὶ ψυχῆς*, &c. (See Heitz, *Ver. Sch.*, pp. 141—208.) Bernays (*Die Dialoge des Aristoteles*, 1863) has further attempted to identify these dialogues with certain *ἑξωτερικοὶ λόγοι* to which Aristotle refers; and to maintain that in *Eth.* I. 13, 1102^a 26 Aristotle is referring to his dialogue *Eudemus* in VI. 4, 1140^a 2, to the Dialogue on Poets, in *Metaphys.* XIII. 1, 1076^a 28, to the Dialogue on Philosophy, in *Pol.* III. 6, 1278^b 30, to the Dialogues *περὶ βασιλείας, περὶ ἀποικίων*, and in *Pol.* VII. 1, 1323^a 21, to the Dialogue *Diogenes*. But it is to be noted that the psychological views so accepted in *Eth.* I. 13 is sharply criticized in *An.* II. 9, and the phrase *τεθροῦλληται* in *Metaphys.* I. 1 seems to refer to something more current than Aristotle's own opinions. In *Pol.* VII. 1, again, the reference would seem to be, as Zeller points out, to the *popular* division of goods given in *Eth. Nic.* I. 8, 1098^a 13. (*Pol.* I. 1 says: *νομίσαντας οὐκ ἰκανῶς πολλὰ λέγεσθαι καὶ τῶν ἑξωτερικοῖς λόγοις περὶ τῆς ἀρίστης ζωῆς, καὶ νῦν*

χρηστέον αὐτοῖς· ὡς ἀληθῶς γὰρ πρὸς γε μίαν διαίρεσιν οὐδεὶς ἀμφισβητήσκειν ἂν ὡς οὐ τριῶν αὐτῶν μερίδων, τῶν τε ἐκτὸς καὶ τῶν ἐν τῷ σώματι καὶ τῶν ἐν τῇ ψυχῇ, πάντα ταῦτα ὑπάρχειν τοῖς μακαρίοις δεῖ. *Eth.* 1. 8 says: νεμεσημένων δὴ τῶν ἀγαθῶν τριχῆ, καὶ τῶν μὲν ἐκτὸς λεγομένων τῶν δὲ περὶ ψυχῆν καὶ σώμα, τὰ περὶ ψυχῆν κυριώτατα λέγομεν καὶ μάλιστα ἀγαθά.) It would seem therefore as if we should understand by ἐξωτερικοὶ λόγοι the current educated opinion of the time, the main results of philosophical analysis floating about in Greek society, results with which the Dialogues of Aristotle may have been in many cases identical, but which were by no means confined exclusively to them. A similar explanation must be given of τοῖς ἐν κοινῷ γινομένοις λόγοις (*De An.* 1. 4, 407^b 29), and τὰ ἐγκύκλια (*Eth. Nic.* 1. 3, 1096^a 3).

4. The order of composition of Aristotle's writings can scarcely be stated with any accuracy, as Aristotle (1^o) would carry on some works simultaneously, (2^o) would frequently make later additions to works which had been principally composed at an earlier date, and probably (3^o) made references in one work to another not so much from a chronological as from a logical order in a preconceived system. It would seem however that Aristotle began with rhetorical and logical writings, then proceeded to moral and political, compiled in the third place his physical treatises, and ended with the *Metaphysics*, though this last-named work was no doubt in process of formation during the whole period of his life.

The subject of the order of Aristotle's writings is fully discussed in the learned but clumsily written work of Rose (V.), *De Aristotelis Librorum Ordine* (1854), with which compare the same writer's *Aristoteles Pseud-epigraphus* (1863), and Titze (F. N.), *De Aristotelis Operum Serie* (1826). Rose is probably right in holding

that Aristotle commenced with the *Topics*, and that the *Ethics* and *Politics* preceded the physical writings; but Zeller would seem right in thinking that the *Metaphysics* closed the list. Rose gives the following

LIST OF ARISTOTLE'S WRITINGS.

- | | |
|------------------------------|---------------------------|
| 1. τοπικῶν ι', | 9. περὶ ζώων ἱστορίας ι', |
| 2. ἀναλυτικῶν δ', | 10. περὶ ψυχῆς γ', |
| 3. περὶ ῥητορικῆς γ', | περὶ αἰσθήσεως καὶ μνήμης |
| 4. ἠθικῶν κ', | καὶ ὕπνου β', |
| πολιτικῶν θ', | περὶ μακροβιότητος α', |
| 5. περὶ ποιητικῆς α', | περὶ ζωῆς καὶ θανάτου α', |
| 6. μεταφυσικῶν κ', | 11. περὶ ζώων μορίων δ', |
| 7. προβλημاتيκά, | περὶ ζώων πορείας α', |
| 8. φυσικῶν η', | περὶ ζώων γενέσεως ε'. |
| περὶ οὐρανοῦ β', | |
| περὶ γενέσεως καὶ φθορᾶς δ', | |
| μετεωρολογικῶν δ', | |

The other works usually ascribed to Aristotle, Rose regards as spurious; but this result cannot be said to be fully established as regards either the work on *Categories* or that *de Interpretatione*.

5. Aristotelianism was after Aristotle's death continued and developed by Theophrastus (373—288), Eudemus of Rhodes, and Strato of Lampsacus, this last particularly giving a materialistic rendering to Aristotle's doctrines: and was more closely expounded and annotated by the exegete Alexander of Aphrodisias (A.D. 200), Themistius (about 330—390), Philoponus and Simplicius. After Justinian's suppression of philosophical studies at Athens (A.D. 529), it was preserved by Syriac and Arabic translations in the East, and was thence, through Latin translations from the Arabian, communicated (about A.D.

1200) to Western Europe, where up to that time the knowledge of Aristotle had been confined to his Logic as expounded by Porphyry at Rome (A.D. 233—304), and translated by Boethius (A.D. 470—525). It thus became the basis of Scholasticism, but was not studied with reference to the Greek Originals till the beginning of the fifteenth century. At the time of the Protestant Reformation it was subjected to much violent depreciation, but it still forms no inconsiderable element in modern philosophy.

Cp. Article on Arabian Philosophy in *Encyc. Brit.* ninth edit.; Renan, *De Philos. Peripatetica apud Syros: Averroes et l'Averroisme*; Stahr, *Aristoteles bei den Römern*.

6. The various influences and valuable opportunities which the circumstances of his life opened up to Aristotle enabled him to grasp philosophy with almost equal vigour in all its different divisions and thus frame an encyclopaedic philosophy.

7. This encyclopaedia—since thought has three objects—includes:

- 1^o, Speculative Philosophy, whose end is truth:
- 2^o, Practical Philosophy, whose end is action:
- 3^o, Poetic Philosophy, whose end is an artistic product.

πάσα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητικὴ. *Metaphys.* E. I, 1025^b25.

ὀρθῶς δ' ἔχει καὶ τὸ καλεῖσθαι τὴν φιλοσοφίαν ἐπιστήμην τῆς ἀληθείας. θεωρητικῆς μὲν γὰρ τέλος ἀλήθεια, πρακτικῆς δ' ἔργον. *Metaph.* A. I, 993^b20.

τέλος δὲ τῆς μὲν ποιητικῆς ἐπιστήμης τὸ ἔργον. *De Caelo* III. 7, 306^a16.

8. Speculative Philosophy subdivides into *Prima Philosophia* (called also Theology), Mathematic and Physic¹: Practical Philosophy into Ethic, Oeconomic, and Politic². Poetic Philosophy considers Art and its specific forms in Poetry and Rhetoric³.

¹ τρεῖς ἂν εἴεν φιλοσοφίαι θεωρητικαί, μαθηματικὴ, φυσικὴ, θεολογικὴ... ἡ μὲν γὰρ φυσικὴ περὶ ἀχώριστα μὲν ἀλλ' οὐκ ἀκίνητα, τῆς δὲ μαθηματικῆς ἐνιαυτὸς ἀκίνητα μὲν οὐ χωριστὰ δ' ἴσως, ἀλλ' ὡς ἐν ὕλῃ. ἡ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα. *Metaph.* E. I, 1026^a18. For Aristotle's conception of πρώτη φιλοσοφία, or Metaphysic see § 29; and for that of Physic, § 40. Speculative Philosophy is divided in almost the same way in *Metaph.* K. 7, 1064^a28—1064^b3.

² Eudemus (*Eth.* I. 8, 1218^b13) distinguishes between πολιτικὴ, οἰκονομικὴ and φρόνησις as the three parts of a philosophy of action; but Aristotle himself nowhere puts the matter so definitely. Cp. however *Eth. Nic.* VI. 8, 1141^b30, where a somewhat similar distinction is implied.

³ Aristotle himself however makes no systematic classification of ποιητικὴ. A passage in the *Rhetoric* would almost warrant us in regarding Painting, Sculpture and Poetry as the three forms of artistic thought: ἐπεὶ δὲ τὸ μαθαίνειν τε ἡδὲ καὶ τὸ θαυμάζειν, καὶ τὰ τοιαῦτα ἀνάγκη ἡδεῖα εἶναι οἷον τὸ τε μεμνημένον, ὡσπερ γραφικὴ καὶ ἀνδριαντοποιία καὶ ποιητικὴ, *Rhet.* I. II, 1371^b4. Ravaisson (*Metaphysique d'Aristote*, I. 252) would subdivide Poetic into Poetic strictly so called, Rhetoric and Dialectic; but for such a division there is no authority in Aristotle. Logic does not fall within the sciences as classified, but contains the general principles or rules of method on which all thought is to be studied.

CHAPTER III.

LOGIC.

9. The logical writings of Aristotle were at an early period collected together under the name of *Organon* by some one or other Peripatetic who regarded Logic as an instrument, or body of rules, by the aid of which any science might be investigated¹. By Aristotle himself however the term "Logic" is used as equivalent to mere verbal reasoning: the science which we call Logic he knows as "Analytic." The treatises comprised in the *Organon* correspond in great part to the present sections of the formal logic—the *Categories* being a classification of terms, the work *de Interpretatione* (so called because language is regarded as the interpretation of thought) an analysis of the proposition, the *Analytics*, Prior and Posterior, an exhaustive treatment of Syllogism, the *Topics*, a discourse on Probable Reasoning, and the *Sophistical Refutations*, a discourse on Fallacies².

¹ The name may have been suggested by *Topics* VIII. 14, 163^b 11, where Aristotle says it is not a small aid (ὄ μικρὸν ὄργανον) to science to be able to draw out the consequences of conflicting hypotheses, and is in harmony with *Topics* I. 2, 101^a 29, and *Metaphysics* Γ. 3, 1005^b 4, where he says an insufficient study of Metaphysic results δι' ἀπαιδευσίαν τῶν ἀναλυτικῶν. The title however is not used by the early commentators—see St Hilaire, *De la*

Logique d'Aristote (1838)—but it was a common question between the Stoics and Peripatetics whether Logic was a part (μέρος) or instrument (ὄργανον) of Philosophy. Cp. Brandis, *Scholia*, 140^a 47, and see Prantl, *Geschichte d. Logik*, I. 89, 532.

² Thus λογικῶς is connected with διαλεκτικῶς and κενῶς, and is opposed as abstract *a priori* reasoning to reasoning based on concrete facts (φυσικῶς). Cp. *Anal. Post.* I. 32, 88^a 19. 30: *Phys.* III. 5, 204^b 4 and *Anal. Post.* I. 22, 84^a 8, where λογικῶς is opposed to ἀναλυτικῶς.

³ The treatises are known by their Greek titles as follows: 1° κατηγορίαι: 2° περὶ ἑρμηνείας: 3° ἀναλυτικά πρότερα: 4° ἀναλυτικά ὕστερα: 5° τὰ τοπικά, of which the last book is entitled 6° σοφιστικοὶ ἔλεγχοι.

10. The Categories of Aristotle are in the first instance classifications of isolated words (τὰ ἄνευ συμπλοκῆς λεγόμενα) as opposed to propositions, and are most fully enumerated as ten in number—viz. Substance, Quantity, Quality, Relation, Place, Time, Situation, Condition, Action, Passion—*i. e.* everything which exists may be described as (1) a substance, (2) a quantity, &c.¹ These ten Categories would seem to be arranged on little or no principle: but we may regard them as corresponding to the order of the questions we should put in gaining knowledge of an object—we ask, *i. e.*, first what a thing is, then how great it is, next of what kind it is—and substance (οὐσία) is always regarded as the most important². Substances are further divided into first and second—first substances being *individual* objects, second substances the *species* in which first substances or individuals inhere³. Quantity is divided into continuous and discrete: Relations are defined as terms whose being is "of" others⁴: and among Qualities, "secondary" or passive qualities (παθητικαὶ ποιότητες) have a distinct place⁵.

¹ τῶν λεγομένων τὰ μὲν κατὰ συμπλοκὴν λέγεται, τὰ δ' ἄνευ συμπλοκῆς. τὰ μὲν οὖν κατὰ συμπλοκὴν οἷον ἀνθρώπος τρέχει, τὰ δ' ἄνευ συμπλοκῆς οἷον ἀνθρώπος, βούς, τρέχει, νικᾷ... τῶν κατὰ μηδεμίαν συμπλοκὴν λεγομένων ἕκαστον ἦτοι οὐσίαν σημαίνει ἢ ποσὸν ἢ ποιὸν ἢ πρὸς τι ἢ ποῦ ἢ ποτέ ἢ κείσθαι ἢ ἔχειν ἢ ποιεῖν ἢ πάσχειν. ἔστι δὲ οὐσία ὡς τύπῳ εἰπεῖν οἷον ἀνθρώπος, ἵππος· ποσὸν δὲ οἷον δίτηχην, τρίτηχην. ποιὸν δὲ οἷον λευκόν, γραμματικόν· πρὸς τι δὲ οἷον διπλάσιον· ποῦ δὲ οἷον ἐν ἀγορᾷ· ποτέ δὲ οἷον ἔχθές· κείσθαι δὲ οἷον ἀνάκειται· ἔχειν δὲ οἷον ὑποδέεται· ποιεῖν δὲ οἷον τέμνει, καίει· πάσχειν δὲ οἷον τέμνεται, καλεῖται. *Cat.* 4, 1^b 25. Cp. *Top.* 1, 9, 103^b 30, where the γένει τῶν κατηγοριῶν are treated as corresponding with the description of an object: ὅταν μὲν γὰρ ἐκκεκμημένον ἀνθρώπου φῆ τὸ ἐκκεκμημένον ἀνθρώπου εἶναι ἢ ζῶον, τί ἐστὶ λέγει καὶ οὐσίαν σημαίνει, ὅταν δὲ χρώματος λευκοῦ ἐκκεκμημένου φῆ τὸ ἐκκεκμημένον λευκὸν εἶναι ἢ χρῶμα, τί ἐστὶ λέγει καὶ ποιὸν σημαίνει.

² τσαυταχῶς δὲ λεγομένου τοῦ ὄντος φανερόν ἐστι τούτων πρώτων ὅν τὸ τί ἐστίν, ὅπερ σημαίνει τὴν οὐσίαν... τὰ δ' ἄλλα λέγεται ὄντα τῷ τοῦ οὕτως ὄντος τὰ μὲν ποσότητος εἶναι, τὰ δὲ ποιότητος, τὰ δὲ πάθη, τὰ δὲ ἄλλο τι τοιοῦτον... πολλαχῶς μὲν οὖν λέγεται τὸ πρῶτον· ὅμως δὲ πάντων ἢ οὐσίαν πρῶτον καὶ λόγῳ καὶ γνώσει καὶ χρόνῳ... καὶ εἰδέναι τότ' οἰόμεθα ἕκαστον μάλιστα, ὅταν τί ἐστίν ὁ ἀνθρώπος γνῶμεν ἢ τὸ πῦρ, μᾶλλον ἢ τὸ ποιὸν ἢ τὸ ποσὸν ἢ τὸ ποῦ. *Meta.* Z. 1, 1028^a 13.

³ οὐσία δὲ ἐστὶν ἢ κυριώτατα τε καὶ πρώτως καὶ μάλιστα λεγομένη, ἢ μήτε καθ' ὑποκειμένου τινὸς λέγεται (*i.e.* is not predicated of any subject) μήτ' ἐν ὑποκειμένῳ τινὶ ἐστίν, οἷον ὁ τις ἀνθρώπος ἢ ὁ τις ἵππος. δευτέραι δὲ οὐσίαι λέγονται, ἐν οἷς εἰδέναι αἱ πρώτως οὐσίαι λεγόμεναι ὑπάρχουσιν, οἷον ὁ τις ἀνθρώπος ἐν εἰδει μὲν ὑπάρχει τῷ ἀνθρώπῳ. γένος δὲ τοῦ εἶδους ἐστὶ τὸ ζῶον· δευτέραι οὖν αἵται λέγονται οὐσίαι, οἷον ὁ τε ἀνθρώπος καὶ τὸ ζῶον... τῶν δὲ δευτέρων οὐσιῶν μᾶλλον οὐσία τὸ εἶδος τοῦ γένους· ἔγγιον γὰρ τῆς πρώτης οὐσίας ἐστίν. πάντα δὲ οὐσία δοκεῖ τότε τι σημαίνειν. *Categ.* 5, 2^a 11. But contrast with this *Meta.* Z. 7, 1032^b 2, where εἶδος is regarded as primary substance—εἶδος δὲ

λέγου τὸ τί ἦν εἶναι ἕκαστου καὶ τὴν πρώτην οὐσίαν, and 1054^a 1, where λόγος is said to be τῆς πρώτης οὐσίας.

⁴ πρὸς τι δὲ τὰ τοιαῦτα λέγεται ὅσα αὐτὰ ἄπερ ἐστὶν ἑτέρων εἶναι λέγεται... οἷον τὸ μείζον τοῦθ' ὅπερ ἐστὶν ἑτέρον λέγεται τινὸς γὰρ λέγεται μείζον. *Cat.* 7, 6^a 36.

⁵ παθητικά δὲ ποιότητες λέγονται οὐ τῷ αὐτὰ τὰ δεδεγμένα τὰς ποιότητας πεποιθέναι τι· οὔτε γὰρ τὸ μέλι τῷ πεπονηθέναι τι λέγεται γλυκύ. *Cat.* 8, 9^a 35.

11. Notions when isolated do not in themselves express either truth or falsehood: it is only with the combination of ideas in a proposition that truth and falsity are possible¹. The elements of such a proposition are the ὄνομα or noun substantive on the one hand, the ῥήμα or verb on the other². The noun or name is a sound conveying no idea of time and acquiring its meaning only by convention (κατὰ συνθήκην)³: the verb is distinguished from it by adding on the connotation of time⁴. Beside the ordinary noun and verb, we must recognise the *nomen infinitum* (ὄνομα ἀόριστον) like not-good which is infinite and indefinite as applying to *everything* not covered by the positive conception⁵.

¹ περὶ σύνθεσιν καὶ διαίρεσίν ἐστι τὸ ψεῦδος τε καὶ τὸ ἀληθές. τὰ μὲν οὖν ὀνόματα αὐτὰ καὶ τὰ ῥήματα εἰκοι τῷ ἄνευ συνθέσεως καὶ διαίρεσεως νοήματι, οἷον τὸ ἀνθρώπος ἢ τὸ λευκόν, ὅταν μὴ προστεθῆ τι· οὔτε γὰρ ψεῦδος οὔτε ἀληθές πῶ· σημειῶν δ' ἐστὶ τοῦδε· καὶ γὰρ ὁ τραγέλαφος σημαίνει μὲν τι, οὔπω δὲ ἀληθές ἢ ψεῦδος, εἰ μὴ τὸ εἶναι ἢ μὴ εἶναι προστεθῆ, ἢ ἀπλῶς ἢ κατὰ χρόνον (*i.e.* unless it is in addition asserted to be or not be, either generally without any particular connotation of time—or in a particular tense). *De Interpret.* 1, 16^a 12.

² ἀνάγκη δὲ πάντα λόγον ἀποφαντικόν (*i.e.* proposition) ἐκ ῥήματος εἶναι ἢ πτώσεως ῥήματος. *De Inter.* 5, 17^a 10.
³ ὄνομα μὲν οὖν ἐστὶ φωνῆ σημαντικῆ κατὰ συνθήκην

ἀνευ χρόνου, ἧς μὴδὲν μέρος ἐστὶ σημαντικὸν κεχωρισμένον· ἐν γὰρ τῷ Κάλλιππος τὸ ἵππος οὐδὲν αὐτὸ καθ' ἑαυτὸ σημαίνει, ὡς περ ἐν τῷ λόγῳ τῷ καλὸς ἵππος... τὸ δὲ κατὰ συνθήκην ὅτι φέσει τῶν ὀνομάτων οὐδὲν ἐστίν (as Plato had maintained in the *Cratylus*) ἀλλ' ὅταν γένηται σύμβολον, ἐπεὶ δηλοῦσι γέ τι καὶ οἱ ἀγράμματοι ψόφοι, οἷον θηρίων, ἧν οὐδὲν ἐστὶν ὄνομα. *De Inter.* 2, 16^a 20.

⁴ ῥῆμα δὲ ἐστὶ τὸ προσσημαίνον χρόνον, οὐ μέρος οὐδὲν σημαίνει χωρὶς, καὶ ἐστὶν αἰὲ τῶν καθ' ἑτέρου λεγομένων σημείων, οἷον τῶν καθ' ὑποκειμένου ἢ ἐν ὑποκειμένῳ. *De Inter.* 3, 16^b 6.

⁵ τὸ δ' οὐκ ἄνθρωπος οὐκ ὄνομα. οὐ μὴν οὐδὲ κέταί ὄνομα ὅτι δεῖ καλεῖν αὐτό· οὔτε γὰρ λόγος οὔτε ἀπόφασις (negation) ἐστίν· ἀλλ' ἔστω ὄνομα ἀόριστον... τὸ δὲ οὐχ ὑγαινεῖ καὶ τὸ οὐ κάμνει οὐ ῥῆμα λέγω, ἀλλ' ἔστω ἀόριστον ῥῆμα, ὅτι ὁμοίως ἐφ' ὅτουσιν ὑπάρχει καὶ ὄντος καὶ μὴ ὄντος. *De Inter.* 2, 16^a 30.

12. The combination of words gives rise to rational speech and thought (λόγος), which possesses a meaning not only as a whole but also in its parts. Such λόγος may take many forms, but Logic considers only the demonstrative or indicative form as that which alone expresses truth and falsehood¹. A simple proposition then is a significant sound which expresses the inherence or non-inherence of something in something else²: for the truth or falsity of propositions is determined by their agreement or disagreement with the facts they represent, a false proposition combining what is divided and dividing what is really united³. Thus propositions are either affirmative (καταφατικαί) or negative (ἀποφατικαί)⁴, each of which again may be either universal or particular or indesignate⁵. Propositions may further differ modally, *i. e.* as to the degree of inherence between subject and predicate, and so become necessary or problematic⁶.

¹ λόγος δὲ ἐστὶ φωνὴ σημαντικὴ, ἧς τῶν μερῶν τι σημαντικὸν ἐστὶ κεχωρισμένον ὡς φάσις, ἀλλ' οὐχ ὡς κατάφασις ἢ ἀπόφασις (cp. *Poet.* c. 20, 1457^a 23)... ἐστὶ δὲ λόγος ἅπας μὲν σημαντικός, οὐχ ὡς ἄργανον δέ, ἀλλ' ὡς περ εἴρηται κατὰ συνθήκην· ἀποφαντικός δὲ οὐ πᾶς, ἀλλ' ἐν ᾧ τὸ ἀληθεύειν ἢ ψεύδεσθαι ὑπάρχει. οὐκ ἐν ἅπασιν δὲ ὑπάρχει, οἷον ἡ εὐχὴ λόγος μὲν, ἀλλ' οὔτε ἀληθὴς οὔτε ψευδής. οἱ μὲν οὖν ἄλλοι ἀφείσθωσαν· ῥητορικῆς γὰρ ἢ ποιητικῆς οἰκειότερα ἡ σκέψις· ὁ δὲ ἀποφαντικός τῆς νῦν θεωρίας. *De Inter.* 4, 16^b 26.

² ἐστὶ δὲ ἡ μὲν ἀπλὴ ἀπόφασις φωνὴ σημαντικὴ περὶ τοῦ ὑπάρχειν τι ἢ μὴ ὑπάρχειν ὡς οἱ χρόνοι διαίρηται. *De Inter.* 5, 17^a 23.

³ ὁμοίως οἱ λόγοι ἀληθεῖς ὡς περ τὰ πράγματα. *De Inter.* 9, 19^a 33. ὡς τε ἀληθεῖαι μὲν ὁ τὸ διηρημένον οἰόμενος διηρήσθαι καὶ τὸ συγκείμενον συγκείσθαι, ἐψευσται δὲ ὁ ἐναντίως ἔχων ἢ τὰ πράγματα. *Meta.* Θ. 10, 1051^b 3.

⁴ ἐστὶ δὲ εἰς πρῶτος λόγος ἀποφαντικός κατάφασις, εἴτα ἀπόφασις· οἱ δ' ἄλλοι πάντες συνδέσμῳ εἰς. [Cp. *Poet.* c. 20, 1457^a 28 and *Anal. Pr.* 86^b 33, where Aristotle shews that affirmation is prior to negation just as being to non-being] κατάφασις δὲ ἐστὶν ἀπόφασις τινος κατὰ τινος. ἀπόφασις δὲ ἐστὶν ἀπόφασις τινος ἀπὸ τινος. *De Inter.* 5, 6, 17^a 7.

⁵ πρότασις μὲν οὖν ἐστὶ λόγος καταφατικός ἢ ἀποφατικός τινὸς κατὰ τινος. οὗτος δὲ ἢ καθόλου ἢ ἐν μέρει ἢ ἀδιόριστος. λέγω δὲ καθόλου μὲν τὸ παντὶ ἢ μηδενὶ ὑπάρχειν, ἐν μέρει δὲ τὸ τινὶ ἢ μὴ τινὶ ἢ μὴ παντὶ ὑπάρχειν, ἀδιόριστον δὲ τὸ ὑπάρχειν ἢ μὴ ὑπάρχειν ἀνευ τοῦ καθόλου ἢ κατὰ μέρος, οἷον τὸ τῶν ἐναντιῶν εἶναι τὴν αὐτὴν ἐπιστημὴν ἢ τὸ τὴν ἠδονὴν μὴ εἶναι ἀγαθόν. *Anal. Prior.* I. I, 24^a 16.

⁶ πᾶσα πρότασις ἐστὶν ἢ τοῦ ὑπάρχειν ἢ τοῦ ἐξ ἀνάγκης ὑπάρχειν ἢ τοῦ ἐνδέχεσθαι ὑπάρχειν. *Anal. Prior.* I. 2, 25^a 1.

13. Propositions are said to be opposed as Contradictories (ἀντιφατικὸς ἀντικείσθαι) when the one asserts or denies of the whole what the other denies or asserts of the part, and as contraries (ἐναντίως ἀντικείσθαι) when

an universal affirmative stands against a universal negative. Contradictories accordingly entirely exclude one another and one proposition must be false another true: contrary propositions may both be false¹. Formally (κατὰ τὴν λέξιν) four kinds of opposition have to be distinguished, but really only three, since the opposition of a particular affirmative to a particular negative is merely verbal². Propositions admit of Conversion (ἀντιστροφή) into equivalent propositions having the order of the terms reversed, but while the universal negative converts simply, the affirmative does so only partially³.

¹ δῆλον ὅτι πάσῃ καταφάσει ἐστὶν ἀπόφασις ἀντικειμένη καὶ πάσῃ ἀπόφασιν καταφάσις. καὶ ἐστὶ ἀντίφασις τοῦτο, κατὰφασιν καὶ ἀπόφασιν αἱ ἀντικείμεναι. λέγω δὲ ἀντικείμεναι τὴν τοῦ αὐτοῦ κατὰ τοῦ αὐτοῦ μὴ ὁμωνύμως δὲ, καὶ ὅσα ἄλλα τῶν τοιούτων προσδιοριζόμεθα πρὸς τὰς σοφιστικὰς ἐνοχλήσεις [i.e. the subject of the opposed propositions and also the predicate must be really the same thing, not a thing called ambiguously by the same name (ὁμωνύμως).....] ἀντικείμεναι μὲν οὖν καταφάσιν ἀποφάσει λέγω ἀντιφατικῶς τὴν τὸ καθόλου σημαίνουσαν τῷ αὐτῷ ὅτι οὐ καθόλου, οἷον πᾶς ἄνθρωπος λευκός—οὐ πᾶς ἄνθρωπος λευκός, οὐδέ τις ἄνθρωπος λευκός—ἐστὶ τις ἄνθρωπος λευκός ἐναντίως δὲ τὴν τοῦ καθόλου καταφάσιν καὶ τὴν τοῦ καθόλου ἀπόφασιν, οἷον πᾶς ἄνθρωπος δίκαιος—οὐδέ τις ἄνθρωπος δίκαιος, διὸ ταύτας μὲν οὐχ οἷον τε ἅμα ἀληθεῖς εἶναι, τὰς δὲ ἀντικείμενας αὐταῖς ἐνδέχεται ἐπὶ τοῦ αὐτοῦ, οἷον οὐ πᾶς ἄνθρωπος λευκός καὶ ἐστὶ τις ἄνθρωπος λευκός [the reference is to what we call sub-contrary opposition—i.e. between I and O], (*De Inter.* 6, 17^a 31). ἀντίφασις δὲ ἀντίθεσις ἧς οὐκ ἐστὶ μεταξὺ καθ' αὐτὴν (*Anal. Post.* 1, 2, 7^a 12). ὥστε ἐπὶ μόνων τούτων ἴδιον ἂν εἴη τὸ αἰετῆρον αὐτῶν ἀληθὲς ἢ ψεῦδος εἶναι, ὅσα ὡς καταφάσις καὶ ἀπόφασιν ἀντίκεινται. *Cat.* 10, 13^b 32.

² λέγω δ' ἀντικείμενας εἶναι προτάσεις κατὰ μὲν τὴν

λέξιν τέτταρας, οἷον τὸ παντὶ τῷ οὐδενί, καὶ τὸ παντὶ τῷ οὐ παντί, καὶ τὸ τινὶ τῷ οὐδενί, καὶ τὸ τινὶ τῷ οὐ τινὶ, κατ' ἀλήθειαν δὲ τρεῖς· τὸ γὰρ τινὶ τῷ οὐ τινὶ κατὰ τὴν λέξιν ἀντίκειται μόνον. *Anal. Pr.* II, 15, 63^b 23.

³ τὴν ἐν τῷ ὑπάρχειν καθόλου στερητικὴν [i.e. the universal negative, πρότασιν being supplied] ἀνάγκη τοῖς ὅροις ἀντιστρέφειν, οἷον εἰ μηδεμία ἡδονὴ ἀγαθόν, οὐδ' ἀγαθὸν οὐδὲν ἐστὶ ἡδονή· τὴν δὲ κατηγορικὴν (affirmative) ἀντιστρέφει μὲν ἀναγκαῖον, οὐ μὴν καθόλου ἀλλ' ἐν μέρει, οἷον εἰ πᾶσα ἡδονὴ ἀγαθόν, καὶ ἀγαθόν τι εἶναι ἡδονή· τῶν δὲ ἐν μέρει τὴν μὲν καταφατικὴν ἀντιστρέφει ἀνάγκη κατὰ μέρος (εἰ γὰρ ἡδονὴ τις ἀγαθόν, καὶ ἀγαθόν τι ἐστὶ ἡδονή) τὴν δὲ στερητικὴν οὐκ ἀναγκαῖον· οὐ γὰρ εἰ ἄνθρωπος μὴ ὑπάρχει τινὶ ζῷω, καὶ ζῶον οὐχ ὑπάρχει τινὶ ἀνθρώπῳ. *Anal. Pr.* I, 2, 25^a 1. [Modern Logic applies "conversion by negation" to such a proposition, i.e. it first by permutation changes the negative proposition into the corresponding affirmative and then converts simply. Thus (to take Aristotle's instance) "Some Animals are not men" becomes "Some Animals are Not-men," a proposition which converts into "Some Not-Men are Animals."]

14. The Predicables or possible relations in which the predicate of a proposition may stand to its subject are those of genus, (difference), property and accident¹. This result may be reached either inductively (διὰ τῆς ἐπαγωγῆς)—i.e. by examining all kinds of actual propositions, or deductively (διὰ συλλογισμοῦ) by considering the different ways in which from the nature of the case the predicate *must* stand towards the subject. For the predicate of a proposition either must convert with and take the place of its subject or it is not thus convertible. Now in the former case the predicate as convertible with the subject is either a definition (ὄρος) or a property (ἴδιον), in the latter case when not convertible it is either a genus (γένος) or a difference (διαφορά) or else an

accident (συμβεβηκός)². By a definition Aristotle understands the statement of the essential character of a subject: a property is a quality which without expressing the real essence (τὸ τί ἦν εἶναι) is an inseparable concomitant of a subject and is convertible with it: a genus is a term which can be applied to a number of objects specifically different: an accident is an attribute which may or may not belong to some subject³.

¹ πᾶσα δὲ πρότασις καὶ πᾶν πρόβλημα ἢ γένος ἢ ἴδιον ἢ συμβεβηκός δηλοῖ καὶ γὰρ τὴν διαφορὰν ὡς οὖσαν γενεὴν ἢ ομοῦ τῷ γένει τακτέον.....μηδεὶς δ' ἡμᾶς ὑπολάβη λέγειν ὡς ἕκαστον τούτων καθ' αὐτὸ λεγόμενον πρότασις ἢ πρόβλημα ἐστίν, ἀλλ' ὅτι ἀπὸ τούτων καὶ τὰ προβλήματα καὶ αἱ προτάσεις γίνονται. διαφέρει δὲ τὸ πρόβλημα καὶ ἡ πρότασις τῷ τρόπῳ. οὕτω μὲν γὰρ ῥηθέντος, ἄρα γε τὸ ζῶον πέλων δίπουν ὀρισμός ἐστίν ἀνθρώπου; πρότασις γίνεται· ἐὰν δὲ πότερον τὸ ζῶον πέλων δίπουν ὀρισμός ἐστίν ἀνθρώπου ἢ οὐ; πρόβλημα γίνεται. *Top.* I. 4, 101^b 17.

² ὅτι δ' ἐκ τῶν πρότερον εἰρημένων οἱ λόγοι καὶ διὰ τούτων καὶ πρὸς ταῦτα, μία μὲν πίστις ἢ διὰ τῆς ἐπαγωγῆς (induction). εἰ γὰρ τις ἐπισκοποῖ ἕκαστην τῶν προτάσεων καὶ τῶν προβλημάτων, φαίνεται ἂν ἢ ἀπὸ τοῦ ὅρου ἢ ἀπὸ τοῦ ἴδιου ἢ ἀπὸ τοῦ γένους ἢ ἀπὸ τοῦ συμβεβηκώτος γενενημένη. ἀλλῆ δὲ πίστις ἢ διὰ συλλογισμῶν· ἀνάγκη γὰρ πᾶν τὸ περὶ τίνος κατηγορούμενον ἦτοι αντικατηγορεῖσθαι τοῦ πράγματος ἢ μή. καὶ εἰ μὲν αντικατηγορεῖται, ὅρος ἢ ἴδιον ἂν εἴη· εἰ μὲν γὰρ σημαίνει τὸ τί ἦν εἶναι, ὅρος, εἰ δὲ μὴ σημαίνει ἴδιον· τούτο γὰρ ἦν ἴδιον, τὸ αντικατηγορούμενον μὲν, μὴ σημαίνον δὲ τὸ τί ἦν εἶναι. εἰ δὲ μὴ αντικατηγορεῖται τοῦ πράγματος, ἦτοι τῶν ἐν τῷ ὀρισμῷ τοῦ ὑποκειμένου λεγομένων ἐστίν ἢ οὐ. καὶ εἰ μὲν τῶν ἐν τῷ ὀρισμῷ λεγομένων γένος ἢ διαφορὰ ἂν εἴη, ἐπειδὴ ὁ ὀρισμός ἐκ γένους καὶ διαφορῶν ἐστίν· εἰ δὲ μὴ τῶν ἐν τῷ ὀρισμῷ λεγομένων ἐστὶ, δῆλον ὅτι συμβεβηκός ἂν εἴη. *Top.* I. 8, 103^b 10.

³ ἐστὶ δ' ὅρος μὲν λόγος ὁ τὸ τί ἦν εἶναι σημαίνον (for explanation of the phrase τὸ τ. η. ε. see § 38), ἴδιον δ' ἐστίν ὁ

μηδολοῖ μὲν τὸ τί ἦν εἶναι, μόνῳ δ' ὑπάρχει καὶ ἀντικατηγορεῖται τοῦ πράγματος, οἷον ἴδιον ἀνθρώπου τὸ γραμματικῆς εἶναι δεκτικόν. γένος δ' ἐστὶ τὸ κατὰ πλείονων καὶ διαφορόντων τῷ εἶδει ἐν τῷ τί ἐστὶ κατηγορούμενον (i.e. what is said of several subjects, specifically different, in stating *what is* their nature, e.g. when asked 'what is' man, we say an animal) συμβεβηκός δὲ ἐστὶν ὁ μηδὲν μὲν τούτων ἐστὶ, μήτε ὅρος μήτε ἴδιον μήτε γένος, ὑπάρχει δὲ τῷ πράγματι καὶ ὁ ἐδέχεται ὑπάρχειν ὁμοῦν ἐν καὶ τῷ αὐτῷ καὶ μὴ ὑπάρχειν, οἷον τὸ καθῆσθαι ἐνδέχεται ὑπάρχειν τινὲ τῷ αὐτῷ καὶ μὴ ὑπάρχειν. *Top.* I. 5, 102^a 1—102^b 5.

Aristotle then, it should be noticed, discusses the Predicables simply as expressing the relation of a predicate to the subject; he does not objectify them like the schoolmen. And the Categories do not get confused with the predicates: for the latter are contained within the former. αἰ γὰρ τὸ συμβεβηκός καὶ τὸ γένος καὶ τὸ ἴδιον καὶ ὁ ὀρισμός ἐν μιᾷ τούτων τῶν κατηγοριῶν ἐστίν. *Top.* I. 9, 103^b 23.

15. Definition (ὅρος, ὀρισμός), as the statement of the essential nature of an object, expresses itself in the genus on the one hand, the differentia on the other¹. To get then at a true definition we must find out those qualities within the genus which taken separately are of wider extent than the subject to be defined, but taken altogether are precisely equal to it—thus while 'prime' 'odd' and 'number' are each wider than triad, together they are just equal to it². Division (διαίρεσις) must be accordingly applied to enable us to find out the specific kinds of a conception: it will especially secure our leaving out no species of the notion which is to be defined³. The species thus determined, we must next go on to find the points of similarity in the species separately and then consider the common characteristics of different species: or should no such common point

be discovered we must allow a real difference between the different species—thus in defining magnanimity if we find some magnanimous persons marked by inability to brook insult and others marked by indifference to fortune, but cannot reduce the two features to one common characteristic, we must recognise two kinds of magnanimity⁴. Definition may be imperfect either from being obscure or from being too wide or from not stating the essential and fundamental attributes. Obscurity may arise from the use of equivocal expressions, of metaphorical phrases, of eccentric words⁵. The disregard of essential and primary attributes is shewn in (a) defining opposite by opposite, (β) using explicitly or implicitly the very word to be defined, (γ) explaining a higher conception by a lower in which the higher is included⁶.

¹ δεῖ μὲν διὰ τοῦ γένους καὶ τῶν διαφορῶν ὀρίζεσθαι τὸν καλῶς ὀριζόμενον. *Top.* VI. 4, 141^b 29.

² τῶν δὲ ὑπαρχόντων αἰεὶ ἐκάστω... τοιαῦτα ληπτέον μέχρι τούτου ἕως τοσαῦτα ληφθῆ πρώτον, ἃν ἕκαστον μὲν ἐπὶ πλείον ὑπάρξει, ἅπαντα δὲ μὴ ἐπὶ πλείον. ταύτην γὰρ ἀνάγκη οὐσίαν εἶναι τοῦ πράγματος. οἷον τριάδι ὑπάρχει πάση ἀριθμῶς, τὸ περιττόν, τὸ πρότερον (prime) ἀμφοτέρως, καὶ ὡς μὴ μετρεῖσθαι ἀριθμῶ καὶ ὡς μὴ συγκείσθαι ἐξ ἀριθμῶν. τοῦτο τοῦτον ἤδη ἐστὶν ἡ τριάς, ἀριθμῶς περιττὸς πρώτος καὶ ἄδι πρῶτος. τούτων γὰρ ἕκαστον, τὰ μὲν καὶ τοῖς περιττοῖς ἄδι ὑπάρχει, τὸ δὲ τελευταῖον καὶ τῆ δυνάδι, πάντα δὲ οὐδενί. *An. Post.* II. 13, 96^a 32.

³ χρῆ δὲ ὅταν ὄλον τι πραγματεύηται τις (discusses and investigates) διελεῖν τὸ γένος εἰς τὰ ἄτομα τῷ εἶδει τὰ πρώτα, οἷον ἀριθμῶν εἰς τριάδα καὶ δυνάδα. *Ibid.* 96^b 15.

⁴ ζητεῖν δὲ δεῖ ἐπιβλέποντα ἐπὶ τὰ ὅμοια καὶ ἀδιάφορα (like objects which present no differences); πρώτον τῶ ἅπαντα ταυτὸν ἔχουσιν, εἴτα πάλιν ἐφ' ἑτέροις, ἃ ἐν ταῦτῶ μὲν γένει ἐκείνους, εἰσι δὲ αὐτοῖς μὲν ταῦτα τῶ εἶδει, ἐκείνων

δ' ἕτερα. ὅταν δ' ἐπὶ τούτων ληφθῆ τί πάντα ταυτὸν, καὶ ἐπὶ τῶν ἄλλων ὁμοίως, ἐπὶ τῶν εἰλημμένων πάλιν σκοπεῖν εἰ ταυτὸν, ἕως ἂν εἰς ἓνα ἔλθῃ λόγον· οὗτος γὰρ ἐστὶν τοῦ πράγματος ὀρισμός. εἰ δὲ μὴ βαδίζῃ εἰς ἓνα ἀλλ' εἰς δύο ἢ πλείω, δῆλον ὅτι οὐκ ἂν εἴη ἐν τι εἶναι τὸ ζητούμενον ἀλλὰ πλείω. *An. Post.* II. 13, 97^b 7.

⁵ ἐστὶ δὲ τοῦ μὴ καλῶς (ὄρισθαι) μέρη δύο, ἐν μὲν τὸ ἀσαφεῖ τῆ ἐρμηνεία κερήσθαι, δεύτερον δ' εἰ ἐπὶ πλείον εἴρηκε τὸν λόγον τοῦ δέοντος... εἰς μὲν οὖν τόπος (source) τοῦ ἀσαφῶς εἰ ὁμώνυμόν ἐστὶν τι τὸ εἰρημένον (if the term used is equivocal with some other word) οἷον ὅτι ἡ γένεσις ἀγωγῆ εἰς οὐσίαν καὶ ὅτι ἡ ὑγίεια συμμετρία θερμῶν καὶ ψυχρῶν ὁμώνυμος γὰρ ἡ ἀγωγῆ καὶ ἡ συμμετρία.. ἄλλος εἰ κατὰ μεταφορὰν εἴρηκεν, οἷον εἰ τὴν ἐπιστήμην ἀμετάπτωτον ἢ τὴν γῆν τιθῆναι ἢ τὴν σωφροσύνην συμφωνίαν... ἐτι εἰ μὴ κειμένους (established) ὀνόμασι χρῆται, οἷον Πλάτων ὄφρυ-όσκιον τὸν ὄφθαλμόν. *Top.* VI. 1, 2, 139^b 11.

⁶ τοῦ δὲ μὴ ἐκ προτέρων τρεῖς εἰσι τρόποι, πρώτος μὲν εἰ διὰ τοῦ ἀντικειμένου τὸ ἀντικείμενον ὄρισται, οἷον διὰ τοῦ κακοῦ τὸ ἀγαθόν· ἅμα γὰρ τῆ φύσει τὰ ἀντικείμενα... ἄλλος εἰ αὐτῶ κέρχεται τῶ ὀριζόμενῳ. λανθάνει δ' ὅταν μὴ αὐτῶ τῶ τοῦ ὀριζόμενου ὀνόματι χρῆσθαι, οἷον εἰ τὸν ἥλιον αὐτρον ἡμεροφανῆς ὄρισται· ὁ γὰρ ἡμέρα χρώμενος ἥλιῳ χρῆται... πάλιν εἰ τῶ ἀντιδιηρημένῳ τὸ ἀντιδιηρημένον ὄρισται, οἷον πρὸς τὸν τὸ μονάδι μείζον ἀρτίου... ὁμοίως δὲ καὶ εἰ διὰ τῶν ὑποκάτω τὸ ἐπάνω ὄρισται, οἷον ἀρτίον ἀριθμῶν τὸν δίχα διαιρούμενον ἢ τὸ ἀγαθόν ἐξ ἀρετῆς· τὸ τε γὰρ δίχα ἀπὸ τῶν δύο εἴληπται, ἀρτίων ὄντων, καὶ ἡ ἀρετὴ ἀγαθόν τι ἐστίν, ὡσθ' ὑποκάτω ταῦτα ἐκείνων ἐστίν. *Top.* VI. 4, 142^a 23.

16. Syllogism in the widest sense of the expression is "a mental process in which certain facts being assumed something else differing from these facts results in virtue of them¹." Such a process of inference and discovery had been attempted by Plato in his account of Definition by Division (*Διαίρεσις*). But Plato's method of discovering the character of an object by continual

dichotomy really *assumes* what is to be proved—it does not proceed gradually from the particular to the general by a middle link or less general μέσον—rather it arbitrarily takes one of two classes under which it seeks by successive divisions to bring the particular conception¹. Syllogism is accordingly regarded by Aristotle himself as being distinctively his own discovery². Such syllogism rests upon the principle that whatever can be predicated of the predicate of a proposition can be predicated also of its subject³.

¹ συλλογισμὸς δὲ ἐστὶ λόγος ἐν ᾧ τεθέντων τινῶν ἑτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει τῷ ταῦτα εἶναι. λέγω δὲ τῷ ταῦτα εἶναι τὸ διὰ ταῦτα συμβαίνειν, τὸ δὲ διὰ ταῦτα συμβαίνειν τὸ μηδενὸς ἔξωθεν ὅρου προσδεῖν πρὸς τὸ γενέσθαι τὸ ἀναγκαῖον. *An. Pr.* I. 1, 24^b 18.

² ὅτι ὃ ἢ διὰ τῶν γενῶν διαίρεσις μικρόν τι μόνον ἐστὶ τῆς εἰρημένης μεθόδου, ῥαδίον ἰδεῖν. ἐστὶ γὰρ ἡ διαίρεσις οἷον ἀσθενὴς συλλογισμὸς· ὃ μὲν γὰρ δεῖ δεῖξαι αἰτεῖται, συλλογίζεται δ' αἰεὶ τι τῶν ἄνωθεν... ἐν μὲν οὖν ταῖς ἀποδείξεσιν, ὅταν δεῖ τι συλλογίσασθαι ὑπάρχειν, δεῖ τὸ μέσον, οὐ γίνεται ὁ συλλογισμὸς, καὶ ἥττον αἰεὶ εἶναι καὶ μὴ καθόλου τοῦ πρώτου τῶν ἄκρων· ἢ δὲ διαίρεσις τοῦναντίον βούλεται· τὸ γὰρ καθόλου λαμβάνει μέσον. Thus, as Aristotle goes on to illustrate, Plato's method with a view to discovering the nature of 'man,' takes animal as the class under which man falls, divides animal into mortal and immortal, decides that man is a mortal animal, again subdivides this into footless and footed, and so settles that man is footed. But, as Aristotle says, it is a mere assumption that man is mortal and is footed: ὥστε τὸν ἄνθρωπον ἢ θνητὸν μὲν ἢ ἀθάνατον ἀναγκαῖον εἶναι, ζῶν θνητὸν δὲ ἀναγκαῖον, ἀλλ' αἰτεῖται· τοῦτο δ' ἦν ὃ δεῖ συλλογίσασθαι. *Anal. Pr.* I. 31, 46^a 31. Cp. *An. Post.* II. 5, 91^b 35.

³ καὶ περὶ μὲν τῶν ῥητορικῶν ὑπῆρχε πολλὰ καὶ παλαιὰ τὰ λεγόμενα, περὶ δὲ τοῦ συλλογίσασθαι παντελῶς οὐδὲν

εἶχομεν πρότερον ἄλλο λέγειν, ἀλλ' ἢ τριβῆ ἑτηδόντες πολλὸν χρόνον ἐπονούμεν. *Soph. El.* 33, 184^a 9.

⁴ ὅταν ἕτερον καθ' ἑτέρου κατηγορηται ὡς καθ' ὑποκειμένου, ὅσα κατὰ τοῦ κατηγορουμένου λέγεται, πάντα καὶ κατὰ τοῦ ὑποκειμένου ῥηθήσεται. [Thus taking the proposition 'Socrates is a man,' it follows that since 'Mortal' is a predicate of 'man,' it can also be predicated of Socrates. Cp. with Mill's Formula, whatever possesses any attribute (here humanity) possesses that of which it is the attribute (here mortality): and with the shorter formula *Nota notae est nota rei ipsius.*] *Cat.* 3, 1^b 11.

17. Every Syllogism consists of three terms (ὄροι), a major (μείζον ἄκρον), a minor (ἐλαττον), and a middle (μέτρον) which enables us to compare the two¹. The different relations of the middle term gives us the three figures (σχήματα) of syllogism. The first is that in which the middle just lies between the two extremes, being less than the major or larger notion and greater than the minor or smaller: the second figure is that in which it lies outside the extremes, being greater than either, and is consequently predicate of both extremes: the third figure is that in which while outside the extremes it is less than either and is consequently subject of both². The second of these figures gives only negative conclusions, the third only particular; the first alone gives universal conclusions, and is therefore called the scientific figure³.

¹ δῆλον δὲ καὶ ὅτι πάντα ἀπόδειξις ἐστὶ διὰ τριῶν ὄρων καὶ οὐ πλείονων, ἐὰν μὴ δι' ἄλλων καὶ ἄλλων τὸ αὐτὸ συμπέρασμα γινηται, οἷον τὸ E διὰ τε τῶν AB καὶ διὰ τῶν ΓΔ ἢ διὰ τῶν AB καὶ ΑΓ καὶ ΒΓ· πλείω γὰρ μέσα τῶν αὐτῶν οὐδὲν εἶναι κωλύει, τούτων δ' ὄντων σχῆμα εἰς ἄλλα πλείους εἰσὶν οἱ συλλογισμοί (*An. Pr.* I. 25, 41^b 36). ὄρον δὲ καλῶ

εἰς ὃν διαλύεται ἡ πρότασις, οἷον τὸ τε κατηγορούμενον καὶ τὸ καθ' οὗ κατηγορεῖται. *An. Pr.* I. 1, 24^b 16.

² *First Figure.* ὅταν οὖν ὅροι τρεῖς οὕτως ἕχωσι ἔξωσι πρὸς ἀλλήλους ὥστε τὸν ἔσχατον (minor term) ἐν ὅλῳ εἶναι τῷ μέσῳ καὶ τὸν μέσον ἐν ὅλῳ τῷ πρώτῳ ἢ εἶναι ἢ μὴ εἶναι, ἀνάγκη τῶν ἄκρων εἶναι συλλογισμόν τέλειον. καλῶ δὲ μέσον μὲν ὁ καὶ αὐτὸ ἐν ἄλλῳ καὶ ἄλλο ἐν τούτῳ ἐστίν, ὃ καὶ τῇ θέσει γίνεται μέσον· ἄκρα δὲ τὸ αὐτὸ τε ἐν ἄλλῳ ὃν καὶ ἐν ᾧ ἄλλο ἐστίν. εἰ γὰρ τὸ Α κατὰ παντός τοῦ Β καὶ τὸ Β κατὰ παντός τοῦ Γ, ἀνάγκη τὸ Α κατὰ παντός τοῦ Γ κατηγορεῖσθαι. καλῶ δὲ τὸ τοιοῦτον σχῆμα πρῶτον. *An. Pr.* I. 4, 25^b 32.

Second Figure. ὅταν δὲ τὸ αὐτὸ τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχη, ἢ ἐκατέρῳ παντὶ ἢ μηδενί, τὸ μὲν σχῆμα τὸ τοιοῦτον καλῶ δευτέρον, μέσον δὲ ἐν αὐτῷ λέγω τὸ κατηγορούμενον ἀμφοῖν (the middle term is predicate of both premisses). τίθεται δὲ τὸ μέσον ἔξω μὲν τῶν ἄκρων, πρῶτον δὲ τῇ θέσει. [The middle term stands first because it occupies the highest place in extension among the three terms employed in the syllogism, and similarly it is 'outside' the extremes because it expresses a notion wider than either the major or minor term. Thus in arguing—Modesty is a virtue: Bashfulness is not a virtue: Bashfulness is not Modesty: it is evident that virtue is the 'first' and highest notion of the three and goes beyond both Modesty and Bashfulness.] *An. Pr.* I. 5, 26^b 34.

Third Figure. εἴαν δὲ τῷ αὐτῷ τὸ μὲν παντὶ τὸ δὲ μηδενὶ ὑπάρχη, ἢ ἀμφὼ παντὶ ἢ μηδενί, τὸ μὲν σχῆμα τὸ τοιοῦτον καλῶ τρίτον, μέσον δ' ἐν αὐτῷ λέγω καθ' οὗ ἀμφὼ τὰ κατηγορούμενα, ἄκρα δὲ τὰ κατηγορούμενα, μείζον δ' ἄκρον τὸ παρρῴτερον τοῦ μέσου, ἔλαττον δὲ τὸ ἐγγύτερον. τίθεται δὲ τὸ μέσον ἔξω μὲν τῶν ἄκρων, ἔσχατον δὲ τῇ θέσει. [The middle term is 'last' in position because it is the narrowest in extension of the three notions. Thus in reasoning—Mercury is not solid, Mercury is a Metal: Some metals are not Solids—Mercury is evidently smaller than 'Metals' and 'Solids,' and so last in position and outside or after the extremes.]

More briefly Aristotle says: τῇ τοῦ μέσου θέσει γνωριῶ-

τὸ σχῆμα... ἀνάγκη γὰρ τὸ μέσον ἐν ἀμφοτέροις (προ-
τάσει) ὑπάρχειν ἐν ἅπασιν τοῖς σχήμασιν. εἴαν μὲν οὖν
κατηγορεῖται καὶ κατηγορεῖται τὸ μέσον, ἢ αὐτὸ μὲν κατηγορεῖται
καὶ ἄλλο ἄπαρνήται, τὸ πρῶτον ἐστὶ σχῆμα. εἴαν δὲ
καὶ κατηγορεῖται καὶ ἀπαρνήται ἀπὸ τινος, τὸ μέσον (i.e. 2nd
figure) εἴαν δ' ἄλλα ἐκείνου κατηγορεῖται, ἢ τὸ μὲν ἀπαρνή-
ται τὸ δὲ κατηγορεῖται, τὸ ἔσχατον. *An. Pr.* I. 32, 47^a 39.

εἴαν μὲν οὖν καταφατικὸν τὸ καθόλου διὰ τοῦ πρώτου
ἀκροῦ δεικνύται μόνου, καὶ διὰ τούτου μοναχῶς. *Anal.*
I. 20, 40^b 33.

εἴαν μὲν οὖν καταφατικὸς συλλογισμὸς διὰ τούτου τοῦ σχή-
ματος (the second), ἀλλὰ πάντες στερητικοί, καὶ οἱ καθόλου
κατὰ μέρος. *An. Pr.* I. 5, 28^a 8.

εἴαν μὲν οὖν ἀπαρνήσθαι τὸ καθόλου διὰ τούτου τοῦ σχήματος (i.e.
third figure) οὐκ ἔσται, οὔτε στερητικὸν οὔτε καταφατικόν.
An. Pr. I. 6, 29^a 16.

13. The first figure as corresponding more than any other figures with the natural order of phenomena, because its middle term really lies *between* the two extremes, regarded by Aristotle as the typical form of syllogistic reasoning, and as therefore preeminently cogent and conclusive. It is therefore perfect (τέλειος): the other figures give imperfect syllogisms (ἀτελεῖς), in which the conclusion does not follow thus necessarily from the premisses. Hence Aristotle requires to prove the validity of reasoning in the second and third figures, and he does so by shewing that tenable arguments in these figures can be represented as reasonings in the first figure and can be proved conclusive (περαίνονται, τελειοῦνται)². Any conclusion, by which syllogisms of the latter figures are confirmed and shewn valid, may be effected in two ways:—1. *Ostensively* (δεικτικῶς), i.e. by so applying the middle term as to bring a mood of a later figure into the first, or, *per Impossible* (διὰ τοῦ ἀδυνάτου), by

assuming the falsity of the conclusion and finding that the assumption leads to a result incompatible with the premisses².

The chief rules of syllogism enunciated by Aristotle are (1) one premiss must be affirmative, (2) one premiss must be universal, (3) terms taken universally in the conclusion must have been previously distributed in the premisses⁴.

¹ τέλειον μὲν οὖν καλῶ συλλογισμόν τὸν μηδεὸς ἄλλον προσδεόμενον παρὰ τὰ εἰλημμένα πρὸς τὸ φανῆναι τὰ ἀναγκαῖον (which needs nothing beyond the facts stated in the premisses to bring out the conclusiveness of the result), ἀτελῆ δὲ τὸν προσδεόμενον ἢ ἐγὸς ἢ πλειόωνι, ἃ ἔστι μὲν ἀναγκαῖα διὰ τῶν ὑποκειμένων ὄρων, οὐ μὴν εἰληπταὶ διὰ προτάσεων. *An. Pr.* I. 1, 24^b 22.

² ὄφλον δὲ καὶ ὅτι πάντες οἱ ἐν αὐτῷ (the first figure), συλλογισμοὶ τέλειοι εἰσι· πάντες γὰρ ἐπιτελοῦνται διὰ τῶν ἐξ ἀρχῆς ληφθέντων (*An. Pr.* I. 4, 26^b 30). τέλειος μὲν οὖν οὐκ ἔσται συλλογισμὸς οὐδαμῶς ἐν τούτῳ τῷ σχήματι (i.e. the second). *An. Pr.* I. 5, 27^a 1.

³ φανερόν δὲ καὶ ὅτι πάντες οἱ ἀτελεῖς συλλογισμοὶ τελειοῦνται διὰ τοῦ πρώτου σχήματος. ἢ γὰρ δεκτικῶς ἢ διὰ τοῦ ἀδυνάτου περαίνονται πάντες· ἀμφοτέρως δὲ γίνεται τὸ πρῶτον σχῆμα, δεκτικῶς μὲν τελειομένων, ὅτι διὰ τῆς ἀντιστροφῆς ἐπεραίνοντο πάντες, ἢ δ' ἀντιστροφή τὸ πρῶτον ἐποίει σχῆμα, διὰ δὲ τοῦ ἀδυνάτου δεκτικῶν, ὅτι τεθέντος τοῦ ψευδοῦς (after assuming the falsity of the original conclusion and taking its contradictory as true to be the premiss of a new syllogism) ὁ συλλογισμὸς γίνεται διὰ πρῶτου σχήματος· οἷον ἐν τῷ τελευταίῳ, εἰ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχει, ὅτι τὸ Α παντὶ τῷ Β ὑπάρχει· εἰ γὰρ μηδενί, τὸ δὲ Β παντὶ τῷ Γ, οὐδενί τῷ Γ τὸ Α· ἀλλ' ἦν παντί· (i.e. in the original premisses). ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. *An. Pr.* I. 7, 29^a 30.

All C is A

All C is B,

∴ Some B is A.

For if not, suppose it false; then its contradictory must be true, i.e.

No B is A—But we had before

All C is B,

∴ No C is A—the contrary of our original major.

πάντες γὰρ οἱ διὰ τοῦ ἀδυνάτου περαίνοντες τὸ μὲν ψεῦδος συλλογίζονται (reason out a conclusion which is false) τὸ δ' ἐξ ἀρχῆς ἐξ ὑποθέσεως δεκτικῶν, ὅταν ἀδύνατον τι συμβαίῃ τῆς ἀντιφάσεως τεθείσης, οἷον ὅτι ἀσύμμετρος ἢ διάμετρος διὰ τὸ γίνεσθαι τὰ περιττὰ ἴσα τοῖς ἀρτίοις συμμετρον τεθείσης. *An. Pr.* I. 23, 41^a 27.

διαφέρει δ' ἢ εἰς τὸ ἀδύνατον ἀπόδειξις τῆς δεκτικῆς τῷ τεθέναι ὃ βούλεται ἀναιρεῖν (i.e. the falsity of the conclusion), ἀπάγονσα εἰς ὁμολογούμενον ψεῦδος· ἢ δὲ δεκτικῆ ἀρχεται ἐξ ὁμολογούμενου θέσεως. *An. Pr.* II. 14, 62^b 29.

⁴ ἐν ἅπαντι (συλλογισμῷ) δεῖ κατηγορικῶν τινα τῶν ὄρων εἶναι καὶ τὸ καθόλου ὑπάρχειν· ἄνευ γὰρ τοῦ καθόλου ἢ οὐκ ἔσται συλλογισμὸς ἢ οὐ πρὸς τὸ κείμενον, ἢ τὸ ἐξ ἀρχῆς αἰτήσεται... ἐὰν μὲν ἢ τὸ συμπέρασμα καθόλου, καὶ τοὺς ὄρους ἀνάγκη καθόλου εἶναι, ἐὰν δ' οἱ ὄροι καθόλου, ἐνδέχεται τὸ συμπέρασμα μὴ εἶναι καθόλου. *An. Pr.* I. 24, 41^b 6.

19. Aristotle's Hypothetical Syllogism (συλλογισμὸς ἐξ ὑποθέσεως) is scarcely identical with the reasoning now so called, but is an argument in which something being allowed to follow *if* something else is proved, a syllogism is adduced to prove this condition and thereby by agreement to establish the main position (τὸ ἐξ ἀρχῆς)¹. The principle of hypothetical reasoning is distinctly enunciated by Aristotle as follows: If two terms stand to one another in such a relation that when the former is true the latter necessarily is so, it follows that if the latter is not, the former will not be either; but the existence of the latter does not involve the existence of the former².

¹ φανερόν ὅτι οἱ διὰ τοῦ ἀδυνάτου συλλογισμοὶ διὰ τούτων ἔσονται τῶν σχημάτων. ὡσαύτως δὲ καὶ οἱ ἄλλοι

πάντες οἱ ἐξ ὑποθέσεως. ἐν ἅσασι γὰρ ὁ μὲν συλλογισμὸς γίνεται πρὸς τὸ μεταλαμβάνομενον (the syllogism is framed to prove the condition as a categorical statement) τὸ δ' ἐξ ἀρχῆς περαίνεται δι' ὁμολογίας ἢ τινος ἄλλης ὑποθέσεως. εἰ δὲ τοῦτ' ἀληθές, πᾶσαν ἀποδείξιν καὶ πάντα συλλογισμὸν ἀνάγκη γίνεσθαι διὰ τριῶν τῶν προειρημένων σχημάτων. τούτου δὲ δειχθέντος δῆλον ὡς ἅπας τε συλλογισμὸς ἐπιτελείται διὰ τοῦ πρώτου σχήματος καὶ ἀνάγεται (is reduced) εἰς τοὺς ἐν τούτῳ καθόλου συλλογισμοὺς. *An. Pr.* I. 23, 41^a 36.

The hypothetical syllogism may best be understood by taking a concrete illustration of it. A ὁμολογία is made that *if* man can be proved a spiritual being, it will follow that the will is free. A syllogism is then framed to prove the antecedent, and we get

Every being whose actions are inexplicable by merely material agencies is spiritual.

Man is a being inexplicable by material agencies.

Therefore man is a spiritual being: this conclusion being what Aristotle calls the μεταλαμβάνομενον or categorical form of the assumption: and in virtue of the agreement, it follows that the main question (τὸ ἐξ ἀρχῆς)—viz. The will is free—is established.

² ἐξ ἀληθῶν μὲν οὖν οὐκ ἔστι ψεῦδος συλλογίσασθαι, ἐκ ψευδῶν δ' ἔστιν ἀληθές, πλὴν οὐ διότι ἀλλ' ὅτι [the conclusion, i.e., is true simply as matter of fact but not in virtue of the premisses] (*An. Pr.* I. 2, 53^b 7) φανερόν οὖν ὅτι ἂν μὲν ἢ τὸ συμπέρασμα ψεῦδος, ἀνάγκη, ἐξ ὧν ὁ λόγος ψευδῆ εἶναι ἢ πάντα ἢ ἓνα, ὅταν δ' ἀληθές οὐκ ἀνάγκη ἀληθές εἶναι οὔτε τι οὔτε πάντα. αἰτίον δ' ὅτι ὅταν δύο ἔχη οἷτω πρὸς ἀλλήλα ὥστε θατέρον ὄντος ἐξ ἀνάγκης εἶναι θατέρον, τούτου μὴ ὄντος μὲν οὐδὲ θατέρον ἔσται, ὄντος δ' οὐκ ἀνάγκη εἶναι θατέρον. *An. Pr.* II. 4, 57^a 36.

20. Syllogism is not only Deductive, reasoning from whole to part; it is also Inductive, reasoning from part to whole, and enabling us to detect the universal and essential in the particular. Such Induction (ἐπαγωγή) is the method of proceeding from particular

instances to general uniformities, of finding the law amid phenomena¹; it is, when formally analyzed, the process by which we prove the major or wider conception to be a predicate of the middle or intermediate by means of the minor term or particular instances. This minor term itself must be conceived of as consisting of all the instances². No particular kinds of Induction are formulated by Aristotle, but he has noticed incidentally the principle of most of the "Experimental methods" and in particular that of the method of concomitant variations³.

¹ καὶ συλλογισμὸς μὲν τί ἐστίν, εἰρηται πρότερον· ἐπαγωγή δὲ ἢ ἀπὸ τῶν καθ' ἕκαστον ἐπὶ τὰ καθόλου ἐξοδος, οἷον εἰ ἔστι κυβερνήτης ὁ ἐπιστάμενος κράτιστος καὶ ἠνίχοτος, καὶ ὅλος ἔστιν ὁ ἐπιστάμενος περὶ ἕκαστον ἄριστος (*Top.* I. 12, 105^a 12). ἢ δὲ τοῦ ὁμοίου θεωρία χρησίμος πρὸς τε τοὺς ἐπακτικὸν λόγους...διότι τῇ καθ' ἕκαστα ἐπὶ τῶν ὁμοίων ἐπαγωγή τὸ καθόλου ἀξιούμεν ἐπάγειν οὐ γὰρ βράδιον ἔστιν ἐπάγειν μὴ εἰδὸτας τὰ ὄροια. *Top.* I. 18, 108^b 7.

² ἐπαγωγή μὲν γὰρ ἔστι καὶ ὁ ἐξ ἐπαγωγῆς συλλογισμὸς τὸ διὰ τοῦ ἐτέρου θατέρον ἄκρον τῷ μέσῳ συλλογίσασθαι, οἷον εἰ τῶν ΑΓ μέσον τὸ Β, διὰ τοῦ Γ δεῖξαι τὸ Α τῷ Β ὑπάρχον· οἷτω γὰρ ποιούμεθα τὰς ἐπαγωγὰς. οἷον ἔστω τὸ Α μακρόβιον, τὸ δ' ἐφ' ᾧ Β τὸ χολῆν μὴ ἔχον, ἐφ' ᾧ δὲ Γ τὸ καθ' ἕκαστον μακρόβιον, οἷον ἄνθρωπος καὶ ἵππος καὶ ἡμίονος. τῷ δὲ Γ ὅλω ὑπάρχει τὸ Α· (πᾶν γὰρ τὸ ἄχολον μακρόβιον)· ἀλλὰ καὶ τὸ Β, τὸ μὴ ἔχειν χολῆν, παντὶ ὑπάρχει τῷ Γ. εἰ οὖν ἀντιστρέφει τὸ Γ τῷ Β καὶ μὴ ὑπερτείνει τὸ μέσον, ἀνάγκη τὸ Α τῷ Β ὑπάρχειν. δέδεικται γὰρ πρότερον ὅτι ἂν δύο ἄττα τῷ αὐτῷ ὑπάρχη καὶ πρὸς θατέρον αὐτῶν ἀντιστρέφῃ τὸ ἄκρον, ὅτι τῷ ἀντιστρέφοντι καὶ θατέρον ὑπάρξει τῶν κατηγορευμένων. δεῖ δὲ νοεῖν τὸ Γ τὸ ἐξ ἀπάντων τῶν καθ' ἕκαστον συγκείμενον· ἢ γὰρ ἐπαγωγή διὰ πάντων. ἔστι δ' ὁ τοιοῦτος συλλογισμὸς τῆς πρώτης καὶ ἀμέσου προτάσεως· (i.e. induction rests upon some immediate perception) ὧν μὲν γὰρ ἔστι μέσον διὰ τοῦ μέσου ὁ συλλογισμὸς, ὧν δὲ μὴ ἔστι, δι' ἐπαγωγῆς. *An. Pr.* II. 23, 68^b 15.

Induction then proves the major of the middle by means of the minor: proves, e.g., that longevity (major term) is an attribute of absence of gall (middle) by means of particular gall-less animals which are long-lived. Formally then Induction is a syllogism in the third figure, according to which we argue

All C is A: All C is B :: All B is A. A syllogism thus stated is of course logically invalid: its cogency depends on the fact that not only all C is B but also all B is C. Induction then is to Aristotle an application of the Substitution of Similar, and depends on the convertibility of terms with one another. "For," he writes above, "it has been shewn before, viz. in the preceding chapter, that if two attributes (A and B) attach to the same third term (C), and the minor (τὸ ἄκρον) (C) is convertible with one of them (B), it follows that the other attribute (A) will also attach to the term thus convertible (B)." Thus, to take again Aristotle's Illustration, let A = longevity, B = absence of gall, C = particular long-lived animals. The reasoning we have seen is—

All C is A (man, horse, mule, &c. are long-lived).

All C is B (man, horse, mule, &c. are gall-less).

Now here the two attributes A and B attach to the same third term C. But further, the minor C is convertible with one of these terms, viz. B, *i.e.* every gall-less animal is also one or other of the long-lived animals: it follows therefore that A will be a predicate of B, *i.e.* every gall-less animal will be also long-lived.

* εἰ μὲν γὰρ ἀκολουθεῖ τῇ τοῦ ὑποκειμένου ἐπίδοσει ἢ τοῦ συμβεβηκότος ἐπίδοσις, δῆλον ὅτι συμβέβηκεν (*i.e.* it is evidently a causal consequence): εἰ δὲ μὴ ἀκολουθεῖ, οὐ συμβέβηκεν. *Top.* II. 10, 115^a 3.

21. Enthymeme (ἐνθύμημα) and Example (παράδειγμα) are the rhetorical forms of syllogism and induction¹. Enthymeme is a syllogism of which the premisses are maxims generally true (εἰκότα), or facts which indicate the existence of some other fact (σημεῖα): and which

as generally understood would be left unstated². Example is the process in which "the major term is proved to belong to the middle term by a term *like* the minor term"—it is in short, reasoning from "particular to particular" (ὡς μέρος πρὸς μέρος)³, but Aristotle sees that such reasoning is only possible in so far as we universalize the peculiar instance, and he therefore treats it as the appendage of a syllogism.

¹ καλῶ δ' ἐνθύμημα μὲν ῥητορικὸν συλλογισμόν, παράδειγμα δὲ ἐπαγωγὴν ῥητορικὴν. *Rhet.* I. 2, 1356^b 4.

² εἰκὸς δὲ καὶ σημεῖον οὐ ταυτὸν ἔστιν, ἀλλὰ τὸ μὲν εἰκὸς ἔστι πρότασις ἔνδοξος. ὃ γὰρ ὡς ἐπὶ τὸ πολὺ ἴσασιν οὕτω γινόμενον ἢ ὄν ἢ μὴ ὄν, τοῦτ' ἔστιν εἰκὸς, οἷον τὸ μισεῖν τοὺς φθονοῦτας ἢ τὸ φιλεῖν τοὺς ἐρωμένους. σημεῖον δὲ βούλεται εἶναι πρότασις ἀποδεικτικὴ ἀναγκαῖα ἢ ἔνδοξος: οὐ γὰρ ὄντος ἔστιν ἢ οὐ γενομένου πρότερον ἢ ὕστερον γέγονε τὸ πρᾶγμα, τοῦτο σημεῖον ἔστι τοῦ γεγονέναι ἢ εἶναι. ἐνθύμημα μὲν οὖν ἔστι συλλογισμὸς ἐξ εἰκότων ἢ σημεῖων, λαμβάνεται δὲ τὸ σημεῖον τριχῶς, ἄσαχῶς καὶ τὸ μέσον ἐν τοῖς σχήμασιν...οἷον τὸ μὲν δεῖξαι κύουσαν διὰ τὸ γάλα ἔχειν ἐκ τοῦ πρώτου σχήματος: μέσον γὰρ τὸ γάλα ἔχειν. *Anal. Pr.* II. 27, 70^a 2.

³ παράδειγμα δ' ἔστιν ὅταν τῷ μέσῳ τὸ ἄκρον ὑπάρχον δειχθῇ διὰ τοῦ ὁμοίου τῷ τρίτῳ. [To take Aristotle's instance, we reason that because the war between Thebes and Phocis was a war between neighbours and an evil, therefore the war between Athens and Thebes, being also a war between neighbours, will in all probability be also an evil. Thus out of the one parallel case—the war between Thebes and Phocis—we form the *general* proposition—All wars between neighbours are evils—to this we add the minor—The war between Athens and Thebes is a war between neighbours—and thence arrive at the conclusion that the war between Athens and Thebes will be likewise an evil.] φανερόν οὖν ὅτι τὸ παράδειγμα ἔστιν οὔτε ὡς μέρος πρὸς ὅλον (induction) οὔτε ὡς ὅλον πρὸς

μέρος (deduction) ἀλλ' ὡς μέρος πρὸς μέρος, ὅταν ἀμφω μὲν ἢ ὑπὸ ταυτῷ, γινώριμον δὲ θάτερον. καὶ διαφέρει τῆς ἐπαγωγῆς, ὅτι ἢ μὲν ἐξ ἀπάντων τῶν ἀτόμων τὸ ἄκρον ἐδείκνυεν ὑπάρχειν τῷ μέσῳ καὶ πρὸς τὸ ἄκρον οὐ συνήπτε τὸν συλλογισμόν, τὸ δὲ καὶ συνάπτει [that is, out of the particular instance it forms a general proposition to which as major premiss it applies the new instance] καὶ οὐκ ἐξ ἀπάντων δείκνυσιν, *Anal. Pr.* II. 24, 68^b 38.

22. Syllogism and Induction correspond to the two great aspects of existence or ways in which things are known. Things may be looked at either in themselves—as they present themselves, so to speak, to the creative mind—or as they present themselves to us; thus in mathematics it is the point which stands absolutely first (*φύσει πρότερον*), the superficies or solid figure which is first relatively to us (*πρὸς ἡμᾶς πρότερον*)¹. Syllogism corresponds with the first of these aspects of the objects of knowledge—it starts with the law or cause, and reasons forward to the application or effect: Induction begins with facts of personal experience and reasons backward to the cause or principle². But knowledge, properly so called, lies in explaining things by reference to what is absolutely prior, and in seeing that their causes lead necessarily to particular effects³.

¹ πρότερα δ' ἐστὶ καὶ γνωριμώτερα διχῶς· οὐ γὰρ ταυτὸν πρότερον τῇ φύσει καὶ πρὸς ἡμᾶς πρότερον, οὐδὲ γνωριμώτερον καὶ ἡμῖν γνωριμώτερον. λέγω δὲ πρὸς ἡμᾶς μὲν πρότερα καὶ γνωριμώτερα τὰ ἐγγύτερον τῆς αἰσθήσεως, ἀπλῶς δὲ πρότερα καὶ γνωριμώτερα τὰ πορρωτάτω μὲν τὰ καθόλου μάλιστα, ἐγγυτάτω δὲ τὰ καθ' ἕκαστα. (*Anal. Post.* I. 2, 71^b 33.) ἀπλῶς μὲν οὖν γνωριμώτερον τὸ πρότερον τοῦ ὑστέρου, οἷον στιγμῆ γραμμῆς καὶ γραμμῆ ἐπιπέδου ... ἡμῖν δ' ἀναπαλιῶν ἐνίοτε συμβαίνει· μάλιστα γὰρ τὸ στερεῶν

ὑπὸ τὴν αἰσθησιν πίπτει, τὸ δ' ἐπίπεδον μᾶλλον τῆς γραμμῆς, γραμμῆ δὲ σημείου μᾶλλον. *Τοῦ.* VI. 4, 141^b 6.

² τρόπον τινα ἀντίκειται ἡ ἐπαγωγή τῷ συλλογισμῷ. ὁ μὲν γὰρ διὰ τοῦ μέσου τὸ ἄκρον τῷ τρίτῳ δείκνυσιν, ἡ δὲ διὰ τοῦ τρίτου τὸ ἄκρον τῷ μέσῳ. φύσει μὲν οὖν πρότερος καὶ γνωριμώτερος ὁ διὰ τοῦ μέσου συλλογισμὸς, ἡρῖν δ' ἐναργέστερος ὁ διὰ τῆς ἐπαγωγῆς. *Anal. Pr.* II. 23, 68^b 32.

³ ἀπλῶς μὲν οὖν βέλτιον τὸ διὰ τῶν προτέρων τὰ ὕστερα πειράσθαι γνωρίζειν· ἐπιστημονικώτερον γὰρ τὸ τοιαυτὸν ἐστὶν (*Τοῦ.* VI. 4, 141^b 15). ἐπίστασθαι δὲ οἰόμεθ' ἕκαστον ἀπλῶς, ἀλλὰ μὴ τὸν σοφιστικὸν τρόπον τὸν κατὰ συμβεβηκός, ὅταν τὴν τ' αἰτίαν οἰώμεθα γινώσκειν δὲ ἦν τὸ πρᾶγμα ἐστίν, ὅτι ἐκείνου αἰτία ἐστὶ, καὶ μὴ ἐνδέχασθαι τοῦτ' ἄλλως ἔχειν. *An. Post.* I. 1, 71^b 9.

23. Logical Proof, or *ἀπόδειξις*, is reached only when things are regarded from the standpoint of what is thus absolutely first—for induction indicates a law but does not prove it¹—and the distinction between Apodeictic and Dialectic just lies in the fact that whereas Apodeictic takes us back to what is primarily and necessarily true, Dialectic merely lands us in probabilities and leaves us to choose between possible alternatives². True logical proof accordingly postulates the existence of universals. Ideas in Plato's sense as supra-sensible entities may not exist, but general predicables are necessary for demonstration: the individual in fact cannot as such be the subject of demonstration³. This universal or *καθόλου*, however, is not merely what is common or generally applicable (*κοινὸν* or *κατὰ πάντος*): it is also the essential attribute which holds good of the most rudimentary form in which the generic conception shews itself⁴. So conceived the universal is equivalent to the cause, and this in turn becomes the middle term of a syllogism. Genuine logical proof then lies in tracing out by syllogistic reason-

ing the essential attributes attaching to some thing or notion⁵.

¹ μαθαίνομεν ἢ ἐπαγωγῇ ἢ ἀποδείξει. ἔστι δ' ἡ μὲν ἀποδείξις ἐκ τῶν καθόλου, ἡ δ' ἐπαγωγή ἐκ τῶν κατὰ μέρος. ἀδύνατον δὲ τὰ καθόλου θεωρῆσαι μὴ δι' ἐπαγωγῆς (*An. Post.* I. 13, 81^a38) οὐδὲ γὰρ ὁ ἐπάγων ἴσως ἀποδείκνυσιν, ἀλλ' ὅμως δηλοῖ τι (*An. Post.* II. 5, 91^b33). ἀποδείξιν δὲ λέγω συλλογισμόν ἐπιστημονικόν. εἰ τοίνυν ἔστι τὸ ἐπίστασθαι οἶον ἔθεμεν (i.e. if it involve a knowledge through causes as necessarily producing certain effects) ἀνάγκη καὶ τὴν ἀποδεικτικὴν ἐπιστήμην ἐξ ἀληθῶν τ' εἶναι καὶ πρώτων καὶ ἀμέσων καὶ γνωριμωτέρων καὶ προτέρων καὶ αἰτίων τοῦ συμπεράσματος. *An. Post.* I. 2, 71^b18.

² ἀρχὴ δ' ἔστιν ἀποδείξεως πρότασις ἀμέσος, ἀμέσος δὲ ἣς μὴ ἔστιν ἄλλη προτέρα. πρότασις δ' ἔστιν ἀποφάνσεως τὸ ἕτερον μόνιον, ἐν καθ' ἑνός, διαλεκτικῇ μὲν ἡ ὁμοίως λαμβάνουσα ὁποτερονοῦν, ἀποδεικτικῇ δὲ ἡ ὀρισμένως θατέρον, ὅτι ἀληθές. ἀπόφανσις δὲ ἀντιφάσεως ὁποτερονοῦν μόνιον (*An. Post.* I. 2, 72^a8). [Cp. *An. Pr.* I. 1, 24^a32, where the apodeictic proposition is said to be the definite assertion of one side of a disjunctive proposition (λήψις θατέρου μόνιον τῆς ἀντιφάσεως), whereas the dialectical is the interrogation of a disjunctive proposition.] ἀποδείξις μὲν οὖν ἔστιν ὅταν ἐξ ἀληθῶν καὶ πρώτων ὁ συλλογισμὸς ἦ, ἢ ἐκ τοιούτων ἂν διὰ τινων πρώτων καὶ ἀληθῶν τῆς περὶ αὐτὰ γνώσεως τὴν ἀρχὴν εἴληφεν· διαλεκτικὸς δὲ συλλογισμὸς ὁ ἐξ ἐνδόξων συλλογιζόμενος. *Top.* I. 1, 100^a27.

³ εἶδη μὲν οὖν εἶναι ἢ ἐν τι παρὰ τὰ πολλὰ οὐκ ἀνάγκη, εἰ ἀποδείξις ἔσται, εἶναι μέντοι ἐν κατὰ πολλῶν ἀληθές εἰπεῖν ἀνάγκη· οὐ γὰρ ἔσται τὸ καθόλου ἂν μὴ τοῦτο ἢ ἐάν δὲ τὸ καθόλου μὴ ἦ, τὸ μέσον οὐκ ἔσται, ὥστ' οὐδ' ἀποδείξις. *An. Post.* I. 11, 77^a5. Cp. *Meta.* Z, 15, 1039^b27, and *B.* 4, 999^a26.

⁴ καθόλου δὲ λέγω ὃ ἂν κατὰ παντός τε ὑπάρχη καὶ καθ' αὐτὸ καὶ ἡ αὐτό. φανερόν ἄρα ὅτι ὅσα καθόλου, ἐξ ἀνάγκης ὑπάρχει τοῖς πράγμασιν. τὸ καθ' αὐτὸ δὲ καὶ ἡ αὐτὸ ταῦτόν οἶον καθ' αὐτὴν τῇ γραμμῇ ὑπάρχει στιγμή καὶ τὸ εὐθύ· καὶ

γὰρ ἡ γραμμῇ. τὸ καθόλου δὲ ὑπάρχει τότε, ὅταν ἐπὶ τοῦ τυχόντος καὶ πρώτου δεικνύηται. Thus, as Aristotle illustrates, the having of its angles equal to two right angles is an universal attribute of the triangle, because it does not apply to any figure *before* we come to the triangle and so applies to it first (ἐπὶ πρώτου), and further it is an attribute which holds good of *any* triangle whatever (ἐπὶ τοῦ τυχόντος). *Anal. Post.* I. 4, 73^b26.

⁵ ἢ ἄρα καθόλου, μᾶλλον ἐπιστημῶν ἢ κατὰ μέρος. ἀποδεικτὰ ἄρα μᾶλλον τὰ καθόλου... μάλιστα δὲ δῆλον ὅτι ἡ καθόλου κυριωτέρα, ὅτι τῶν προτάσεων τὴν μὲν προτέραν ἔχοντες ἴσμεν πως καὶ τὴν ὑστέραν καὶ ἔχομεν δυνάμει... καὶ ἡ μὲν καθόλου νοητῇ, ἡ δὲ κατὰ μέρος εἰς αἰσθησιν τελευτᾷ (*Anal. Post.* I. 24, 86^a7). τὸ δὲ καθόλου τίμιον ὅτι δηλοῖ τὸ αἶτιον (88^a5). ἐτι εἰ ἡ ἀποδείξις μὲν ἔστι συλλογισμὸς δευτικὸς αἰτίας καὶ τοῦ διὰ τί, τὸ καθόλου δ' αἰτιώτερον· ὧ γὰρ καθ' αὐτὸ ὑπάρχει τι, τοῦτο αὐτὸ αὐτῷ αἰτιον· τὸ δὲ καθόλου πρώτον· αἶτιον ἄρα τὸ καθόλου. ὥστε καὶ ἡ ἀποδείξις βελτίων· μᾶλλον γὰρ τοῦ αἰτίου καὶ τοῦ διὰ τί ἔσται (85^b23). ἡ μὲν γὰρ ἀποδείξις ἔστι τῶν ὅσα ὑπάρχει καθ' αὐτὰ τοῖς πράγμασι (84^a11).

24. Knowledge therefore to be truly scientific (ἐπιστήμη) must involve an insight into the causes of phenomena: and give, as distinguished from mere opinion, absolutely certain and necessary results¹. Scientific thus differs from empirical knowledge (ἐμπειρία) as a knowledge of things as universal and in relation to their causes differs from a knowledge of particular and unexplained facts². Science is thus opposed to sense-perception: for, although sense-perception generally (αἰσθησις) deals with an object as determined by qualities and so universalized (τοιούδε), it is in its actual exercise (αἰσθάνεσθαι) limited to particular impressions which are 'now' and 'here'³. So far then as the cause is represented by the universalizing middle term, the questions of

science resolve themselves into a search for middle terms. Thus the question, Does a thing exist (*εἰ ἔστι*)? and the question, Does a fact take place in such and such a manner (*πὸ ὅτι*)? represent the inquiry, Is there or is there not a middle term? The question, What is the reason of the fact (*πὸ διότι*)? and the question, What is its essential nature (*τί ἐστιν*)? constitute a search after the middle term⁴. Scientific Genius then just lies in a readiness at finding out the middle term which will at once supply the causal link and bring the fact to be explained into connection with cognate phenomena⁵. And for this purpose the first figure of syllogism as developing at once the ground and the essential character of a phenomenon is preeminently useful⁶.

¹ τὸ δ' ἐπιστητὸν καὶ ἐπιστήμη διαφέρει τοῦ δοξαστοῦ καὶ δόξης, ὅτι ἡ μὲν ἐπιστήμη καθόλου καὶ δι' ἀναγκαίων, τὸ δ' ἀναγκαῖον οὐκ ἐνδέχεται ἄλλως ἔχειν (as the object of δόξα can). *An. Post.* I. 33, 88^b30.

² τὸ δ' ὅτι διαφέρει καὶ τὸ διότι ἐπίστασθαι (*An. Post.* I. 13, 78^a22). οἱ μὲν γὰρ ἔμπειροι τὸ ὅτι μὲν ἴσασιν, διότι δ' οὐκ ἴσασιν (*Meta.* A. I. 98^a29). ὅτι μὲν γὰρ τὰ ἔλκη τὰ περιφερῆ βραδύτερον ἐγιάζεται, τοῦ ἱατροῦ εἰδέναι, διότι δὲ τοῦ γεωμέτρου. *An. Post.* I. 13, 79^a15.

³ τοῦ δ' ἀπὸ τύχης οὐκ ἔστιν ἐπιστήμη δι' ἀποδείξεως. οὔτε γὰρ ὡς ἀναγκαῖον οὐθ' ὡς ἐπὶ τὸ πολὺ τὸ ἀπὸ τύχης ἐστίν, ἀλλὰ τὸ παρὰ ταῦτα γινόμενον... οὐδὲ δι' αἰσθήσεως ἔστιν ἐπίστασθαι. εἰ γὰρ καὶ ἔστιν ἡ αἰσθησις τοῦ τοιοῦδε καὶ μὴ τοῦδε τινος, ἀλλ' αἰσθάνεσθαι γε ἀναγκαῖον τὸδε τι καὶ ποῦ καὶ ἴνῃ. τὸ δὲ καθόλου καὶ ἐπὶ πᾶσιν ἀδύνατον αἰσθάνεσθαι (*An. Post.* I. 31, 87^b19). ἔτι δὲ τῶν αἰσθήσεων οὐδεμίαν ἠγνούμεθα εἶναι σοφίαν· καίτοι κρυώταται γ' εἰσὶν αὐταὶ τῶν καθ' ἕκαστα γνώσεις· ἀλλ' οὐ λέγονσι τὸ διὰ τί περὶ οὐδενός, οἷον διὰ τί θερμὸν τὸ πῦρ, ἀλλὰ μόνον ὅτι θερμὸν (*Meta.* A. I, 98^b10). καὶ γὰρ αἰσθάνεται μὲν τὸ καθ' ἕκαστον, ἢ δ' αἰσθησις τοῦ καθ' ἑαυτοῦ ἐστίν, οἷον ἀνθρώπου,

ἀλλ' οὐ Καλλίου ἀνθρώπου [*cp.* § 27, 4]. *An. Post.* II. 19, 100^a16.

⁴ τὰ ζητούμενά ἐστιν ἴσα τὸν ἀριθμὸν ὅσαπερ ἐπι-
σταμεθα. ζητούμεν δὲ τέταρα, τὸ ὅτι, τὸ διότι, εἰ ἔστι, τί
ἐστίν. ὅταν μὲν γὰρ πότερον τὸδε ἢ τὸδε ζητῶμεν, εἰς ἀριθ-
μὸν θέτες (reducing our results to numbers), οἷον πότερον
ἐκλείπει ὁ ἥλιος ἢ οὐ, τὸ ὅτι ζητούμεν... ὅταν δὲ εἰδῶμεν τὸ
ὅτι, τὸ διότι ζητούμεν, οἷον εἰδότες ὅτι ἐκλείπει καὶ ὅτι κινεῖ-
ται ἡ γῆ, τὸ διότι ἐκλείπει ἢ διότι κινεῖται ζητούμεν. ταῦτα
μὲν οὖν οὕτως, ἕνα δ' ἄλλον τρόπον ζητούμεν, οἷον εἰ ἔστιν ἢ
μὴ ἔστι κένταυρος ἢ θεός. τὸ δ' εἰ ἔστιν ἢ μὴ ἀπλῶς λέγω,
ἀλλ' οὐκ εἰ λευκός ἢ μὴ. γινόντες δὲ ὅτι ἔστι, τί ἐστὶν ζητού-
μεν, οἷον τί οὖν ἐστὶ θεός ἢ τί ἐστὶν ἀνθρώπος.

Ζητούμεν δὲ, ὅταν μὲν ζητῶμεν τὸ ὅτι ἢ τὸ εἰ ἔστιν ἀπλῶς,
ἄρ' ἔστι μέσον αὐτοῦ ἢ οὐκ ἔστιν· ὅταν δὲ γινόντες ἢ τὸ ὅτι ἢ
εἰ ἔστιν ἢ τὸ ἐπὶ μέρους ἢ τὸ ἀπλῶς, πάλιν τὸ διὰ τί ζητῶ-
μεν ἢ τὸ τί ἐστὶ, τότε ζητούμεν τί τὸ ἴσον. [The question
of the ὅτι is ἐπὶ μέρους because its inquiry is *particular*
and definite, Is the moon being eclipsed? the question
of the εἰ ἔστιν is ἀπλῶς because it asks simply *generally*,
Is there such and such a thing?] συμβαίνει ἄρα ἐν ἀπά-
σαις ταῖς ζητήσεσι ζητεῖν ἢ εἰ ἔστι μέσον ἢ τί ἐστὶ τὸ μέσον.
τὸ μὲν γὰρ αἴτιον τὸ μέσον, ἐν ἅπασιν δὲ ταῦτο ζητεῖται. ἄρ'
ἐκλείπει; ἄρ' ἔστι τὸ αἶτιον ἢ οὐ· μετὰ ταῦτα γινόντες ὅτι
ἐστὶ τι, τί οὖν τοῦτ' ἐστὶ ζητούμεν. τὸ γὰρ αἴτιον τοῦ εἶναι
μὴ τοῦδε ἢ τοῦδε ἀλλ' ἀπλῶς τὴν οὐσίαν, ἢ τὸ μὴ ἀπλῶς, ἀλλὰ
τι τῶν καθ' αὐτὸ ἢ κατὰ συμβεβηκός, τὸ μέσον ἐστίν. [That
is, the μέσον may as cause explain simply the *existence* of
an object, *i. e.* it may answer the question εἰ ἔστι, or it
may express the cause why something or other is predi-
cated of an object either as an essential attribute or as a
resulting property.] λέγω δὲ τὸ μὲν ἀπλῶς τὸ ὑποκείμενον
οἷον σελήνην ἢ γῆν ἢ ἥλιον ἢ τρίγωνον, τὸ δὲ τί ἐκλείπειν
ἰσότητα ἀισότητα, εἰ ἐν μέσῳ ἢ μὴ [*i. e.* ἀπλῶς refers to the
simple existence or non-existence of a subject (ὑποκεί-
μενον), τί shews how the predicate ἐκλείπειν attaches to
σελήνη or the predicate ἰσότητα to τρίγωνον]. ἐν ἅπασιν γὰρ
τοιοῦτος φανερόν ἐστιν ὅτι τὸ αὐτὸ ἐστὶ τὸ τί ἐστὶ καὶ διὰ τί

itions content themselves with a mere abstract statement of the substance: a knowledge of the properties (συμβεβηκτα) of bodies often throws important light upon the substance;

1 εστιν ο ορισμος η αρχη αποδειξως η αποδειξις θεει διαφερομενα (distinging in the form of statement) η συνηγεσαστα η αποδειξις φανωνται πδσται γαρ τω η εστι και ορισμ. α ε αποδειξις φανωνται πδσται και η ποσας και η το περριτω και αι δαλα ορισμω. *An.* *Post.* II. 3. 90³⁰.

ορισμος ο επειδη λεγεται ειναι λογος τω η εστι, φανον οτι ο ηεν ης εστα λογος τω η σνηται η ονομα η λογος ερεος ονοματωδης, οτω η η σνηται η εστι η η λογος ερεος οριτωδης, αλλος ο εστι οπος λογος ηεν δη οπος εστιν οπος ο ερημειος, αλλος ο εστιν οπος λογος ο ερημειος η εστιν. ωστε ο ηεν ποτερος σνηται ηεν, δεκινωι ο αν, ο ο υστερος φανον οτι εστι οτω αποδειξις τω η εστι, η η θεει διαφερω ης αποδειξως. διαφερι γαρ επειδη δια η βρωτη και η εστι βρωτη. επει γαρ οτω ηεν διαρι αποσβεννεται το ηεν εν νεφωι, η ο εστι βρωτη; υποφος αποσβεννεται ηεν εν νεφωι, ωστε ο αντος λογος αλλων τρωτων λεγεται, και ωδη ηεν αποδειξις σνητης; ωδη ο ορισμω, ετι εστιν οπος βρωτης υποφος εν νεφωι, τοτω ο εστι ης τω η εστιν αποδειξις σνητησσημα. ο δε τω ηεν φανων ορισμω θεει εστι τω η εστιν αναποδεικτος. *An.* *Post.* II. 10. 93²⁹.

ου μωρον το οτι δει των οριστικων λογων δηλων, ωστε ο πλειστον των ωρων λεγουν, αλλα και την ατιαν ενεπα- χεν και εμψαλινεσθα. ην ο ωστρε σνητησσημα οι λογοι των ωρων ειναι οτω η εστι τεραγωμωδης; το ωων ερεωμη- και ορθωμων ειναι ισοδυναμον. ο δε τοωδτος οπος λογος τω ο ανητησασωτος ο δε λεγων οτι εστιν ο τεραγωμωδης τω ηεν ερεωδης, τω ηεν ορισμω λεγει το ατιων. *De An.* II. 2, 413¹³.

τοκοις ο ου μωρον το η εστι γινωαι χρησιμων ειναι προς το θεωρησαι τας ατιας τω ανητησασωτων τας ορισμω,

εστιν. η εστιν εκλειψις; στερησις φωτος απο σεληνης υπο ης αντιφασξως. δια η εστιν εκλειψις, η δια η εκλειψις η σεληνη; δια το απαλειπει το φως αντιφασξωτης ης ης; η εστι σνημων; λογος σνημων εν οζει η βρωτη; δια η σνημωνει το οζυ τω βρωτη; δια το λογον εχειν σνη- μων το οζυ και το βρωτη. *An.* *Post.* II. 1, 89²³.

η ο ερημωια εστιν εστοχηια ης εν ακριτω γρωτω τω ηεν, οτω ετις ιδωι οτι η σεληνη το λαμπρον αει εχει προς τον ηλων, τω η ενωρησε δια η τωτο, οτι δια το λαμπρειν απο τω ηλων. *An.* *Post.* I. 34, 89¹⁰.

των δε σνημων ερωτητικων ημδστω τω ηρωτων εστιν. η γαρ δαως η ως ετι το ποδη και εν τοις πλειστοις δια τωτων τω σνημωντος ο τω θεοι σναλογωδης... ετι ηη τω η εστιν ερωτητηρ δια μωρον τωτων θρωτων οτω ανω- εν ηεν γαρ τω ηεν σνημωνι ου γινεται κατηγορικος σναλο- γωδης, η δε τω η εστιν ερωτητηρ καταφασξωτος εν δε τω ερωτησασωτη γινεται ηεν αλλ ου καθολω, το δε η εστι τω καθολω εστιν. *An.* *Post.* I. 14, 79¹⁷.

25. Definition (ορισμω) may be said to be at once the beginning and the end of syllogism and of scientific knowledge: Such definition may be either real or nominal—it may, that is, either state what a thing really is, or merely explain its common acceptance—but it is essentially a γνωρισμωσ ορισμω, an explanation of the εστι ειναι of an object: and in describing what a thing is it should also state why it is. Whereas then most definitions are merely like syllogistic conclusions, without any indication of the premisses on which they rest, the true definition explains the process by which the result has been obtained—it defines for instance the squaring of a figure not merely as the construction of an equal lateral rectangular figure equal to a figure of which the sides are unequal, but as the finding of a mean propor-

tional (Euclid, II. 14, and VI. 13). Nor should defini-

ὡσπερ ἐν τοῖς μαθήμασι τί τὸ εὐθύ και καμπύλον ἢ τί γραμμῆ και ἐπίπεδον πρὸς τὸ κατιδεῖν πόσαι ὀρθαῖς αἱ τοῦ τριγωνου γωνίαί ἴσαι, ἀλλὰ και ἀνάπαλιν τὰ συμβεβηκότα συμβάλλεται μέγα μέρος πρὸς τὸ εἰδέναι τὸ τί ἐστίν. ἐπειδὴν γὰρ ἔχομεν ἀποδιδόναι κατὰ τὴν φαντασίαν περὶ τῶν συμβεβηκότων ἢ πάντων ἢ τῶν πλείστων, τότε και περὶ τῆς οὐσίας ἔχομεν λέγειν κάλλιστα. *De An.* I. 1, 402^b16.

26. Scientific knowledge involves (1) a particular γένος ὑποκείμενον or subject of investigation; (2) certain πάθη or essential properties to be demonstrated; (3) certain κοινὰ ὀξιώματα or general principles of all reasoning¹. Now true knowledge just lies in being able to connect the essential properties of a conception with its distinctive nature or peculiar principles: each sphere of knowledge having principles peculiar to itself, so that we cannot transfer the principles of one science to explain the problems of another (οὐκ ἔστιν μεταβάνα δέξαι), cannot e.g. reason about geometry on the data of arithmetic, though the principles of geometry may be applied to mechanics and those of arithmetic to harmonics². Such particular principles cannot be proved any more than can the general axiomatic truths on which all science rests: the absence of logical training [ἀπαίδευσία] just in fact lies in asking proof for what cannot be proved³. Least of all can the peculiar principles of every science be deduced from some great architectonic science as Plato had imagined⁴. The question on the other hand about the way in which the first principles of science are obtained throws us back upon the question, How does knowledge begin? and so constitutes the Aristotelian Epistemology.

¹ ἐπεὶ δ' ἐξ ἀνάγκης ἵπάρχει περὶ ἕκαστον γένος ὅσα καθ' αὐτὰ ὑπάρχει και ἢ ἕκαστον, φανερόν ὅτι περὶ τῶν καθ' αὐτὰ ὑπαρχόντων αἱ ἐπιστημονικαὶ ἀποδείξεις και ἐκ τῶν τοιούτων

εἰσίν... οὐκ ἄρα ἔστιν ἐξ ἄλλου γένους μεταβάνα δέξαι, οἷον τὸ γεωμετρικὸν ἀριθμητικῆ. τρία γὰρ ἔστι τὰ ἐν ταῖς ἀποδείξεσιν; ἐν μὲν τὸ ἀποδεικνύμενον τὸ συμπέρασμα, τοῦτο δ' ἔστι τὸ ὑπάρχον γένει τι καθ' αὐτό, ἐν δὲ τὰ ὀξιώματα, ὀξιώματα δ' ἐστὶν ἐξ ὧν. τρίτον τὸ γένος τὸ ὑποκείμενον, οὗ τὰ πάθη και τὰ καθ' αὐτὰ συμβεβηκότα δηλοῖ ἢ ἀποδείξει. ἐξ ὧν μὲν οὖν ἢ ἀποδείξει ἐνδέχεται τὰ αὐτὰ εἶναι· ὧν δὲ τὸ γένος ἕτερον ὡσπερ ἀριθμητικῆς και γεωμετρίας, οὐκ ἔστι τὴν ἀριθμητικὴν ἀποδείξειν ἐφαρμόσαι ἐπὶ τὰ τοῖς μεγέθεσι συμβεβηκότα, εἰ μὴ τὰ μεγέθη ἀριθμοὶ εἰσι. *An. Post.* I. 7, 75^a28.

² ἕκαστον δ' ἐπιστήμεθα μὴ κατὰ συμβεβηκός, ὅταν κατ' ἐκείνο γινώσκωμεν καθ' ὃ ὑπάρχει, ἐκ τῶν ἀρχῶν τῶν ἐκείνου ἢ ἐκείνο, οἷον τὸ θνωῖν ὀρθαῖς ἴσας ἔχει, ὃ ὑπάρχει καθ' αὐτό τὸ εἰρημένον, ἐκ τῶν ἀρχῶν τῶν τούτου. ὡστ' εἰ καθ' αὐτό κατέκείνο ὑπάρχει ὃ ὑπάρχει, ἀνάγκη τὸ μέσον ἐν τῇ αὐτῇ συγγενείᾳ εἶναι. εἰ δὲ μὴ, ἀλλ' ὡς τὰ ἀρμονικὰ δὲ ἀριθμητικῆς. i.e. we have essential and not merely empirical knowledge of any truth when we know it of that to which it belongs on the ground of the principles of this thing as such: e.g. true knowledge of the equality of the angles of a triangle to two right angles is only reached when we see that the equality follows from the principles of the object (i.e. the triangle) to which the property in question essentially belongs. *An. Post.* I. 9, 76^a4.

ἔστι δ' ὧν χροῖνται ἐν ταῖς ἀποδεικτικαῖς ἐπιστήμασι τὰ μὲν ἴδια ἐκάστης ἐπιστήμης τὰ δὲ κοινὰ, κοινὰ δὲ κατ' ἀναλογίαν, ἐπεὶ χρῆσιμόν γε ὅσον ἐν τῷ ὑπὸ τὴν ἐπιστήμην γίνοι. ἴδια μὲν οἷον γραμμῆν εἶναι τοιαυτὴ και τὸ εὐθύ, κοινὰ δὲ οἷον τὸ ἴσα ἀπὸ ἴσων ἂν ἀφέλῃ, ὅτι ἴσα τὰ λοιπὰ. *An. Post.* I. 10, 76^b37.

³ ἐκ τούτων φανερόν ὅτι οὐκ ἔστιν ἀποδείξει ἕκαστον ἀπλῶς, ἀλλ' ἢ ἐκ τῶν ἐκάστων ἀρχῶν. ἀλλὰ τούτων αἱ ἀρχαὶ ἔχουσι τὸ κοινόν. εἰ δὲ φανερόν τούτο, φανερόν και ὅτι οὐκ ἔστι τὰς ἐκάστων ἰδίας ἀρχὰς ἀποδείξει. ἔσονται γὰρ ἐκεῖναι ἀπάντων ἀρχαί, και ἐπιστήμη ἢ ἐκείνων κυρία πάντων. 76^b15. And speaking of the axiom of contradiction Aristotle says it is through ἀπαίδευσία that people attempt to

prove it: ἔστι γὰρ ἀπαιδευσία τὸ μὴ γινώσκειν τίνων δὲ ζητεῖν ἀποδείξειν καὶ τίνων οὐ δέ. *Μετα.* Γ 4, 1006^b5.

⁴ ἡμεῖς δὲ φαμεν οὔτε πᾶσαν ἐπιστήμην ἀποδεικτικὴν εἶναι ἀλλὰ τὴν τῶν ἀμέσων ἀναπόδεικτον... καὶ οὐ μόνον ἐπιστήμην ἀλλὰ καὶ ἀρχὴν ἐπιστήμης εἶναι τινὰ φαμεν, ἢ τοὺς ὄρους γνωρίζομεν (72^b17). ἀρχὴ δ' ἔστιν ἀποδείξεως πρότασις ἀμέσος, ἀμέσος δὲ ἣς μὴ ἔστιν ἄλλη προτέρα... ἀμέσων δ' ἀρχῆς συλλογιστικῆς θέσιν (postulate) μὲν λέγω ἢν μὴ ἔστι δείξει μηδ' ἀνάγκη ἔχει τὸν μαθησόμενον τι· ἢν δ' ἀνάγκη ἔχει τὸν ὁτιοῦν μαθησόμενον, ἀξίωμα· θέσεως δ' ἢ μὲν ὀποτεροῦν τῶν μορίων τῆς ἀποφάνσεως λαμβάνουσα, οἷον λέγω τὸ εἶναι τι ἢ τὸ μὴ εἶναι τι, ὑπόθεσις, ἢ δ' ἀνευ τούτου ὀρισμῶς. *Αν. Post.* 1. 2, 72^a7.

27. Aristotle's theory of knowledge can hardly be stated with any definiteness, because it would seem to assign almost equal importance to sense and reason in the building up of knowledge: and there are many passages which might be adduced in support of the sensationalist summary of Aristotle's Epistemology—"nihil est in intellectu quod non prius fuerit in sensu." The true Aristotelian theory, however, is probably more completely expressed in the aphorism of Patricius—"Cognitio omnis a mente primam originem, a sensibus exordium habet primum." For, as Aristotle sees, there are almost equal difficulties in treating the principles of knowledge as absolutely innate and as absolutely acquired: since the former assumption implies that we, without knowing it, possess a knowledge more absolutely certain than demonstration, while the latter simply raises afresh the difficulty it seeks to solve, and makes us ask how in accordance with the principles of proof we can know these principles unless some knowledge has itself preceded¹. Aristotle accordingly treats knowledge as a

development from the impressions of sense², but recognises that sense, as such, does not give us knowledge³, and thus while at one time regarding the formation of general notions as proceeding from the less to the more extended, he at another place conceives knowledge as proceeding from the universal to the particular, the abstract to the concrete⁴: and while again regarding ἐπαγωγή as the means by which we acquire our earliest conceptions, he does not fail upon the other hand to remind us that νοῦς, or reason, is that of which ἐπαγωγή is merely the expression⁵. The stages in Aristotle's conception of the growth of knowledge are: 1^o, Sense, 2^o, Memory, 3^o, Experience, or "the formation of general conceptions in the mind," 4^o, Science, and 5^o Art⁶.

¹ ὅτι μὲν οὖν οὐκ ἐνδέχεται ἐπίστασθαι δι' ἀποδείξεως μὴ γινώσκοντι τὰς πρώτας ἀρχὰς τὰς ἀμέσους εἴρηται πρότερον. τῶν δ' ἀμέσων τὴν γνώωσιν διαπορήσειεν ἂν τις... πότερον οὐκ ἐνοῦσαι αἱ ἔξεις ἐγγίνονται ἢ ἐνοῦσαι λεληθάσιν. εἰ μὲν δὴ ἔχομεν αὐτάς, ἄτοπον· συμβαίνει γὰρ ἀκριβεστέρας ἔχοντας γνώσεις ἀποδείξεως λαθάνειν. εἰ δὲ λαμβάνομεν μὴ ἔχοντες πρότερον, πῶς ἂν γνωρίζομεν καὶ μαθάνομεν ἕκ μὴ προῦπαρχούσης γνώσεως; ἀδύνατον γὰρ, ὥσπερ καὶ ἐπὶ τῆς ἀποδείξεως ἐλέγομεν. φανερόν τοίνυν ὅτι οὐτ' ἔχειν οἷόν τε, οὐτ' ἀρροῦσθαι καὶ μηδεμίαν ἔχουσιν ἕξιν ἐγγίνεσθαι. *Αν. Post.* Π. 19, 99^b20.

² ἀνάγκη ἄρα ἔχειν μὲν τινὰ δύναμιν, μὴ τοιαύτην δ' ἔχειν ἢ ἔσται τούτων τιμιωτέρα κατ' ἀκρίβειαν. φαίνεται δὲ τοῦτο γε πᾶσιν ὑπάρχον τοῖς ζῴοις. ἔχει γὰρ δύναμιν σύμφυτον κριτικὴν ἢν καλοῦσιν αἰσθήσιν. ἐνοῦσης δ' αἰσθήσεως τοῖς μὲν τῶν ζῴων ἐγγίνεται μόνῃ τοῦ αἰσθήματος, τοῖς δ' οὐκ ἐγγίνεται. ὅσοις μὲν οὖν μὴ ἐγγίνεται, ἢ ὅλως ἢ περὶ ἃ μὴ ἐγγίνεται, οὐκ ἔστι τοῖσι γνώσις ἕξω τοῦ αἰσθάνεσθαι· ἐν οἷς δ' ἔνεστιν αἰσθανομένοις ἔχειν ἔτι ἐν τῇ ψυχῇ. πολλῶν δὲ τοιούτων γινομένων ἤδη διαφορὰ τις γίνεται, ὥστε τοῖς μὲν

CHAPTER IV.

METAPHYSIC.

28. Philosophy, properly so called, Aristotle views as arising, after material wants had been supplied, out of that feeling of curiosity and wonder to which the myth gave a provisional satisfaction¹. The earliest speculators were philosophers of nature (φυσιολογοί²), to whom succeeded the Pythagoreans with mathematical abstractions³. The level of pure thought was reached partly in the Eleatics and Anaxagoras⁴, but more completely in the work of Socrates, who habituated men's minds to the expression of general conceptions in definitions arrived at by induction and analogy⁵.

¹ διὰ γὰρ τὸ θαυμάζειν οἱ ἄνθρωποι καὶ νῦν καὶ τὸ πρῶτον ἤρξαντο φιλοσοφεῖν.....διὸ καὶ ὁ φιλόμυθος φιλόσοφος πῶς ἐστίν· ὁ γὰρ μῦθος σύγκειται ἐκ θαυμασίων. *Meta.* A. I, 982^b12. Cp. Plato, *Theaetetus* 155 D.

² τῶν δὴ πρῶτον φιλοσοφησάντων οἱ πλείστοι τὰς ἐν ὕλης εἶδει μόνας ψήθησαν ἀρχὰς εἶναι πάντων. 983^b6.

³ ἐν τοῖς ἀριθμοῖς ἐδόκουν (i.e. οἱ Πυθαγόρειοι) θεωρεῖν ὁμοιωμάτα πολλὰ τοῖς οὐσι καὶ γιγνομένοις, μᾶλλον ἢ ἐν πυρὶ καὶ γῆ καὶ ὕδατι. 985^b28.

⁵ νοὺν δὴ τις εἶπων εἶναι, καθάπερ ἐν τοῖς ζῴοις, καὶ ἐν

τῇ φύσει τὸ αἴτιον τοῦ κόσμου καὶ τῆς τάξεως πάσης, οἷον νήφων ἐφάνη παρ' εἰκῆ λέγοντας τοὺς πρότερον. *Meta.* A. 4, 984^b15.

⁵ δύο γὰρ ἐστὶν ἂ τις ἀν' ἀποδοῆη Σωκράτει δικαίως, τοὺς τ' ἐπακτικούς λόγους καὶ τὸ ὀρίεσθαι καθόλου. ταῦτα γὰρ ἐστὶν ἄμφω περὶ ἀρχὴν ἐπιστήμης. ἀλλ' ὁ μὲν Σωκράτης τὰ καθόλου οὐ χωριστὰ ἐποίει οὐδὲ τοὺς ὀρισμούς· οἱ δ' ἐχώρισαν καὶ τὰ τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσαν (*scil.* the Platonists). *Metaph.* M. 4, 1078^b28.

29. Metaphysics—the name given by Aristotle's editors to his works on *prima philosophia*, either because they went *beyond* or followed *after* his physical investigations—deals as a form of scientific knowledge with first principles or ultimate conditions of all existence, and more definitely considers being *qua* being and its essential attributes: just as mathematics, going so far beyond physics, considers the characteristics which belong to being not *qua* being, but *qua* line or angle¹. In its universal character Metaphysic resembles Dialectic and Sophistic, but differs from the one in method, from the other in its moral purpose, Dialectic being tentative (πειραστική) where Philosophy is definitely conclusive and Sophistic the pretence of knowledge without the reality².

¹ ἐστὶν ἐπιστήμη τις ἢ θεωρεῖ τὸ ὄν ἢ ὄν καὶ τὰ τοῖτω ὑπάρχοντα καθ' αὐτό.....διὸ καὶ ἡμῖν τοῦ ὄντος ἢ ὄν τὰς πρώτας αἰτίας ληπτέον. *Meta.* Γ. I, 1003^a21. (Cp. 1003^b 16.) καθάπερ δ' ὁ μαθηματικός περὶ τὰ ἐξ ἀφαιρέσεως τὴν θεωρίαν ποιεῖται (περιελὼν γὰρ πάντα τὰ αἰσθητὰ θεωρεῖ, οἷον βᾶρος καὶ κουφότητα ἐπι δὲ καὶ θερμότητα καὶ ψυχρότητα, μόνον δὲ καταλείπει τὸ ποῖόν καὶ συνεχές, τῶν μὲν ἐφ' ὅν τῶν δ' ἐπὶ δύο τῶν δ' ἐπὶ τρία, καὶ τὰ πάθη τὰ τούτων ἢ ποσὰ ἐστὶ καὶ συνεχῆ, καὶ οὐ καθ' ἕτερον τι θεωρεῖ),.....τὸν αὐτὸν δὴ τρόπον ἔχει καὶ περὶ τὸ ὄν· τὰ γὰρ τοῖτω συμβεβηκότα καθ' ὅσον ἐστὶν ὄν καὶ τὰς ἐναντιώσεις αὐτοῦ ἢ ὄν οὐκ ἄλλης

ἐπιστήμης ἢ φιλοσοφίας θεωρῆσαι. τῆ φυσικῇ μὲν γὰρ οὐχ ἢ ὄντα, μᾶλλον δ' ἢ κινήσεως μετέχει, τὴν θεωρίαν τις ἀπονεύμεν ἂν. *MetaPhys.* K. 3, 1061^b28.

² καὶ ἔστι τοῦ φιλοσόφου περὶ πάντων δύνασθαι θεωρεῖν. εἰ γὰρ μὴ τοῦ φιλοσόφου, τίς ἔσται ὁ ἐπισκεψόμενος εἰ ταῦτο Σωκράτης καὶ Σωκράτης καθήμενος ἢ εἰ ἐν ἐνὶ ἐναντίον, ἢ τί ἔσται τὸ ἐναντίον, ἢ ποσαχῶς λέγεται;... ὡσπερ ἔστι καὶ ἀριθμοῦ ἢ ἀριθμὸς ἴδια πάθη οἷον περιττότης ἀρτιότης..... οὕτω καὶ τῶ ὄντι ἢ ὄν ἔστι τινὰ ἴδια καὶ ταῦτ' ἔστι περὶ ὧν τοῦ φιλοσόφου ἐπισκέψασθαι τἀληθές. σημείον δέ οἱ γὰρ διαλεκτικοὶ καὶ σοφισταὶ ταῦτόν μὲν ὑποδύονται σχῆμα τῶ φιλοσόφῳ.....περὶ μὲν γὰρ τὸ αὐτὸ γένος στρέφεται ἢ σοφιστικῇ καὶ ἢ διαλεκτικῇ τῇ φιλοσοφίᾳ, ἀλλὰ διαφέρει τῆς μὲν τῶ τρόπῳ τῆς δυνάμεως, τῆς δὲ τοῦ βίου τῇ προαιρέσει. ἔστι δὲ ἢ διαλεκτικῇ πειραστικῇ περὶ ὧν ἡ φιλοσοφία γνωριστικῇ, ἢ δὲ σοφιστικῇ φαινομένη, οὐσα δ' οὐ. *Meta.* Γ. 2, 1004^b. Cp. *Soph. El.* 165^b9; *Rhetor.* I. 1, 1355^b17.

30. The axioms of science fall under the consideration of the metaphysician in so far as they are properties of *all* existence. As against therefore the followers of Heraclitus and Protagoras, Aristotle defends both the axiom of contradiction¹, and that of excluded middle², by shewing that their denial, and the Protagorean doctrine of utter relativity, is suicidal³. Carried out to its logical consequences, the denial of these axioms would lead to the sameness of all facts and all assertions: and to an indifference in conduct, which is not accepted by those who deny the axioms in question: people do not think it the same thing to fall into a pit some morning and to avoid doing so⁴.

¹ τὸ γὰρ αὐτὸ ἅμα ὑπάρχειν τε καὶ μὴ ὑπάρχειν ἀδύνατον τῶ αὐτῷ καὶ κατὰ τὸ αὐτό, αὕτη δὲ πᾶσων ἐστὶ βεβαιοτάτη τῶν ἀρχῶν...ἀδύνατον γὰρ ὄντων αὐτῶν ὑπολαμβάνειν εἶναι, καὶ μὴ εἶναι, καθάπερ τινὲς οἴονται λέγειν Ἡράκλειτον.

οὐκ ἔστι γὰρ ἀναγκαῖον, ἃ τις λέγει, ταῦτα καὶ ὑπολαμβάνειν. *Meta.* Γ. 3, 1005^b20.

² ἀλλὰ μὴν οὐδὲ μετὰ ἀντιφάσεως ἐνδέχεται εἶναι οὐθέν, ἀλλ' ἀνάγκη ἢ φάναί ἢ ἀποφάναί ἐν καθ' ἐνὸς ὀπίου. *Meta.* Γ. 7, 1011^b23.

³ τὸ γὰρ μὴ ἐν τι σημαίνει οὐθέν σημαίνει ἐστίν, μὴ σημαίνοντων δὲ τῶν ὀνομάτων ἀνήρηται τὸ διαλέγεσθαι πρὸς ἀλλήλους, κατὰ δὲ τὴν ἀλήθειαν καὶ πρὸς αὐτόν· οὐθέν γὰρ ἐνδέχεται νοεῖν μὴ νοοῦντα ἐν. [The axiom, that is, is really the postulate that words shall have some *one* meaning and not mean anything.] *Meta.* Γ. 4, 1006^b8.

συμβαίνει δὴ καὶ τὸ θρυλλοῦμενον πᾶσι τοιοῦτοις λόγοις αὐτοὺς ἐναντιοῦς ἀναιρεῖν. ὁ μὲν γὰρ πάντα ἀληθῆ λέγων καὶ τὸν ἐναντίον αὐτοῦ λόγον ἀληθῆ ποιεῖ, ὥστε τὸν αὐτοῦ οὐκ ἀληθῆ (ὁ γὰρ ἐναντίος οὐ φησιν αὐτόν ἀληθῆ), ὁ δὲ πάντα ψευδῆ καὶ αὐτὸς αὐτόν. *Meta.* Γ. 8, 1012^b14.

⁴ ὁλος δ' ἀναιροῦσιν οἱ τοῦτο λέγοντες οὐσίαν καὶ τὸ τί ἦν εἶναι. πάντα γὰρ ἀνάγκη συμβεβηκέναι φάσκειν αὐτοῖς. 1007^a20.

⁴ ἔτι εἰ ἀληθεῖς αἱ ἀντιφάσεις ἅμα κατὰ τοῦ αὐτοῦ πᾶσαι, δῆλον ὡς ἅπαντα ἔσται ἐν. ἔσται γὰρ τὸ αὐτὸ καὶ τριήρης καὶ τοίχος καὶ ἄνθρωπος, εἰ κατὰ πινυτός τι ἢ καταφῆσαι ἢ ἀποφῆσαι ἐνδέχεται, καθάπερ ἀνάγκη τοῖς τὸν Πρωταγόρου λέγουσι λόγον...εἰ δὲ μὴτὴν ὑπολαμβάνει ἀλλ' ὁμοίως οἰεταὶ καὶ οὐκ οἰεταί, τί ἂν διαφερόντως ἔχοι τῶν φυτῶν; ὅθεν καὶ μάλιστα φανερόν ἐστιν ὅτι οὐθεὶς οὕτω διάκειται οὔτε τῶν ἄλλων οὔτε τῶν λεγόντων τὸν λόγον τοῦτον. διὰ τί γὰρ βαδίζει Μεγαράδῃ ἀλλ' οὐχ ἡσυχάζει οἰόμενος βαδίζειν; οὐδ' εὐθέως ἔωθεν πορεύεται εἰς φρέαρ ἢ εἰς φάραγγα, εἰδὼν τύχη, ἀλλὰ φαίνεται εὐλαβοῦμενος, ὡς οὐχ ὁμοίως οἰόμενος μὴ ἀγαθὸν εἶναι τὸ ἐμπεσεῖν καὶ ἀγαθόν; *Meta.* Γ. 4, 1008^b10.

31. Metaphysic being the Science of Being *qua* Being, the leading question of Aristotle's First Philosophy comes to be—What is meant by the Real or by true Substance? This same question Plato had tried to solve by positing an universal and invariable element of knowledge and existence, or an idea, as the only real and

permanent beside the changing phenomena of sense¹. For Plato, accepting the Heraclitean doctrine that sensible things were in constant change, drew therefrom the conclusion that things *qua* sensible could not be known. But things, he argued further, *are* known; and this knowledge must be in virtue of that universal notion for which Socrates sought².

¹ συνέβη δ' ἡ περὶ τῶν εἰδῶν δόξα τοῖς εἰποσὶ διὰ τὸ πεισθῆναι περὶ τῆς ἀληθείας τοῖς Ἡρακλειτείοις λόγοις ὡς πάντων τῶν αἰσθητῶν αἰεὶ φεόντων, ὥστ' εἴπερ ἐπιστήμη τις ἔσται καὶ φρόνησις, ἑτέρας δὲν τινας φύσεις εἶναι παρὰ τὰς αἰσθητὰς μενούσας· οὐ γὰρ εἶναι τῶν φεόντων ἐπιστήμη. *Meta.* M. 4, 1078^b15.

² Σωκράτους δὲ περὶ τὰ ἠθικά πραγματευομένου, περὶ δὲ τῆς ὅλης φύσεως οὐθέν, ἐν μειοῦ τούτοις τὸ καθόλου ζητοῦντος καὶ περὶ ὀρισμῶν ἐπιστήσαντος πρῶτον τὴν διάνοιαν, ἐκείνου ἀποδεξάμενος διὰ τὸ τοιοῦτον υπέλαβεν ὡς περὶ ἑτέρων τοῦτο γινόμενον καὶ οὐ τῶν αἰσθητῶν τις· ἀδύνατον γὰρ εἶναι τὸν κοινὸν ὄρον τῶν αἰσθητῶν τις, αἰεὶ γε μεταβαλλόντων. οὗτος μὲν οὖν τὰ τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσε, τὰ δ' αἰσθητὰ παρὰ ταῦτα λέγεσθαι πάντα. *Meta.* A. 6, 987^b1.

32. Plato's Ideal Theory is defective at once from the standpoint of the Physicist, the Psychologist and the Metaphysician¹.

1. Ideas are powerless to explain the unceasing life and *change* of nature: they do not contribute to objects of sensation any cause of movement and alteration².

2. They are equally incompetent to explain *knowledge*: for (α) knowledge is of the οὐσία, which is *in* things, whereas ideas place it outside them; (β) to suppose that we know things better by adding on their general conceptions, is about as absurd as to imagine that we can count numbers better by multiplying them³; (γ) if they are assumed to explain what is permanent in

knowledge, they must be extended to objects of art, of which, however, the Platonists do not recognise ideas⁴.

3. Ideas are equally incompetent to explain *existence* (εἶναι). For (α) they do not exist *in* the objects which partake in their nature, while the truth is, that substance cannot be separated from that of which it is the substance⁵; (β) the relation between ideas and things is left altogether unexplained. To describe the ideas as patterns, or archetypes of things, is mere poetical metaphor, and since what is a genus to one object, is a species to a higher class, the same idea will have to be at once archetype and ectype⁶. Further, between the idea and the individual object, we must imagine an intermediate link and so on *ad infinitum*⁷: there must always be a 'third man' between the individual man and the idea of man.

¹ πάντων δὲ μάλιστα διαπορήσειεν ἂν τις, τί ποτε συμβάλλεται τὰ εἶδη ἢ τοῖς αἰδέοις τῶν αἰσθητῶν ἢ τοῖς γιγνομένοις καὶ φθειρομένοις· οὔτε γὰρ κατήσεως οὔτε μεταβολῆς οὐδεμιᾶς ἔστιν αἰτία αὐτοῖς. ἀλλὰ μὴν οὔτε πρὸς τὴν ἐπιστήμη οὐθέν βοηθεῖ τὴν τῶν ἄλλων (οὐδὲ γὰρ οὐσία ἐκείνα τούτων· ἐν τούτοις γὰρ ἂν ἦν) οὔτ' εἰς τὸ εἶναι, μὴ ἐνυπάρχοντά γε τοῖς μετέχουσιν; *Meta.* A. 9, 991^a8, or in identical words M. 5, 1079^b12. Cp. Z. 1033^b26.

² ἐν δὲ τῷ Φαίδωνι οὕτως λέγεται, ὡς καὶ τοῦ εἶναι καὶ τοῦ γίνεσθαι αἰτία τὰ εἶδη ἔστιν. καίτοι τῶν εἰδῶν ὄντων ὅμως οὐ γίνεσθαι τὰ μετέχοντα, ἂν μὴ ἢ τὸ κινήσον, καὶ πολλὰ γίνεσθαι ἕτερα, οἷον οἰκία καὶ δακτύλιος, ὧν οὐ φαιεν εἶδη εἶναι. 991^b4.

³ ἀλλ' ὁ μὲν Σωκράτης τὰ καθόλου οὐ χωριστὰ ἐποίησεν οἱ δ' ἐχώρισαν, καὶ τὰ τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσαν. ὥστε συνέβαιεν αὐτοῖς σχεδὸν τῷ αὐτῷ λόγῳ πάντων ἰδέας εἶναι τῶν καθόλου λεγομένων, καὶ παραπλήσιον ὥστε ἂν εἴ τις ἀριθμῆσαι βουλόμενος, ἐλαττόνων μὲν ὄντων οἷοιτο μὴ θυμῆσθαι, πλείω δὲ ποιήσας ἀριθμοῖν. 1078^b35.

⁴ κατὰ τε γὰρ τοὺς λόγους τοὺς ἐκ τῶν ἐπιστημῶν ἔσται εἶδη πάντων ὄσων ἐπιστήμαι εἰσιν. 1079^a9.

⁵ ἐπι δόξειεν ἂν ἀδύνατον εἶναι χωρὶς τὴν οὐσίαν καὶ οὐ ἢ οὐσία. ὥστε πῶς ἂν αἱ ἰδέαι οὐσίαι τῶν πραγμάτων οὐσαι χωρὶς εἶεν; *Meta.* A. 9, 991^b1.

⁶ τὸ δὲ λέγειν παραδείγματα αὐτὰ εἶναι καὶ μετέχειν αὐτῶν τὰλλα κενολογεῖν ἔστι καὶ μεταφορᾶς λέγειν ποιητικῶς... ἐπι οὐ μόνον τῶν αἰσθητῶν παραδείγματα τὰ εἶδη, ἀλλὰ καὶ αὐτῶν, ὡς γένος εἰδῶν ὥστε τὸ αὐτὸ ἔσται παράδειγμα καὶ εἰκῶν. 991^b20.

⁷ ἐπι δὲ οἱ ἀκριβέστατοι τῶν λόγων οἱ μὲν τῶν πρὸς τι ποιοῦσιν ἰδέας, ὧν οὐ φασι εἶναι καθ' αὐτὸ γένος, οἱ δὲ τὸν τρίτον ἄνθρωπον λέγουσιν. *Meta.* M. 5, 1079^a13.

33. Aristotle's answer to this same question—What is reality?—differs more in wording than in meaning from that given by Plato. The main defect to Aristotle's eyes in the ideal theory was that Plato considered ideas as transcendent and separate from things of sense, and failed to give through them any explanation of life and change¹. Aristotle therefore concludes that since for scientific as opposed to empirical knowledge, there must be an universal element, since individuals are unlimited and infinite, and as such unknowable², the idea must be not something outside the many, but rather in, and predicable of, the manifold phenomena of sense³.

¹ καὶ τοῦτο ὀρθῶς ἐνόησεν (ὁ Σωκράτης) οὐ χωρίσας... ἄνευ μὲν γὰρ τοῦ καθόλου οὐκ ἔστιν ἐπιστήμην λαβεῖν, τὸ δὲ χωρίζειν αἴτιον τῶν συμβαινόντων δυσχερῶν περὶ τὰς ἰδέας ἔστιν. *Meta.* M. 9, 1086^b6.

² εἶδη μὲν οὖν εἶναι ἢ ἐν τι παρὰ τὰ πολλά οὐκ ἀνάγκη, εἰ ἀπόδειξις ἔσται, εἶναι μὲντι ἐν κατὰ πολλῶν ἀληθῆς εἰπεῖν ἀνάγκη ὅτι γὰρ ἔσται τὸ καθόλου, ἂν μὴ τοῦτο ἢ ἂν δὲ τὸ καθόλου μὴ ἢ, τὸ μέσον οὐκ ἔσται, ὥστ' οὐδ' ἀπόδειξις. *An. Post.* I. 11, 77^a5.

εἰ μὲν οὖν μὴθὲν ἔστι παρὰ τὰ καθ' ἕκαστα, οὐθὲν ἂν εἴη νοητὸν ἀλλὰ πάντα αἰσθητὰ, καὶ ἐπιστήμη οὐθενός, εἰ μὴ τις εἶναι λέγει τὴν αἰσθησιν ἐπιστήμην. *Meta.* B. 4, 999^b1.

¹ ἀλλ' οἱ τὰ εἶδη λέγοντες τῇ μὲν ὀρθῶς λέγουσι χωρίζοντες αὐτὰ, εἶπερ 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. ποιοῦσιν οὖν τὰς αὐτὰς τῷ εἶδει τοῖς φθαρτοῖς (ταύτας γὰρ ἴσμεν), αὐτοάνθρωπον καὶ αὐτοῖπον, προστιθέντες τοῖς αἰσθητοῖς τὸ βῆμα τὸ αὐτό. *Meta.* Z. 16, 1040^b27.

² ἐπι δὲ οὐδὲ πρᾶγμα οὐθὲν ἔστι παρὰ τὰ μεγέθη, ὡς δοκεῖ, τὰ αἰσθητὰ κεχωρισμένον, ἐν τοῖς εἶδεσι τοῖς αἰσθητοῖς τὰ νοητὰ ἔστι. *De An.* III. 8, 432^a4.

34. Real Substance, or true Being (οὐσία), is thus to Aristotle not the abstract universal, but rather the concrete individual thing¹. The Aristotelian theory of Substance is not however altogether consistent with itself: and while the teaching of the tract on Categories inclines to Nominalism, the doctrine of the *Metaphysics* inclines frequently towards Realism or Idealism². Particularly we are struck by the apparent contradiction between the doctrine that Science and Definition deal on the one hand with the universal, on the other hand with Substance which is declared to be individual³. The contradiction is due to the desire, always operative with Aristotle, to state his views in such a manner as will bring them into more pronounced antagonism with the theory of Plato, and may be partly solved by regarding Substance as the concrete existence, in which a universal is individualized, or an individual universalized through its particular relations. As such a concrete (σύνολον) Substance is the merging of matter in form, of potenti-

ality in actuality. Just as knowledge proceeds from the abstract universal to the concrete individual (*Phys.* I. 1), so real existence is the gradual evolution and filling up of an original abstract substratum⁴.

¹ ἔοικε γὰρ ἀδύνατον εἶναι οὐσίαν εἶναι ὅτιοῦν τῶν καθόλου λεγομένων. *Metaph.* Z. 13, 1038^b9.

² Thus in the *Categories* πρῶται οὐσίαι are said to be individual existences: in the *Metaphysics* (Z. 11, 1037^b2) we read ἐπὶ τῶν πρώτων οὐσιῶν, οἷον καμυλοτης. *Cr.* § 10.

³ ὁ ὁρισμὸς οὐσίας τις γνωρισμὸς. *Anal. Post.* II. 3, 90^b16. (*Cr.* *Metaph.* Z. 5, 1031^a1.) τοῦ γὰρ καθόλου καὶ τοῦ εἶδους ὁ ὁρισμὸς. *Meta.* Z. 11, 1036^a29.

πᾶς γὰρ λόγος καὶ πᾶσα ἐπιστήμη τῶν καθόλου καὶ οὐ τῶν ἐσχάτων. *Meta.* K. 1, 1059^b25.

διὰ τοῦτο δὲ καὶ τῶν οὐσιῶν τῶν αἰσθητῶν τῶν καθ' ἕκαστα οὐθ' ὁρισμὸς οὐτ' ἀπόδειξις ἐστίν, ὅτι ἔχουσιν ὕλην ἧς ἡ φύσις τοιαύτη ὥστ' ἐνδέχσθαι καὶ εἶναι καὶ μὴ. *Meta.* Z. 15, 1039^b29.

⁴ ἡ οὐσία γὰρ ἐστὶ τὸ εἶδος τὸ ἐνὸν ἐξ οὗ καὶ τῆς ὕλης ἡ σύνολος λέγεται οὐσία οἷον ἡ κοιλότης· ἐκ γὰρ ταύτης καὶ τῆς ῥαῖος σιμῆ ρίς καὶ ἡ σιμότης ἐστὶ· δις γὰρ ἐν ταύτοις ὑπάρξει ἡ ρίς. ἐν δὲ τῇ συνόλω οὐσία οἷον ρυτί σιμῆ ἢ Καλλιᾶ, ἐνέσται καὶ ἡ ὕλη. *Meta.* Z. 11, 1037^a29.

λέγεται δ' ὡσπερ τὸ ὑποκείμενον οὐσία εἶναι καὶ τὸ τί ἦν εἶναι καὶ τὸ ἐκ τούτων, καὶ τὸ καθόλου. *Meta.* Z. 13, 1038^b2.

35. Matter (ὕλη) is used by Aristotle in four principal senses, which however tend to glide into one another. *First*, it is the substratum of varying determinations, the subject of growth and of decay¹; *secondly*, it is the potential which has implicitly the capacity to develop into reality²; *thirdly*, it is the formless and so indeterminate and contingent³; and thus *fourthly*, as that which is

without any definite form (ἀόριστον), it is almost synonymous with negation (στέρησις)⁴. It is altogether a relative conception, and hence matter in its last phase is identical with form⁵.

¹ ἐστὶ δὲ ὕλη μάλιστα μὲν καὶ κυρίως τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν. (*De Gen. et Cor.* I. 4, 320^a2.) λέγω γὰρ ὕλην τὸ πρῶτον ὑποκείμενον ἐκάστω, ἐξ οὗ γίνεται τι ἐνυπάρχοντος μὴ κατὰ συμβεβηκός. *Phys.* I. 9, 192^a31.

² ὕλην δὲ λέγω ἢ μὴ τὸδε τι οὐσα ἐνεργεία, δυνάμει ἐστὶ τὸδε τι. *Meta.* H. 1, 1042^a27: *cr.* *Meta.* N. 4, 1092^a3.

³ λέγω δ' ὕλην ἢ καθ' αὐτὴν μήτε τι μήτε ποσὸν μήτε ἄλλο μηθὲν λέγεται οἷς ὄρισται τὸ ὄν. *Meta.* Z. 3, 1029^a20. So in *Phys.* I. 7, 191^a10 Aristotle combines ἡ ὕλη καὶ τὸ ἀμορφον and in *Meta.* A. 8, 989^b18, we have ὕλη described as τὸ ἀόριστον πρὶν ὀρισθῆναι καὶ μετασχεῖν εἶδους τινος.

⁴ ἡ ὕλη ἐστὶ αἰτία ἢ ἐνδεχομένη παρὰ τὸ ὡς ἐπὶ τὸ πλὸν ἄλλως τοῦ συμβεβηκότος. *Meta.* E. 2, 1027^a14. *Cr.* *De An.* II. 1, 412^a7.

⁵ Thus in *Phys.* I. 7, 190^b27, στέρησις is said to be a συμβεβηκός of ὕλη. *Cr.* *Meta.* I. 8, 1058^a23, ἡ γὰρ ὕλη ἀποφάσει δηλοῦται, τὸ δὲ γένος ὕλη οὐ λέγεται γένος. And in *Phys.* I. 8, 191^b13, A. writes: ἡμεῖς δὲ καὶ αὐτοὶ φαινομένη γίνεσθαι μὲν οὐδὲν ἀπλῶς ἐκ μὴ ὄντος, ὅμως μέντοι γίνεσθαι ἐκ μὴ ὄντος, οἷον κατὰ συμβεβηκός· ἐκ γὰρ τῆς στερησεως, ὃ ἐστὶ καθ' αὐτὸ μὴ ὄν, οὐκ ἐνυπάρχοντος γίνεται τι. But in the next chapter, 192^a5, a distinction is drawn between ὕλη and στέρησις to the effect that ὕλη is non-existent only κατὰ συμβεβηκός, while στέρησις is so καθ' αὐτήν.

⁶ ἐστὶ δὲ τῆς ὕλης ἢ μὲν νοητῆ ἢ δ' αἰσθητῆ, καὶ αἰετὸ τοῦ λόγου τὸ μὲν ὕλη τὸ δ' ἐνεργεία ἐστίν, οἷον ὁ κύκλος σχῆμα ἐπιπέδον. ἐστὶ δ' ὡσπερ εἰρηται καὶ ἡ ἐσχάτη ὕλη καὶ ἡ μορφή ταῦτο, τὸ μὲν δυνάμει, τὸ δὲ ἐνεργεία. *Meta.* H. 6, 1045^a33.

36. The antithesis of *δύναμις* and *ἐνέργεια* is really the same as that of *ἔλη* and *εἶδος*, except that whereas the two last are conceived as fixed and stationary, the two first-named are regarded as dynamical and progressive, and *ἐνέργεια* is strictly only the *process* which attains its termination in a final perfection or *ἐπιτέλεια*¹. The distinction cannot perhaps be logically defined but can be made clear by observation of particular instances and may be illustrated by the relation between the architect and builder, the sleeping and the waking, &c. (*Δυνάμεις* may be either conscious or unconscious, the former admitting of alternative courses of action, the latter, or the capacities of nature, of one only².) The theory of a continuous development from the possible to the actual, from that which is not yet, but has the power of being, to that which really is, is one of the most important aspects of the philosophy of Aristotle. It was intended by its author to solve the difficulties which earlier thinkers had raised with reference to the beginnings of existence and the relations of the one and many—difficulties which in the last-named connection had led to a denial of all predication³. But while Aristotle thus recognises the genesis of things by evolution and development, he does not fail to distinguish between the study of an object from the standpoint of *history*, and the standpoint of its constitutive *nature*, and to emphasize the fact that while in the order of time a capacity or imperfect form precedes a realized activity or perfect condition, in the order of thought and of real existence, the perfect precedes the imperfect, the whole the part, the realized the possible⁴.

¹ ἔστι δ' ἡ ἐνέργεια τὸ ὑπάρχειν τὸ πρᾶγμα, μὴ οὕτως ὡς περ λέγομεν δυνάμει (λέγομεν δὲ δυνάμει οἷον ἐν τῷ ξύλῳ

Ἐρμῆν καὶ ἐν τῇ ὄλῃ τὴν ἡμίσειαν...). τὸ δ' ἐνέργεια δῆλον ἐπὶ τῶν καθ' ἕκαστα τῇ ἐπαγωγῇ (observation) ὁ βουλομεθα λέγειν, καὶ οὐ δεῖ παντός ὄρον ζητεῖν ἀλλὰ καὶ τὸ ἀνάλογον συννοεῖν, ὅτι ὡς τὸ οἰκοδομοῦν πρὸς τὸ οἰκοδομικόν, καὶ τὸ ἐργηγορὸς πρὸς τὸ καθεῦδον, καὶ τὸ ὄρων πρὸς τὸ μὴ ὄν ὅσον εἶχον. *Meta.* Θ. 6, 1048^b30.

τοῦνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον, καὶ συντείνει πρὸς τὴν ἐπιτέλειαν. *Meta.* Θ. 8, 1050^a23.

² καὶ αἱ μὲν μετὰ λόγον πᾶσαι τῶν ἐναντίων αἱ αὐταί, αἱ δ' ἄλογοι μία ἐνός, οἷον τὸ θερμὸν τοῦ θερμαίνεν μόνον, ἢ δὲ λατρικὴ νόσον καὶ ὑγείας. *Meta.* Θ. 2, 1046^b5.

³ μοναχῶς οὕτω λύεται καὶ ἡ τῶν ἀρχαίων ἀπορία, viz. that things could originate neither from the existent nor from the non-existent... ἐκ γὰρ τῆς στέρησεως, ὃ ἔστι καθ' αὐτὰ μὴ ὄν, οὐκ ἐνυπάρχοντος γίγνεται τι. *Phys.* 1, 8, 191^a23.

εἰσὶ δὲ τινες οἱ φασιν, οἷον οἱ Μεγαρικοί, 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 συμβαίνοντα ἄποκα οὐ χαλεπὸν ἰδεῖν... ὥστε οὗτοι οἱ λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν· αἰεὶ γὰρ τὸ τε ἐστῆκός ἐστι ζῆται καὶ τὸ καθήμενον καθεδεῖται. *Meta.* Θ. 3, 1047^a14.

⁴ δεῖ δὲ μὴ ληληθέναι πρότερον προσήκει λέγειν πῶς ἕκαστον γίνεσθαι πέφυκε μάλλον ἢ πῶς ἐστίν. ἢ γὰρ γένεσις ἕνεκα τῆς οὐσίας ἐστίν, ἀλλ' οὐκ ἡ οὐσία ἕνεκα τῆς γενέσεως· γεννᾷ γὰρ ὁ ἄνθρωπος ἄνθρωπον. *De Part. An.* 640^a18, cp. *De Gen. An.* v. 1, 778^b5.

τὸ ἀτελὲς μέγεθος γενέσει μὲν πρότερόν ἐστι, τῇ οὐσίᾳ δ' ὑστερον, οἷον ἄψυχον ἐμφύχου. *Meta.* M. 3, 1077^a19.

37. The Aristotelian analysis of existence into *δύναμις* and *ἐνέργεια*, or *ἔλη* and *εἶδος*, is expressed with more detail in the doctrine of the four *ἀρχαί* or *αἰτίαι*—that is, principles which enter into the existence or origination or cognition of any object¹. These four *ἀρχαί* are 1st, the material cause, or elements *out of*

which an object is created: 2ndly, the efficient, or means by which it is created: 3rdly, the formal, or expression of what it is: and 4thly, the final, or end for which it is². The final, however, tends to be one with the formal, and both may be identical with the efficient. Of the four, it is the formal and final which is the most important, and which most truly gives the explanation of an object. The teleology of Aristotle regards the end of a thing as realized not in its relation to us, but in the full perfection of itself: final cause with Aristotle is internal and objective, not external and subjective³.

¹ πασῶν μὲν οὖν κοινὸν τῶν ἀρχῶν τὸ πρῶτον εἶναι ὄθεν ἢ ἔστιν ἢ γίγνεται ἢ γιγνώσκεται. *Meta. Δ. 1, 1013^a18.*

² ἓνα μὲν οὖν τρόπον αἰτιον λέγεται τὸ ἐξ οὗ γίνεται τι ἐνυπάρχοντος, οἷον ὁ χάλκος τοῦ ἀνδριάντος... ἄλλον δὲ τὸ εἶδος καὶ τὸ παράδειγμα... ἔτι ὄθεν ἢ ἀρχὴ τῆς μεταβολῆς ἢ πρώτη ἢ τῆς ἡρεμήσεως, οἷον ὁ βούλευσας αἰτιος καὶ ὁ πάτηρ τοῦ τέκνου... ἔτι ὡς τὸ τέλος· τοῦτο δ' ἐστὶ τὸ οὐ ἔνεκα, οἷον τοῦ περιπατεῖν ἢ ὑγίεια. *Phys. II. 3, 194^b24,* and in almost identical words *Meta. Δ. 2, 1013^a24, Phys. II. 7, 198^a24.*

³ ἐπεὶ πλείους ὀρώμεν αἰτίας περὶ τὴν γένεσιν τὴν φυσικὴν... διοριστέον καὶ περὶ τούτων ποία πρώτη καὶ δευτέρα πέφυκεν. φαίνεται δὲ πρώτη ἢν λέγομεν ἕνεκά τινος· λόγος γὰρ οὗτος, ἀρχὴ δ' ὁ λόγος ὁμοίως ἐν τε τοῖς κατὰ τέχνην καὶ ἐν τοῖς φύσει συννεστηκοσιν. ἢ γὰρ τῇ διανοίᾳ ἢ τῇ αἰσθήσει ὀρισάμενος ὁ μὲν ἰατρός τὴν ὑγίειαν, ὁ δ' οἰκοδόμος τὴν οἰκίαν, ἀποδιδάσκει τοὺς λόγους καὶ τὰς αἰτίας οὐ ποιοῦσιν ἐκάστου, καὶ διότι ποιητέον οὕτως. *De Part. Anim. I. 639^b11.*

38. The concrete reality which constitutes substance gains special expression in the phrase τὸ τί ἦν εἶναι. The phrase would seem to have originated in a combination of τὸ εἶναι and τί ἐστὶ, but the conception was taken

outside the limits of present time by the substitution of the past for the present; it is as the "being of what a thing was," not only its actual present condition but its eternal and essential constitution. Thus τὸ τί ἦν εἶναι means the manifestation of the general notion: and it is therefore most explicitly described as οὐσία ἀνευ ὕλης—i.e., Substance free from all indeterminateness and contingency¹. It is therefore preeminently the subject of definition.

¹ καὶ πρῶτον εἰπωμεν ἓνα περὶ αὐτοῦ λογικῶς, ὅτι ἔστι τὸ τί ἦν εἶναι ἐκάστῳ ὃ λέγεται καθ' αὐτό. οὐ γὰρ ἔστι τὸ σοὶ εἶναι τὸ μουσικῶς εἶναι· οὐ γὰρ κατὰ σαντὸν εἰ μουσικῶς. *Meta. Z. 4, 1029^b14.* Thus chapter 6 points out that in essential conceptions the τὸ τί ἦν εἶναι of the conception is identical with the conception itself, but this is not the case with those which are accidental. ἀνάγκη ὅρα ἐν εἶναι τὸ ἀγαθὸν καὶ ἀγαθῶς εἶναι καὶ καλὸν καὶ καλῶς εἶναι, ὅσα μὴ κατ' ἄλλο λέγεται, ἀλλὰ καθ' αὐτὰ καὶ πρῶτα. 1031^b12.

λέγω δὲ οὐσίαν ἀνευ ὕλης τὸ τί ἦν εἶναι. *Meta. Z. 7, 1032^b14.* So also *De An. II. 1, 412^b11* ψυχῆ is said to be the τ. η. ε. of the body, and in 1043^b1 we have τὸ γὰρ τί ἦν εἶναι τῷ εἶδει καὶ τῇ ἐνεργείᾳ ὑπάρχει. ψυχὴ μὲν γὰρ καὶ ψυχῆ εἶναι ταῦτον.

39. God to Aristotle is the first of all substances, the necessary first source of movement who is himself unmoved: a being with everlasting life, and perfect blessedness, engaged in never-ending self-contemplation: acting on the world as the primary object of love in which desire and reason fall into unity¹. The moral virtues are too dependent on material, bodily and terrestrial conditions to be ascribed to God: but the perfect simplicity and immutability of his nature brings him the purest and serenest pleasure².

¹ ἐπεὶ δὲ δεῖ κίνησιν αἰεὶ εἶναι καὶ μὴ διαλείπειν, ἀνάγκη εἶναι τι ὃ πρῶτον κινεῖ, εἴτε ἐν εἴτε πλείω, καὶ τὸ πρῶτον κινῶν ἀκίνητον. *Phys.* VIII. 6, 258^b10.

ἔστι τι ὃ οὐ κινούμενον κινεῖ, αἰδίου καὶ οὐσίας καὶ ἐνέργεια οὐσα· κινεῖ δὲ ὡδὲ τὸ ὄρεκτόν, καὶ τὸ νοητὸν κινεῖ οὐ κινούμενον. τούτων τὰ πρῶτα τὰ αὐτά... κινεῖ δὲ ὡς ἐρώμενον, κινούμενον δὲ τὰλλα κινεῖ... ἐκ τοιαύτης ἄρα ἀρχῆς ἤρτηται ὁ οὐρανὸς καὶ ἡ φύσις. διαγωγῇ δ' ἔστιν οἷα ἡ ἀρίστη μικρὸν χρόνον ἡμῶν... φάμεν δὲ τὸν θεὸν εἶναι ζῶον αἰδίου ἀριστον, ὥστε ζῶη καὶ αἰὼν συνεχῆς καὶ αἰδίου ὑπάρχει τῷ θεῷ. τούτο γάρ ὁ θεός... ὅτι μὲν οὖν ἔστιν οὐσία τις αἰδίου καὶ ἀκίνητος καὶ κεχωρισμένη τῶν αἰσθητῶν, φανερόν ἐκ τῶν εἰρημένων. (*Meta.* Δ. 7, 1072^a25.) αὐτὸν ἄρα νοεῖ, εἴπερ ἔστι τὸ κράτιστον, καὶ ἔστιν ἡ νόησις νόησεως νόησις. *Meta.* Δ. 9, 1074^b34.

² τοὺς θεοὺς γὰρ μάλιστα ὑπεκλήφαμεν μακαρίους καὶ εὐδαίμονας εἶναι· πράξεις δὲ ποίας ἀπονεύμαι χρεῶν αὐτοῖς;... διεξιούσι πάντα φαίνουσι ἂν τὰ περὶ τὰς πράξεις μικρὰ καὶ ἀνάξια θεῶν... τῷ δὲ ζῶντι, τοῦ πράττειν ἀφαιρουμένου, ἔτι δὲ μᾶλλον τοῦ ποιεῖν, τί λείπεται πλὴν θεωρία; ὥστε ἡ τοῦ θεοῦ ἐνέργεια, μακαριότητι διαφέρονσα, θεωρητικὴ ἂν εἴη. *Eth. Nic.* X. 8, 1178^b9.

εἰ τον ἡ φύσις ἀπλή εἴη, αἰεὶ ἡ αὐτὴ πρᾶξις ἡδίστη ἔσται. διὸ ὁ θεὸς αἰεὶ μίαν καὶ ἀπλήν χαίρει ἡδονήν· οὐ γὰρ μόνον κινήσεώς ἐστιν ἐνέργεια, ἀλλὰ καὶ ἀκινήσιος, καὶ ἡδονῆ μᾶλλον ἐν ἡρεμίᾳ ἔστιν ἢ ἐν κινήσει. *Eth. Nic.* VII. 14, 1154^b25.

CHAPTER V.

PHILOSOPHY OF NATURE.

40. Aristotle's Philosophy of Nature (*φυσικὴ*) considers existence not in itself, but in so far as it participates in movement¹. Its province is the actual sensible reality in which *λόγος*—thought and idea—is wrapped up in *ὑλη*, matter: but the student of nature should possess a knowledge not only of the matter, but also and to a greater degree of the idea which regulates this matter². The *φυσικός* in fact will embrace in his explanation of an object all its four causes, and thus grasp it in its comprehensive concreteness³. To study a phenomenon *φυσικῶς* is thus with Aristotle to study it in the concrete, just as to do so *λογικῶς* is to study it in the abstract and without reference to facts⁴. And he notes accordingly that while those who have been more occupied with natural phenomena are better able to frame comprehensive principles which will give a wide-spread unity to nature, merely logical or verbal reasoners, neglecting the facts and attending only to some few points, find it easier to enunciate a theory.

¹ τῇ φυσικῇ μὲν γὰρ οὐχ ἡ ὄντα, μᾶλλον δ' ἡ κινήσεως μετέχει, τὴν θεωρίαν τις ἀπονεύμειεν ἂν. *Meta.* K. 3, 1061^b6.

ἡ φυσικὴ θεωρητικὴ τις ἂν εἴη, ἀλλὰ θεωρητικὴ περὶ τοιούτων ὃν ἔστι δυνατὸν κινεῖσθαι καὶ περὶ οὐσίαν τὴν κατὰ τὸν λόγον ὡς ἐπὶ τὸ πολλὸν οὐ χωριστὴν μόνον.....εἰ δὲ πάντα τὰ φυσικὰ ὁμοίως τῷ συμῶ λέγονται, οἷον βίς, ὀφθαλμός, πρόσωπον, σὰρξ, ὀστούν, ὅλως ζῶον... (οὐθενὸς γὰρ ἄνευ κινήσεως ὁ λόγος αὐτῶν ἀλλ' αἰεὶ ἔχει ὕλην) δῆλον πῶς δεῖ ἐν τοῖς φυσικοῖς τὸ τί ἐστὶ ζητεῖν καὶ ὀρίζεσθαι, καὶ διότι καὶ περὶ ψυχῆς ἐνίως θεωρηθῆσαι τοῦ φυσικοῦ, ὅση μὴ ἄνευ τῆς ὕλης ἐστίν. *Meta. E.* 1, 1025^b26.

² οὐ γὰρ μόνον περὶ τῆς ὕλης δεῖ γνωρίζειν τὸν φυσικόν, ἀλλὰ καὶ τῆς κατὰ τὸν λόγον καὶ μᾶλλον. *Meta. Z.* 11, 1037^a16.

³ ἐπεὶ δ' αἱ αἰτίαι τέτταρες, περὶ πασῶν τοῦ φυσικοῦ εἰδέναί καὶ εἰς πάσας ἀνάγων τὸ διὰ τί ἀποδώσει φυσικῶς, τὴν ὕλην, τὸ εἶδος, τὸ κίνησαν, τὸ οὐ ἔνεκα. *Phys. II.* 7, 198^a23.

⁴ διὸ ὅσοι ἐνψήκασι μᾶλλον ἐν τοῖς φυσικοῖς, μᾶλλον δύναται ὑποτίθεσθαι τοιαύτας ἀρχὰς αἰ ἐπὶ πολλὴ δύναται συνέρειν (i.e. principles which can to a great degree connect phenomena): οἱ δ' ἐκ τῶν πολλῶν λόγων ἀθεώρητοι τῶν ὑπαρχόντων ὄντες (who as a result of many theories fail to observe the actual facts), πρὸς ὀλίγα βλέψαντες, ἀποφαίνονται ἄρα ἴσοι δ' ἂν τις καὶ ἐκ τούτων ὅσον διαφέρουσι οἱ φυσικῶς καὶ λογικῶς σκοποῦντες. *De Gen. et Cor.* I. 2, 316^a10.

41. Nature (φύσις) to Aristotle is what is at once intrinsically spontaneous, self-determined and uniform in its mode of action. It is opposed therefore to accidental spontaneity (τὸ ἀνόματον) and chance (τύχη), spontaneity referring to eccentric uncaused results in things as such, chance referring to unexpected issues in things in regard to man. Nature as the self-producing and the self-determined is thus opposed to art in that while art is an originating principle in something outside itself, nature is so within itself¹. As such, it is at once the original

primary substratum, and the formed and perfect state of development². It is in this second sense that the State is a *natural* institution³.

¹ τὰ μὲν φύσει ὄντα πάντα φαίνεται ἔχοντα ἐν ἑαυτοῖς ἀρχὴν κινήσεως καὶ στάσεως, τὰ μὲν κατὰ τόπον, τὰ δὲ κατ' αὐξήσιν καὶ φθίωσιν, τὰ δὲ κατ' ἀλλοίωσιν. *Phys. II.* 1, 192^b14.

² ἡ μὲν οὖν τέχνη ἀρχὴ ἐν ἄλλῳ, ἡ δὲ φύσις ἀρχὴ ἐν αὐτῷ. ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ. *Meta. A.* 3, 1070^a6.

³ φύσει γὰρ ὅσα ἀπὸ τινος ἐν αὐτοῖς ἀρχῆς συνεχῶς κινούμενα ἀφικνεῖται εἰς τι τέλος..... ἡ γὰρ τύχη τῶν κατὰ συμβεβηκός αἰτίων· ἀλλ' ὅταν τοῦτο αἰεὶ ἢ ὡς ἐπὶ τὸ πολὺ γίγνηται, οὐ συμβεβηκός οὐδ' ἀπὸ τύχης· ἐν δὲ τοῖς φυσικοῖς αἰεὶ οὕτως, ἀν μὴ τι ἐμποδίσῃ... μάλιστα δὲ δῆλον ὅταν τις ἰατρὴ αὐτὸς ἑαυτὸν· τοῦτω γὰρ ἔοικεν ἡ φύσις. *Phys. II.* 8, 199^b15. *Cr. De Cael.* III. 2, 301^b17.

⁴ ἓνα μὲν οὖν τρόπον οὕτως ἡ φύσις λέγεται, ἡ πρώτη ἐκάστῳ ὑποκειμένη ὕλη τῶν ἐχόντων ἐν αὐτοῖς ἀρχὴν κινήσεως καὶ μεταβολῆς, ἄλλον δὲ τρόπον ἡ μορφή καὶ τὸ εἶδος τὸ κατὰ τὸν λόγον... τὸ γὰρ δυνάμει σὰρξ ἢ ὀστούν οὐτ' ἔχει πῶ τὴν ἑαυτοῦ φύσιν πρὶν ἂν λάβῃ τὸ εἶδος τὸ κατὰ τὸν λόγον. *Phys. II.* 1, 193^a28.

φύσις δὲ ἡ τε πρώτη ὕλη... καὶ τὸ εἶδος καὶ ἡ οὐσία· τοῦτο δὲ ἐστὶ τὸ τέλος τῆς γενέσεως. *Meta. A.* 4, 1015^a7.

⁵ διὸ πάσα πόλις φύσει ἐστίν, εἴπερ καὶ αἱ πρώται κοινωνίαι· τέλος γὰρ αὐτὴ ἐκείνων, ἡ δὲ φύσις τέως ἐστίν. οἷον γὰρ ἕκαστόν ἐστι τῆς γενέσεως τελεσθείσης, ταύτην φαμέν τὴν φύσιν εἶναι ἐκάστου, ὡσπερ ἀνθρώπου, ἵππου, οἰκίας. *Polit. I.* 1, 1252^b30.

42. Movement (κίνησις) is the mode in which potential being is continually actualizing itself in the world of nature¹. Of movement, Aristotle recognises three kinds, quantitative (increase and decrease), qualitative (alteration) and spatial (locomotion)²—all of which, however, reduce to that last-mentioned, since even γένεσις

and φθορά, as forms of σύγκρισις and διάκρισις, necessarily involve space³.

¹ διηρημένον δὲ καθ' ἕκαστον γένος τοῦ μὲν ἐντελεχεία, τοῦ δὲ δυνάμει, ἢ τοῦ δυνάμει ὄντος ἐντελεχεία, ἢ τοιοῦτον, κινήσις ἐστίν, οἷον τοῦ μὲν ἀλλοιωτοῦ, ἢ ἀλλοιωτον, ἀλλοιώσις. *Phys.* III. 1, 201^a10.

² εἰ οὖν αἱ κατηγορίαι διηρηται οὐσία καὶ ποιότητι καὶ τῷ ποῦ καὶ τῷ ποτέ καὶ τῷ πρὸς τι καὶ τῷ ποσῷ καὶ τῷ ποιείν ἢ πάσχειν, ἀνάγκη τρεῖς εἶναι κινήσεις, τὴν τε τοῦ ποιοῦ καὶ τὴν τοῦ ποσοῦ καὶ τὴν κατὰ τόπον. (*Phys.* V. 1, 225^b9)...ἢ μὲν οὖν κατὰ τόπον φορά, ἢ δὲ κατὰ τὸ ποιῶν ἀλλοιώσις, ἢ δὲ κατὰ τὸ ποσοῦν αὐξήσις καὶ φθίσις. *Phys.* VII. 2, 243^a8.

³ τριῶν δ' οὐσῶν κινήσεων, τῆς τε κατὰ μέγεθος καὶ τῆς κατὰ πάθος καὶ τῆς κατὰ τόπον, ἣν καλοῦμεν φοράν, ταύτην ἀναγκαῖον εἶναι πρώτην. ἀδύνατον γὰρ αὐξήσῃ εἶναι ἀλλοιώσεως μὴ προῦπαρχούσης. ἀλλὰ μὴν εἴ γε ἀλλοιοῦνται, δεῖ τι εἶναι τὸ ἀλλοιοῦν καὶ ποιῶν ἐκ τοῦ δυνάμει θερμοῦ τὸ ἐνεργείᾳ θερμόν. δῆλον οὖν ὅτι τὸ κινεῖν οὐχ ὁμοίως ἔχει, ἀλλ' ὅτε μὲν ἐγγύτερον ὅτε δὲ πορρώτερον τοῦ ἀλλοιομένου ἐστίν. ταῦτα δ' ἀνευ φοράς οὐκ ἐνδέχεται ὑπάρχειν. (*Phys.* VIII. 7, 260^a28.) καὶ τῆς κινήσεως ἢ κοινῆ μάλιστα καὶ κυριωτάτῃ κατὰ τόπον ἐστίν, ἣν καλοῦμεν φοράν. *Phys.* IV. 1, 208^a31.

43. Space (τόπος) is a necessary concomitant of sensible existence¹; and is therefore not to be resolved into body, either as matter or as form², because space remains after the body is destroyed; and two bodies, were space body, would be in the same place³. Nor again can it be identified with the interval between the extremities of body, for this changes with the bodies: whereas space continues the same whatever may go on within it. It is therefore the first and unmoved limit of the enclosing as against the enclosed⁴.

¹ ἔτι οἱ τὸ κενὸν φάσκοντες εἶναι τόπον λέγουσιν· τὸ γὰρ κενὸν τόπος ἂν εἴη ἑστερημένος σώματος. ὅτι μὲν οὖν ἐστὶ τι ὁ τόπος παρὰ τὰ σώματα, καὶ πᾶν σῶμα αἰσθητὸν ἐν τόπῳ, δεῖ τούτων ἂν τις ὑπολάβῃ. *Phys.* IV. 1, 208^b25.

² τὸ μὲν γὰρ εἶδος καὶ ἡ ὕλη οὐ χωρίζεται τοῦ πράγματος, τὸν δὲ τόπον ἐνδέχεται· ἐν γὰρ αἴρῃ ἦν, ἐν τούτῳ πάλιν ὕδωρ, ὡς ἐφαμέν, γίνεται...καὶ γὰρ δοκεῖ τοιοῦτό τι εἶναι ὁ τόπος οἷον τὸ ἀγγεῖον· ἐστὶ γὰρ τὸ ἀγγεῖον τόπος μεταφορητός· τὸ δ' ἀγγεῖον οὐδὲν τοῦ πράγματος ἐστίν. 209^b23.

³ οὐ γὰρ ἀπόλλυται ὁ τόπος τῶν ἐν αὐτῷ φθειρομένων. ἀδύνατον δὲ σῶμα εἶναι τὸν τόπον· ἐν ταύτῳ γὰρ ἂν εἴη δύο σώματα. 209^a2.

⁴ ἐστὶ δ' ὡσπερ τὸ ἀγγεῖον τόπος μεταφορητός, οὕτω καὶ ὁ τόπος ἀγγεῖον ἀμετακίνητον...ὥστε τὸ τοῦ περιέχοντος πέρασ ἀκίνητον πρῶτον, τοῦτ' ἐστὶν ὁ τόπος. *Phys.* IV. 4, 212^a15.

44. Time is referred by Aristotle to our consciousness of a succession in our thoughts, and a sense of difference between the events of our experience—it is not observed when we are conscious of no change—and is described as a numeration of movement as to its priority and posteriority¹. Like space it is a universal concomitant of real existence. Being what is numbered, it necessarily involves a numberer, that is, a conscious mind².

¹ ὅταν γὰρ μηδὲν αὐτοὶ μεταβάλλωμεν τὴν δαίνοιαν ἢ λάθωμεν μεταβάλλοντες, οὐ δοκεῖ ἡμῖν γεγονέναι χρόνος, καθάπερ οὐδὲ τοῖς ἐν Σαρδοῖς μυθολογουμένοις καθέδειεν παρὰ τοῖς ἥρωσιν, ὅταν ἐγερωθῶσιν...εἰ δὲ τὸ μὴ οἰεσθαι εἶναι χρόνον τότε συμβαίνει ἡμῖν, ὅταν μὴ ὀρίζωμεν μηδεμίαν μεταβολήν, ἀλλ' ἐν ἐνὶ καὶ ἀδιαίρετῳ φαίνεται ἡ ψυχὴ μένειν, ὅταν δ' αἰσθώμεθα καὶ ὀρίσωμεν, τότε φαμέν γεγονέναι χρόνον, φανερόν ὅτι οὐκ ἐστὶν ἀνευ κινήσεως καὶ μεταβολῆς χρόνος (*Phys.* IV. 11, 218^b22). καὶ τότε φαμέν γεγονέναι χρόνον, ὅταν τοῦ προτέρου καὶ ὑστεροῦ ἐν τῇ κινήσει αἰσθησῖν

λάβωμεν...ταῦτο γὰρ ἔστιν ὁ χρόνος ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον. 219^b1.

² εἰ δὲ μηδὲν ἄλλο πέφυκεν ἀριθμεῖν ἢ ψυχὴ καὶ ψυχῆς νοῦς, ἀδύνατον εἶναι χρόνον ψυχῆς μὴ οὐσης. *Phys.* IV. 14, 223^a25.

εἰ οὖν ἀδύνατον ἔστι καὶ εἶναι καὶ νοῆσαι χρόνον ἀνευ τοῦ νῦν, τὸ δὲ νῦν ἔστι μεσότης τις, καὶ ἀρχὴν καὶ τελευτήν ἔχον ἅμα, ἀρχὴν μὲν τοῦ ἐσομένου χρόνου, τελευτήν δὲ τοῦ παρελθόντος, ἀνάγκη αἰεὶ εἶναι χρόνον· τὸ γὰρ ἔσχατον τοῦ τελευταίου ληφθέντος χρόνον ἐν τινι τῶν νῦν ἔσται. *Phys.* VIII. 1, 251^b20.

45. Time, Aristotle sees, is necessarily eternal, since without it the conception of before and after would be impossible. But if time be eternal, movement is necessarily so also¹. And this same result is evident for other reasons. One such reason is that every movement really presupposes *ad infinitum* the existence of a prior movement². A more detailed proof shews that if movement had once begun, a moving factor and a moved matter either have or have not existed before this beginning: and hence deduces the need of perpetually assuming movement³. Movement is therefore without beginning and without end: and the world itself it follows is eternal, neither coming into nor passing out of being⁴.

¹ πρὸς δὲ τούτοις τὸ πρότερον καὶ ὕστερον πῶς ἔσται χρόνον μὴ ὄντος; ἢ ὁ χρόνος μὴ οὐσης κινήσεως; εἰ δὲ ἔστιν ὁ χρόνος κινήσεως ἀριθμὸς ἢ κινήσεως τις, εἴπερ αἰεὶ χρόνος ἔστιν, ἀνάγκη καὶ κίνησιν αἰδίων εἶναι. *Phys.* VIII. 1, 251^b10.

² ὥστε ἀνάγκη τὸ μεταβεβληκὸς μεταβάλλειν καὶ τὸ μεταβάλλον μεταβεβληκέναι, καὶ ἔστι τοῦ μὲν μεταβάλλειν τὸ μεταβεβληκέναι πρότερον, τοῦ δὲ μεταβεβληκέναι τὸ μεταβάλλειν καὶ οὐδέποτε ληφθήσεται τὸ πρῶτον. *Phys.* VI. 6, 237^b3.

³ εἰ μὲν τοίνυν ἐγένετο (began to exist) τῶν κινήτων ἕκαστον, ἀναγκαῖον πρότερον τῆς ληφθείσης ἄλλην γενέσθαι μεταβολὴν καὶ κίνησιν καθ' ἣν ἐγένετο τὸ διατετὸν κινήθησθαι ἢ κινήσασθαι. εἰ δ' ὄντα προὔπηρχεν αἰεὶ (existed from the beginning) κινήσεως μὴ οὐσης, ἄλογον μὲν φαίνεται καὶ αὐτόθεν ἐπιστήσασθαι, οὐ μὲν ἀλλὰ μάλλον ἐτι προιοῦσαι τούτο συμβαίνει ἀναγκαῖον. εἰ γὰρ τῶν μὲν κινήτων ὄντων πᾶν δὲ κινήτικῶν ὅτε μὲν ἔσται τι πρῶτον κινεῖν τὸ δὲ κινούμενον, ὅτε δ' οὐθέν, ἀλλ' ἡρεμεῖ, ἀναγκαῖον τοῦτο μεταβάλλειν πρότερον ἢν γὰρ τι αἰτίον τῆς ἡρεμίας· ἢ γὰρ ἡρέμους στέρησις τῆς κινήσεως, ὥστε πρὸ τῆς πρώτης μεταβολῆς ἔσται μεταβολὴ πρότερα. *Phys.* VIII. 1, 251^a17.

⁴ ὅτι μὲν οὖν οὔτε γέγονεν ὁ πᾶς οὐρανὸς οὔτε ἐνδέχεται φθαρῆναι, καθάπερ τινὲς φασιν αὐτόν, ἀλλ' ἔστιν εἰς καὶ αἰδίων, ἀρχὴν μὲν καὶ τελευτήν οὐκ ἔχων τοῦ παντὸς αἰῶνος, ἔχων δὲ καὶ περιέχων ἐν αὐτῷ τὸν ἄπειρον χρόνον, ἐκ τῶν εἰρημμένων ἔξεστι λαβεῖν τὴν πίστιν. *De Caelo* II. 1, 283^b26.

46. Movement however, while thus from one aspect unending, is found on the other hand to presuppose an original principle of movement which remains essentially unmoved—a causal actuality which is as eternal as movement itself¹. For causation, whether efficient or final, involves ultimately a cause which is neither a secondary end nor a derivative agent². Such a first principle of movement as essentially pure activity must be absolutely immaterial and invariable³. Thought therefore is the presupposition of the world: and nature is an organic whole in which everything attests an order and a reign of law (*τάξις*)—an order however which is neither absolutely immanent, nor altogether imposed from without, but the two in combination, as in the orderly arrangement of an army⁴.

¹ εἰ δὲ ἀνάγκη πᾶν τὸ κινούμενον ὑπὸ τινός τε κινεῖσθαι καὶ ὑπὸ κινουμένου ὑπ' ἄλλου ἢ μή, καὶ εἰ μὲν ὑπ' ἄλλου

κινουμένου ἀνάγκη τι εἶναι κινῶν ὃ οὐχ ὑπ' ἄλλου πρῶτον, εἰ δὲ τοιοῦτο τὸ πρῶτον, οὐκ ἀνάγκη θάτερον (ἀδύνατον γὰρ εἰς ἄπειρον ἰέναι τὸ κινῶν καὶ κινούμενον ὑπ' ἄλλου αὐτὸ τῶν γὰρ ἄπειρων οὐκ ἔστιν οὐδὲν πρῶτον)—εἰ οὖν ἅπαν μὲν τὸ κινούμενον ὑπὸ τινος κινεῖται, τὸ δὲ πρῶτον κινῶν κινεῖται μὲν, οὐχ ὑπ' ἄλλου δέ, ἀνάγκη αὐτὸ ὑφ' αὐτοῦ κινεῖσθαι. *Phys.* VIII. 5, 256^a13.

² ἀλλὰ μὴν ὅτι γ' ἐστὶν ἀρχὴ τις καὶ οὐκ ἄπειρα τὰ αἷτια τῶν ὄντων ὄλων. οὔτε γὰρ ὡς ἐξ ὕλης τὸδ' ἐκ τοῦδε δυνατὸν ἰέναι εἰς ἄπειρον... οὔτε ὅθεν ἡ ἀρχὴ τῆς κινήσεως... ὁμοίως δὲ οὐδὲ τὸ οὐ ἕνεκα εἰς ἄπειρον οἶόν τε ἰέναι, βαδισίμην μὲν ὑγείας ἕνεκεν, ταύτην δ' εὐδαιμονίας, τὴν δ' εὐδαιμονίαν ἄλλον, καὶ οὕτως αἰεὶ ἄλλο ἄλλον ἕνεκεν εἶναι. *Meta.* A. 2, 994^a1.

³ εἰ γὰρ μὴ ἐνεργήσει (i. e. οὐσία αἰδίου) οὐκ ἔσται κίνησις. ἔτι οὐδ' εἰ ἐνεργήσει, ἡ δ' οὐσία αὐτῆς δύναμις· οὐ γὰρ ἔσται κίνησις αἰδίου· ἐνδέχεται γὰρ τὸ δυνάμει ὄν μὴ εἶναι. δεῖ ἄρα εἶναι ἀρχὴν τοιούτην ἧς ἡ οὐσία ἐνεργεῖα. ἔτι τοίνυν ταύτας δεῖ τὰς οὐσίας εἶναι ἀνευ ὕλης. αἰδίου γὰρ δεῖ, ἐπὲρ γε καὶ ἄλλο τι αἰδίου. ἐνεργεῖα ἄρα. *Meta.* A. 6. 1071^b17.

⁴ Ἐπισκεπτέων δὲ καὶ ποτέως ἔχει ἡ τοῦ ὄλου φύσις τὸ ἀγαθὸν καὶ τὸ ἄριστον, πότερον κευρισμένον τι καὶ αὐτὸ καθ' αὐτὸ, ἢ τὴν τάξιν; ἢ ἀμφοτέρως ὡςπερ στρατεύμα. καὶ γὰρ ἐν τῇ τάξει τὸ εὖ καὶ ὁ στρατηγός, καὶ μᾶλλον οὗτος· οὐ γὰρ οὗτος διὰ τὴν τάξιν ἀλλ' ἐκεῖνη διὰ τοῦτόν ἐστιν. *Meta.* A. 10, 1075^a11.

47. Against the mechanical philosophy of Democritus, which explained origination by the combination or dissolution of infinitely numerous homogeneous atoms, Aristotle maintains the existence of qualitative distinctions among the elements themselves, and the possibility of qualitative alteration (ἀλλοίωσις), as opposed to mere composition and decomposition of existing particles¹. He insists on the teleological study of nature as that which alone gives a true insight into things², and requires that the standpoint of the physicist be supplemented by

that of the metaphysician, who sees that what is last in the order of production, stands first in the light of the phenomenon's fixed nature³. Nature (and God) are always, he conceives, working towards an end, and striving after what is perfect⁴. But sometimes the idea is defeated in its aim: matter (ὕλη) gets the upper hand; and monsters and misgrowths are the result⁵.

¹ Δημόκριτος δὲ καὶ Λεύκιππος ποιήσαντες τὰ σχήματα τὴν ἀλλοίωσιν καὶ τὴν γένεσιν ἐκ τούτων ποιούσι, διακρίσει μὲν καὶ συγκρίσει γένεσιν καὶ φθοράν, τάξει δὲ καὶ θέσει ἀλλοίωσιν. ἐπεὶ δὲ δοκεῖ σχεδὸν πᾶσιν ἕτερον εἶναι γένεσις καὶ ἀλλοίωσις καὶ γίνεσθαι μὲν καὶ φθεῖρεσθαι συγκρινόμενα καὶ διακρινόμενα ἀλλοιοῦσθαι δὲ μεταβαλλόντων τῶν παθημάτων, περὶ τούτων ἐπιστήσασιν (with attention) θεωρητέον. ἀπορίας γὰρ ἔχει ταῦτα καὶ πολλὰς καὶ εὐλόγους. (*De Gen.* I. 2, 315^b9.) ἀναιρεῖ γὰρ οὗτος ὁ λόγος ἀλλοίωσιν, ὁρῶμεν δὲ τὸ αὐτὸ σῶμα συνεχῆς ὄν ὅτε μὲν ὑγρὸν ὅτε δὲ πεπηγός, οὐ διαίρειται καὶ συνθέσει ταῦτο παθόν, οὐδὲ τροπῇ καὶ διατιγῇ, καθάπερ λέγει Δημόκριτος. *De Gen.* I. 9, 327^b16.

² οὐ γὰρ ἰκανὸν τὸ ἐκ τίνων εἶναι, οἶον πυρὸς ἢ γῆς... αὐτῶν γὰρ καὶ οἱ φυσιολόγοι τὰς γενέσεις καὶ τὰς αἰτίας... οὐ σχήματος λέγουσιν... πανταχοῦ δὲ λέγομεν τοῦδε τοῦδε ἕνεκα, ἅπου ἂν φαίνηται τέλος τι πρὸς ὃ ἡ κίνησις περαίνει μηδεὸς ὑποδίζοντος. *Part. An.* I. 1, 640^b22.

³ See the passages quoted in § 36, 4.

⁴ ὁ θεὸς καὶ ἡ φύσις οὐδὲν μάτην ποιούσιν. (*De Cael.* I. 4, 271^a33.) ἡ φύσις αἰεὶ ποιεῖ τῶν ἐνδεχομένων τὸ βέλτιστον. *Met.* II. 3, 1288^a2.

⁵ ἔστι γὰρ τὸ τέρας τῶν παρὰ φύσιν τι, παρὰ φύσιν δ' ὄν πᾶσαν ἀλλὰ τὴν ὡς ἐπὶ τὸ πολὺ..., ὅταν μὴ κρατήσῃ τὴν κατὰ τὴν ὕλην ἢ κατὰ τὸ εἶδος φύσιν. *Gen. An.* IV. 4, 770^b16. *Phys.* II. 9, 200^b14.

48. The continuity of nature exhibits a gradual transition from plants to animals¹. Plants possess nothing beyond that of growth and nutrition, but admit of

varian under domestication. Animals as possessing sense-perception, possess already the germs of knowledge, and shew traces of those mental and moral characteristics which appear in more developed forms in man. The study of soul (*ψυχή*) should therefore be conducted not with exclusive reference to that of man, but should be extended so as to include its forms in other animals;

¹ ἢ γὰρ φέρεται μεταβάλλει σενεως ἀπο τῶν ἀλλήλων εἰς τὰ ζῶα διὰ τὸν ζῶντων ψῆν, οὐκ ὄντων δὲ ζῶων, ὅπως ὡστε ἀλλήλοισι· ὁ ψῆν οὐν ἀποργος, ὡς ἄρα εἰρηται, καὶ τὸ ζῆν προαπτερικως ἰδῶν, ἀποβάλλει δὲ πρὸ ζῆν, ὅπως ἔχει τοῖς ψυχοῖς παντελῶς. *De Part. An.* IV. 5, 581^a 12.

εἴνα γὰρ τῶν ἐν τῇ θανάτῃ διασπορῆσει αὐ τοῖς πότερον ζῶων ἔσται ἢ ψυχοῖν. *Hist. An.* VIII. 1, 588^b 10.

πάντα τῶν ψυχοῖν τὰ μεταβάλλονται, ὡς ψυχοῖς, εἰς ἄλλο εἶδος, ὡς ἡ καρπία, ὅταν γράσῃ. καὶ τὸ τῶν ζῶων δὲ πηθεῖν καὶ ψυχοῖν παρὰ τὴν θάλασσαν ταχὺν ἔσται ἀσπυρ-
De Plantis (Arist.) I. 7, 821^a 30.

τὸ δὲ ζῶον οὐ κῆρον το γυνήσται ἔργα, ἀλλὰ καὶ γυνεως τινος πάντα κερταχονται. ἀποθῆσται γὰρ ἔχουσαι, ἢ ὁ ἀποθῆσται γυνεως τινος. *De Gen. An.* I. 23, 731^a 32.

τοῦτων ὁ ζῆν ἡν τῶν ἡθῶν ἔσται ἐν πάσῃ ὡς ἔσται, κῆλλον δὲ φανερώτερα ἐν τοῖς ἔχουσι κῆλλον ἡθῶν καὶ κῆλλοτα ἐν ἀνθρώποισι. τὸτο γὰρ ἔχει τὴν ψυχοῖν ἀποτερεῖσθαι
Histor. Animal. IX. 1, 608^b 4.

ἄνθρωποις κῆλων εἰκοσται ἐπινοκται. *De An.* I. 1, 402^a 4.

49. Soul (*ψυχή*) is defined by Aristotle as the perfect

expression or realization of a natural body—a realization, further, which is in its first stage, and which is therefore implicit rather than explicit. It follows that

there is the closest connexion between psychical states and physiological processes—we need no more ask whether the soul and body are one, than whether the wax

and the impression stamped upon it are so: the very error of the pre-Aristotelian psychologists lay in discussing the soul abstractedly and metaphysically without any regard to the bodily environment. At the same time,

Aristotle regards soul or mind not as the product of the physiological conditions, but as the *truth* of body, the *whole* in which only do the bodily conditions gain their real meaning;

¹ ἡ δὲ ψυχή ἐστιν ἐντέλεχεια ἢ πῶντι σῶματος φυσικῶν δυναται ἐμπλεῖσθαι. *De An.* II. 1, 412^a 28. First entelechy, it is explained, stands to second as *πῶντι*, knowledge possessed, stands to *θεωρεῖν*, knowledge apprehended, and since sleep no less than waking involves soul, it must be entelechy of the first or implicit kind. It is used simply an *ἐντέλεχεια σῶματος* in *Meta.* H. 3, 1043^a 35.

² διὸ καὶ οὐ δεῖ ζητεῖν εἰ ἐν ἡ ψυχῇ καὶ τὸ σῶμα, ὥσπερ οὐδὲ τὸν κηρὸν καὶ τὸ σχῆμα. 412^b8.

ἔοικε δὲ καὶ τὰ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματος... εἰ δ' οὕτως ἔχει, ὄφρα δὴ τὰ πάθη λόγοι ἐνυλοὶ εἰσιν... καὶ διὰ ταῦτα ἡδὴ φυσικοῦ τὸ θεωρησαί περὶ ψυχῆς, ἢ πάσης ἢ τῆς τοιαύτης. *De An.* I. 1, 403^a16.

οὐ τὸ σῶμα ἔστιν ἐντελέχεια ψυχῆς, ἀλλ' αὕτη σώματος τινος. καὶ διὰ τοῦτο καλῶς ὑπολαμβάνουσιν οἷς δοκεῖ μὴ ἄνευ σώματος εἶναι μήτε σῶμα τι ἢ ψυχῇ. *De An.* II, 2, 414^a18.

² οἱ δὲ μόνον ἐπιχειροῦσι λέγειν ποῖον τι ἡ ψυχῇ, περὶ δὲ τοῦ δεξιόμενου σώματος οὐθέν ἐτι προσδιορίζουσιν, ὥσπερ ἐνδεχόμενον κατὰ τοὺς Πυθαγορικοὺς μύθους τὴν τυχούσαν ψυχὴν εἰς τὸ τυχὸν ἐνδέσθαι σῶμα. *De An.* I. 3, 407^b20.

καθόλου μὲν οὐν εἰρηται τί ἐστὶν ἡ ψυχῇ· οὐσία γὰρ ἢ κατὰ τὸν λόγον. τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιωδὶ σώματι, καθάπερ εἰ τι τῶν ὀργάνων φυσικῶν ἦν σῶμα, οἷον πέλεκυς· ἦν μὲν γὰρ ἂν τὸ πέλεκυς εἶναι ἡ οὐσία αὐτοῦ, καὶ ἡ ψυχῇ τοῦτο· χωρισθείσης γὰρ ταύτης οὐκ ἂν ἐτι πέλεκυς ἦν, ἀλλ' ἡ ὁμοιότης. *De An.* II, 1, 412^b10.

50. The soul manifests its activity in certain "faculties" or "parts" which correspond with the stages of biological development, and are the faculties of nutrition (peculiar to plants), that of sense perception (peculiar to animals), that of movement, and that of reason (peculiar to man)¹. These faculties resemble mathematical figures in which the higher includes the lower, and must be understood not as like actual physical parts, but like such aspects as convex and concave which we distinguish in the same line². The mind remains throughout a unity: and it is absurd to speak of it, as Plato did, as desiring with one part and feeling anger with another³.

¹ ἐστὶν ἡ ψυχῇ τῶν εἰρημένων τούτων (nutrition, sense, etc.) ἀρχή, καὶ τούτοις ὄρισται, θρεπτικῶ, αἰσθητικῶ, δια-

νοητικῶ, κινήσει. πότερον δὲ τούτων ἕκαστον ἐστὶ ψυχῇ ἢ μόριον ψυχῆς, καὶ εἰ μόριον, πότερον οὕτως ὥστ' εἶναι χωριστὸν λόγῳ μόνον ἢ καὶ τόπῳ, περὶ μὲν τινῶν τούτων οὐ χαλεπὸν ἰδεῖν, ἐνια δὲ ἀπορίαν ἔχει. *De An.* II, 2, 413^b12.

δυνάμεις δ' εἴπομεν θρεπτικόν, αἰσθητικόν, ὀρεκτικόν, κινήτικόν κατὰ τόπον, διανοητικόν· ὑπάρχει δὲ τοῖς μὲν φητοῖς τὸ θρεπτικόν μόνον. *De An.* II, 3, 414^a31.

² παραπλησίως δ' ἔχει τῷ περὶ τῶν σχημάτων καὶ τὰ κατὰ ψυχὴν· αἰεὶ γὰρ ἐν τῷ ἐφεξῆς ὑπάρχει δυνάμει τὸ πρότερον ἐπὶ τε τῶν σχημάτων καὶ ἐπὶ τῶν ἐμφύχων, οἷον ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῶ δὲ τὸ θρεπτικόν. *De An.* II, 3, 414^a28.

καθάπερ ἐν τῇ περιφερείᾳ τὸ κυρτὸν καὶ τὸ κοῖλον. *Eth. Nic.* I, 13, 1102^a28. Cp. *Eth. Eud.* II, 1, 1219^b32.

³ λέγουσι δὴ τινες μεριστῆν αὐτήν, καὶ ἄλλῳ μὲν νοεῖν ἄλλῳ δ' ἐπιθυμεῖν· τί οὐν δὴ πότε συνέχει τὴν ψυχὴν, εἰ μεριστῆ πέφυκεν; οὐ γὰρ δὴ τὸ γε σῶμα. *De An.* I, 5, 411^b5.

τὸ δὲ λέγειν ὀργίεσθαι τὴν ψυχὴν ὁμοιον κἂν εἴ τις λέγοι τὴν ψυχὴν ὑφαίνειν ἢ οἰκοδομεῖν. βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ διανοεῖσθαι, ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ. *De An.* I, 4, 408^b11.

51. Sense perception is a faculty of receiving the forms of outward objects independently of the matter of which they are composed, just as the wax takes on the figure of the seal without the gold or other metal of which it is composed¹. As the subject of impression it involves a movement and a kind of qualitative change; but it is not merely a passive or receptive affection²: it in turn acts, and, *distinguishing* between the qualities of outward things, becomes "a movement of the soul through the medium of the body³." It involves accordingly between the object and the organ a ratio or correspondence (*μεσότης*) of which the destruction by excessive colour or sound etc. makes perception impossible⁴. The object of sense may

be either 1^o, Special; thus colour is the special object of sight, sound of hearing; 2^o, Common, or apprehended by several senses in combination, e.g. motion or figure: or 3^o, Incidental or Inferential (κατὰ συμβεβηκός)—as when from the immediate sensation of white we come to know a person or *object* which is white¹. The special senses are five in number, of which touch is the most common and rudimentary, hearing the most instructive, and sight the most ennobling². The organ in these senses never acts directly, but is affected by some medium such as air: even touch, which seems to act by actual contact, probably involving some such vehicle of communication³.

¹ ἡ μὲν αἰσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἀνευ τῆς ὕλης, οἷον ὁ κηρὸς τοῦ δακτυλίου ἀνευ τοῦ σιδήρου ἄρεται τὸ σημεῖον. *De An.* II. 12, 424^a18.

² ἡ δ' αἰσθησις ἐν τῷ κινεῖσθαι τε καὶ πάσχειν συμβαίνει· δοκεῖ γὰρ ἀλλοιώσις τις εἶναι. *De An.* II. 5, 416^b33. But in III. 4, 429^a29, we hear of ἡ ἀπάθεια τοῦ αἰσθητικοῦ: and in *Anal. Post.* II. 19 αἰσθησις is described as a δύναμις κριτική.

³ ἡ δὲ λεγομένη αἰσθησις, ὡς ἐνέργεια, κίνησις τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστι. *De Somno* 2, 454^a7.

⁴ τῶν αἰσθητῶν αἱ ὑπερβολαὶ φθείρουσι τὰ αἰσθητήρια· ἐὰν γὰρ ἢ ἰσχυροτέρα τοῦ αἰσθητηρίου ἢ κίνησις, λύεται ὁ λόγος, τοῦτο δ' ἦν ἡ αἰσθησις. *De An.* II. 12, 424^a30.

διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ οὐκ αἰσθανόμεθα, ἀλλὰ τῶν ὑπερβολῶν, ὡς τῆς αἰσθησεως οἷον μεσότητός τινος οὐσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως· καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά· τὸ γὰρ μέσον κριτικόν. *De An.* II. 11, 424^a5.

⁵ λέγεται δὲ τὸ αἰσθητὸν τριχῶς...λέγω δ' ἴδιον μὲν ὃ μὴ ἐνδέχεται ἕτερα αἰσθῆσαι αἰσθάνεσθαι, καὶ περὶ ὃ μὴ ἐνδέχεται ἀπατηθῆναι οἷον ὄψις χρώματος...κοινὰ δὲ κίνησις, ἡρεμία, ἀριθμὸς, σχῆμα, μέγεθος· τὰ γὰρ τοιαῦτα οὐδεμιᾶς ἐστὶν ἴδια ἀλλὰ κοινὰ πάσαις· καὶ γὰρ ἀφ' ἧς κίνησις τίς ἐστὶν

αἰσθητή καὶ ὄψει· κατὰ συμβεβηκός δὲ λέγεται αἰσθητὸν, οἷον εἰ τὸ λευκὸν εἴη Διόρουσ υἱός· κατὰ συμβεβηκός γὰρ τοῦτου αἰσθάνεται, ὅτι τῷ λευκῷ συμβέβηκε τοῦτο οὐ αἰσθάνεται. *De An.* II. 6, 418^a10.

⁶ τὰ δὲ ζῶα πάντ' ἔχουσι μίαν γε τῶν αἰσθήσεων, τὴν ἀφ' ἧν. *De An.* II. 3, 414^b3.

⁷ πρὸς μὲν τὰ ἀναγκαῖα κρείττων ἡ ὄψις καὶ καθ' αὐτήν, πρὸς δὲ τοῦν καὶ κατὰ συμβεβηκός ἡ ἀκοή· διαφορὰς μὲν γὰρ πολλὰς εἰσαγγέλλει καὶ παντοδαπὰς ἢ τῆς ὄψεως δύναμις...ἢ δ' ἀκοή τὰς τοῦ ψόφου διαφορὰς μόνον. *De Sensu* I, 437^a5.

⁸ ἐὰν τις θῆ τὸ ἔχον χρῶμα ἐπ' αὐτὴν τὴν ὄψιν, οὐκ ὄψεται· ἀλλὰ τὸ μὲν χρῶμα κινεῖ τὸ διαφανές, οἷον τὸν ἀέρα, ὑπὸ τοῦτου δὲ συνεχούς ὄντος κινεῖται τὸ αἰσθητήριον...ὃ δ' αὐτὸς λόγος καὶ περὶ ψόφου καὶ ὁσμῆς ἐστίν· οὐδὲν γὰρ αὐτῶν ἀπτόμενον τοῦ αἰσθητηρίου ποιεῖ τὴν αἰσθησιν, ἀλλ' ὑπὸ μὲν ὁσμῆς καὶ ψόφου τὸ μεταξὺ κινεῖται, ὑπὸ δὲ τοῦτου τῶν αἰσθητηρίων ἐκάτερον. *De An.* II. 7, 419^a12.

52. Aristotle's Common or Central Sense, besides recognising the common qualities which are involved in all particular objects of Sensations¹, is thus *first*, the sense which brings us a consciousness of Sensation; and, *secondly*, the which by thus holding up in one act before the mind the objects of our knowledge, enables us to distinguish between the reports of different senses². It finds accordingly its analogue in the heart as the organ which occupies a corresponding central position in the body³.

¹ *De An.* III. 1, 425^a14, where the κοινὰ are described as ὧν ἐκάστη αἰσθησίς αἰσθανόμεθα κατὰ συμβεβηκός—i. e. qualities which we perceive by each sense incidentally.

² ἐστὶ δὲ τις καὶ κοινὴ δύναμις ἀκολουθοῦσα πάσαις, ἢ καὶ ὅτι ὄρα καὶ ἀκούει αἰσθάνεται· οὐ γὰρ δὴ τῆ γε ὄψει ὄρα ὅτι ὄρα· καὶ κρίνει δὴ καὶ δύναται κρίνεω ὅτι ἕτερα τὰ γλυκέα τῶν λευκῶν, οὔτε γούσι οὔτε ὄψει οὔτ' ἀρφοῖν, ἀλλὰ τινι κοινῷ μορίῳ τῶν αἰσθητηρίων ἀπάντων. *De Somno* 2,

455^a15. Cp. *De An.* III. 2, 426^b12; *De Sensu* 7, 449^a8.

² ἀλλὰ μὴν τό γε κύριον τῶν αἰσθήσεων ἐν ταύτῃ (τῇ καρδίᾳ) τοῖς ἐναιμίους πᾶσιν· ἐν τούτῳ γὰρ ἀναγκαῖον εἶναι τὸ πάντων τῶν αἰσθητηρίων κοινὸν αἰσθητήριον. *De Juu.* 3, 469^a10.

53. Imagination (*φαντασία*) Aristotle defines as "the movement which results upon an actual sensation¹:" it is, in other words, the process by which an impression of sense is pictured and retained before the mind, and is accordingly the basis of Memory. The representative pictures which it provides form the materials of reason². Illusions and Dreams are both alike due to an excitement in the organ of sense similar to that which would be caused by the actual presence of the sensible phenomenon³.

¹ ἡ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς αἰσθήσεως τῆς κατ' ἐνέργειαν γενηομένη. *De An.* III. 3, 429^a1. So in the *Rhetoric* I. II, 1370^a28, it is briefly described as αἰσθησις ἀσθησίς—decaying sense.

² τῇ δὲ διανοητικῇ ψυχῇ τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει. *De An.* III. 7, 431^a14. νοεῖν οὐκ ἔστιν ἀνευ φαντάσματος. *De Memor.* 449^b31.

³ τοῦ δὲ διεψεύσθαι αἴτιον ὅτι οὐ μόνον τοῦ αἰσθητοῦ κινουμένου φαίνεται ἀδήποτε, ἀλλὰ καὶ τῆς αἰσθήσεως κινουμένης αὐτῆς, εἰν ὅσάντως κινῆται ὡσπερ καὶ ὑπὸ τοῦ αἰσθητοῦ· λέγω δ' οἷον ἡ γῆ δοκεῖ τοῖς πλέουσι κινεῖσθαι κινουμένης τῆς ὕψεως ὑπ' ἄλλου. *De Insom.* 460^b25.

54. Memory (*μνήμη*) is defined by Aristotle as the permanent possession of a sensuous picture as a copy which represents the object of which it is a picture¹. Recollection, or the calling back to mind the residua of memory, depends upon the laws which regulate the

association of our ideas, and "we seek to reach the associated impression by starting in our thought from an object present to us, or something else, whether it be similar, contrary or contiguous²."

¹ ἔστι μνήμη...φαντάσματος ὡς εἰκόνας οὗ φάντασμα ἔξις. *De Mem.* I, 451^a15.

² ὅταν οὖν ἀναμιμνησκόμεθα, κινούμεθα τῶν προτέρων τινα κινήσεων, ἕως ἂν κινήθωμεν μεθ' ἧν ἐκείνη (the impression of which we are in search) εἴσθην. διὸ καὶ τὸ ἐφεξῆς θηρεύομεν νοήσαντες ἀπὸ τοῦ νῦν ἢ ἄλλου τιός, καὶ ἀφ' ὁμοίου ἢ ἐναντίου ἢ τοῦ σύγγενους. *De Mem.* 2, 451^b16.

55. Reason (*νοῦς*) is to Aristotle the source of the first principles of knowledge, and thus opposed to sense, in that while sense is restricted and individual, thought is free and universal; and that while sense deals with the concrete and material aspect of phenomena, reason deals with the abstract and ideal¹. But while reason is thus in itself the source of general ideas, it is so only potentially—it arrives, that is, at them only by a process of development in which it gradually clothes sense in thought, and unifies and interprets sense-presentations².

¹ λέγω δὲ νοῦν ὃ διανοεῖται καὶ ὑπολαμβάνει ἡ ψυχῇ. *De An.* III. 4, 429^a23. λείπεται νοῦν εἶναι τῶν ἀρχῶν. *Eth. Nic.* VI. 6, 1141^a7.

τῶν καθ' ἕκαστον ἢ κατ' ἐνέργειαν αἰσθησις, ἢ δ' ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πῶς ἐστὶ τῇ ψυχῇ· διὸ νοῆσαι μὲν ἐπ' αὐτῷ ὅποταν βούληται, αἰσθάνεσθαι δ' οὐκ ἐπ' αὐτῷ· ἀναγκαῖον γὰρ ὑπάρχειν τὸ αἰσθητόν. *De An.* II. 5, 417^b22.

ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι (i. e. we may distinguish between the actual physical magnitude and the abstract conception of it)...τῷ μὲν οὖν αἰσθητικῷ τὸ θερμὸν καὶ τὸ ψυχρὸν κρίνει...ἄλλω δὲ ἤτοι χωριστῶ, ἢ

ὡς ἡ κεκλασμένη ἔχει πρὸς αὐτὴν ὅταν ἐκταθῆ, τὸ σαρκὶ εἶναι κρῖνει. [The meaning would seem to be that sense and reason stand to one another in cognition, as two processes of which the one like a straight line goes directly at its object, whereas the other like the bent line returns upon itself.] *De An.* III. 4, 429^b10.

² καὶ εὖ δὴ οἱ λέγοντες τὴν ψυχὴν εἶναι τόπον εἰδῶν, πλὴν ὅτι οὔτε ὄλη ἀλλ' ἡ νοητικὴ, οὔτε ἐντελεχεία ἀλλὰ δυνάμει τὰ εἶδη. *De An.* III. 4, 429^b27.

δυνάμει πῶς ἐστὶ τὰ νοητὰ ὁ νοῦς, ἀλλ' ἐντελεχεία οὐδὲν πρὶν ἂν νοῆ. δεῖ δ' αὐτως ὡς περ ἐν γραμματικῷ ᾧ μὴθὲν ὑπάρχει ἐντελεχεία γεγραμμένων ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ. *De An.* III. 4, 430^a1.

οὔτε δὴ ἐνυπάρχουσιν ἀφορισμένοι αἱ ἕξεις, οὐδ' ἀπ' ἄλλων ἕξεων γίνονται γνωστικώτερον, ἀλλ' ἀπ' αἰσθησέως. [ch. § 27.] *Past. An.* II. 19, 100^a10.

56. The work of reason in thinking things suggests the question, How can immaterial thought come to receive material things¹? Only it is obvious in virtue of some *community* between thought and things. Over and above therefore passive reason, which receives, combines and compares the various objects of thought, Aristotle recognises a creative reason which *makes* objects of thought, which renders the world intelligible, and bestows on the materials of knowledge those ideas or categories which make them accessible to thought, just as the sun communicates to material objects that light, without which colour would be invisible, and sight would have no object². Hence reason is as it were the constant support of an intelligible world, and Aristotle accordingly, while assigning reason to the soul of man, describes it as coming from without, and would seem almost to identify it with God as the eternal and omnipresent thinker³. Even in man, in short, reason realizes some-

thing of the essential characteristic of absolute thought—the unity of thought as subject with thought as object⁴.

¹ ἀπορήσειε δ' ἂν τις εἰ ὁ νοῦς ἀπλοῦν ἐστὶ καὶ ἀπαθὲς καὶ μὴθὲν μὴθὲν ἔχει κοινόν, ὡς περ φησὶν Ἀναξαγόρας, πῶς νῦσσει, εἰ τὸ νοεῖν πάσχειν τί ἐστίν; ἢ γὰρ τι κοινὸν ἀμφοῖν ὑπάρχει, τὸ μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν. *De An.* III. 4, 429^b22.

² ἐπεὶ δ' ὡς περ ἐν ἀπόσει τῇ φύσει ἐστὶ τι τὸ μὲν ὕλη ἐκάστω γενεῖ (τοῦτο δὲ ὁ πάντα δυνάμει ἐκείνα), ἕτερον δὲ τὸ αἰτίων καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἡ τέχνη πρὸς τὴν ὕλην πέποιθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς. καὶ ἐστὶν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξεις τις, οἷον τὸ φῶς τροπον γὰρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργεία χρώματα· καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγῆς τῇ οὐσίᾳ ὡν ἐνεργεία. *De An.* III. 5, 430^a10.

³ λελπεται δὲ τὸν νοῦν μόνον θηράθειν ἐπεισιέναι καὶ θεῖον εἶναι μόνον. *Gen. An.* II. 3, 736^b28.

⁴ αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ. νοητὸς γὰρ γίνεταί θηγγάνων καὶ νοῦν ὥστε ταῦτον νοῦς καὶ νοητόν. τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς. *Meta.* A. 7, 1072^b20.

αὐτὸν ἀρα νοεῖ, (i.e. the divine substance) εἴπερ ἐστὶ τὸ κράτιστον, καὶ ἐστὶν ἡ νόησις νοήσεως νόησις. φαίνεται, δ' αἰεὶ ἄλλου ἢ ἐπιστήμῃ καὶ ἢ αἰσθησὶς καὶ ἢ δόξα καὶ ἢ διανοία, αὐτῆς δ' ἐν παρέργῳ. ἢ ἐπ' ἐνίων ἢ ἐπιστήμῃ τὸ πρᾶγμα· ἐπὶ μὲν τῶν ποιητικῶν ἀνεῖ ὕλης ἢ οὐσίας καὶ τὸ τί ἦν εἶναι, ἐπὶ δὲ τῶν θεωρητικῶν ὁ λόγος τὸ πρᾶγμα καὶ ἡ νόησις [i.e. in speculative sciences the thought is also the object (πρᾶγμα)]. οὐχ ἕτερον οὖν ὄντος τοῦ νοημένου καὶ τοῦ νοῦ, ὅσα μὴ ἴλην ἔχει, τὸ αὐτὸ ἐστίν, καὶ ἡ νόησις τῷ νοουμένῳ μία. (*Meta.* A. 9, 1074^b33.) ἐπὶ μὲν γὰρ τῶν ἀνεῖ ὕλης τὸ αὐτὸ ἐστὶ τὸ νοῦν καὶ τὸ νοούμενον. *De An.* 430^a2.

ἀρίστην) continued besides throughout a lifetime (ἐν βίῳ τελείῳ)¹.

CHAPTER VII.

MORAL PHILOSOPHY.

57. Ethics, as viewed by Aristotle, is an attempt to find out what is man's chief end or highest good—an end which he maintains is really final (τέλος τέλειον) because though many ends of life are only means to further ends, our aspirations and desires must have at last some absolute object of pursuit in which to rest¹. Such a chief end is universally called happiness (εὐδαιμονία), but people mean such different things by the expression that he finds it necessary to discuss the nature of it for himself². It must be, to begin with, based on human nature³. Morality in short must rest upon the conditions of human life, and its method must be that of starting from the facts of personal experience⁴. Thus happiness cannot be found in any abstract transcendental notion like a Platonic self-existing good: it must be something practical and human⁵. It must then be found in the work and life peculiar to man. But this is neither the vegetative life we share with plants nor the sensitive existence which we share with animals⁶. It follows therefore that true happiness lies in the active life of a rational being or in a perfect realization and outworking of the true soul and self (ἐνέργεια ψυχῆς κατ' ἀρετὴν

¹ πᾶσα τέχνη καὶ πᾶσα μέθοδος, ὁμοίως δὲ πρᾶξις τε καὶ προαίρεσις ἀγαθοῦ τινὸς ἐφίεσθαι δοκεῖ· διὸ καλῶς ἀπεφίησαντο τ' ἀγαθόν, οὗ πάντ' ἐφίεται...εἰ δὲ τι τέλος ἐστὶ τῶν πρακτῶν ὃ δι' αὐτὸ βουλόμεθα, τᾶλλα δὲ διὰ τοῦτο, καὶ μὴ πάντα δι' ἕτερον αἰρούμεθα (πρᾶξις γὰρ οὕτω γ' εἰς ἄπειρον ὥστ' εἶναι κενὴν καὶ ματαίαν τὴν ὄρεξιν), δῆλον ὅς τοῦτ' ἂν εἴη τὰγαθὸν καὶ τὸ ἀριστον. *Eth. Nic.* I. 1, 1094^a1.

² λέγομεν δὲ τί ἐστὶν οὐ λέγομεν τὴν πολιτικὴν ἐφίεσθαι καὶ τί τὸ πάντων ἀκρότατον τῶν πρακτῶν ἀγαθῶν. ὀνόματι μὲν οὖν σχεδὸν ὑπὸ τῶν πλείστων ὁμολογεῖται...περὶ δὲ τῆς εὐδαιμονίας, τί ἐστίν, ἀμφισβητοῦσι, καὶ οὐχ ὁμοίως οἱ πολλοὶ τοῖς σοφοῖς ἀποδιδόασιν. *Eth. Nic.* I. 4, 1095^a15.

³ τῆς πολιτικῆς οὐκ ἐστὶν οἰκείος ἀκροατῆς ὁ νέος· ἄπειρος γὰρ τῶν κατὰ τὸν βίον πράξεων, οἱ λόγοι δ' ἐκ τούτων καὶ περὶ τούτων. *Eth. Nic.* I. 3, 5, 1095^a2.

⁴ ἀρκτέον μὲν οὖν ἀπὸ τῶν γνωρίμων, ταῦτα δὲ διττῶς· τὰ μὲν γὰρ ἡμῖν τὰ δ' ἀπλῶς· ἴσως οὖν ἡμῖν γε ἀρκτέον ἀπὸ τῶν ἡμῖν γνωρίμων. διὸ δεῖ τοῖς ἔθεσιν ἡχθαί καλῶς τὸν περὶ καλῶν καὶ δικαίων καὶ ὅλων τῶν πολιτικῶν ἀκούσμενον ἰκανῶς. ἀρχὴ γὰρ τὸ ὅτι. *Eth. Nic.* I. 4, 5.

⁵ εἰ γὰρ καὶ ἐστὶν ἐν τῷ κοινῷ κατηγορούμενον ἀγαθὸν ἢ χωριστόν τι αὐτὸ καθ' αὐτὸ, δῆλον ὅς οὐκ ἂν εἴη πρακτὸν οὐδὲ κτητὸν ἀνθρώπων· νῦν δὲ τοιοῦτόν τι ζητεῖται. *Eth. Nic.* I. 6, 13, 1098^b32.

⁶ ἀλλ' ἴσως τὴν μὲν εὐδαιμονίαν τὸ ἀριστον λέγειν ὁμολογουμένον τι φαίνεται, ποθεῖται δ' ἐναργέστερον τί ἐστὶν ἐπιλεχθῆναι· τάχα δὲ γένοιτ' ἂν τοῦτ', εἰ ληφθείη τὸ ἔργον τοῦ ἀνθρώπου...τί οὖν δὴ τοῦτ' ἂν εἴη ποτέ; τὸ μὲν γὰρ ζῆν κοινὸν εἶναι φαίνεται καὶ τοῖς φντοῖς, ζητεῖται δὲ τὸ ἴδιον. ἀφοριστέον ἄρα τὴν θρεπτικὴν καὶ αὐξητικὴν ζωὴν, ἐπομένη δὲ αἰσθητικὴ τις ἂν εἴη· φαίνεται δὲ καὶ αὕτη κοινὴ καὶ ἴστω καὶ παντὶ ζῳῳ. *Eth. Nic.* I. 7, 10, 1097^b22.

⁷ λείπεται δὴ πρακτικὴ τις (ζωὴ) τοῦ λόγον ἔχοντος.

διτῶς (*i.e.* in the two senses of ἕξις and ἐνέργεια) δὲ καὶ ταύτης λεγομένης, τὴν κατ' ἐνέργειαν θετέον¹ κυριώτερον γὰρ αὐτῇ δοκεῖ λέγεσθαι. εἰ δ' ἐστὶν ἔργον ἀνθρώπου ψυχῆς ἐνέργεια κατὰ λόγον ἢ μὴ ἄνευ λόγου, τὸ δ' αὐτὸ φανερον ἔργον εἶναι τῷ γένει τοῦδε καὶ τοῦδε σπουδαίου ὡσπερ κιθαριστοῦ καὶ σπουδαίου κιθαριστοῦ (this explains why the life and its development must be taken in their best and perfect state or ἀρετῇ), τὸ ἀνθρώπινον ἀγαθὸν ψυχῆς ἐνέργεια γίνεται κατ' ἀρετὴν, εἰ δὲ πλείους αἱ ἀρεταὶ κατὰ τὴν ἀρίστην καὶ τελειοτάτην. ἐτι δ' ἐν βίῳ τελείω. μία γὰρ χελιδὼν ἔαρ σὸ ποιεῖ σὺδὲ μία ἡμέρα² οὔτε δὲ οὔδε μακάριον καὶ εὐδαίμονα μία ἡμέρα οὐδ' ὀλίγος χρόνος. *Eth. Nic.* I. 7. 14.

58. Psychology, as an analysis of human nature, expands and interprets this biological conception of happiness. Happiness, we have just seen, is an out-working of man's true soul; and the moralist must therefore have some knowledge of it¹. Now this soul, which is on the one hand purely vegetative and animal (τὸ φυτικόν), presents on the other hand two main aspects for the moralist, (α) the feelings and desires as amenable to reason (ὀρεκτικόν—λόγου μέτεχον), and (β) the reason and the intellectual powers (τὸ λόγον ἔχον κυρίως). It follows that the perfect development of human nature will include *first* a perfect development and true regulation of the feelings and desires in moral excellence (ἀρετὴ ἠθικὴ) or virtue, and *secondly* a perfect development of the intellectual faculties in an ἀρετὴ διανοητικὴ or mental culture².

¹ εἰ δὲ ταῦθ' οὕτως ἔχει, δῆλον ὅτι δεῖ τὸν πολιτικὸν εἰδέναι πῶς τὰ περὶ ψυχῆν ὡσπερ καὶ τὸν ὀφθαλμοῦς θεραπεύοντα καὶ πᾶν σῶμα...λέγεται δὲ περὶ αὐτῆς καὶ ἐν τοῖς ἐξωτερικοῖς λόγοις ἀρκούντως ἔνια καὶ χρηστέρων αὐτοῖς.

οἷον τὸ μὲν ἄλογον αὐτῆς εἶναι, τὸ δὲ λόγον ἔχον. τοῦ ἀλόγου δὲ τὸ μὲν εἴκοε κοινῶ καὶ φυτικῶ, λέγω δὲ τὸ αἰτιον τοῦ τρέφεσθαι καὶ αὔξεσθαι...ἀλλὰ τὸ θρεπτικὸν ἑατέον ἐπειδὴ τῆς ἀνθρωπικῆς ἀρετῆς ἀμοιρον πέφυκεν. εἴκοε δὲ καὶ ἄλλη τις φύσις τῆς ψυχῆς ἄλογος εἶναι μετέχουσα μέντοι πῆ λόγου. τοῦ γὰρ ἐγκρατοῦς καὶ ἀκρατοῦς τὸν λόγον καὶ τῆς ψυχῆς τὸ λόγον ἔχον ἐπαινοῦμεν³ ὀρθῶς γὰρ καὶ ἐπὶ τὰ βέλτεστα παρακαλεῖ· φαίνεται δ' ἐν αὐτοῖς καὶ ἄλλο τι παρὰ τὸν λόγον πεφυκὸς δ' μάχεται τε καὶ ἀντιτείνει τῷ λόγῳ... λόγου δὲ καὶ τοῦτο φαίνεται μετέχειν, ὡσπερ εἶπομεν· πειθαρχεῖ γοῦν τῷ λόγῳ τὸ τοῦ ἐγκρατοῦς. *Eth. Nic.* I. 13. 9.

² φαίνεται δὴ καὶ τὸ ἄλογον διττόν. τὸ μὲν γὰρ φυτικὸν οὐδαμῶς κοινωνεῖ λόγου, τὸ δ' ἐπιθυμητικὸν καὶ ὅλως ὀρεκτικὸν μετέχει πῶς, ἢ κατήκοον ἔστω αὐτοῦ καὶ πειθαρχικόν... εἰ δὲ χρῆ καὶ τοῦτο φάναι λόγον ἔχειν, διττόν ἐσται [καὶ] τὸ λόγον ἔχον, τὸ μὲν κυρίως καὶ ἐν αὐτῷ, τὸ δ' ὡσπερ τοῦ πατρὸς ἀκουστικόν τι. διορίζεται δὲ καὶ ἡ ἀρετὴ κατὰ τὴν διαφορὰν ταύτην. λέγομεν γὰρ αὐτῶν τὰς μὲν διανοητικὰς, τὰς δὲ ἠθικὰς, σοφίαν μὲν καὶ σύνεσιν καὶ φρόνησιν διανοητικὰς, ἐλευθεριότητα δὲ καὶ σωφροσύνην ἠθικὰς. *Eth. Nic.* I. 13. 18, 1102^b30. The following diagram may assist in comprehending the subject*.



59. Moral Virtue, while distinguished from all natural

* The diagram I fear necessarily seems to draw divisions where aspects only are to be distinguished. I quite agree at least with Prof. Sussemihl in holding that Aristotle's meaning is "not that the rational soul is two-fold; but that if we reckon the appetitive soul as rational, then the last mentioned will be two-fold." Whether καὶ after διττόν ἐσται is or is not omitted seems to me immaterial.

character¹. His list may be represented by the following table :

<i>Defect</i>	<i>Mean</i>	<i>Excess</i>
Cowardice	Courage	Rashness
Insensibility	Temperance	Intemperance
Illiberality	Liberality	Prodigality
Pettiness	Munificence	Vulgarity
Humble-mindedness	High-mindedness	Vaingloriousness
Want of Ambition	Right Ambition	Over-ambition
Spiritlessness	Good Temper	Irascibility
Surliness	Friendly Civility	Obsequiousness
Ironical Depreciation	Sincerity	Boastfulness
Boorishness	Wittiness	Buffoonery
Shamelessness	Modesty	Bashfulness
Callousness	Just Resentment	Spitefulness.

The prominent virtue of this list is high-mindedness, or *μεγαλοψυχία*, which, as being a kind of ideal self-respect, is regarded as the crown of all the other virtues, depending on them for its existence, and itself in turn tending to intensify their force². The list seems to be more a deduction from the formula than a statement of the facts on which the formula itself depends, and Aristotle accordingly finds language frequently—*e.g.* in dealing with the virtue of ambition—inadequate to express the states of excess or defect which his theory involves³. Throughout the list he insists on the “autonomy of will” as indispensable to virtue: courage for instance is only really worthy of the name when done from a love of honour and duty (*διὰ τὸ καλόν*): munificence again becomes

vulgarity when exercised not from love of what is right and beautiful, but for displaying wealth⁴.

¹ δει δὲ τοῦτο μὴ μόνον καθόλου λέγεσθαι ἀλλὰ καὶ τοῖς καθ' ἕκαστα ἐφαρμογῶται· ἐν γὰρ τοῖς περὶ τὰς πράξεις λόγους οἱ μὲν καθόλου κενώτεροί εἰσιν, οἱ δ' ἐπὶ μέρους ἀληθινώτεροι· περὶ γὰρ τὰ καθ' ἕκαστα αἱ πράξεις, δεόν' δ' ἐπὶ τούτων συμφανεῖν. ληπτέον οὖν ταῦτα ἐκ τῆς διαγραφῆς. *Eth. Nic.* II. 7. 1, 1107^a28.

² εἶκοι μὲν οὖν ἡ μεγαλοψυχία οἷον κόσμος τις εἶναι τῶν ἀρετῶν· μείζους γὰρ αὐτὰς ποιεῖ καὶ οὐ γίνεται ἄνευ ἐκείνων. διὰ τοῦτο χαλεπὸν τῇ ἀληθείᾳ μεγαλόψυχον εἶναι· οὐ γὰρ οἷόν τε ἄνευ καλοκάγαθίας. *Eth. Nic.* IV. 3, 16, 1124^a1.

³ ἔστι μὲν οὖν καὶ τούτων τὰ πλείω ἀνώνημα, πειρατέον δ' ὡσπερ καὶ ἐπὶ τῶν ἄλλων αὐτοὺς ὀνοματοποιεῖν σαφηνείας ἕνεκεν καὶ τοῦ εὐπαρακολουθήτου. II. 7. 11. *CP.* IV. 7. 1, περὶ τὰ αὐτὰ δὲ σχεδὸν ἐστὶ καὶ ἡ τῆς ἀλαζονείας μεσότης· ἀνώνημος δὲ καὶ αὐτῇ· οὐ χείρον δὲ καὶ τὰς τοιαύτας ἐπελθεῖν.

⁴ τέλος δὲ πόσης ἐνεργείας ἐστὶ τὸ κατὰ τὴν ἔξιν. καὶ τῷ ἀνδρείῳ δὲ ἡ ἀνδρεία καλόν. τοιοῦτον δὲ καὶ τὸ τέλος. καλὸν δὲ ἕνεκα ὃ ἀνδρείος ὑπομένει καὶ πράττει τὰ κατὰ τὴν ἀνδρείαν... δει δ' οὐδὲ ἀνάγκη ἀνδρείον εἶναι ἀλλ' ὅτι καλόν. *Eth. Nic.* III. 7. 6. καὶ πάντα τὰ τοιαῦτα ποιήσει (*i.e.* ὁ βάναντος) οὐ τοῦ καλοῦ ἕνεκα ἀλλὰ τὸν πλοῦτον ἐπιδεικνύμενος καὶ διὰ ταῦτα οἰόμενος θανατῶσθαι. IV. 2. 20, 1123^a25.

61. Justice (*δικαιοσύνη*) is used at once in a general and in a special sense. In its general significance it is equivalent to the observance of law, and is as such coextensive with virtue, differing only in that while virtue exercises the disposition simply in the abstract, justice applies it in dealings with another¹. Particular Justice displays itself in the two forms of Distributive Justice (*δίκαιον ἐν ταῖς διανομαῖς*) which awards honours and rewards according to the merits of the recipients, and Corrective Justice (*δίκαιον διορθωτικόν*) which takes no

account of the position of the parties concerned but simply seeks to secure equality between the two by taking away from the advantage of the one and adding it to the disadvantage of the other². Simple Retaliation and Reciprocity (τὸ ἀντιπεποιθός) therefore is not a sufficient account of either distributive or corrective Justice, but it is an adequate formula for civil communion, which just rests upon such a relation between producer and consumer as is measured by a currency³. Justice however is unequal to the complexity of life, and has therefore to be supplemented by Equity (ἐπιεικεία) which corrects and modifies law where it falls short owing to its universal character⁴. Evidently therefore morality requires a standard which shall not only regulate the inadequacies of absolute justice but be also an ideal of moral progress.

¹ εἶκοι δὲ πλεοναχῶς λέγεσθαι ἢ δικαιοσύνη καὶ ἡ ἀδικία. δοκεῖ δὲ ὁ τε παράνομος ἀδικος εἶναι καὶ ὁ πλεονέκτης καὶ ὁ ἄνιστος, ὥστε θῆλον ὅτι καὶ ὁ δίκαιος ἔσται ὁ τε νόμιμος καὶ ὁ ἴσος... αὕτη μὲν οὖν ἡ δικαιοσύνη οὐ μέρος ἀρετῆς ἀλλ' ὅλη ἀρετὴ ἐστίν, οὐδ' ἢ ἐναντία ἀδικία μέρος κακίας ἀλλ' ὅλη κακία. τί δὲ διαφέρει ἡ ἀρετὴ καὶ ἡ δικαιοσύνη αὕτη θῆλον ἐκ τῶν εἰρημίων. ἔστι μὲν γὰρ ἡ αὐτή, τὸ δ' εἶναι οὐ τὸ αὐτό (i. e. while fundamentally the same their mode of existence is different), ἀλλ' ἢ μὲν πρὸς ἕτερον δικαιοσύνη, ἢ δὲ τοιαύδε ἕξις ἀπλῶς, ἀρετῆ. *Eth. Nic.* v. 1, 1120^a26.

² τῆς δὲ κατὰ μέρος δικαιοσύνης καὶ τοῦ κατ' αὐτὴν δίκαιον ἐν μὲν ἐστὶν εἶδος τὸ ἐν ταῖς διανομαῖς τιμῆς ἢ χρημάτων ἢ τῶν ἄλλων ὅσα μεριστὰ τοῖς κοινωνοῦσι τῆς πολιτείας, ἐν δὲ τὸ ἐν τοῖς συναλλάγμασι διορθωτικόν.... τὸ μὲν γὰρ διανεμητικὸν δίκαιον τῶν κοινῶν αἰεὶ κατὰ τὴν ἀναλογίαν... τὸ δ' ἐν τοῖς συναλλάγμασι δίκαιον ἐστὶ μὲν ἴσον τι ἀλλ' οὐ κατὰ τὴν ἀναλογίαν ἐκείνην ἀλλὰ κατὰ τὴν ἀριθμητικὴν. οὐδὲν γὰρ διαφέρει εἰ ἐπιεικῆς φαῖλον ἀπιστέρησεν ἢ φαῖλος ἐπιεικῆ, ἀλλὰ πρὸς τοῦ βλάβους τὴν διαφορὰν μόνον

βλέπει ὁ νόμος... ὥστε τὸ ἐπανορθωτικὸν δίκαιον ἂν εἴη τὸ μέσον ζημίας καὶ κέρδους. *Eth. Nic.* v. 2, 1130^b30.

³ δοκεῖ δὲ τισὶ καὶ τὸ ἀντιπεποιθός εἶναι ἀπλῶς δίκαιον, ὥσπερ οἱ Πυθαγόρειοι ἔφασαν. τὸ δ' ἀντιπεποιθός οὐκ ἐφαρμόττει οὐτ' ἐπὶ τὸ διανεμητικὸν δίκαιον οὐτ' ἐπὶ τὸ διορθωτικόν... ἀλλ' ἐν ταῖς κοινωνίαις ταῖς ἀλλακτικαῖς συνεχεῖ τὸ τοιοῦτον δίκαιον τὸ ἀντιπεποιθός, κατ' ἀναλογίαν καὶ μὴ κατ' ἰσότητα· τῷ ἀντιποιεῖν γὰρ ἀνάλογον συμμένει ἢ πόλις. *Eth. Nic.* v. 5, 1132^b21.

⁴ καὶ ἔσται αὕτη ἡ φύσις ἢ τοῦ ἐπιεικοῦς ἐπανορθωμα νόμου, ἢ ἑλλείπει διὰ τὸ καθάλου. *Eth. Nic.* v. 10, 6, 1137^b26.

62. This Ideal of Morality is given by the faculty of moral insight (φρόνησις), which is at once the cause and the effect of virtue, so that the truly good man is at the same time the man of perfect insight, and the man of true insight is also perfectly good¹. Thus the moral ἀρχή—the conception of the ultimate end of moral action—is the growth of habitual experience (ἔθισμος), and gradually frames itself out of particular perceptions: but the apprehension of these particulars is implicitly an exercise of reason². The relation of intellect to morality is not therefore so close as it was represented by Socrates: rather the intellectual element in virtue is a mere faculty of cleverness (δανότης), which may develop into either moral wisdom or deep-seated villainy. At the same time—so Aristotle modifies the Socratic standpoint—virtue is only true and established virtue, when, instead of resting on merely irrational impulses, it involves this moral insight: and such an understanding of the principles of conduct necessarily gives an unity to conduct, so that the man who possesses one virtue, in the true sense of the word, *ipso facto* possesses all³.

a syllogism in which a general principle of morality forms the major premiss, while the particular application is the minor: but the conclusion which is arrived at speculatively is not always that which is executed practically². The question in fact must be studied not logically but psychologically and physiologically (φυσικῶς): and when we regard the problem in this manner, we find that appetite can lead to a minor premiss being applied to one rather than another of two major premisses existing in the mind³. Animals, on the other hand, cannot be called weak or incontinent just because such a conflict of principles is with them impossible⁴.

¹ Σωκράτης μὲν γὰρ ὅλως ἐμάχετο πρὸς τὸν λόγον ὡς οὐκ οὕτως ἀκρασίας· οὐθένα γὰρ ὑπολαμβάνοντα πρᾶττει παρὰ τὸ βέλτιστον ἀλλὰ δι' ἀγνοίαν· οὗτος μὲν οὖν ὁ λόγος ἀμφισβητεῖ τοῖς φαινόμενοις ἐναργῶς. *Eth. Nic.* VII. 2, 2, 1145^b 25.

² οἱ γὰρ συλλογισμοὶ τῶν πρακτῶν ἀρχὴν ἔχοντές εἰσιν, ἐπειδὴ τοιούδε τὸ τέλος καὶ τὸ ἄριστον. VI. 12. 10, 1144^a 31.

³ ἐτι καὶ ἄδε φυσικῶς ἂν τις ἐπιβλέψειε τὴν αἰτίαν. ἡ μὲν γὰρ καθόλου δόξα, ἡ δ' ἕτερα περὶ τῶν καθ' ἕκαστά ἐστι, ὧν αἰσθησις ἤδη κυρία· ὅταν οὖν ἡ μὲν γίνηται ἐξ αὐτῶν, ἀνάγκη τὸ συμπερανθέν εἶθαι (i.e. in the intellectual sphere) μὲν φάναι τὴν ψυχὴν, ἐν δὲ ταῖς ποιητικαῖς πράττειν εὐθύς, οἷον, εἰ παντός γλυκεὸς γεύεσθαι δεῖ, τοῦτι δὲ γλυκὺ ὡς ἐν τι τῶν καθ' ἕκαστον, ἀνάγκη τὸν δυνάμενον καὶ μὴ κωλυόμενον ἅμα τοῦτο καὶ πράττειν· ὅταν οὖν ἡ μὲν καθόλου ἐγὼ κωλυνοῦσα γεύεσθαι, ἡ δὲ ὅτι πᾶν τὸ γλυκὺ ἡδύ, τοῦτι δὲ γλυκὺ (αὐτῇ δὲ ἐνεργεί), τύχη δ' ἐπιθυμία ἐνοῦσα, ἡ μὲν λέγει φεύγειν τοῦτο, ἡ δ' ἐπιθυμία ἄγει· κινεῖν γὰρ ἕκαστον δυνατὸν τῶν μορίων ὥστε συμβαίνει ὑπὸ λόγου πως καὶ δόξης ἀκρατεῖσθαι, οὐκ ἐναντίας δὲ καθ' αὐτήν, ἀλλὰ κατὰ συμβεβηκός. *Eth. Nic.* VII. 3, 9, 1147^a 24.

⁴ καὶ διὰ τοῦτο τα θηρία οὐκ ἀκρατῆ, ὅτι οὐκ ἔχει τῶν καθόλου ὑπόληψιν, ἀλλὰ τῶν καθ' ἕκαστα φαντασίαν καὶ

μνήμην. 1147^b 4. διὸ καὶ τὰ θηρία οὔτε σώφρονα οὔτ' ἀκόλαστα λέγομεν, ἀλλ' ἡ κατὰ μεταφορὰν· οὐ γὰρ ἔχει προαίρεσιν οὐδὲ λογισμὸν, ἀλλ' ἐξέστηκε τῆς φύσεως [are in their actions the result of nature] ὥσπερ οἱ μαινόμενοι τῶν ἀνθρώπων. *Eth. Nic.* VII. 6, 1149^b 31.

65. Pleasure is not to be identified with Good, although many of the arguments advanced against the identification of the two are more or less fallacious¹. The Platonic argument, for instance, which treats it as a process of becoming—a progress consciously perceived towards a natural condition (γένεσις εἰς φύσιν αἰσθητή)—and maintains that it consequently cannot be something real or final—takes account of little but bodily enjoyment: pleasure is rather found in the consciousness of free spontaneous action (ἐνέργεια ἀνεμπόδιτος)—it is a completed indivisible experience like vision, and is always present when a perfect organ acts upon a perfect object². Pleasures accordingly differ in kind: varying along with the different value of the functions of which they are the expression, and determined ultimately by the judgment of “the good man” (σπουδαῖος)³.

¹ τοῖς μὲν οὖν δοκεῖ οὐδεμία ἡδονὴ εἶναι ἀγαθόν, οἷτε καθ' αὐτὸ οὔτε κατὰ συμβεβηκός... ὅτι δ' οὐ συμβαίνει διὰ ταῦτα μὴ εἶναι ἀγαθόν μηδὲ τὸ ἄριστον, ὅλον. *Eth. Nic.* VII. 12, 1152^b 9. ὅτι μὲν οὖν οὔτε τὰγαθὸν ἢ ἡδονὴ οὔτε πᾶσα αἰρετῆ, ὅλον ἔοικεν εἶναι. X. 3, 13, 1174^a 8.

² διὸ καὶ οὐ καλῶς ἔχει τὸ αἰσθητὴν γένεσιν φάναι εἶναι τὴν ἡδονήν, ἀλλὰ μᾶλλον λεκτέον ἐνέργειαν τῆς κατὰ φύσιν ἔξεως, ἀντὶ δὲ τοῦ αἰσθητὴν ἀνεμπόδιτον. *Eth. Nic.* VII. 12, 3. ὅλον γὰρ τί ἐστι καὶ κατ' οὐδένα χρόνον λάβοι τις ἂν ἡδονὴν ἢς ἐπὶ πλείω χρόνον γινομένης τελεωθήσεται τὸ εἶδος. X. 4, 1. κατὰ πᾶσαν γὰρ αἰσθησὶν ἐστιν ἡδονή, ὁμοίως δὲ καὶ δαίνοισιν καὶ θεωρίαις, ἡδίστη δ' ἡ τελειοτάτη,

τελειοτάτη δ' ἢ τοῦ εὖ ἔχοντος πρὸς τὸ σπουδαιότατον τῶν ὑφ' αὐτῆν. τελειοὶ δὲ τὴν ἐνέργειαν ἢ ἡδονή. X. 4. 5, 1174^b20.
^a ὅθεν δοκοῦσι καὶ τῷ εἶδει διαφέρειν· τὰ γὰρ ἕτερα τῷ εἶδει ὑφ' ἑτέρων οἰόμεθα τελειοῦσθαι. X. 5. 1, 1175^a21. δοκεῖ δ' ἐν ἅπασιν τοῖς τοιούτοις εἶναι τὸ φαινόμενον τῷ σπουδαίῳ. 1176^a15.

66. Man's chief end being the perfect development of his true nature (*ἐνέργεια ψυχῆς*), it must be particularly found in the realization of his highest faculty or reason¹. It is this in fact which constitutes our personality, and man would be pursuing not his own life, but the life of some lower being, if he followed any other aim. Self-love accordingly may be said to be the highest law of morals, because while such self-love may be understood as the selfishness which gratifies a man's lower nature, it may also be, and is rightly, the love of that higher and rational nature which constitutes each man's true self². Such a life of thought (*βίος θεωρητικός*) is further recommended as that which is most pleasant, most self-sufficient, most continuous, and most consonant with *σχολή*. It is also that which is most akin to the life of God: for God cannot be conceived as practising the ordinary moral virtues and must therefore find his happiness in contemplation³.

¹ εἰ δ' ἐστὶν ἡ εὐδαιμονία κατ' ἀρετὴν ἐνέργεια, εὐλογον κατὰ τὴν κρατίστην· αὕτη δ' ἂν εἴη τοῦ ἀρίστου... ὅτι δ' ἐστὶ θεωρητικὴ, εἰρηται... κρατίστη τε γὰρ αὕτη ἐστὶν ἡ ἐνέργεια· καὶ γὰρ ὁ νοῦς τῶν ἐν ἡμῖν (*i.e.* κράτιστος), καὶ τῶν γνωστώων, περὶ ἃ ὁ νοῦς. *Eth. Nic.* X. 7. 1, 1177^a12.

² δόξειε δ' ἂν ὁ τοιοῦτος μᾶλλον εἶναι φίλαντος, ἀπο- νέμει γοῦν ἑαυτῷ τὰ κάλλιστα καὶ μάλιστα ἀγαθὰ, καὶ χαρίζεται ἑαυτοῦ τῷ κυριώτατῳ καὶ πάντα τοῦτῳ πεθεταί· ὡς περὶ δὲ καὶ πόλις τὸ κυριώτατον μάλιστα εἶναι δοκεῖ καὶ πᾶν ἄλλο

σύστημα, οὕτω καὶ ἄνθρωπος· καὶ φίλαντος δὴ μάλιστα ὁ τοῦτο ἀγαπῶν καὶ τοῦτῳ χαρίζομενος. *Eth. Nic.* IX. 8. 6, 1168^b28.

³ ὁ δὲ τοιοῦτος ἂν εἴη βίος κρείττων ἢ κατ' ἄνθρωπον. οὐ γὰρ ἢ ἄνθρωπος ἐστὶν οὕτω βιώσεται, ἀλλ' ἢ θεῖον τι ἐν αὐτῷ ὑπάρχει... δόξειε δ' ἂν καὶ εἶναι ἕκαστος τοῦτο, εἴπερ τὸ κύριον καὶ ἀμεινον' ἀποπον οὖν γίνοιτ' ἂν εἰ μὴ τὸν αὐτοῦ βίον αἰροῦτο ἀλλὰ τινος ἄλλου. *Eth. Nic.* X. 7. 8, 1177^b26.

ἡ δὲ τελεία εὐδαιμονία ὅτι θεωρητικὴ τίς ἐστὶν ἐνέργεια, καὶ ἐντεῦθεν ἂν φανεῖ. τοὺς θεοὺς γὰρ μάλιστα ὑπεκλήφαμεν μακαρίους εἶναι. πράξεις δὲ ποίας ἀπονείμει χρεῶν αὐτοῖς;... τῷ δὲ ζῶντι τοῦ πράττειν ἀφαιρουμένου, εἶτι δὲ μᾶλλον τοῦ ποιεῖν, τί λείπεται πληρὴ θεωρία; *Eth. Nic.* X. 8, 1178^b7.

67. Friendship is an indispensable aid in framing for ourselves the higher moral life; if not itself a virtue, it is at least a concomitant of virtue, and it proves itself of service in almost all conditions of our existence¹. Such results, however, are to be derived not from the worldly friendships of utility or pleasure, but only from those which are founded on virtue². The true friend is in fact a second self, and the true moral value of friendship lies in the fact that the friend presents to us a mirror of good actions, and so intensifies our consciousness and our appreciation of life³.

¹ ἔστι γὰρ ἀρετὴ τις ἢ μετ' ἀρετῆς, εἶτι δ' ἀναγκαῖοτατον εἰς τὸν βίον· ἀνευ γὰρ φίλων οὐδεὶς ἐλοιτ' ἂν ζῆν. *Eth. Nic.* VIII. 1. ἀποπον δ' ἴσως καὶ τὸ μονώτην ποιεῖν τὸν μακαρίον· οὐθεὶς γὰρ ἐλοιτ' ἂν καθ' αὐτὸν τὰ πάντ' ἔχειν ἀγαθὰ· πολιτικὸν γὰρ ὁ ἄνθρωπος καὶ συζῆν πεφυκός. *Eth. Nic.* IX. 9. 3, 1169^b16.

² δοκεῖ αὖ πᾶν φιλεῖσθαι, ἀλλὰ τὸ φιλεῖν, τοῦτο δ' εἶναι ἀγαθὸν ἢ ἡδὺ ἢ χρήσιμον... τρία δὲ τὰ τῆς φιλίας εἶδη, ἰσάριθμα τοῖς φιλητοῖς... οἱ μὲν αἰνὰ διὰ τὸ χρήσιμον φιλοῦντες

ἀλλήλοις, οὐ καθ' αὐτοὺς φιλοῦσιν, ἀλλ' ἢ γίνεται τι αὐτοῖς παρ' ἀλλήλων ἀγαθόν. τελεία δ' ἐστὶν ἡ τῶν ἀγαθῶν φιλία καὶ κατ' ἀρετὴν ὁμοίων. VIII. 4. 1, 1156^b7.

³ ὁ μακάριος δὴ φίλων τοιούτων δεήσεται, εἴπερ θεωρεῖν προαιρείται πράξεις ἐπιεικῆς καὶ οἰκείας· τοιαῦτα δ' αἱ τοῦ ἀγαθοῦ φίλον ὄντος...ὡς δὲ πρὸς ἑαυτὸν ἔχει ὁ σπουδαῖος, καὶ πρὸς τὸν φίλον· ἕτερος γὰρ αὐτὸς ὁ φίλος ἐστίν. καθάπερ οὖν τὸ αὐτὸν εἶναι αἰρετόν ἐστιν ἑκάστω, οὕτω καὶ τὸν φίλον, ἢ παραπλησίως. *Eth. Nic.* IX. 9, 10, 1170^a2.

CHAPTER VIII.

POLITICAL PHILOSOPHY.

68. Politics Aristotle regards not as a Science separate from Ethics: but as the completion and (almost) verification of it in a true philosophy of humanity (ἡ περὶ τὰ ἀνθρώπινα φιλοσοφία): the moral ideal in political administration being only a different aspect of that which also applies itself to individual happiness¹. Man is by nature a social being, and the possession of rational speech (λόγος) in itself leads him to the social union².

¹ εἰ γὰρ καὶ ταῦτόν ἐστιν ἐνὶ καὶ πόλει, μείζον γε καὶ τελειότερον τὸ τῆς πόλεως φαίνεται καὶ λαβεῖν καὶ σῶζειν... ἡ μὲν οὖν μέθοδος τούτων ἐφίεται, πολιτικὴ τις οὐσα. *Eth. Nic.* I. 2, 1094^b8.

σκοπεῖν δὴ τὰ προειρημένα χρῆ ἐπὶ τὰ ἔργα καὶ τὸν βίον ἐπιφέροντας, καὶ συναδόντων μὲν τοῖς ἔργοις ἀποδεκτόν, διαφωνούντων δὲ λόγου ὑποληπτόν. *Eth. Nic.* X. 8. 12, 1179^a20.

ἔστι δὲ καὶ ἡ πολιτικὴ καὶ ἡ φρόνησις ἡ αὐτὴ μὲν ἕξις, τὸ μέντοι εἶναι οὐ ταῦτόν αὐταῖς. *Eth. Nic.* VI. 8. 1, 1141^b24.

² ἀνθρώπος φύσει πολιτικὸν ζῶον καὶ ὁ ἄπολις διὰ φύσιν καὶ οὐ διὰ τύχην ἦτοι φαῦλός ἐστιν ἢ κρείττων ἢ ἀνθρώπος...διότι δὲ πολιτικὸν ὁ ἀνθρώπος ζῶον...δῆλον. οὐθέν γάρ, ὡς φαμέν, μάτην ἢ φύσιν ποιεῖ λόγον δὲ μόνον ἀν-

θρωπος ἔχει τῶν ζώων· ἡ μὲν οὖν φωνὴ τοῦ λυπηροῦ καὶ ἡδέος ἐστι σημεῖον... ὁ δὲ λόγος ἐπὶ τῷ δηλοῦν ἐστι τὸ συμφέρον καὶ τὸ βλαβερόν. *Pol.* 1. 2. 9, 1253^a2.

69. The State is a development from the family through the village community, an offshoot of the family. Formed originally for the satisfaction of natural wants, it exists afterwards for moral ends and for the promotion of the higher life¹. The State in fact is no mere local union for the prevention of wrong-doing, and the convenience of exchange: no mere material or utilitarian institution for the protection of goods and property; it is a real moral organization for advancing the development of man².

¹ ἡ μὲν οὖν εἰς πᾶσαν ἡμέραν συνεστηκνῖα κοινωνία κατὰ φύσιν οἶκος ἐστίν... ἡ δ' ἐκ πλειόνων οἰκιῶν κοινωνία πρώτη χρήσεως ἕνεκεν μὴ ἐφημέρον κώμη... ἡ δ' ἐκ πλειόνων κομῶν κοινωνία τέλειος, πόλις, ἡ δὴ πάσης ἔχουσα πέρας τῆς αὐταρκείας ὡς ἔπος εἰπεῖν· γιγνομένη μὲν οὖν ταῦ ζῆν ἕνεκεν, οὐσα δὲ τοῦ εὖ ζῆν. *Pol.* 1. 1, 1252^b12.

² φανερόν τοῖνυν ὅτι ἡ πόλις οὐκ ἐστὶ κοινωνία τόπου καὶ τοῦ μὴ ἀδικεῖν σφᾶς αὐτοῦ καὶ τῆς μεταδόσεως χάριν· ἀλλὰ τὰντα μὲν ἀναγκαῖον ὑπάρχειν, εἴπερ ἐστὶ πόλις, οὐ μὴν οὐδ' ὑπαρχόντων τούτων ἀπάντων ἤδη πόλις, ἀλλ' ἡ τοῦ εὖ ζῆν κοινωνία καὶ ταῖς οἰκίαις καὶ τοῖς γένεσι ζωῆς τελείας χάριν καὶ αὐτάρκους. *Pol.* III. 9, 1280^b30.

70. The family, which is chronologically prior to the State, involves a consideration of the relations subsisting between husband and wife, parent and child, master and slave¹. The slave Aristotle regards as a piece of live property having no existence save in relation to his master. Slavery is a natural institution because there is a ruling and a subject-class amongst men related to each other as

soul to body, although from those who are slaves by nature we must distinguish those who have become slaves merely by war and conquest². Household management involves the acquisition of riches, but must be distinguished from money-making for its own sake. Wealth is everything whose value can be measured by money; but it is the use rather than the possession of commodities which constitutes riches³.

¹ πρῶτα δὲ καὶ ἐλάχιστα μέρη οἰκίας δεσπότης καὶ δοῦλος, καὶ πόσις καὶ ἄλλοχος, καὶ πατὴρ καὶ τέκνα. *Pol.* 1. 3.

² τῶν δ' ὀργάνων τὰ μὲν αἴψυχα, τὰ δ' ἐμψυχα... καὶ ὁ δοῦλος κτῆμα τι ἐμψυχόν, καὶ ὡς περ ὄργανον πρὸ ὀργάνων πᾶς ὁ ὑπηρετής... ὁ γὰρ μὴ αὐτοῦ φύσει ἀλλ' ἄλλον, ἄνθρωπος δέ, οὗτος φύσει δοῦλός ἐστι... βούλεται μὲν οὖν ἡ φύσις καὶ τὰ σώματα διαφέροντα ποιεῖν τὰ τῶν ἐλευθέρων καὶ τῶν δούλων, τὰ μὲν ἰσχυρὰ πρὸς τὴν ἀναγκείαν χρήσιν, τὰ δ' ὀρθὰ καὶ ἄχρηστα πρὸς τὰς τοιαύτας ἐργασίας, ἀλλὰ χρήσιμα πρὸς πολιτικὸν βίον. *Pol.* 1. 3, 1253^b 28.

³ χρήματα δὲ λέγομεν πάντα ὅσων ἡ ἀξία νομίσματι μετρεῖται. (*Eth. Nic.* IV. 1. 2, 1119^b 26.) ὁλως δὲ τὸ πλοῦτεῖν ἐστὶν ἐν τῷ χρῆσθαι μᾶλλον ἢ ἐν τῷ κεκτῆσθαι. *Rhet.* 1. 5.

71. Exchange was at first effected by barter in kind, but, with the difficulties of transmission between countries widely separated from one another, money as a currency arose. At first merely so much definitely weighed or measured metal, it afterwards received a stamp to mark the amount¹. Demand is the real standard of value; and currency is therefore a merely conventional representative of demand acting as a mean between the producer and the recipient and so securing reciprocity². Usury is an unnatural and reprehensible use of money³.

¹ ἐστὶ γὰρ ἡ μεταβλητικὴ πάντων, ἀρξάμενη τὸ μὲν πρῶτον ἐκ τοῦ κατὰ φύσιν, τῷ τὰ μὲν πλείω τὰ δὲ ἐλάττω

τῶν ἰκανῶν ἔχειν τοὺς ἀνθρώπους... ἢ μὲν οὖν τοιαύτη μεταβλητική οὔτε παρὰ φύσιν οὔτε χρηματιστικῆς ἐστὶν εἶδος οὐδέν... ἐκ μόνου ταύτης ἐγένετο ἐκείνη κατὰ λόγον· ξενικωτέρας γὰρ γινομένης τῆς βοήθειας τῷ εἰσάγεσθαι ὧν ἐνδεεῖς καὶ ἐκπέμπειν ὧν ἐπλεόναζον, [as the mutual assistance through import and export spread wider] ἐξ ἀνάγκης ἢ τοῦ νόμισματος ἐπορίσθη χρήσις· οὐ γὰρ εὐβάστακτον ἕκαστον τῶν κατὰ φύσιν ἀναγκαίων· διὸ πρὸς τὰς ἀλλαγὰς τοιοῦτόν τι συνέθεντο πρὸς σφᾶς αὐτοὺς διδόναι καὶ λαμβάνειν, ὃ τῶν χρησίμων αὐτὸ ὄν, εἶχε τὴν χρεῖαν ἐμεταχειρίσασθαι πρὸς τὸ ζῆν, οἷον σίδηρος καὶ ἀργυρος, κἂν εἴ τι τοιοῦτον ἕτερον, τὸ μὲν πρῶτον ἀπλῶς ὀρισθὲν μεγέθει καὶ σταθμῷ, τὸ δὲ τελευταῖον καὶ χαρακτῆρα ἐπιβαλλόντων, ἵνα ἀπολύσῃ τῆς μετρήσεως αὐτοῦς. *Pol.* I. 9, 1257^a14.

² οἷον δ' ὑπάλλαγμα τῆς χρεῖας τὸ νόμισμα γέγονε κατὰ συνθήκην. *Eth. Nic.* V. 5. 11, 1133^a29.

³ μεταβολῆς γὰρ ἐγένετο χάριν (τὸ νόμισμα), ὃ δὲ τόκος αὐτὸ ποιεῖ πλεόν. 1258^b5. Cp. *Eth.* I. 5. 8.

72. Communism in wives and property as sketched by Plato in the *Republic* rests upon a false conception of political society, since the state is not the homogeneous unity to which Plato would reduce it, but rather a product of heterogeneous elements¹. His scheme further involves a fallacy of language in its use of "all²:" forgets that what is everybody's business will be nobody's³: leaves no room for the practice of liberality and chastity⁴: destroys friendship, the basis of the political organism, and beyond all attempts to secure, by positive enactments, ends which are better attained by general institutions and culture⁵. Socialism in general forgets that the regulation of desires and the limiting of population is better and more necessary than the equalization of property⁶.

¹ τὸ λίαν ἐνοῦν ζητεῖν τὴν πόλιν οὐκ ἔστιν ἀμεινον... πλήθος γὰρ τι τὴν φύσιν ἐστὶν ἢ πόλις, γιγνομένη τε μία

μᾶλλον οἰκία μὲν ἐξ πόλεως, ἄνθρωπος δ' ἐξ οἰκίας ἔσται. *Pol.* II. 1, 1261^a18.

² ὅτι μὲν τοῦτον παραλογισμὸς τίς ἐστὶ τὸ λέγειν πάντας, φανερόν. 1261^b27.

³ ἥκιστα ἐπιμελείας τυγχάνει τὸ πλείστων κοινόν. 1261^b33.

⁴ ἀναιροῦσιν ἔργα δυοῖν ἀρεταῖν φανερώς, σωφροσύνης μὲν περὶ τὰς γυναῖκας, ἐλευθεριότητος δὲ περὶ τὰς κτήσεις. 1263^b10.

⁵ ἄτοπον τοῖς τοιοῦτοις οἰεσθαι διορθοῦν, ἀλλὰ μὴ τοῖς ἔθεσι καὶ τῇ φιλοσοφίᾳ καὶ τοῖς νόμοις. 1263^b40.

⁶ δεῖ δὲ μὴδὲ τοῦτο λαθάνειν τοὺς οὕτω νομοθετοῦντας, ὃ λαθάνει νῦν, ὅτι τὸ τῆς οὐσίας τάττοντας πλῆθος προσήκει καὶ τῶν τέκνων τὸ πλῆθος τάττειν. *Pol.* II. 4, 1266^b8. ἐτι δ' εἴ τις καὶ τὴν μετρίαν τάξειεν οὐσίαν πᾶσιν, οὐδὲν ὀφελός· μᾶλλον γὰρ δεῖ τὰς ἐπιθυμίας ὁμαλιζεῖν ἢ τὰς οὐσίας, τοῦτο δ' οὐκ ἔστι μὴ παιδευομένοις ἰκανῶς ὑπὸ τῶν νόμων. 1266^b28.

73. The Classification of Constitutions is based upon the fact that government may be exercised either for the good of the governed or of the governing, and may be either concentrated in one man or shared by a few or by the many¹. There are thus three true forms of government (ὄρθαι πολιτεῖαι)—monarchy, aristocracy and constitutional republic: the perverted forms of these (παρεκβάσεις) are tyranny, oligarchy and democracy, the difference between the two last being not that democracy is a government of the many, oligarchy of the few, but that democracy is the state of the poor, oligarchy of the rich². Considered in the abstract, these six states stand in the following order of merit: 1° Monarchy, 2° Aristocracy, 3° Constitutional Republic, 4° Democracy, 5° Oligarchy, 6° Tyranny³. But though with a perfect man Monarchy would be the highest form of government, the

μὲν ὀλίγους δὲ, δοῦναι ἂν καὶ τιν' ἔχειν ἀπορίαν, τάχα δὲ κἂν ἀλήθειαν. τοὺς γὰρ πολλοὺς ὧν ἕκαστός ἐστι οὐ σπουδαῖος ἀνὴρ, ὅμως ἐνδέχεται συνελθόντας εἶναι βελτίους ἐκείνων, οὐχ ὡς ἕκαστον ἀλλ' ὡς σύμπαντας, οἷον τὰ σιρφορητὰ δειπνα τῶν ἐκ μιᾶς δαπάνης χορηγηθέντων... διὸ καὶ κρίνοντι ἀρεῖνοι οἱ πολλοὶ καὶ τὰ τῆς μουσικῆς ἔργα καὶ τὰ τῶν ποιητῶν ἄλλοι γὰρ ἄλλο τι μύριον, πάντες δὲ πάντα... εἰ μὲν οὖν περὶ πάντα δῆμον καὶ περὶ πᾶν πλῆθος ἐνδέχεται ταύτην εἶναι τὴν διαφορὰν τῶν πολλῶν πρὸς τοὺς ὀλίγους σπουδαίους, ἀδελφόν· ἴσως δὲ νῆ Δία δῆλον ὅτι περὶ ἐρίων ἀδύνατον. ὁ γὰρ αὐτὸς κἂν ἐπὶ τῶν θηρίων ἀρμόσει λόγος. *Pol.* III. 11, 1281^b1.

καὶ διὰ τοῦτ' ἴσως ἐβασιλεύοντο πρότερον, ὅτι σπάνιον ἦν εὐρεῖν ἄνδρας, πολὺ διαφέροντας κατ' ἀρετὴν, ἄλλως τε καὶ τότε μικρὰς οἰκοῦντας πόλεις... ἐπεὶ δὲ καὶ μείζους εἶναι συμβέβηκε τὰς πόλεις, ἴσως οὐδὲ ράδιον ἔτι γίνεσθαι πολιτείας ἑτέραν παρὰ δημοκρατίαν. *Pol.* III. 15, 1286^b20.

οὐδὲν γὰρ κωλύει ποτὲ τὸ πλῆθος εἶναι βέλτιον τῶν ὀλίγων καὶ πλουσιώτερον, οὐχ ὡς καθ' ἕκαστον ἀλλ' ὡς ἀθρόους. *Pol.* III. 13, 1283^b33.

74. Which is the best State is a question scarcely admitting of an unqualified answer, for different races are suited for different forms of government, and the question which meets the politician is not so much what is abstractly the best State as which is the best State under existing circumstances (ἐξ ὑποκειμένων) or to meet certain given data (ἐξ ὑποθέσεως)¹. Generally, however, the best State will be such an organization as will enable any one to act in the best and live in the happiest manner—that is, aid him in leading a life of action, a βίος πρακτικός understood in a liberal sense². To serve this end the ideal State should be neither too great nor too small, but simply self-sufficient³; it should occupy a favourable position towards land and sea⁴, and consist of citizens gifted

at once with the spirit of the northern and the intelligence of the Asiatic nations⁵. It should further take particular care to exclude from government all those engaged in trade and commerce—"the best State will not make the 'working-man' a citizen⁶:" should provide endowment for religious worship⁷, and should secure the moral ends which it proposes by the educational influences of law and early training⁸.

¹ πολλοῖς τῆς ἀρίστης (πολιτείας) τυχεῖν ἴσως ἀδύνατον. ὥστε τὴν κρατίστην τε ἀπλῶς καὶ τὴν ἐξ ὑποκειμένων ἀρίστην οὐ δεῖ λελθῆναι τὸν νομοθέτην... ἐτι δὲ τρίτην τὴν ἐξ ὑποθέσεως... οὐ γὰρ μόνον τὴν ἀρίστην δεῖ θεωρεῖν, ἀλλὰ καὶ τὴν δυνατήν. *Pol.* IV. 1, 1288^b25.

ἔστι γὰρ τι φύσει δεσποστὸν καὶ ἄλλο βασιλευτὸν καὶ ἄλλο πολιτικὸν καὶ δίκαιον καὶ συμφέρον· τυραννικὸν δ' οὐκ ἔστι κατὰ φύσιν. III. 17, 1287^b37.

² ὅτι μὲν οὖν ἀναγκαῖον εἶναι πολιτείαν ἀρίστην ταύτην καθ' ἣν τὰς ἐξ ὀλιγοῦν ἀριστὰ πράττοι καὶ ζῶν μακαριῶς, φανερόν ἐστιν... ἀλλὰ τὸν πρακτικὸν (βίον) οὐκ ἀναγκαῖον εἶναι πρὸς ἑτέρουσ οὐδὲ τὰς διανοίας εἶναι μόνας ταύτας πρακτικὰς τὰς τῶν ἀποβανόντων χάριν γινομένης ἐκ τοῦ πράττειν. *Pol.* VII. 2, 1324^a23.

³ οἶονται μὲν οὖν οἱ πλείστοι προσήκειν μεγάλην εἶναι τὴν εἰδαίμονα πόλιν... δεῖ δὲ μᾶλλον μὴ εἰς τὸ πλῆθος εἰς δὲ δύναμιν ἀποβλέπειν... ὁμοίως δὲ καὶ πόλις ἢ μὲν ἐξ ὀλίγων λίαν οὐκ αὐτάρκης· ἢ δὲ ἐκ πολλῶν ἄγαν ἐν μὲν τοῖς ἀναγκαίοις αὐτάρκης, ὥσπερ ἔθνος, ἀλλ' οὐ πόλις· πολιτείαν γὰρ οὐ ράδιον ὑπάρχειν· τίς γὰρ στρατηγὸς ἔσται τοῦ λίαν ὑπερβαλλόντος πλῆθους, ἢ τίς κῆρυξ μὴ στεντόρειος; *Pol.* VII. 4, 1326^a9.

οὔτε γὰρ ἐκ δέκα ἀνθρώπων γένοιτ' ἂν πόλις, οὔτ' ἐκ δέκα μυριάδων ἔτι πόλις ἐστί. *Eth. Nic.* IX. 10. 3, 1170^b31.

⁴ τῆς δὲ πόλεως τὴν θέσιν εἰ χρῆ ποιῆν κατ' εὐχρῆν, πρὸς τε τὴν θάλασσαν προσήκει κείσθαι καλῶς πρὸς τε τὴν χώραν. *Pol.* VII. 5, 1327^a3.

⁵ φανερόν τοίνυν ὅτι δεῖ διανοητικούς τε εἶναι καὶ θυμοειδέεις τὴν φύσιν τοὺς μέλλοντας εἰαγώγους ἔσεσθαι τῷ νομοθέτῃ πρὸς τὴν ἀρετὴν... τὸ δὲ τῶν Ἑλλήνων γένος, ὡς περ μεσεύει κατὰ τοὺς τόπους, οὕτως ἀμφοῖν μετέχει· καὶ γὰρ ἐνθυμὸν καὶ διανοητικὸν ἔστιν. *Pol.* VII, 7, 1327^b 36.

⁶ ἐν τῇ κάλλιστα πολιτευομένῃ πόλει καὶ τῇ κεκτημένῃ δικαίους ἀνδρας ἀπλῶς, ἀλλὰ μὴ πρὸς τὴν ὑπόθεσιν, οὔτε βάνασον βίον οὔτ' ἀγοραῖον δεῖ ζῆν τοὺς πολίτας· ἀγεννῆς γὰρ ὁ τοιοῦτος βίος καὶ πρὸς ἀρετὴν ὑπεναντίος. *Pol.* VII, 9, 1328^b 39.

⁷ ἡ δὲ βελτίστη πόλις οὐ ποιήσει βάνασον πολίτην... οὐ γὰρ οἷόν τ' ἐπιτηδεύσαι τὰ τῆς ἀρετῆς ζῶντα βίον βάνασον ἢ θητικόν. *Pol.* III, 5, 1278^a 8.

⁸ ἔτι δὲ τὰ πρὸς τοὺς θεοὺς δαπανήματα κοινὰ πάσης τῆς πόλεως ἔστιν· ἀναγκαῖον τοίνυν εἰς δύο μέρη διηρησθαι τὴν χῆραν, καὶ τὴν μὲν εἶναι κοινὴν τὴν δὲ τῶν ἰδιωτῶν, καὶ τούτων ἑκατέραν διηρησθαι δίχα πάλιν, τῆς μὲν κοινῆς τὸ μὲν ἕτερον μέρος εἰς τὰς πρὸς τοὺς θεοὺς λειτουργίας, τὸ δὲ ἕτερον εἰς τὴν τῶν συσσιτίων δαπάνην· τῆς δὲ τῶν ἰδιωτῶν τὸ ἕτερον μέρος τὸ πρὸς τὰς ἐσχατίας, ἕτερον δὲ τὸ πρὸς τὴν πόλιν, ἵνα δύο κλήρων ἑκάστῳ νεμηθέντων ἀμφοτέρων τῶν τόπων πάντες μετέχωσι. *Pol.* VII, 10, 1330^a 8.

⁹ τὸ δὲ σπουδαῖον εἶναι τὴν πόλιν οὐκέτι τυχεῖς ἔργον ἀλλ' ἐπιστήμης καὶ προαιρέσεως. τοῦτ' ἄρα σκεπτέον, πῶς ἀνὴρ γίνεται σπουδαῖος... ἀλλὰ μὴν ἀγαθοὶ γε καὶ σπουδαῖοι γίνονται διὰ τριῶν. τὰ τρία δὲ ταῦτά ἐστι, φύσις, ἔθος, λόγος... τὴν μὲν τοίνυν φύσιν οἷος εἶναι δεῖ τοὺς μέλλοντας εἰχειρώτους ἔσεσθαι τῷ νομοθέτῃ διωρίσμεθα πρότερον... τὸ δὲ λοιπὸν ἔργον ἤδη παιδείας· τὰ μὲν γὰρ ἐπιζόμενοι μαθάνουσι, τὰ δ' ἀκούοντες. *Pol.* VII, 13, 1332^a 31.

¹⁰ εἰ δ' οὖν, καθάπερ εἴρηται, τὸν ἐσόμενον ἀγαθὸν τραφήναι καλῶς δεῖ καὶ ἐθισθῆναι, εἴθ' οὕτως ἐν ἐπιτηδεύμασιν ἐπιεικέσει ζῆν καὶ μὴτ' ἄκοντα μὴτ' ἐκόντα πράττειν τὰ φαῦλα, ταῦτα δὲ γίγνοιτ' ἂν βιωμένοις κατὰ τινα νοῦν καὶ τάξιν ὀρθὴν ἔχουσαν ἰσχύον. ἡ μὲν οὖν πατρικὴ πρόσταξις οὐκ ἔχει τὸ ἰσχυρόν οἰδὲ τὸ ἀναγκαῖον· ὁ δὲ νόμος ἀναγκαστικὴν ἔχει δύναμιν, λόγος ὦν ἀπὸ τινος φρονήσεως καὶ νοῦ. *Eth. Nic.* X, 9, 1180^a 14.

75. Law to Aristotle is the outward expression of the moral ideal without the bias of human feeling¹. It is therefore no mere agreement or convention as Lykophron regarded it, but a moral force coextensive with all virtue². Being necessarily universal in its character, it requires to be modified and adapted to particular circumstances by the action of equity (ἐπιείκεια)³.

¹ ἀνεὺς ὀρέξεως νοῦς ὁ νόμος ἔστιν. *Pol.* III, 16, 1287^a 32. Cp. *Eth. Nic.* 1180^a 22, λόγος ἀπὸ φρονήσεως καὶ νοῦ.

² φανερόν ὅτι δεῖ περὶ ἀρετῆς ἐπιμελῆς εἶναι τῇ γ' ὡς ἀληθῶς ὀνομαζομένη πόλει μὴ λόγου χάριν· γίνεται γὰρ ἡ κοινῶν συμμῶχία (that is, otherwise the political community becomes a mere alliance for self-defence)... καὶ ὁ νόμος συνθήκη, καὶ καθάπερ ἔφη Λυκόφρων ὁ σοφιστής, ἐγγυητής ἀλλήλοις τῶν δικαίων ἀλλ' οὐχ οἷος ποιεῖν ἀγαθούς καὶ δικαίους τοὺς πολίτας. *Pol.* III, 8, 1280^b 8.

³ οἱ δὲ νόμοι ἀγορεύουσι περὶ ἀπάντων, στοχαζόμενοι ἢ τοῦ κοινῆ συμφέροντος πᾶσιν ἢ τοῖς ἀρίστοις ἢ τοῖς κυρίοις. *Eth. Nic.* V, 1, 13.

⁴ καὶ ἔστιν αὕτη ἡ φύσις ἡ τοῦ ἐπιεικοῦς, ἐπανόρθωμα νόμου ἢ ἁλλείπει δια τὸ καθόλου. *Eth. Nic.* V, 10, 6, 1137^b 26.

76. Education should be so guided by legislation as to make it correspond with the results of psychological analysis, and follow the gradual development of the bodily and mental faculties¹. Children should during their earliest years be carefully protected from all injurious associations, and be introduced to such amusements as will prepare them for the serious duties of life². Their literary education should commence with their 7th and be continued to their 21st year, this period being divided into two courses of training, the one from the 7th year to puberty, the other from puberty to 21. Such educa-

tion should not be left to private enterprize, but should be undertaken by the State, to which indeed the citizen belongs³. There are four main branches of education—reading and writing (*γράμματα*), gymnastic, music and painting: and with respect to all it must be remembered that they should be studied not from any exclusive or utilitarian ends but in the liberal spirit which will create true freemen⁴. Thus for example gymnastic should not be pursued by itself exclusively, or it will issue in a harsh savage type of character; painting must be studied not merely to prevent people being cheated in pictures but to make them attend to physical beauty: and music must be studied not merely for amusement but on account of the moral influence which it exerts upon the feelings⁵. Indeed all true education is, as Plato saw, a training of our sympathies so that we may love and hate in a right manner⁶.

¹ πρὸς πάντα μὲν τοίνυν τῷ πολιτικῷ βλέποντι νομοθετητέον καὶ κατὰ τὰ μέρη τῆς ψυχῆς καὶ κατὰ τὰς πράξεις αὐτῶν, μᾶλλον δὲ πρὸς τὰ βελτίω καὶ τὰ τέλη. τὴν αὐτὴν δὲ τρόπον καὶ περὶ τοὺς βίους καὶ τὰς τῶν πραγμάτων διαίρεσις: δεῖ μὲν γὰρ ἀσχολεῖν δύνασθαι καὶ πολεμεῖν, μᾶλλον δ' εἰρήνην ἄγειν καὶ σχολάζειν. *Pol.* VII. 14, 1333^a 37.

διὸ πρῶτον μὲν τοῦ σώματος τὴν ἐπιμέλειαν ἀναγκαῖον εἶναι προτέραν ἢ τὴν τῆς ψυχῆς, ἔπειτα τὴν τῆς ὀρέξεως ἕνεκα μέντοι τοῦ νοῦ τὴν τῆς ὀρέξεως, τὴν δὲ τοῦ σώματος τῆς ψυχῆς. *Pol.* VII. 15, 1334^b 25.

δεῖ δὲ τῇ διαίρεσει τῆς φύσεως ἐπακολουθεῖν πᾶσα γὰρ τέχνη καὶ παιδεία τὸ προσλείπον βούλεται τῆς φύσεως ἀναπληροῦν. *Pol.* VII. 17, 1337^a 1.

² διὸ τὰς παιδείας εἶναι δεῖ τὰς πολλὰς μὴσεις τῶν ἤσπερον σπουδαζομένων... εἰλογον οὖν ἀπελαύνειν ἀπὸ τῶν ἀκουσμάτων καὶ τῶν ὄραμάτων τῶν ἀνελευθέρων καὶ τηλικούτους ὄντας. 1336^a 33.

³ ἐπεὶ δ' ἐν τὸ τέλος τῇ πόλει πάσῃ, φανερόν ὅτι καὶ τὴν παιδείαν μίαν καὶ τὴν αὐτὴν ἀναγκαῖον εἶναι πάντων: καὶ ταύτης τὴν ἐπιμέλειαν εἶναι κοινὴν καὶ μὴ κατ' ἴδιον, ὃν τρόπον τὴν ἕκαστος ἐπιμελεῖται τῶν αὐτοῦ τέκνων, ἴδια τε καὶ μάθησιν ἴδιαν, ἣν ἂν δόξῃ, διδάσκων. δεῖ δὲ τῶν κοινῶν κοινὴν ποιεῖσθαι καὶ τὴν ἀσκήσιν. ἅμα δὲ οὐδὲ χρὴ νομίζειν αὐτὸν αὐτοῦ τίνα εἶναι τῶν πολιτῶν, ἀλλὰ πάντας τῆς πόλεως. *Pol.* VIII. 1, 1337^a 21. *Cp. Eth. Nic.* x. 9, 1180^a 29.

⁴ ἔστι δὲ τέτταρα σχεδὸν ἃ παιδεύειν εἰῶθαι, γράμματα καὶ γυμναστικὴν καὶ μουσικὴν καὶ τέταρτον εἶναι γραφικὴν. *Pol.* VIII. 2, 1337^b 23.

ἔτι δὲ καὶ τῶν χρησίμων δεῖ τινὰ παιδεύεσθαι τοὺς παῖδας οὐ μόνον διὰ τὸ χρησίμον, οἷον τὴν τῶν γραμμάτων μάθησιν, ἀλλὰ καὶ διὰ τὸ πολλὰς ἐνδέχασθαι γίνεσθαι δι' αὐτῶν μαθήσεις ἑτέρας. ὁμοίως δὲ καὶ τὴν γραφικὴν, οὐχ ἵνα ἐν τοῖς ἰδίους ὀνίοις μὴ διαμαρτάνωσιν, ἀλλ' ὥσιν ἀνεξαρτήτοι πρὸς τὴν τῶν σκευῶν ὠνὴν τε καὶ πράσιν, ἣ μᾶλλον ὅτι ποιεῖ θεωρητικὸν τοῦ περὶ τὰ σώματα κάλλους. τὸ δὲ ζητεῖν πανταχοῦ τὸ χρησίμον ἤκιστα ἀρμόττει τοῖς μεγαλοψύχοις καὶ τοῖς ἐλευθέροις. *Pol.* VIII. 3, 1338^a 37.

⁵ περὶ δὲ μουσικῆς... οὔτε τίνα ἔχει δύναμιν ῥᾶδιον περὶ αὐτῆς διελεῖν, οὔτε τίνος δεῖ χάριν μετέχειν αὐτῆς, πότερον παιδείας ἕνεκα καὶ ἀναπαύσεως, καθάπερ ὕπνον καὶ μέθης... ἣ μᾶλλον οἰητέον πρὸς ἀρετὴν τι τείνει τὴν μουσικὴν, ὡς δυναμένην, καθάπερ ἡ γυμναστικὴ τὸ σῶμα ποιοῦν τι παρασκευάζει, καὶ τὴν μουσικὴν τὸ ἦθος ποιοῦν τι ποιεῖν, ἐθίζουσαν δύνασθαι χαίρειν ὀρθῶς. *Pol.* VIII. 5, 1339^a 11. ἔστι δὲ ὁμοιώματα μάλιστα παρὰ τὰς ἀληθινὰς φύσεις ἐν τοῖς ῥυθμοῖς καὶ τοῖς μέλεσιν ὀργῆς καὶ πρᾶότητος, ἔτι δ' ἀνδρίας καὶ σωφροσύνης. 1340^a 18.

⁶ διὸ δεῖ ἤχθαι πᾶσι εὐθὺς ἐκ νέων, ὡς ὁ Πλάτων φησὶν, ὥστε χαίρειν τε καὶ λυπέσθαι οἷς δεῖ ἢ γὰρ ὀρθὴ παιδεία αὕτη ἐστίν. *Eth. Nic.* II. 3. 2, 1104^b 11.

CHAPTER IX.

PHILOSOPHY OF ART.

77. Art is defined by Aristotle as the realization in external form of a true idea, and is traced back to that natural love of imitation which characterizes man, and to the pleasure which we feel in recognising likenesses¹. Art however is not limited to mere copying; it idealizes nature and completes its deficiencies: it seeks to grasp the universal type in the individual phenomenon². The distinction therefore between poetic art and history is not that the one uses metre, and the other not, but that while history is limited to what has actually happened, poetry depicts things in their universal character. And therefore "poetry is more philosophical and more elevated than history"³.

¹ ἐπεὶ δ' ἡ οἰκοδομικὴ τέχνη τίς ἐστὶν καὶ ὅπερ ἕξιν τις μετὰ λόγου ποιητικὴ καὶ οὐδεμία οὔτε τέχνη ἐστὶν ἢ τις οὐ μετὰ λόγου ποιητικὴ ἕξιν ἐστὶν, οὔτε τοιαύτη ἢ οὐ τέχνη, ταῦτόν ἂν εἴη τέχνη καὶ ἕξιν μετὰ λόγου ἀληθοῦς ποιητικὴ. *Eth. Nic.* VI. 4, 1140^a10.

ἐοίκασιν δὲ γεννηθῆσαι μὲν ὅλως τὴν ποιητικὴν αἰτία δύο τινές καὶ αὗται φυσικαί. τό τε γὰρ μιμῆσθαι σύμφυτον τοῖς ἀνθρώποις ἐκ παιδῶν ἐστὶ (καὶ τούτω διαφέρουσι τῶν ἄλλων ζῶων ὅτι μιμητικώτατόν ἐστι καὶ τὰς μαθήσεις ποιεῖται διὰ μιμήσεως τὰς πρώτας), καὶ τὸ χαίρειν τοῖς μιμήμασι πάντας.

αἴτιον δὲ καὶ τούτου ὅτι μαθάνειν οὐ μόνον τοῖς φιλοσόφοις ἤδιστον, ἀλλὰ καὶ τοῖς ἄλλοις ὁμοίως, ἀλλ' ἐπὶ βραχὺ κοινω-
νοῦσιν αὐτοῦ· διὰ γὰρ τούτου χαίρουσι τὰς εἰκόνas ὁρῶντες ὅτι συμβαίνει θεωροῦντας μαθάνειν καὶ συλλογίζεσθαι τί ἕκαστον, οἷον ὅτι οὗτος ἐκεῖνος. *Poet.* I. 4, 144^b4.

² ὅλως τὴν ἡ τέχνη τὰ μὲν ἐπιτελεῖ ἢ ἡ φύσις ἀδυνατεῖ ἀπεργάσασθαι, τὰ δὲ μιμῆται. *Phys.* II. 8, 199^a15.

γίνεται δὲ τέχνη ὅταν ἐκ πολλῶν τῆς ἐμπειρίας ἐννοημάτων μία καθόλου γενῆται περὶ τῶν ὁμοίων ὑπόληψις, *Meta.* A. I, 981^a5. But it is to be noted that here τέχνη is used not as equivalent to creative art, but rather to such "arts" as medicine, &c. Cp. *Rhet.* I. 2, 1356^b29; οὐδεμία δὲ τέχνη σκοπεῖ τὸ καθ' ἕκαστον.

ἐπεὶ δὲ μίμησις ἐστὶν ἡ τραγῳδία βελτιόνων, ἡμᾶς δεῖ μιμῆσθαι τοὺς ἀγαθοὺς εἰκονογράφους· καὶ γὰρ ἐκείνοι ἀποδιδόντες τὴν ἰδίαν μορφήν, ὁμοίους ποιῶντες, καλλίους γράφουσιν. οὕτω καὶ τὸν ποιητὴν μιμούμενον καὶ ὀργίλους καὶ βραθύμους καὶ τᾶλλα τὰ τοιαῦτα ἔχοντας ἐπὶ τῶν ἡθῶν, ἐπιεικέως ποιεῖν παράδειγμα ἢ σκληρότητος δεῖ, οἷον τὸν Ἀχιλλεῖα Ἀγάθων καὶ Ὀμηρος. *Poet.* 15, 1454^b8.

³ φανερόν δὲ ἐκ τῶν εἰρημένων καὶ ὅτι οὐ τὸ τὰ γενόμενα λέγειν τοῦτο πιστὸν ἔργον ἐστίν, ἀλλ' οἷα ἂν γένοιτο καὶ τὰ δυνατὰ κατὰ τὸ εἶκός ἢ τὸ ἀνογκαῖον· ὁ γὰρ ἱστορικὸς καὶ ὁ ποιητὴς οὐ τῷ ἢ ἔμμετρα λέγειν ἢ ἄμμετρα διαφέρουσιν (εἴη γὰρ ἂν τὰ Ἡρόδοτον εἰς μέτρα τεθῆναι καὶ οὐδὲν ἦττον ἂν εἴη ἱστορία τις μετὰ μέτρου ἢ ἀνευ μέτρων)· ἀλλὰ τούτω διαφέρει, τῷ τὸν μὲν τὰ γενόμενα λέγειν, τὸν δὲ οἷα ἂν γένοιτο· διὸ καὶ φιλοσόφωτερον καὶ σπουδαιότερον ποιήσεις ἱστορίας ἐστίν· ἡ μὲν γὰρ ποιήσεις μᾶλλον τὰ καθόλου, ἢ δ' ἱστορία τὰ καθ' ἕκαστον λέγει. *Poet.* 9, 1451^b36.

78. Such imitation may represent men either as better or as worse than men usually are, or it may neither go beyond nor fall below the average standard¹. Comedy is the imitation of the worse specimens of humanity, understood however not in the sense of absolute badness, but only in so far as what is low and ignoble

enters into what is laughable and comic². Tragedy upon the other hand is the representation of a serious or meaning-full, rounded or finished, and more or less extended or far-reaching, action—a representation which is effected by action and not mere narration: and which is fitted by portraying events which excite fear and pity in the mind of the beholder to purify these feelings and extend and regulate their sympathy³. Such a *κάθαρσις παθημάτων* is well termed by Zeller “a homœopathic curing of the passions,” and we may further accept his theory that art being as we have seen a *universalizing* of particular events, it follows that tragedy in depicting passionate and critical situations takes them outside the selfish and the individual standpoint, and views them in connexion with the general lot of human beings. In a partly similar sense Aristotle explains the use of the orgiastic music of the worship of Bacchus and other deities as affording an outlet for religious fervour and so steadying our religious sentiments⁴.

¹ ἐπεὶ δὲ μιμοῦνται οἱ μιμούμενοι πρᾶττοντας, ἀνάγκη δὲ τούτους ἢ σπουδαίους ἢ φαύλους εἶναι... ἤτοι βελτίονας ἢ καθ' ἡμᾶς ἢ χείρονας ἢ καὶ τοιούτους, ὥσπερ οἱ γραφεῖς. Πολύγνωτος μὲν γὰρ κρείττους, Παύσιων δὲ χείρους, Διονύσιος δὲ ὁμοίους εἰκάζειν, δῆλον δὲ ὅτι καὶ τῶν λεχθειῶν ἐκάστη μιμήσεω ἐξεῖ ταύτας τὰς διαφορὰς καὶ ἔσται ἕτερα τῶ ἕτερα μιμῆσθαι τοῦτον τὸν τρόπον. ἐν τῇ αὐτῇ δὲ διαφορᾷ καὶ ἡ τραγωδία πρὸς τὴν κωμωδίαν διέστηκεν· ἡ μὲν γὰρ χείρους ἢ δὲ βελτίους μιμῆσθαι βούλεται τῶν νῦν. *Poet.* 2, 1448^b 1.

² ἡ δὲ κωμωδία ἐστίν, ὥσπερ εἶπομεν, μίμησις φαυλοτέρων μὲν, οὐ μέντοι κατὰ πᾶσαν κακίαν, ἀλλ' ἡ τοῦ αἰσχροῦ ἐστὶ τὸ γελοῖον μῆριον. *Poet.* 5, 1449^b 32.

³ ἐστὶν οὖν τραγωδία μίμησις πράξεως σπουδαίας καὶ

τελείας, μέγεθος ἐχούσης, ἡδυσμένην λόγῳ, χωρὶς ἐκάστου τῶν εἰδῶν ἐν τοῖς μορίοις, δρώντων καὶ οὐ δι' ἀπαγγελίας, δι' ἐλέου καὶ φόβου περαίνοντα τὴν τῶν τοιούτων παθημάτων κάθαρσιν. λέγω δὲ ἡδυσμένον μὲν λόγον τὸν ἔχοντα ῥυθμὸν καὶ ἁρμονίαν καὶ μέλος, τὸ δὲ χωρὶς τοῖς εἶδεσι τὸ διὰ μέτρον ἔνα μόνον περαίνεσθαι καὶ πάλιν ἕτερα διὰ μέλους. *Poet.* 6, 1449^b 24.

⁴ φανερόν ἐστι χρηστέον μὲν πάσαις ταῖς ἁρμονίαις... ὁ γὰρ περὶ ἐνίας συμβαίνει πάθος ψυχᾶς ἰσχυρῶς, τοῦτο ἐν πάσαις ὑπάρχει, τῷ δὲ ἥττον διαφέρει καὶ τῷ μᾶλλον, ὅσον ἔλεος καὶ φόβος, ἐπεὶ δ' ἐνθουσιασμός. καὶ γὰρ ὑπὸ ταύτης τῆς κινήσεως κατακόχιμοί τινές εἰσιν· ἐκ δὲ τῶν ἱερῶν μελῶν ὀρᾶμεν τούτους, ὅταν χρήσωνται τοῖς ξερογιάζουσι τὴν ψυχὴν μέλεισι, καθισταμένους ὥσπερ ἰατρείας τυχόντας καὶ καθόρουσας. *Fol.* VIII. 7, 1342^a 1.

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