



Overview of Greek Philosophy 2

Greek Philosophy from Socrates to Aristotle (Fifth and fourth century B.C.)

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The genius of the Greeks attained to its full maturity in the fifth and fourth centuries (B.C.). Previously philosophers had studied only the external world, the *non-ego*. Now and henceforth we find them engrossed in the study of man, his activities, his nature, his destiny. They do not indeed neglect the external world, but they explore it in and through the investigation of man's cognoscitive faculties.

Grecian philosophy remains, as before, *dogmatic*. Its leading representatives never doubt the veracity of their faculties and the possibility of certain, scientific knowledge.

As in all other philosophical cycles, the golden age of Grecian philosophy is filled rather by *personalities* than by *schools*: Socrates, Plato and Aristotle are among the profoundest thinkers the human race has ever produced.

§ 1. SOCRATES.

Life of Socrates.

The figure of SOCRATES appears surrounded by a halo of moral grandeur. He has left us no writings: for our acquaintance both with his personality and with his teaching we are indebted to his disciples, Plato and Xenophon, who profess an enthusiastic admiration for their master. Born about 470, Socrates lived through that period of Athenian splendour associated with the glorious name of Pericles. Scarcely anything is known about his life. Absolutely indifferent to that external repute for which the Athenians were so sensitive, he set himself up as a moralist inspired from on high (the Socratic *Daimôn*), as one with a divine mission to teach men the way of righteousness. In the Athenian society of the fifth century, whose vices he scourged so relentlessly, belief in the gods was already in ruins; their worship was regarded as a mere official ceremony, devoid of all inner meaning. The unguarded language of Socrates thereon aroused a deep, suspicious discontent. This finally was his undoing: in 399 he was condemned to drink the hemlock.

Socratic Dialogue and Method.

(1) *The Socratic Dialogue and Irony*. Socrates has given its name to an original method of research invented and utilized by him. He taught in the form of a dialogue. In the streets, squares and other public places, he accosted whomsoever he happened to meet and asked their opinion on

some philosophical question or other. Usually finding their replies to be inaccurate, he was wont to take them delicately to task, show the inadmissible consequences that followed from their answers, and so gradually lead up the discussion to a more explicit and emphatic assertion of his own opinion: such was the procedure since known by the name of *Socratic Irony*. It is in keeping with the method of his philosophy.

(2) *The Socratic Induction*. Socrates' *method* is based altogether on what is termed Socratic Induction. The cardinal point of all philosophy, nay, of all science whatever, is, he tells us, the forming of general intellectual representations of things. To attain to this, he scrutinizes the concrete experiences of ordinary daily life, and by the aid of numerous comparisons draws out the *universal idea* that lies hidden away under the various appearances of particular things and events. Simultaneously he establishes the objectivity of human knowledge — against the sophists, whom he consistently and perseveringly opposes. This *induction* of his is a simple derivation of the general from the particular, a means by which we form for ourselves the notion and definition of a thing. It has not yet the demonstrative character it assumed later on with Aristotle. Socrates himself describes it as the art of delivering the mind of a universal idea (*maieutikê technê*). Such is the method, or formal side, of his philosophy. What now is its *content*?

Philosophical Teaching.

Socrates is before all else a *teacher of morals*. He was convinced that his predecessors had followed a false track in neglecting the phenomena of the moral life. The root principle of Socratic ethics is the reduction of virtue to knowledge: *to possess science, that is, universal notions, is to act righteously*. Knowledge is not alone, as with Plato and Aristotle, the prerequisite *condition* of all moral conduct; the possession of genuine universal ideas (as opposed to the commonplace and erroneous ideas of the crowd) actually *constitutes* the morality of our conduct. His meaning is, according to Piat, that reason should rule supreme over human conduct and that the full and healthy development of the *nous* will always secure a righteous will. "Know Thyself" is the first practical precept of conduct, for all reasoning involves growth in self-knowledge, and this knowledge is the first and most potent factor of morality. According to others, it is the *knowledge* itself of the good, as a thing known, an *object* of science, that Socrates identifies with virtue. He, then, would be good and just, who knows what is good and just. But behind this lies the further question: what is the good? It is the universal notion regarded as end or aim of our activity; to do good is to conform our conduct to this universal knowledge. He thus returns to his earlier formula identifying knowledge and virtue, but neither explains nor justifies it. We find him formulating here and there, especially in Xenophon, another concept of goodness at variance with the preceding one: he reduces both the good and the beautiful to the useful—in deference to the popular idea of virtue. And it is on this idea that he bases his defence of the immortality of the soul.

The study of the *external world* occupies a place of minor importance in the philosophy of Socrates. He could not well neglect it altogether, since man is in constant touch with his external surroundings. But it is only on account of these relations of man to the visible world that he gives it any consideration, and with a view to arriving at this conclusion: that the external universe, by the order which reigns in it, gives manifest evidence of the intervention of a supreme guiding intelligence, which has appointed and destined the whole universe for the well-being of man. As regards the Divinity, he shows little or no anxiety to speculate about the nature of the Divine Being, but very much for the discovery of motives, in the contemplation of the Divinity, to elevate man to a higher and loftier moral plane.

Influence of Socrates.

Socrates made a very profound and lasting impression on philosophic thought. As the first fruit of his teaching, there arose a number of lesser Socratic Schools, which kept only part of his moral legacy, and even continued to draw from the Sophists whom their master had consistently opposed. The Schools of Megara and Elis (fourth and third centuries) formulated an abstract and Eleatic doctrine on the Good; the Cynic school sought the realization of practical virtue; the Cyrenaic school returned to the sensualist ethics of Protagoras. Socrates' greatest influence was felt elsewhere. It came from his dialectic of definition and from his original conception of science. From this conception Plato and Aristotle were destined to elaborate a complete philosophical synthesis.

§ 2. PLATO.

His Life.

Plato was born at Athens, of an aristocratic family, in 427. His meeting with Socrates definitely decided his vocation to philosophy. On the death of his master, Plato first went to Megara, then sailed for Egypt, and later for Cyrene. After an eight years' sojourn at Athens, he repaired to Italy (388), where he encountered the disciples of Pythagoras; thence he went to Sicily to the court of Dionysius the Elder. The monarch, offended at the too severe language of the philosopher, gave him over to a Spartan, who sold him as a slave. Set free by a Cyrenean, Plato returned to Athens and founded a school in the gymnasium of the Academy. His teaching was interrupted by a second sojourn at the Sicilian court, after the death of Dionysius the Elder. Plato had hoped to become the tutor of Dionysius the Younger; deceived in this hope, he returned once more to Athens, where he continued to teach till his death in 347.

General Characteristics of his Philosophy.

Plato worked on the principles of Socrates but completed the latter's philosophy. The *universal idea*, the fruit of Socratic induction and the basis of definition, is the keystone of Plato's system. He carried it into regions of research that Socrates had never explored. He made an attempt at *philosophical systematization*, — an attempt that was new and original in conception, and in which he touched on all the fundamental problems that an integral philosophy can deal with. In this constructive effort he utilized the various systems of his predecessors.

The confusion between science and virtue disappears. By a closer study of science, Plato got a juster notion of its true value. However, he was too deeply imbued with the teaching of Socrates not to seek in virtue the *necessary complement* of science. It remained for Aristotle to establish the *independence* of each, and to show forth their true relations.

Among the extrinsic apparatus of Plato's philosophy, we must call attention to the use of *dialogue* and *myth*. In the Platonic dialogue each speaker embodies and expresses a theory, and all the conversations converge and lead up to the opinion of the principal character, Socrates, under whose name Plato gives expression to his own views. The use of dialogue in philosophy has disadvantages which Plato himself seems to have felt. Freely used in his earlier works, it appears in his later writings merely as an introduction to an easier style and a more pleasing form of exposition. It is sometimes even dispensed with altogether, as is the case in his *Laws*. In domains where he lacked data, Plato was fond of falling back upon myth. It is often very difficult to distinguish reasoning from fancy in his writings.

His Conception of Philosophy: Philosophical Propedeutic.

Philosophy is science *par excellence* (*epistêmê*). We reach its heights only by a series of initiations, which are so many successive steps or stages in knowledge

(1) The masses seek knowledge in the domain of sense, and virtue in conduct guided by those concrete sense-representations.

(2) But reflection soon convinces one that opinion, based on mere sense-perception, cannot lead to truth. To be guided by sensation, according to the *Theaetetus*, is to say with Protagoras that man is the measure of truth and falsehood, and, therefore, also of right and wrong: starting with such premisses, the Sophist is logical in his conclusions.

(3) To arrive at *true science or philosophy*, we must cast overboard the false principle which inspires common life and action, and seek for reality beyond the sense-world and outside it, that is, in the *Idea*. For opinion is only the shadow of science, just as the sense-world is but a shadow of the Ideal world (*Republic*, vii.). An irresistible impulse of our nature (*erôs*) urges us to rise above and beyond perishable things to the only true reality. It is the dialectic method (*dialektikê methodos*) that leads us to the contemplation of the *Idea*, by the process of forming and decomposing universal representations. Plato has traced and mapped out the lines of an education corresponding to this ladder of knowledge. Education commences by putting young people into contact with the sense-world by teaching them the arts, especially music and gymnastics. With the study of the natural sciences and of mathematics, they next learn how to detach themselves from the sense-world in order to arrive at the contemplation of the only true reality, the *Idea*. Philosophy is the final stage of education. Socrates, in the *Euthydemus*, calls it the royal art.

True *morality* is based upon the knowledge of the *Idea*. The “Good” is simply the *Idea* regarded as the term of the irresistible tendency of our being. *Virtue* is the love of that confused vision of the Absolute which in a former state we were contemplating face to face, and the insatiable desire to exchange this mortal life for immortality. Thus, philosophy, with Plato as with Socrates, embraces life in its entirety; it closely unites speculation and action without at the same time confounding them.

Division of Plato’s Works and Philosophy.

The works of Plato comprise thirty-five dialogues, fifteen letters, and a collection of definitions bearing chiefly on *Ethics*. As he had no clear conception of an exact division of the various philosophical branches, it is hard to group his works, embracing as they do the most widely different questions. Aristotle distinguishes, in the philosophy of his master, dialectics, ethics, and physics. This classification is not explicitly found in Plato, but it corresponds with his thought. We will therefore adopt it, adding to it a few principles of esthetics.

The *Idea* is the corner-stone of Plato’s philosophy; dialectic studies the *Idea* in itself; physics, ethics, and esthetics consider its applications to nature, to human conduct and to works of art.

I. Dialectic

Existence and Nature of the Ideas.

Dialectic — the word is Plato’s — is the science of objective reality, and this latter is called the *Idea* (*eidos, idea*). Dialectic is therefore taken in the sense of metaphysics (and not in the more usual meaning, — logic).

To establish the existence and the nature of those Ideas, Plato sets out with a fact of consciousness and with a postulate, both of which he takes from Socrates. The *fact of consciousness* is the presence in us of intellectual representations, whose object is both universal, necessary, and immutable. The *postulate* is the sincerity or validity of these mental representations, or, in other words, the thesis of dogmatic philosophy, that all or some of our mental representations have an extra-mental objectivity.

What is this reality which is the object of our conceptions? Whatever it be, the sense-world cannot contain it, because everything there is contingent, particular, changing and unstable (here we see the influence of Heraclitus); while real being, as we conceive it, must be endowed with the attributes of necessity, universality, unity, and immutability (here we see the influence of Parmenides and Pythagoras).

Plato infers, accordingly, that the *real* exists *above and beyond the sense-world*: the Idea is absolutely stable and exists by itself (*ontôs on, auta kath auta*) its isolation (*chôrîsta*) does not permit of its being considered either as the subjective product of the human understanding or as an operation of the Divine understanding. This latter interpretation of Plato, put forward by the Neo-Platonic philosophers and taken up enthusiastically in the Middle Ages by all those who would fain see in the Platonic dialectic an adumbration of the exemplarism of St. Augustine, conflicts with the most formal declarations of the founder of the Academy, — as indeed Aristotle had already pointed out. This *exaggerated Realism* which invests real being with the attributes of thought, and proceeds to mould the real world according to the character of our mental representations, is at once the guiding principle and the fundamental error of Plato's metaphysics of Ideas.

Multiplicity and Order: The Idea of the Good.

Faithful to this extreme realism, Plato gives a corresponding Idea-entity to each and every one of our abstract representations. Not only natural kinds or species of things, but artificial works; not only substances, but even properties, relations, grammatical forms; and, to complete the list, even negations and nothingness itself: all have their corresponding ideas in the suprasensible world.

The real world being modelled on the world of thought, the Ideas are hierarchically arranged like our representations of them. The Idea of the Good is enthroned at the apex of the ascending scale of essences. Plato lingers with an undeniable sense of complacency and delight in contemplating the Idea of the Good, the archetypal essence, "the sun of the ideal world". Its role is an all-important one, for it is: (1) the *Final Cause* of the Universe: the phenomena of the sense-world and the Ideas tend, all alike, towards the Good; (2) especially the *Formal Cause* of all things. All Ideas, even the Ideas of the True, the Just, the Beautiful, derive their intelligibility and their reality from the Idea of the Good, and have no being except from the Good. Logically followed out, Plato's realism seems to end necessarily in Monism.

God and the Idea of the Good.

Plato's theodicy is intimately connected with his metaphysics. In fact, since there is nothing above the Idea of the Good, which is the sovereign essence, it is important to determine what precisely are its relations to God, — to the personal God, the intelligent Demiurge, the ruler of the lesser gods and of men, the provident director and guide of the world, as Plato describes Him in the *Timaeus*, clothing his thought with all the rich phraseology of his exuberant poetic inspiration. We touch here on one of the most obscure problems in the whole Platonic philosophy.

We must refuse either to make the Idea of the Good subordinate to God (Trendelenburg), or to make God subordinate to the Idea of the Good (Orges), under pain of overthrowing the supremacy of either. To *identify* the Idea of Good with God (Zeller), would be to admit the identity of the most impersonal of abstractions with the highest incarnation of personality, and to endow the same being with contradictory attributes. It seems preferable to maintain the coexistence of the Idea of the Good and of God (Hermann), the dyarchy of two independent sovereigns, both alike free from the laws of change. This dualism may be rendered a little less unacceptable by determining somewhat more exactly the respective roles of these two concepts — of the Good, and of God. While the Idea of the Good is the *final* and *formal* cause of all things, God is regarded chiefly as the prudent ruler of the visible world. He is the cause that *applies* the Idea to the phenomenon, *i.e.*, the *efficient subordinate* cause. Both being sovereigns of distinct kingdoms, we may call them, *on different titles*, the principles of things. This is not the only example of unexplained dualism that Platonic philosophy offers us.

II. — *Physics.*

General Principles: Matter and World-Soul.

Under the title of *Physics* we may group all the studies relating to the manifestations of the Idea in the visible universe. Before examining the structure of the corporeal world and of man in particular, we must first find out the general relations of the phenomenal world to the world of Ideas. Visible things, the objects of opinion, are a partial and incomplete manifestation of the Ideas: for which latter Plato has jealously guarded the monopoly of reality. What is it that compels the Idea to come down from the “high estate” which it occupies in the absolute world, and to appear under shadowy and contingent forms? Or can it infold itself in ever-varying and perishable things without losing thereby, *eo ipso*, its unity and immutability? Plato does not concern himself with either of these difficulties; he assumes the fact of a reflection of the Idea in the sense-world; and he exerts all his efforts in explaining it. With a view to this, he appeals to matter and to world-soul.

Matter accounts for all nature’s imperfections; these, as such, could not be ascribed by Plato to the Idea. While the Idea is reality, matter is non-being (*me on*). It is not a mass already formed, — as one might be inclined to think from reading the poetical descriptions of the *Timaeus* — but the indeterminate thing (*apeiron*), the “shapeless and invisible” element, the necessary condition for the visible materialization of the Idea. This receptacle in whose bosom are evolved all sense phenomena, is *empty space*, or *place devoid of all content*. While matter for Aristotle is that *from which* all sensible things are made, for Plato it is that *in which* they appear. In this way sensible things, the object of opinion, are a mixture (*mikton*) of being and non-being, a projection of the Idea into space. But space is only a *condition* for the appearance of the Idea. *How* is the latter reflected in phenomena? By the agency of the world-soul, is Plato’s answer.

The *soul of the world* is the connecting-link between the Idea and matter. It is formed by the Demiurge of an alloy of two elements, the immutable and the mutable, which he calls the *one* and the *other* (*tauton* and *thateron*), probably the Idea and Matter (and cut through the centre into two parts that overlap each other surrounding the world). At once divisible and incorporeal and harmoniously constituted in geometrical proportions, it accounts for the beauty of the visible world and for the continuous conservation of its order. Evidently influenced by the constitution of man, Plato makes the world a huge animal (*zôon*) composed of a visible body and an invisible soul. The soul sets the colossal machine in motion, — circular motion, which was considered by all antiquity as the most perfect of all motions. Finally, the soul of the world is endowed with

knowledge, and the spherical movement by which it folds back on itself, as it were, and returns to the point from which it started, is at once the symbol and the sensible expression of conscious life.

It is an original and poetical conception, this theory of a world-soul; but it only emphasizes, without explaining, the initial affirmation of Plato's physics. It does not show the channel by which the Idea communicates itself to the phenomenon: the Idea and the phenomenon still stay side by side in an irreconcilable dualism.

Structure of the Corporeal World: Mechanicism

(1) *Corporeal substances consist of configurations of simple bodies.* In accordance with earlier scientific notions, Plato admits the existence of four elementary bodies, water, air, fire, and earth; all of which, however, he reduces to regular geometrical figures: the regular tetrahedron is the fundamental form of fire, the regular octahedron that of air, the regular icosahedron that of water, the regular cube that of earth. The plane surfaces which form the sides of these four regular solids have, as generating forms, triangles; and these triangles realize the most perfect proportions: the right-angled scalene triangle for fire, air, and water; the right-angled isosceles triangle for earth. Thus Plato seeks for the reason of the world's beauty in what he regards as the deepest and ultimate elements of its constitution.

It is important to bear in mind that these surfaces are only sections of space and do not form the boundaries of any material mass. Suppress these geometrical forms and you obtain as a residue, not a formless substratum, but the *on*, *i.e.*, void or vacuum: the elements of nature are not irreducible bodies, but irreducible *surfaces* — a conception that harmonizes with the Platonic notion of matter.

Natural bodies are compounds of simple bodies. The phenomena of substantial change, of increase and decrease, are the outcome of a simple change in the disposition of the primary forms. Since water, air, and fire have *the same scalene triangle* as their source, a new arrangement of the polyhedric surfaces is all that is needed to bring about an interchange of water, air, and fire among themselves. The earth, on the contrary, having as base the isosceles triangle, which cannot be reduced to the scalene, may doubtless *be mixed* with the other elements, but *cannot be changed* into them, nor *vice versa*. In like manner, increase and diminution result from the union and separation of surfaces respectively. What determines these phenomena of change, of growth and decay? Motion.

(2) *Motion is extrinsic to the elementary bodies: it comes from the world-soul.* This latter in fact surrounds the whole world of sense and exerts a mechanical pressure on all the bodies within it. As these are of unequal dimensions owing to their different shapes and different degrees of cohesiveness; and as on the other hand their plane surfaces give rise to projecting angles or corners by which they pierce one another in their never-ending motions: these many-sided figures cleave to one another and arrange themselves in ever-varying forms.

Thus, we find in Plato the two fundamental theses of *Mechanicism*. The originality — and weak point — of his presentation of it is his geometrical conception of the simple body. For, the real bodies in Nature around us are something very different from a mere collection of empty figures: Platonism has no justification to offer for its unwarranted transition from an *empty circumscription* of space to a *positive, circumscribed content*.

The universe is geocentric and spherical (which conflicts with the angular shape of the polyhedron); it includes the earth and seven concentric spheres surrounding the earth. The stars are beings endowed with life and intelligence, more perfect the nearer they are to the world-soul; the rotation of each around an axis is the index and correlative of its power of conscious self-reflection. Thus Plato descends gradually to the psychology of man and the

animal kingdom. So the entire universe becomes a vast collection of living things, each one endowed with a soul of its own, — a fact which does not seem to hinder the whole collection as such from being itself a perfect *zōon*, or living thing.

Anthropology.

In no other part of Plato's writings do we encounter a closer or more misleading mixture of myths and facts than in his anthropology. His teaching on man may be said to centre around a theory of intellectual cognition: self-consciousness and will occupy a very secondary place. And then, finally, his whole ideology is subordinate to, and inspired by, his dialectic of the Ideas.

Since the Ideas are not immanent in the sense-world, the mere consideration of sense phenomena can never give rise to a knowledge of immutable reality. Still, we do in fact possess such knowledge. Whence, then, does it come? Plato answers in this wise: The soul previously enjoyed a term of existence apart from the body, and while in that state it could contemplate the world of Ideas face to face; but it forgot them at the time of its migration or banishment to earth; and now sense-perceptions are required to awaken its memory of them and thus to arouse the soul from its lethargic slumber. Our knowledge, then, is only *reminiscence*; sense-perception is the *occasion* of thought, but exerts no real *causality* in its genesis: here we have the germ of *occasionalism*. If the soul's knowledge is obscured and clouded, if sensation is needed to arouse it from its lethargy, this is because the body is an obstacle to the free contemplation of the Idea. Here below, the soul is in an unnatural state of *duress*. It is like the sea-god, Glaucus, impossible to recognize under the grimy accretion of sea-shells and creeping things that adhere to his monster body (*Republic* x., 611). This is why the soul longs to be freed from the burden of its bodily encumbrance.

Though the union of soul and body is considered artificial and extrinsic, Plato is forced to admit the evident mutual intercourse there is between them, and more especially the influence of the merely organic functions on the intellectual and moral life of man. To explain this rather complex interaction Plato has recourse to a division of the soul into two, or even three parts: the intelligent and immortal part, or *nous*, and the perishable portion. This latter comprises, in turn, the better element, or *thumos*, embracing all those appetitive and emotional factors that are summed up in the sentiment of personal dignity, and the lower or less noble department of purely organic activities. The intellectual soul has its seat in the brain, the nobler part of the mortal soul in the breast, and its lower element in the abdomen. It is mainly with the first or intelligent soul that Plato's dialogues deal. They aim at establishing its immortality by arguments drawn almost exclusively from metaphysics.

In short, there are in man three souls; and though one of them may conceivably predominate, still their coexistence in one and the same being destroys unity of consciousness and is fatal to personality. And so, Plato's anthropology, like his dialectic and his general physics, leads him in the end to a self-contradictory *dualism*.

III. — Ethics and Esthetics.

General Ethics.

Plato does not use the word *Ethics*, but *Politics*. As a matter of fact, however, he deals not merely with social but also with domestic and individual morality, and with the principles of general Ethics. As a whole, his ethics, like his anthropology, is dependent on his dialectic.

The *end* of man consists in the soul's contemplation of pure Ideas in a state of complete separation from the body. The wise man longs for deliverance, and in this life tries to free himself from the fetters of bodily existence by the earnest pursuit of science (*Theaetetus* and *Phaedo*).

Occasionally (as in the *Philebus*) sense-life is represented as capable of acquiring some degree of moral value, though this as a rule is denied it: the knowledge of the phenomenal world, in which the Idea is dimly shadowed forth, and — even more so — a moderate and well-regulated degree of pleasure, may become supplementary elements of happiness.

For those two practically irreconcilable notions of the *supreme good*, Plato has two corresponding views on the nature of *virtue*. It is the disposition of a soul that acts in conformity with its end. Strictly speaking, that soul alone is virtuous which lives on the contemplation of the Idea (according to the first conception of man's end). In this sense, virtue is necessarily the outcome or prolongation of science, and is its own reward (Socrates). But again, later on, a plurality of virtues is admitted, corresponding to the various activities whose harmonious working together gives rise to happiness (according to the second conception of happiness); but science always holds the place of honour above all other virtues.

Politics.

Plato merely touches, without going into, individual and domestic ethics; on the other hand, he compiles an exhaustive code of politics or public ethics (*Republic*). He puts the individual above the multitude, though there he runs counter to the politics practised by the Greek states: furthermore, it is the moral formation of the individual that mainly occupies his attention. The powerlessness of the isolated individual to provide for the wants of life (second book of the *Republic*) and to attain to his moral end, is the primordial fact which accounts for the *origin, mission, and organization* of the State. Men live in society only in order to promote and safeguard the silent and peaceful intercourse of the soul with eternal realities. The State should be a school of education and instruction for inculcating that true virtue which is the knowledge of the Ideas. This is the mission that should inspire all political and social organization. And to secure all this, Plato commits the *government* of the State to the philosophers, that is to say, to an oligarchy composed of the most select of all aristocracies — the aristocracy of intellect. The rulers are to be guided not by the will but by the interests of the people. They may be left completely free to stir up revolutions, to rule despotically, to disregard the laws and constitutions, the liberties and even the very lives of the people: even so; if *only the true philosopher* is invested with this absolute and unlimited power, it will be impossible for *him* to act otherwise than wisely. Since the State has also the secondary duty of providing for the material well-being of the people and looking after the national defences, it must maintain, along with the philosophers, a class of agriculturists and a class of soldiers.

It is manifest that esthetical considerations influenced all Plato's politico-social theories: they appear in the analogy he draws between the three social classes in the State and the tripartite division of the soul and of the entire cosmos. The State is at once an enlarged likeness of the individual man and a miniature image of the universe. In virtue of their supreme dominion, and to suppress all cause of discord in the State, the philosopher-rulers can decree public education, State-ownership in children, the suppression of all family life, equality of the sexes, community of women and goods, etc. Plato's State is utopian, reared, as it is, on the narrow and exclusive principles of his dialectic.

Art and the Beautiful.

Plato is the world's first great theorist of the beautiful. His esthetics, however, partake of the fragmentary character common to all Greek esthetics. He leaves in obscurity all the *subjective* problems suggested by the psychological, fascinating element of the beautiful, and discusses by preference the various metaphysical questions regarding the *objective* elements of beauty. These

latter are identified with order and the constituents of order, namely, proportion, symmetry, and harmony. In fact, arithmetical and geometrical relations are regarded by Plato as the very essence of beauty (25, 26). Moreover, the beautiful and the good are identical (*kalokagathia*), for the former is merely an aspect or manifestation of the latter in the physical, and more especially in the moral, orders.

Art is simply the imitation of visible nature: its value is insignificant in comparison with dialectic. It is the shadow of a shadow, since physical nature itself is nothing more than a faint reflex of supra-material reality. It is unworthy of being cultivated for its own sake. Strange words these in the mouth of a poet! The value of art lies solely in its educative and moralizing influence: it falls, accordingly, under State control. The State can veto all art innovations and is bound to see that art does not become an instrument of moral corruption.

Conclusion.

In laying down the fundamental principle of his dialectic, Plato shows himself wanting both in moderation and in largeness of view. And since the remainder of his philosophy is of a piece with the dialectic, all alike is marred by a sort of narrow exclusiveness which leads him over and over again to the juxtaposition of extremes that are irreconcilable: to the dualism of God and the Good, of Matter and Idea, of the phenomenal and the Ideal worlds, of body and soul, of common virtue and philosophical virtue, of the individual and the State. Nor are those reconciling or intermediary principles to which Plato has recourse (world-soul, composition of the soul in man, philosophical despotism) equal to the task of removing, diminishing or even successfully concealing the inconsistencies of his system.

Plato's philosophy found a long line of supporters in the earlier and succeeding Academicians: but these are as dwarfs beside the giant figure of Aristotle.

§ 3. ARISTOTLE.

Life and Works.

ARISTOTLE was born at Stagira (whence the name, *Stagirite*) in the year 384 B.C. Coming to Athens, he studied philosophy for twenty years under Plato. From that time he conceived the plan of his own system while continuing to profess a sincere respect for his master's teaching. After the death of the latter, Aristotle went to Atarneus and Mitylene; but the second important event in his life is his sojourn at the Macedonian court, whither he was called in 342 to direct the education of Alexander. About the year 335 he opened the peripatetic school in Athens. After the death of Alexander he was obliged to fly the city; he died in Chalcis in the year 322.

His literary activity was prodigious. Apart from apocryphal and less important works we may classify his scientific writings under the following main headings

I. Works on Logic, collected later on under the title of the *Organon*: (1) The *Categories* (*katêgoriai*) or classes of concepts; (2) the treatise *On Interpretation* (*p. hermêneias*) or on judgments and propositions — authenticity sometimes questioned; (3) the *Two Analytics* (*analutika protera* and *hustera*), the one on reasoning, the other on demonstration; (4) the *Topics* (*topika*) which deal with "probable" or "dialectical" arguments, and to which he attaches his work on *Rhetoric*; (5) the *Sophistical Reasonings* (*peri sophisticôn elegchôn*), forming the ninth book of the *Topics* and dealing with sophisms in reasoning.

II. Works on Natural Philosophy and the natural sciences: (1) The *Physics* (*phusikê akroasis*),

comprising eight books, of which the seventh is apparently spurious; the *Book on the Heavens* (*peri ouranou*) ; the *Book on Generation and Corruption* (*p. geneseos kai phthoras*); and the *Meteorology* (*meteôrologika*): all of which treat of the general principles of the corporeal world. (2) The *History of Animals* (*p. ta zôa historiai*), comprising ten books, of which three are not authentic; the *Anatomic Descriptions* (*anatamai*); the *Treatise on the Soul* (*peri psuchês*), and various minor treatises called the *Parva Naturalia* dealing with the soul; the *Parts of Animals* (*p. zôn moriôn*), the *Generation of Animals* (*p. zôn geneseôs*), and the *Motion of Animals* (*p. zôn poreias*): all bearing on the study of living things. Of all Aristotle's works, the *Treatise on the Soul* is the best written and most methodical.

III. Works on Metaphysics: the *Metaphysics* (*ta meta ta phusika*). The word, *Metaphysics*, probably comes from Andronicus of Rhodes, who placed this portion of Aristotle's work after his writings on physics, *ta (biblia) meta ta phusika*.

IV. Works on Moral Philosophy: (1) the *Nicomachean Ethics* (*êthika Nikomacheia*); (2) the *Politics* (*politika*) and the *Athenian Constitution* (*politeia Athênaiôn*). The *Greater Ethics* and the *Eudemian Ethics* are probably the work of pupils.

V. Works on Poetry: the *Poetics* (7. poiêtikês).

General Characteristics of Aristotle's Philosophy.

He allows its full value to *speculative science*, and does not subordinate it, as Socrates and Plato do, to the practical needs of life. All men, he says on the first page of his *Metaphysics*, have not only a natural but a disinterested desire for knowledge, — for its own sake.

The poetic imagery and diffuseness of Plato's style gives place to a diction that is *concise* and solid, — so condensed, indeed, as to be at times obscure and difficult.

Aristotle respects the opinions of others, and makes it a duty to study them carefully. In fact, he may well be called the first *historian of philosophy*; for the first book of his *Metaphysics* gives an exposition of all the philosophical doctrines which were taught from Thales to Plato. If he did not fully develop the historical method, it was because of the conception he had of the object of such history: the history of Philosophy should not be cultivated for its own sake, he held, but only in so far as it contributes to the discovery of the truth.

He elaborates a *full and complete system of philosophy*, based upon the two-fold method of analysis and synthesis. The employment of observation as a method of procedure in philosophy, first introduced by Socrates and applied but timidly by Plato, is here established on a scientific basis. Aristotle is above all an observer of nature. He has all that reverence for fact of which modern science boasts. Astronomy, meteorology, botany, zoology, biology, physiology, politics and political history, literary history and archaeology, philology, grammar, rhetoric, poetry: he shows a profound practical knowledge of all these particular sciences, — profound for his time; and more than one of them owes to his intellect either its first constitution or even its final organization. He aims at possessing all the elements of knowledge, because he wishes to explain nature in its entirety.

And, in fact, after having collected those mighty stores of materials, which make him the first scholar of antiquity, Aristotle constructed a vast general synthesis which justifies us in regarding him as the prince of ancient philosophy. Everything that is, is the object of philosophy, or of science in the higher sense which he gives this word; and, accordingly, his encyclopedic researches are all systematized under a higher threefold unifying principle which will serve as a basis for the division of speculative philosophy.

Aristotle is a scientist and a philosopher of the highest order. In him we find united the two temperaments whose combination means genius. With the exception of certain weak points, we

may say that everything is of a piece in his vast synthesis. While Plato is full of contradictions, rigorous order and logical unity dominate the work of Aristotle. He not only surpasses his master by all that distance which separates a solid philosophy of reality from a dreamy philosophy of abstraction; he even takes his place above and beyond all classifications of age or race, in the ranks of those great thinkers who are the glory of humanity. And, besides, the whole course of subsequent history has borne witness to his genius, for no one has exercised an influence equal to his on the progress of human thought.

Division of Philosophy.

Philosophy, or science *par excellence*, is the investigation of the principles and causes of things (*Metaph.*, I., i., 981); or again: it is the study of that which is necessary in things: in fact, there is no science except about the universal. Aristotle has indicated various ways of dividing philosophy. The best known is his classification of the philosophical sciences into *theoretical*, *practical*, and *productive* or *poetic* (*poiein*), according as the term or object of our knowledge is pure speculative information, or conduct (*praxis*), or the production (*poiesis*) of some exterior work.

Theoretical philosophy is subdivided so as to include:

(1) *Physics*, or the study of corporeal things, subject to change (*peri achôrista men all ouk akinêta*).

(2) *Mathematics*, or the study of extension, that is, of a corporeal property not subject to change, and considered, by abstraction, apart from matter (*p. akinêta men ou chôrista d isôs, all hôs en hulê*).

(3) *Metaphysics*, called *Theology* or *First Philosophy*, or the study of being in its incorporeal (by abstraction or by nature) and immovable (*p. chôrista kai akinêta*) states or conditions.

Practical Philosophy includes *ethics*, *economics*, and *politics*, the second often going with the third.

It is difficult to insert the treatises of the Stagirite himself in this classification, on account of the disordered condition in which many of them have come down to us. Besides, it leaves no room for *Logic*, the vestibule of philosophy, and the object of Aristotle's deepest study. We will follow the division as outlined, adding logic as a preliminary, and we will examine successively: (1) Logic; (2) Theoretical philosophy: (a) Metaphysics; and Theodicy, its complement; (b) Mathematics; (c) Physics, general and special; (3) Practical philosophy: (a) Ethics; (b) Politics; (4) Poetics.

I. Logic.

Notion of Logic.

Aristotle is the creator of logic or the "analytic" of the mind. Going beyond Socrates and Plato who had investigated only the formation of general concepts, Aristotle made out *a whole system of laws which the human mind must follow in order to acquire scientific knowledge*. His point of view was chiefly *methodological*, and although in the constitution of his system logic is closely connected with psychology and metaphysics, it is treated primarily as an instrument of knowledge; it determines the form of science, abstracting altogether from its content. What is the meaning of *knowing scientifically*? It is to ascertain what a thing is, its *essence*; to get at the *causes* of its reality. *Scientific demonstration*, and the *syllogism* which is its basis, enable us to discover the essences of things and their causes. That is why these processes form the main topic

of Aristotle's logic, and the subject-matter of his principal logical treatise, the *Analytics*. But both these processes of the mind presuppose a study of the elementary operations into which they resolve themselves: conception and judgment.

Concept and Judgment.

The *concept* represents things under their abstract and general determinations, some proper to a single species of things, others common to different species of one and the same genus. Logic treats of the concept in so far as it becomes the element of the judgment. Thus, when Aristotle introduces into his logic the classification of beings into *Categories*, he takes the latter not for classes of things as they exist outside us, but for classes of objective *concepts*, in so far as these can become the predicate or the subject of a judgment. The *Postpraedicamenta* are an addition made by the Aristotelian school.

The judgment or enunciation (*apaphansis*) results from the union of two concepts, one of which (the predicate) is affirmed (or denied) of the other (the subject). The *Perihermeneias* (*peri hermêneias*) studies the quality of judgments (affirmation, negation), their quantity (universality, particularity), their modality (necessity, possibility, contingency).

Syllogistic Reasoning.

It is principally the syllogism that engages Aristotle's attention (*Prior Analytics*). He was the first to describe this process by which the human mind, not perceiving immediately the relation between two concepts, the terms of a judgment, compares them successively with a middle term. The syllogism is a form of reasoning in which certain things being supposed (the premisses), something else necessarily follows (the conclusion). To join ideas one with another by deducing the particular from the general, to co-ordinate and subordinate our mental notions according to their degree of universality: such is the mental process which leads us to science. The syllogism makes it clear to us that the predicate of the conclusion is contained in or excluded from the comprehension of a third idea, which includes in its extension the subject of the conclusion. The rules of the syllogism, its figures and moods are laid down with such wonderful exactness and precision that posterity has had little or no occasion to improve on the lessons of the Stagirite. Induction, opposed to the syllogism, is a process which goes from the particular, *i.e.*, from the observation of facts, to the general, *i.e.*, to the abstraction of the essence or type realized in the particular cases. It may be said that Aristotle laid down the principles of scientific induction.

Demonstration: Probable and Sophistical Reasonings.

Syllogistic reasoning is the basis of demonstration (*apodeixis*) with which Aristotle deals in the *Posterior Analytics*. He calls demonstration "the syllogism which produces science". Demonstration must stop at some indemonstrable first principles which the mind enunciates on account of their immediate evidence as soon as it abstracts them from the data of sense. Aristotle also sets limits to *definition* (*horismos*) and to *division*, for it is impossible to define everything and to divide things *ad infinitum*.

Demonstration, which begets certitude, is opposed to probable reasoning and to erroneous reasoning. Aristotle devotes a separate treatise to this latter (the *Sophistical Reasonings*). To probable arguments he attaches, in the *Topics*, the theory of the *topoi* or *de locis dialecticis*, as also the study of the *aporiae* (*aporiai*), *i.e.*, the statement of the reasons for and against, prior to the finding of the middle term of the syllogism.

II. Metaphysics and Theodicy.

Concept of Metaphysics.

Speculative philosophy aims at attaining to a knowledge of everything that is, by a contemplation of things in their successive and ascending degrees of abstractness: the physical, the mathematical, and the metaphysical.

While the special sciences cover each only a portion of reality, metaphysics treats of everything that is; and the intelligible aspect under which it grasps all things is the widest possible, namely, that of being. It is the *science of being considered as such* (*epistêmê ton ontos on*). It is the chief of all the sciences in virtue of its generality, and also because it furnishes all the other sciences with their principles.

From the way in which he raises the problems of Metaphysics it is easy to recognize from what parent stock the genius of Aristotle springs. Is reality, he asks himself corporeal or incorporeal? Can the permanent be reconciled with the changeable, the one with the manifold? The Greek mind stands revealed with the utmost clearness in such *formulae* as these. Aristotle crushes the systems of his predecessors with unanswerable objections: the universal flux of Heraclitus, the immobilism of Parmenides, the number theory of Pythagoras, the separated Ideas of Plato. Scepticism also suffers at his hands a refutation so thorough that it well deserves to be regarded as a masterpiece (*Metaph.*, iv., 1). But we must also add, — to the great honour of the Stagirite, — that he knew how to separate truth from falsehood in the doctrines of his predecessors. His fresh and penetrating grasp of reality enabled him to complete the theories of some of them by those of others: In real being there is something stable (Parmenides), and something changing (Heraclitus); and Plato's "Real" is now seen to dwell in an immanent manner *in* the individual objects of sense.

Being and the Ten Categories.

Individual things *alone* having reality; the being which metaphysics studies by seizing on its *general* determinations, is simply the substance of the individual things (*tode ti*) presented to us in our sense-experience. There is in every being a primordial, constitutive element or basis, able to subsist by itself and which serves as a subject of inherence for all adventitious realities. Hence the first classification of beings into two categories, *substance* (*ousia*) and *accident* (*sumbebêkos*). Socrates is a substance; his virtue is an accident. The accident is next divided into nine categories; quality, quantity, relation, place, time, posture (*keisthai*), habit (*echein*) which is the possession resulting from change, action and passion implied in change (*poiein kai paschein*).

But to understand fully the scope of peripatetic metaphysics we must set this division, which is a statical one, over against another, which is a dynamic classification based on the *change* or *flux* of being: for the being which we know best and most fully is subject to change. Besides, each of the ten categories of being can be considered as in a state of change; it may be actual or potential.

Potency and Act.

All change implies passing from one state to another. Consider a being B passing from the state *a* to the state *b*. If we analyse this change we see it demands that B already possess in *a* the *real principle* of its change to *b*: before being *b* it was capable of becoming *b*: it was really susceptible of a new determination: it was in the state of *potency* to be what it now is *actually*.

Act is, therefore, the present sum of perfection or degree of being (*entelecheia, to enteles echein*). Potency or *potentiality*, is the aptitude to receive perfection (*dunamis*): it is imperfection and non-being if you will; but it is not mere nothingness, because this non-being is endowed with the germ of future actualization. This actualization or passage from a potential to an actual state is called *motion* or *movement*, and is defined by Aristotle: “the act of a being in potency, in so far as it is in potency; *he tou dunatou, he dunaton, entelecheia phaneron hoti kinêsis estin*” or again: the act of an imperfect subject, *actus imperfecti*.

Three great theses of peripatetic metaphysics are, as it were, the offspring of this distinction between potency and act: the relation of parentage can be traced in the theory of composition from matter and form; in the composition of universal and individual; and finally in the theory of the four causes, — a theory which is the fruit of an analysis of motion.

Matter and Form.

Although it belongs primarily to physics, the theory of matter and form assumes a metaphysical meaning, in so far as it is an explanation of motion or change in general. In the essence of all being that is subject to change, we must find: (1) a potential principle, indeterminate as such, which becomes actual by the process of change; or, in other words, a fixed substratum which successively receives contrary determinations; this is matter; (2) a principle which determines this amorphous substratum, and which is of a special kind for each actuation of the matter; this is the *form*.

The theory is, of course, primarily and properly applicable to corporeal, terrestrial substances; but Aristotle extends the concept of matter and form even to mathematical entities, and to the heavenly bodies. Not only does he make it co-extensive with the notion of change; he generalizes the notions connoted by matter and form so far as to apply them to everything that is *determinable* on the one hand or *determining* on the other; *e.g.*, to the genus as compared with the species, to body as compared with soul, to the passive intellect as opposed to the active, to the premisses in relation to the conclusion. The theory of matter and form becomes, in fact, convertible with the theory of potency and act (*De Anima*, ii., 1). Matter is potency or potentiality; form is act. Let us see what is their nature and what sort is the bond which unites them.

As a constitutive principle of being, form gives the composite entity its specific determinateness; it makes the thing to be what it is (*to ti ên einai*). It accounts for all that is *actual perfection* in a being, its *organization*, its unity; in the composite being it is above all the *principle of the operations* of that being, and as these all tend towards an end, it is consequently the *seat of the impulse directing* the activities of the being. It alone being *knowable*, it is the *sole object of definition*.

The matter fulfils various functions. Undetermined itself it is *unknowable in itself*, and we know it only by analogy. It is because the indeterminate cannot exist that the indefinite (*apeiron*) does not exist. This characteristic of indeterminateness or of absolute potentiality is the object of one single, homogeneous concept of matter; but there are, in fact, as many different matters as there are beings. While the form is the principle of unity and the seat of impulse towards an end, matter is subject to multiplication and division; it is connected with what is fortuitous and teratological; it is, in general, the principle of limitation, of imperfection and of evil. Motion being eternal, matter must be likewise eternal. “Generation could not have had a beginning nor can it have an end; because the reason why there *is* generation is ever identical with itself, and is of abiding efficacy.” Individuals pass away, but the species has always been and will remain for ever.

In the *physical* order, matter and form are real elements of being; matter is not, then, the *on* of Plato. Form and matter constitute but one reality owing to their very close union. Form is immanent in matter (against Plato) and can no more free itself from matter “than the roundness can from a ring”. Similarly, matter cannot exist without form: the concept of matter, existing as such, is that of a being, determined, yet undetermined, which is self-contradictory.

Outside the physical order, in whatever domain they are employed, the two notions of matter and form are bound together by the same close correlation.

The Common Essence and the Individualized Essence.

The individual being, which is the only real substance, is alone capable of existing as such; the universal is not a thing in itself; but it is immanent in the individuals, reproduced in all the representatives of a class; it gets its independence, its isolation from individuals, only by means of the subjective consideration of it by our minds; such is the solution of the problem of the universals. This teaching, which supplements the metaphysics of Heraclitus by that of Parmenides, is the very antithesis of Platonism, and we must recognize in it one of the highest achievements of the peripatetic philosophy.

Besides the *common essential notes or attributes* which we find repeated in all the individuals of the same species, each individual being possesses its own *proper characteristics*: these affect it in its essence, and give it the stamp of individuality. Between the common essence and the individualized essence there is a relation of determinable to determinant, of potency to act; thus an organic bond is seen to unite the two main theories of the peripatetic school.

The *Principle of Individuation*, in the things of Nature, is not the form: this of itself tends to realize the fulness of its act, and would exhaust its formative causality were it not prevented by the matter. It is the matter that individualizes the being, for it is at once quantified and limited (42); and besides, it fixes, for each being, the share of determinable reality demanded by the determinative power of the form.

The Doctrine of Causes.

The theory of causes is closely connected with that of motion; for the term “cause” is applied to whatever exercises any real and positive influence on the actuality of a being at any stage whatever of its development. Aristotle distinguishes four causes, the material, the formal, the efficient, and the final.

(1 and 2) *Material and Formal Causes*. — Primal or primary matter and substantial form, which are the constitutive elements of being, are also, under another aspect, its causes; for their union *gives rise to the substantial compound*. Material and formal causes are of the *accidental* order when they constitute a mode of being of something already supposed to be complete substantially.

(3) *Efficient or Moving Cause* — A substantial compound, or any one of its stages, is realized by its passing from power to act. But nothing that is moved moves itself (*Phys.*, vii., 1). For what is merely in potentiality does not, as such, contain the sufficient reason of its own actualization. Therefore the transition from power to act, or from matter containing a form potentially to matter actually determined by that form, demands the influence of a moving cause, which latter could not influence or move the former unless it were itself in act. By reason of its continuous influence (*thixis*), this cause is the principle of all evolution in matter: the efficient cause, or more properly speaking, the *motive cause* (*to d' hothēn hē kinēsis*).

Aristotle, therefore, confines efficiency to the production of movements or changes, and

these follow a real, internal virtuality or tendency of the matter to unite with the form that corresponds to the natural exigency of the compound. But the chain of changes has never had a beginning and can never have an end: motion is eternal. So also is matter, the substrate of all change: matter is simply there, though never produced, nor does Aristotle account for its existence.

(4) *Final Cause*. — The co-ordination of activities in the things of Nature, and the stability of the universal order to the realization of which every single thing in the cosmos contributes something, are indications that the substantial forms of things are endowed with an intrinsic tendency towards some end which draws out their latent energies (final cause). This notion of purpose, design, finality, is of fundamental importance in Aristotle's metaphysics. It justifies and explains for him the regular recurrence of natural phenomena and the fixity of natural kinds in the domain of physics, the innate tendency of the mind towards truth in criteriology, the inclination of the will towards the good in ethics.

The Being that is Pure Act: Proofs of its Existence.

Above all changing things, which are mixtures of act and potency, there reigns supreme one immovable Being, which is Pure Actuality (*to ti en einai to prôton*).

The principal proof of the existence of God is based on the existence of change (*motus*). Movement, though eternal, is unintelligible without a Prime Mover, itself immovable. For, as nothing can pass, of itself, from potency to act, all movement or change necessarily supposes a mover; and unless we grant some one prime mover, itself entirely beyond and free from the influence of all change whatsoever, we are forced to admit — for the explanation of actual change — that there exists an infinite series of moving causes: which is absurd. Aristotle adds to this a second proof, based on the order, harmony and unity of the world, — known afterwards in philosophy as the teleological proof.

Nature of God.

The Deity may be considered in Himself and in His relations to the universe.

The attributes of God considered *in Himself*, are all referred to two fundamental notions, immobility and thought.

Immobility. — The Prime Mover is absolutely and eternally quiescent. Eternal like movement itself (*sunechês*), He is pure actuality or form, for any admixture of potency or of matter would involve change in His being. Hence He is *indivisible*, all division involving transition from potency to act; and *incorporeal*, all corporeal things being composed of matter and form.

Thought. — Since the Purely Actual Being involves all that is most perfect, He must needs be intelligent. By virtue of His own substantial, undivided and indivisible thought, He comprehends His own eternal actuality. He is thought of thought (*noêsis noêseôs*). His conscious self-contemplation is His end, and His happiness is perfect. He is unaware of this world of changing things, for He could not know the latter without changing along with them.

God is the cause of all worldly change. How, or on what title?

Inasmuch as He gives the initial impulse to cosmic movement, the Prime Mover ought to be described as a *motor cause*. And indeed Aristotle would seem to place the prime mover *in contact* with the world (*De Gen. et Corr.*, i., 6, 323); but contact is the necessary condition for motor causality. Furthermore, the motion imparted by God to the world is circular motion, that is to say, perfect and eternal motion. The point of contact is the periphery or the world's outer sphere (*Phys.*, viii., 10). But does not contact between the corporeal world and its mover

imply that the latter is located in space? And is the reaction of the thing moved upon the mover, reconcilable with the immutability of God? To avoid these difficulties Aristotle explains the influence of God upon the world as exerted not by way of mechanical impulse but by way of the attraction exercised by a final cause.

God is the *final cause* of the world, the good towards which all things tend; and it is this natural tendency of matter towards a higher and better state that sets up the eternal series of evolutions in earthly things.

Everything moves, because everything tends towards God. But as the final cause attracts by love, the inclination originated in the creature by God in no way touches or changes God Himself. Final causality does not interfere with the Divine intangibility, whereas motor causality in the strict sense would seriously compromise it. This eternal, irresistible attraction of all things towards the perfect and immutable actual being, leads to an optimistic conception of the cosmos and excludes the idea of evolution or progress from the good to the better.

Lacunae in Aristotle's Theodicy.

The theodicy of Aristotle is a bold and powerful presentation of theism; but it reveals, on some fundamental questions, lacunae afterwards filled in by the genius of scholasticism. It is darkened by a persistent doubt about the personality of the Divinity; the notion of the Divine personality is necessarily vitiated by the supposition that will-activity is incompatible with the immutability of a purely actual being. Then, too, the relations between God and the world are by no means happily handled: God does not know the world; hence He cannot be its providence. Efficient or motor activity in the strict sense is regarded as incompatible with the Divine nature. On the other hand, the final causality of the prime mover is not easy to grasp, and it lands its author into a theory of Nature at variance with some of his metaphysical teaching. Finally the existence itself of any beings outside God remains an enigma.

III. — Mathematics.

Object of Mathematics.

While metaphysics deals with what is immaterial either by abstraction or of its nature, mathematics deals with *extension* in the abstract, and with the relations this gives rise to. It passes over all corporeal attributes in so far as these are subject to change, and deals with aspects that are in a sense immovable, aspects isolated by mental abstraction from the corporeal substance whose permanent and inseparable attributes they are. Besides pure mathematics — arithmetic and geometry — Aristotle also mentions applications of mathematics to the practical arts, such as surveying, and to the natural sciences, optics, mechanics, harmonics, astrology. His mathematical works are lost.

Descending another step in the scale of abstraction, we find ourselves in the domain of physics.

IV. — Physics.

Object of Physics.

In the wide sense in which the word is used by Aristotle, Physics embraces the study of all corporeal beings in so far as they are subject to change. After referring to the general principles

bearing on corporeal *being* (general physics) we shall examine in detail the various *classes* of corporeal *beings* (special physics): the heavenly bodies; terrestrial bodies; and among these latter, man. Psychology is, according to Aristotle's classification, a section of physics.

General Principles.

Nature and kinds of corporeal motion. Metaphysics studies motion in general; physics is concerned with corporeal motion and its kinds. These are four in number; appearance and disappearance of substantial compounds (*genesis* and *phthora*), qualitative change or alteration (*alloiôsis*), the quantitative change of growth and decay (*auxêsis* and *phthisis*), and finally local motion (*phora*) — the motion *par excellence*, which the three former sorts presuppose. To the concept of local motion Aristotle attaches the study of the infinite, of time and of space.

The theory of matter and form belongs properly and primarily to *physics*, for it is the peripatetic interpretation of the evolution of the cosmos and of the incessant change that goes on in the world of sense. In opposition to the atomism of Democritus, which accounts for the visible diversities in corporeal things by different arrangements of the same identical elements, Aristotle contends that the facts of nature proclaim the existence of specific differences in corporeal things themselves and in their properties. Earthly substances are being continually transformed into one another; they combine with one another to form compounds specifically distinct from the components, and those compounds are themselves in turn resolved into their constituent elements. We must needs therefore recognise in corporeal substances a permanent substratum, *primal or primary matter* (*hêprôtê hulê*) identical throughout all stages of the process, and another principle peculiar to each one of these stages, the *substantial form* (*eidos*). The substantial form is so called because it is the first in order of all corporeal determining principles or influences, the one which fixes the substantiality and determines the kind or species of the thing; while the primal matter is the absolutely indeterminate substrate, incapable even of existing without the initial determination of the form. The succession of different forms in the same matter furnishes an explanation of the fundamental theory which Aristotle opposed to Plato, — the theory of a real evolution taking place within the very entrails of corporeal things themselves. An actually constituted, existing corporeal substance is regarded as second or secondary matter with respect to the ulterior modifications or accidental forms it may receive.

The material world is therefore plunged in a whirlpool of Incessant change, as Heraclitus had already proclaimed, and yet none the less must we recognise, with Parmenides, a certain stability in its elements. To get an accurate insight into the mind of Aristotle regarding the process of cosmic change we must take careful cognisance of a twofold influence affecting the elements of the substantial compound, — the rhythmic evolution of forms and the prevalence of purpose or finality.

Rhythmic Evolution of Forms. — The theory is not fully and explicitly developed by Aristotle, but he has certainly the germs of a doctrine that was elaborately evolved and illustrated in the Middle Ages. In various passages in the *Physics* and *Metaphysics* Aristotle refers to a third principle, in explanation of the genetic process of nature, — privation (*sterêsis*). By this he means the *absence of a form demanded by the matter*. This peculiar exigency on the part of the matter springs from a special tendency it has to divest itself, so to speak, of one form in order to assume another, when, under the influence of the surrounding natural agencies, the compound is in process of transformation. This gradual transition from form to form is regulated by the principle of the *rhythmic evolution* of substances. "You cannot make a silk purse out of a sow's ear." The plasticity of matter has therefore its laws and limits. This is merely the *natura non facit saltus* transported into philosophy.

The *finality* inherent in all being guides this process at every single step. Just as each individual step in the cosmic evolution tends to some new actualization of a potentiality of matter, so also is the sum-total of all these stages governed by a fixed purpose which Nature unswervingly and uninterruptedly pursues. Admirably equipped as he was — for his time — with a fund of scientific observations, Aristotle followed out in detail the applications of teleology to all the facts of Nature. There is in ancient philosophy no more eloquent advocate of final causes than he.

And what is this final term, this end towards which all Nature tends? It is that which is the most perfect, the Purely Actual, Aristotle replies. But this gives rise to many questions for which he has no satisfactory answer: Does this impulse of the creature towards God imply some vague sort of knowledge of its end in every existing being? Does the *unity* of order, which combines the various substances of Nature and harmonizes their activities, involve a sort of *organic unity* in nature (*phusis*), a “world-soul” endowed with some faint perception of its evolutions and of their term? And if so, how are we to reconcile such unity with the individuality of the beings included in it, or to recognize the distinction between the organic and the inorganic worlds?

Celestial Substances and Terrestrial Bodies.

A grandiose and imposing spectacle confronts us in the regular revolutions of the heavens and the seeming immutability of the stars. Aristotle held the substance of the stars to be of a nobler order than that of the earth, — influenced, no doubt, by the popular superstition which regarded them as gods. And this distinction accounts for the various sections of his special physics: celestial substances, sublunary bodies, and the action of the former on the latter.

(1) *The Celestial Substance.* — Its perfection is evidenced by its *local motion* and by its *inner constitution*.

The *motion* of the heavenly bodies is circular motion. This is the most perfect of all motions, for it has neither beginning, middle, nor end; hence it is the only motion that is eternal. Circular rotation is uniform, and hence invariable, like the action of the Prime Mover on whom it depends. And since all substantial change supposes a certain opposition between starting-point and term, it follows that the heavenly bodies cannot pass through contrary states: they are above and beyond all change, *immutable, unproducible, incorruptible*. The peculiar element of which they are composed he calls ether, a substance purely *topical* in its nature (*Metaph.*, viii., 4, 1044 b), and possessing nothing in common with the matter of the terrestrial elements.

The stars are fixed upon one single sphere, and their daily motion round the earth is performed in the same time as that of the sphere to which they belong. On the other hand, in order to explain the intricate motion of the planets it was found necessary to consider them as attached to different spheres. Comets were regarded as aerial will-o'-the-wisps. The internal motive-power of each sphere is an eternal intelligence, a principle of the mental order, ever tending towards the Prime Mover. The most perfect sphere is the highest, remotest of the whole firmament (*prôtos ouranos*), or the sphere of the fixed stars, because it is nearest the Prime Mover and farthest from the earth. The relations of these motor-intelligences with the world-soul and with the Prime Mover are not clearly defined.

(2) *The Sublunary or Terrestrial Body.* — The four terrestrial elements are: earth in the centre — absolutely solid and heavy — water which surrounds the earth, air which surrounds the water, and fire — absolutely light — in the higher altitudes. Each of these elements has a natural rectilinear motion (upwards and downwards respectively) and tends towards a natural position (*locus naturalis*), which is at once its form and its end; to become fire and to move upwards, to become earth and to move downwards, are for Aristotle one and the same thing. Owing to their

mutual opposition as regards motion and as regards their sensible qualities (the active couple, hot and cold, and the passive couple, dry and wet, may be united disjunctively, and so give rise to a fourfold combination), the four elements can explain, by their changes, combinations, and mixtures, the formation of sublunary bodies.

(3) *The Action of the Heavens on Terrestrial Bodies*. — The sky, being the source of the earth's motion, is also the source of all sublunary generation or change. The immediate cause of the latter is the heat produced by the friction of the astral spheres with the atmosphere or the upper part of the terrestrial world. This friction changes the air into fire. The ecliptic declination of the sun explains, by its periodical approach to, and withdrawal from, certain parts of the earth, the rhythmical alternation of generation and dissolution in existing things. From the absence of a vacuum, from the oneness of the primary circular movement, and from the tendency which draws all the portions of the same elements towards the same place, Aristotle infers the *unity* of the world. From the accumulation and the sinking of the various parts of the earth, he deduces the *geocentric* theory of the universe. From the perfectly spherical system in which everything is contained he concludes that the world is *finite*. And we know already that in his view the world is *eternal* like motion, Nature, and the Prime Mover.

Among sublunary bodies, living organisms, and man above all, take a special place: this brings us to Aristotle's psychology.

Psychology.

Psychology as a distinct science owes its origin to Aristotle; for he did not subordinate his study of man to a general understanding of the world as his predecessors had done: he employed the method proper to psychology — internal and external observation and reasoning. Even at the present day Aristotle's researches on psychology retain their value.

The soul is the first act (entelechy) of a natural body, *i.e.*, a body potentially possessing life (*Treatise on the Soul*, ii., 1); it is the substantial form of the living thing, as the body is the *primary matter* of the latter. Since, then, every living being possesses a soul, we might distinguish animal and vegetative psychology from human; but, as in the hierarchy of beings the higher species have the perfections of the lower, a complete study of man will take in life under all its aspects.

The soul, though fundamentally one, manifests itself by different faculties. Aristotle has not explained himself clearly on the distinction between them, but he seems to have considered them as different aspects of the same reality, the soul. The question is one that was to be studied more fully in the Middle Ages. The following are the main problems relating to the activities and to the nature of the soul.

First Group of Problems: The Activities of the Soul.

All the phenomena of life are found united in man. Aristotle attaches them sometimes to four, sometimes to five faculties, basing his division on the irreducible forms of vital activity: nutrition, sensation, locomotion, understanding, and sometimes appetite.

(1) *Nutrition*, whose psychological aspect was carefully studied by Aristotle, is in point of view of finality the primordial vital function, since it preserves the life of the living thing. Nutrition is an assimilation of the unlike to the like; it requires heat, which is supplied by the heart. The *pneuma* is the air which we breathe and which gets warm by contact with the organic heat. The functions of generation are akin to those of nutrition.

(2) *Sense-knowledge*. — Plato had neglected this domain, and his predecessors had reduced the function to a mere mechanical action of like upon like. Aristotle's theory is a new and

masterly one, in conformity with undeniable facts of observation.

There are different forms of Sense-knowledge. Aristotle distinguished the *five external senses*; the *common sense* (*aisthêtêrion koinon*), which is a central organ that takes cognisance of the action of the external senses and associates our special sensations with one another; memory (*mnêmê, anamnêsis*), or the imagination, which retains and reproduces the impressions made on the senses; and the constructive *imagination* (*phantasia*).

The most important of Aristotle's theories concerns *the nature of actual sensation* (*aisthêsis*). The sense faculty represents sensible, particular, contingent properties; these constitute either the proper object of the scope or activity of some one particular sense (the "proper sensibles"), or an object which this sense perceives in common with other senses (the "common sensibles"). The union of the knowing with the known belongs to the *psychical*, not the *physical*, order; the sentient subject and sense-perceived object are one in the act of sensation, for this latter is the common act of both. The nature of sensation will be best understood by taking account of its genesis.

Genesis of Sensation. The senses do not act of themselves; they need to be stimulated and internally determined by some external object, which will thus become the term of the perceptive act. When the motion caused from without (the "sensible in potency") strikes the passive faculty within, this latter passes into act (the "sensible in act"), and this immanent act is sense-knowledge. The living image imprinted by the object on the organs of sense becomes a known image. This double phase of knowledge — the *action* of the external object on the faculty, and the *reaction* of the latter — takes place *within us* and is of the *psychical* order.

Aristotle engrafted on this Philosophical theory a scientific theory, that of the *milieu* or *medium*. The external object, he says, does not act directly on the organs of sense, but only through some medium, air and water for sight, hearing, smell, and taste; the flesh for the sense of touch (the sensations of touch not taking place on the surface of the body, but having their seat in the heart). Whether this direct influence on the faculty of knowledge comes from the object itself or from a physical medium, the *psychological* difficulty remains the same. In either case, a material agent contributes to the production of a psychical phenomenon, the nature of which is unexplained.

The determinant of the psychical phenomenon, or the *action of the object* received in the faculty, was called later on, the intentional species (*species intentionalis*). Now, the Greek commentators of Aristotle misinterpreted his theory of the *species intentionalis*. After the manner of Democritus, and under the pretext that this transmission of influence through a medium should preserve during its whole course a likeness with the object, they imagined a veritable generation by the external object in the physical medium, of a succession of small, shadowy entities, the last of which became incorporated with the faculty *previous to the act of knowledge*. It is important to note that this false interpretation, which has played such an important part in the history of philosophy, has nothing in common with the real thought of the Stagirite.

Sensation is objectively valid. As the senses are determined only by the influence of an object, it follows that the latter must have a real existence outside us. Furthermore, it must resemble the forms of knowledge which it produces in our faculties.

(3) *Intellectual Knowledge.* — Intelligence (*nous*) does not belong to animal nature, it is proper to man. We must first consider the *nature of thought*. Whilst the senses know only the concrete, particular, contingent object, the intellect perceives the "quiddity" (or "essence") of the sensible thing, apart from its individual characteristics and its limitation in time and space. It discerns the reality under *abstract*, and therefore also universal and immutable, aspects. The theory of abstraction, the keystone in the arch of peripatetic ideology, accounts for the

distinctive properties of thought, whilst avoiding the errors of Plato's "dialectic".

Next as regards the genesis of thought. We have no innate ideas (Plato). The understanding is a capacity for knowing everything. Indeterminate and passive in its nature, like the sense-faculties, it resembles a "virgin sheet of paper" (*Treatise on the Soul*, iii., 4, i). This is the *passive intellect*. As soon as this intellect receives the determining action of the object of cognition it reacts, and by reacting knows. But whence comes this action? What is its source, — seeing that the abstract object of the intellect does not exist as such in nature? It results from two causes: the sense-image which is a necessary antecedent and concomitant of all thought; and an active faculty which co-operates with the sense-image — in which the intelligible object is contained "potentially," — and renders this image capable of determining the intellect. Besides the *passive intellect* which is the "receptacle of the determining forms" and which "can become everything," there is an *active intellect* which "produces everything" (*Treatise on the Soul*, iii., 5, 1). This is yet another application of the theory of potency and act. To make use of a well-known comparison, the active intellect "illuminates" the sense-image just as light renders colours visible and "makes the medium actually transparent". The concept of a psychical determinant reappears here, built on the pure notion of passive potency.

What is the *nature of this Twofold Intellect*? On the strength of the principle that what acts is superior to what is acted upon (*op. cit.*, iii., 5, 2), Aristotle establishes between these two intellects fundamental points of difference. The active intellect alone is independent of the body, having existed before it, and surviving dissolution; it comes from without (*thurathen*). On the other hand, the passive intellect is akin to sensibility, is born with the organism and dies with it. The active intellect, being a "divine" principle, is impassible; it is always in act but is never acted upon; it has no power of memory and can give us no information about its state of pre-existence.

This theory of the two intellects is very obscure in many points, and full of difficulties: Is the passive intellect, — and, as a corollary, is thought itself, — material or spiritual? Is the active intellect one for all men, or is it part of the soul? Can it have knowledge by itself apart, or, since knowledge is a mode or quality of the passive intellect, does it not find itself condemned to absolute inaction on its separation from the body? How are we to explain its union with the passive intellect, and how does this union harmonize with the personality and unity of the individual man? What are the relations between the active intellect and the Pure Act? These questions will be seen to provoke in the course of later history very diverse and conflicting answers.

What of the objectivity of thought? Thought reproduces reality, faithfully but not adequately. The quiddity, which the intellect grasps in the sense-image, constitutes the thing known; but the abstract and universal form in which thought grasps it, is the product of the intellect itself.

(4) Appetition follows and depends on knowledge; it is a tendency of the being towards a known object which presents the character of goodness. Besides the sense-appetite, there is an intellectual one: the will. Liberty is a result of the will's autonomy; it entails responsibility.

(5) Knowledge and appetite direct the executive faculties, — of *locomotion* or change in space.

Second Group of Problems: The Nature of the Soul.

Soul and Body. The definition of the soul states exactly its relations to the body: since the soul is the form of the body, it is its intrinsic determining principle. Psychology is not the study of the soul (Plato), but of man composed of body and soul. Not the soul (Plato), but the organism is the seat of the vegetative and sentient vital functions.

Spirituality and Immortality. — By reason of the functions which it performs without

the intrinsic and immediate help of the organism, the intellect (*nous*) is spiritual; and its immateriality proves its immortality. Aristotle's theory of immortality has been the source of endless controversies among his commentators. It presents serious difficulties owing to the complete separation of the passive intellect from the active. This latter alone is imperishable. But is there question of personal or impersonal immortality? Speaking of the happiness of the future life, the Stagirite compares it to a sort of insensibility; the dead, he says, being incapable of activity. In reality, however, he refrained from hazarding any definite solution of the perplexing problem, and confined himself to merely teaching the survival of the thinking principle. The separation of man from God continues in the future life.

V. Practical Philosophy.

Ethics.

Practical philosophy subordinates knowledge to the guidance of conduct. Under the general name of *Politics* Aristotle includes the whole science of the order to be established in our acts. But he distinguishes Ethics from Politics properly so called.

Ethics has for its object the study of an individual's acts in their relation to his last end. The thesis that human activity tends towards a last end is merely an application of the law of finality. Now, man's end consists adequately in the harmonious exercise of all his faculties including those of sense, and formally in the expansion of his noblest faculties, namely, the intellectual. The actual possession of one's last end constitutes happiness; and as virtue is only the well-balanced exercise of an activity, man's end is sometimes called virtue, sometimes happiness.

Just as there is a theoretical reason and a practical one, so also is there a twofold series of virtues, the *dianoetic (intellectual) virtues* which are the noblest; and the *moral virtues* which are subordinate to the former, but no less essential to happiness. There are other elements in happiness, such as fortune and pleasure, but they are secondary. Aristotle's ethical system is a rational eudemonism.

The moral virtues form the proper object of Ethics; they are defined as dispositions of the will to follow the judgments of reason which tell us what is the proper mean to follow between the opposing tendencies of our nature. In his psychology Aristotle admits liberty, without, however, touching on the difficulties raised by this doctrine. Nor does he make any further enquiries on the subject in his Ethics. He simply makes a detailed study of several of the special moral virtues, chiefly of love (*philia*) and of friendship, the respective foundations of the family and of society.

Politics.

Politics is the study of social activity. Man is naturally social (*phusei politikon zôon*); and the State is the perfect form of society. To secure the happiness of the citizen in society, and hence to train up the people to the practice of virtue which is the only road to happiness: such is the mission of the State. As regards the form of government, the republican is not necessarily the best (Plato), but whichever best suits the character and needs of the people: a principle which does not prevent Aristotle from believing that the absolutely ideal form of government is the aristocratic.

The family is an element in the State. It comprehends the relations between husband and wife, between parents and children, between master and servant. The wife is the free companion of the husband, but still is subject to him; the child has no rights against the father, of whom he is a part; slavery is necessary and lawful.

VI. — *Poetics.*

Art and the Beautiful.

The science of poetics has for its object the production of external works, and especially of works of art. Aristotle devoted his attention to the study of the beautiful, of the fine arts, especially the art of poetry. Like Plato he seeks for the essence of the beautiful in the objective elements of order: “beauty consists in the union of order with magnitude”. Ontologically it is identical with what is *good*, particularly with what is morally good. Art is an imitation — not of a shadow as Plato held — but of the reality, of the internal essences of things. Aristotle lays stress on the moral significance of art, and by taking account of this view we may understand better his obscure theory of the *katharsis* in his definition of tragedy. By inspiring terror and pity in the theatre, the drama stifles in the spectator’s soul the unruly passions whose portrayal on the stage calls forth those sentiments: judged by this standard, the drama is an instrument of moral purification.

Aristotle’s *Esthetics* do not differ from Plato’s in their fundamental principles; the differences between them are due to the influence of the general points of divergence between the two philosophical systems.

Maurice de Wulf. *History of Medieval Philosophy*. New York: Longmans, Green, and Co, 1909.

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