# ARISTOTLE

# DE ANIMA

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WITH TRANSLATION, INTRODUCTION AND NOTES

BY

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TO HENRY JACKSON

WHO HAS INSPIRED MANY

WITH HIS OWN LOVE OF

GREEK PHILOSOPHY

# ADDENDA ET CORRIGENDA.

Page 15, critical notes, line 2, *after* reliqui codd. *add* Bek. Trend.

,, 48, critical notes, line 4, *for* appendicem *read* Fragmenta I., ll. 1—3, p. 164 *infra*.

,, 56, critical notes, line 12, *after* Bek. Trend. Torst. *add* Rodier.

,, 56, critical notes, line 13, *after* Simpl. Soph. ‖ *add* ζώντων P ‖.

,, 57, translation, line 7, *for* body *read* rest.

,, 64, critical notes, line 9, *for* append. *read* Fragmenta II., l. 61, p. 166 *infra*.

,, 114, critical notes, line 6, *for* τότε...31. γίνεται *read* τότε...31. καὶ ὁ.

,, 116, critical notes, last line, *for* 162 *read* 160.

,, 145, critical notes, line 12, *for* Hayduck *read* Heinze.

,, 150, critical notes, line 7, *for* 540 *read* 140.

,, 150, critical notes, line 13, *after* ap. crit. ad loc.) *add* Bek. Trend.

,, 152, critical notes, last line, *after* Bek. Trend. *add* Biehl.

,, 204, end of note on 403 b 8, *add* A similar confusion of οἱ λόγοι with οἱ λέγοντες τοὺς λόγους may be noticed 407 b 13—17.

,, 251, end of first note on 406 b 13, *add* The meaning of ἔκστασις ἐκ τῆς οὐσίας, so far as ἀλλοίωσις is concerned, is given less bluntly and paradoxically 414 a 11 sq., 426 a 4 sq., where ἡ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια is said to reside not ἐν τῷ ποιητικῷ, but ἐν τῷ πάσχοντι.

,, 251, line 2 of note on b 17 *for* Koch *read* Kock.

,, 356, end of note on 417 b 5, *add* Cf. 429 b 5—9, 430 a 14 ὁ τῷ πάντα γενέσθαι. The limitation, temporal or modal, which I find in θεωροῦν, is often expressed by a dependent clause when the transition from ἕξις to ἐνέργεια is described, as here, in precise terms, e.g. ὅταν φρονῇ 417 b 8, ὅταν νοῇ 431 b 16, ὅταν θεωρῇ 432 a 8, b 29, and generally ὅταν ἐνεργῇ 425 b 29: cf. τὸ ἤδη ἐνεργοῦν 417 a 12, ὁ ἤδη θεωρῶν 417 a 28.

,, 377, line 11 of note on 419 b 24, *for* XIII. *read* No. XXX. (Vol. XIII.).

,, 385, line 4 of first note on 420 a 31, *add* Cf. *Metaph.* 1052 b 25—31.

,, 400, end of first note on 422 a 22 *add* Another Miltonic echo comes from *Il Penseroso* 13—16 "Whose saintly visage is too bright | To hit the sense of human sight, | And therefore to our weaker view | O'erlaid with black."

,, 449, end of note on 427 a 2 *add* Perhaps a 3 ἔστι δὴ...a 4 ᾗ ἀδιαίρετον should rather be paraphrased thus: "There is, then, a sense in which the percipient of two distinct objects is divisible; there is another sense in which it perceives them as being itself indivisible." If so, with ᾗ ἀδιαίρετον we should supply τὸ αἰσθανόμενον or τὸ αἰσθητικόν, and not τὸ διαιρετόν, as is done on p. 119.

,, 524, end of note on 430 b 26, *add* In an instructive note Torstrik (pp. 196—198) calls attention to the distinction between ὥσπερ and οἷον. The latter, he says, is used in citing examples or in passing from the genus to its subordinate species; the former extends a predicate from one subject to another in sentences like the following: "The Greeks are sharp-witted, as also (ὥσπερ καὶ) some of the barbarians." If this be so, ὥσπερ is quite in place in comparing the meaning of two terms. The term φάσις denotes something predicated of something, as does the term κατάφασις. But the writer passes from the term φάσις to the thing denoted by the term when he adds in the next words that this predication is always true or false.

,, 532, line 15, *after* better instance is *insert* ὁ δὲ νοῦς...οὐσία τις οὖσα 408 b 18 sq. Cf.

# PREFACE.

THE first English edition of this treatise appeared in 1882 under the title of "Aristotle's Psychology in Greek and English, with Introduction and Notes by Edwin Wallace." It has been for some time out of print and, if Mr Wallace had survived to see his work through a second edition, he would probably have made considerable alterations, owing to the researches of the last quarter of a century. Of these I resolved to make full use, when, with their accustomed liberality, the Syndics of the Cambridge University Press accepted my offer to prepare an independent edition. Among the fresh materials which have accumulated, two are of special importance: I mean, the critical edition of *De Anima* by the late Wilhelm Biehl and the series of Aristotelian commentaries re-edited under the auspices of the Berlin Academy. As regards the text, I have seldom had reason to deviate from Biehl's conclusions, but in my critical notes, which are based on his judicious selection, I have gone further than he did in referring to, or occasionally citing from, authorities. The interval of time has enabled me to cite with greater uniformity than Biehl could do from the Berlin editions of the Greek commentators. I have followed the example of Wallace in printing an English version opposite the Greek text. A century ago, perhaps, the Latin of Argyropylus with the necessary alterations would have served the same purpose by indicating the construction of the sentences and the minimum of supplement needed to make sense and grammar of Aristotle's shorthand style. But fashions have changed. The terse simplicity, not to say baldness, of literal Latin is now discarded for that rendering into a modern vernacular which, whatever its advantages, is always in danger of becoming, and too often is, a mere medley of specious paraphrase and allusive subterfuge. In compiling my notes I have drawn freely upon all my predecessors, not only on the Greeks themselves, who even in their decline were excellent paraphrasts, but also on modern editors and translators, from Pacius and Trendelenburg onward; while through Zabarella I have made some slight acquaintance with the views of the Latin

schoolmen. Among modern critics few have the great gifts of Torstrik, who by his insight, candour and logic contributed beyond all others to improve Bekker's text of the treatise. Of this distinction nothing can rob him: haeret capiti cum multa laude corona. In matters of punctuation and orthography I have taken my own line, but, lest I should be accused of inconsistency, I must add that when citing from other editions I have been scrupulous in preserving their peculiarities. Thus, while for my own part I admit indifferently *αἰεὶ* and *ἀεί*, *γίγνεσθαι* and *γίνεσθαι*, when I cite the *Metaphysics* from Christ, I follow him in always preferring *αἰεὶ* and *γίγνεσθαι*, to the exclusion of *ἀεὶ* and *γίνεσθαι*. Again, though I regard *ζῷον* and *μέμεικται* as alone correct, in citing from other editions where *ζῶον* and *μέμικται* are printed I have been careful not to alter the spelling. In references to the *Metaphysics*, *Ethics* and *Politics* I have been content to give Bekker's page, column and line without the addition of book and chapter, thus avoiding the confusion which arises from the double numbering of certain books and chapters. I have tried as far as possible to give in the notes the reasons for my conclusions, so that where I have erred it will be more easy for my critics to refute me. My own claims to originality are modest enough. In fact, in a subject like this, absolute novelty of view is almost unattainable, perhaps undesirable.

I am indebted to Professor Henry Jackson, to whom the work is dedicated, for permission to publish sundry proposals, chiefly textual, taken from his public lectures delivered in the year 1903. Mr F. M. Cornford kindly placed at my disposal for this edition various notes on the third Book, which, after I had made use of them, were communicated to the Cambridge Philological Society. My book has profited by the vigilance and insight of several friends, to whom I desire to make fitting acknowledgment. In particular, Miss Margaret Alford, Lecturer of Bedford College, revised for me the first draft of the notes and added to them much of value. Nor must I pass over the good offices of Dr T. L. Heath, who assisted in correcting the proof-sheets, or those of the Rev. J. M. Schulhof, who aided me five years ago at the commencement of my task. Lastly, I must express very great obligations to the staff of the University Press, including their accomplished readers, for their able and zealous co-operation.

R. D. H.

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# INTRODUCTION. I.

## THE SUBJECT.

THIS treatise, however inadequate its method and assumptions, when judged by the standard of the present day, has nevertheless a recognised place in the early history of psychology, for it is the outcome of a long series of conjectures, enquiries and provisional hypotheses, which occupied men's minds in the infancy of science. Aristotle himself, though he may be claimed as in some sort the founder of a science of psychology, comes at the end of a period of development and, to understand him aright, we must not only take account of the thinkers who preceded him, but also seek the humble origins of their speculations in the crude conceptions of a distant past. Anthropology has made us familiar with the fundamental conception of the soul as a duplicate of the man or thing to whom it belongs. So far as it is possible to retrace the steps by which this conclusion is reached, it would seem that savages assimilate inanimate to animate objects. In natural phenomena the savage sees the agency of personal beings, whom he believes to be swayed by the same motives and impulses as himself. This applies also to all vital and mental phenomena. Activity in animals and other men is explained by the presence within them, sleep and death by the absence from them, of something which the observer conceives as, like himself, a concrete material thing, a miniature of the body, seen in dreams, in shadows, in reflections, liable to come and go from the body in which it resides, and finally severed from it at death. That it survived the death of the body was a widespread belief, attested by the cults of many races, by the practice of burying with the dead articles for use and comfort to which they had been accustomed in their lives, and by the kindred practice of human and animal sacrifices at the funeral rites of chiefs[1]. It is quite certain that the Greeks were no exception to the universality of these beliefs[2]. In the legends of Meleager and Nisus the

**Primitive and popular beliefs.**

[1] Frazer, *Golden Bough*, vol. I., cc. ii., iii.

[2] See the evidence in Rohde, *Psyche*, I. pp. 1—68: cf. p. 200 sqq.

external soul, on which the life of the individual depends, plays the same part as in the folk-lore of savages to-day[1]. The opening lines of the *Iliad* draw a sharp distinction between the heroes themselves, left a prey for dogs and vultures, and their souls, sent down to Hades or the invisible world. The ghost of Patroclus, which appears to Achilles in a dream, is an emaciated, enfeebled shadow, deprived of all its strength by severance from the body, which was the real man. In the underworld these pale, ineffectual ghosts are much alike in general condition. Apart from a few notorious offenders punished for their misdeeds, they pursue the shadows of their former avocations. Whether in Greek language and thought two separate conceptions are blended, whether the sum of the intellectual and moral qualities was associated at one time with the blood and at another with the breath, whether the breath of life superseded an older smoke-soul, the exhalation arising from spilt blood, and whether these two conceptions were connected with the practices of inhumation and cremation respectively, are matters of speculation on which it is hardly possible to arrive at a definite conclusion[2]. When we pass from Homer to later poets we find the same primitive beliefs variously modified. In Hesiod the heroes go no longer to the underworld, but to the Isles of the Blest, and ancestral spirits have developed into "daemons" exerting a beneficent influence on their descendants[3]. From the dirges of Pindar we have two important fragments[4]. One is a glowing picture of the lot of the happy dead. In the other we are told that, "while the body of every man followeth after mighty death, there still liveth a likeness of his prime which alone is of divine origin, which slumbereth so long as the limbs are busy, but full oft in dreams showeth to sleepers the issue that draweth near of pleasant things and cruel."

Orphic doctrine.

In the Orphic and Pythagorean brotherhoods the primitive beliefs were moulded into a thoroughgoing doctrine of transmigration. Three main conceptions underlie Orphic asceticism. First, there is the opposition between body and soul. The soul is better than the body and is buried in the body for its sins, the body is its temporary prison. Next comes the necessity for a purification of the soul. All evil is followed by

[1] Frazer, *loc. cit.*, vol. II., c. iv.

[2] Etymologically *θυμός* is connected with *fumus*: cf. Gomperz, *Greek Thinkers*, I. pp. 249 sq.

[3] Hesiod, *Works and Days*, 121 sqq.

[4] Fragg. 95, 96.

retribution. Through abstinence and penance alone may the soul hope to regain its former blissful state. Thirdly, there is the long series of incarnations in which, according to their deeds during a former existence, souls take a higher or a lower place in human or animal bodies or even in plants[1]. Though these ideas occupy so small a place in literature, they are clearly very old, for the extant burlesque of Xenophanes[2] attests the acceptance of metempsychosis by Pythagoras, and all probability points to his having derived it from the still older Orphic sect. At Athens the Eleusinian mysteries, at which some such ideas were symbolically inculcated, were under the patronage of the state; but nevertheless the belief in an after life in the underworld, as set forth by Homer, for the most part maintained its hold upon the ordinary educated citizen.

Ionian physicists.

Little is to be learned from the Ionian thinkers, whom Aristotle calls physicists or physiologists[3]. In the dawn of enquiries which, strictly speaking, were rather scientific than philosophical, men sought to explain to themselves of what things were constituted and how they had come into their present condition. Their problem, we should now say, was the constitution of matter and, if occasionally, when they found the primary element in air or fire or some other body, they also declared that this was the cause of vital functions, it was merely a corollary to their general doctrine and of no special importance. The subjects on which we find hints are the substance of the soul, the distinction between its various powers, and the nature of knowledge. So far as the substance of the individual soul was identical with, or a product of, the universal element, they all agreed in regarding it as not immaterial, but of an extremely refined and mobile materiality. The soul was credited with the power to know and perceive, as well as the power to move the body.

Heraclitus.

Heraclitus, who had grasped the flux of matter in constant circulation, held it to be governed by an universal law. Knowledge to him consists in apprehending this law. In comparison with such knowledge he deprecated the evidence of sense: eyes and ears are better than the other senses, but are bad witnesses, if the soul does not understand. Meanwhile in the West other schools of philosophy had arisen, the Eleatic and

[1] Cf. Rohde, *Psyche*, II. pp. 103 sqq.

[2] Frag. 7 D.

[3] The philosophical speculations on the soul from Thales to Democritus and Anaxagoras are reviewed by Rohde, II. pp. 137—198. Cf. also Beare, *Greek Theories of Elementary Cognition*.

Pythagorean. Xenophanes distinguished between truth and opinion.

Parmenides.

Parmenides derived the intelligence of man from the composition and elementary mixture of his bodily parts, heat and cold being the elements of things[1]. The preponderant element characterises the thought of the individual man. But the chief legacy of Parmenides to his successors was his doctrine of the one immutable Being, which alone satisfies the requirements of an object of knowledge. The element of the Ionians did not satisfy these conditions, being endowed with the power to pass from one condition to another, whether intermittently or perpetually. Nothing, according to Parmenides, is ever generated or destroyed, however varied its manifestations and the changes it presents to the senses. On the foundation thus laid by Parmenides Empedocles, Anaxagoras and Leucippus constructed their systems, resolving apparent generation and destruction into combination and separation of primary elements or principles, themselves indestructible. They differed, Aristotle remarks, as to the number and nature of these indestructible elements[2]. Empedocles made a mistake in accepting a crude popular analysis into air, earth, fire and water, elements which do not so much as correspond to a rough division of matter into the solid, liquid and gaseous states. Anaxagoras, with his homoeomeries, was in our view still wider of the mark. Leucippus and Democritus at last found in the atoms a working hypothesis of the constitution of matter, which has lasted down to the present day. It is these three physical systems which most profoundly influenced Aristotle. He unfortunately accepted the first with modifications and opposed the last, by the merits of which he was nevertheless profoundly impressed. Each of these three systems took up the problem of the soul. But in the meantime medical enquiries had been actively prosecuted, and it is to a Pythago-

Alcmaeon.

rean, Alcmaeon of Croton, that we owe the earliest advances towards the physiology of the senses. He was the first to recognise the brain as the central organ of intellectual activity. He dissected animals and by this means discovered the chief nerves of sense, which, like Aristotle, he called "conduits" or "channels," and he traced them to their termination in the brain. Deafness and blindness he held to be caused when by a concussion the brain was shifted out of its normal position and the channels of hearing and seeing respectively were thus blocked. He submitted the several senses to a searching examination, starting

[1] Frag. 16 D.
[2] *De Anima* 404 b 30 sqq.

with the anatomical construction of the sense-organ. The air in the ear he regarded as a sounding-board, and he attributed to the moisture, softness, flexibility and warmth of the tongue its capacity to reduce solid bodies to fluid as a necessary preliminary to tasting. He noticed the phenomenon which we call seeing sparks when the eye has received a heavy blow, and this suggested a crude theory of vision, postulating fire in the eye, a mistake repeated by Empedocles and by Plato. But it is with the glittering or transparent element of water in the eye that it sees, and it sees better according to the purity of the element. Vision is effected by the image of the thing seen and by the rays which issue from the eye within and pass outwards through the water. He derived memory from sense-perception and opinion from memory; from memory and opinion combined he derived reason, which distinguishes men from the lower animals[1]. What scanty information we have about him comes chiefly from Theophrastus[2], but it would be a great mistake to acquiesce in Aristotle's neglect of him. He is only once mentioned in *De Anima*[3], as having held that soul is immortal, on the singular ground that by its incessant motion it resembles the heavenly bodies, which he also held to be immortal.

**Empedocles.**

In Empedocles we are dealing not with a sober physical enquirer, but with a religious enthusiast and poet-philosopher. He accepted the transmigration of souls in a slightly altered form; he introduced wicked as well as good "daemons," condemned for their sins to wander for 10,000 years and to become souls of plants, beasts and men. In the course of their purification they become prophets, poets, physicians, princes, and again return to the gods[4]. Sensation in general he explained by the action of like upon like. Particles emanate from external bodies and enter our bodies by channels or pores. They cannot enter unless there is a certain proportion[5] between the emanation and the size and shape of the channel which is to receive it. Thus a sense-organ is a particular part of the body which, possessing channels of a certain size and shape, is adapted to receive emanations of a certain kind, of flavour, odour or sound. But his theory of vision was more complicated. Not only are there

[1] Plato, *Phaedo* 96 B, where, however, the name of Alcmaeon is not mentioned.

[2] *De Sensibus*, §§ 25, 26 (*Doxogr. Gr.* 506, 25 sqq.): cf. Philippson *ὕλη ἀνθρωπίνη*, pp. 20 sq. and Julius Sander, *Alkmaeon von Kroton*.

[3] 405 a 29 sqq.

[4] Cf. Plato, *Phaedr.* 248 D, E.

[5] *συμμετρία*, *De Gen. et Corr.* I. 8, 324 b 25 sqq.; cf. Theophr. *De Sensibus* § 7. Perhaps Empedocles was seeking to express the same fact as was Aristotle when he afterwards applied the word *μεσότης* to sense.

emanations from visible objects, but there are also emanations from the eye. To this he was led by the analogy of the dark lantern, of which the camera obscura furnishes a modern illustration. The transparent plates of horn or linen in the lantern, made to protect the flame from the wind which might otherwise extinguish it, correspond to the thin coats or films in the eye covering the pupil, whose contents are partly of a fiery, partly of a watery, nature. From the pupil fiery and watery emanations leap forth through funnel-shaped channels to meet the fiery and watery emanations coming, the one from light, the other from dark, objects outside. The principle of "like by like" accounts for the mutual attraction of similar materials and their meeting, and, when the two sets of emanations meet, vision takes place. The preponderance of water or fire in the eye accounts for the fact that some animals see better in the dark, others in the daylight[1]. Thus, then, we perceive like by like, the four elements of all things, air, earth, fire and water, outside, because air, earth, fire and water are present in our bodies[2]. Blood is the most perfect mixture of these four elements and to this blood where it is purest, viz. about the heart, he attributed thought. As we see earth by earth which is in us, water by water, so we think by means of blood, the bodily tissue in which all four elements are most perfectly blended. Empedocles, then, consistently confined his attention to the bodily process. The mental or psychical state is either ignored in his explanation or reduced to its physical conditions. Yet on the problem of knowledge, aware of the imperfection of the senses, he counsels us to withdraw our trust from them and prefer the guidance of reason.

Anaxagoras.

Anaxagoras distinguished sensation from intelligence and, whereas most of the Pre-Socratics agreed that we perceive things by having within us something like them, he held that we perceive in virtue of the presence within us of something opposite to the thing perceived[3]. Knowledge is not to be gained from the senses, because their powers cannot discriminate minute changes; while the reactionary physics which he propounded involved the presence in every sensible object of infinitesimal particles perceptible only in the aggregate and, blended with these, alien particles altogether imperceptible, because infinitesimal. Over against this infinity of homoeomeries he set

[1] Aristotle, *De Gen. et Corr.* I. 8, 324 b 25 sqq., *De Sensu* 2, 437 b 23—438 a 5, Theophrastus, *De Sensibus*, §§ 7—24.

[2] *De A.* 404 b 11—15, 409 b 23 sqq., 427 a 21 sqq.

[3] 405 b 14—21, Theophrastus, *De Sensibus*, §§ 1, 2, 27—37.

the other constituent of the universe, which alone is pure and unmixed and has nothing in common with anything else. This is Nous[1]. The part it played was to communicate the first impulse to that rotatory motion which ultimately evolved from the chaos in which all things were mixed the present order and regularity of the universe. Nous is in all living beings, great and small, in varying degrees. It governs and orders and knows. We fortunately possess the account which Anaxagoras himself gave of Nous, and upon the evidence the reader must decide for himself what was its nature[2]. Plato and Aristotle construed it as immaterial reason and censured the philosopher for not making more thoroughgoing use of its mighty agency. Returning now to sense, the contrast necessary to perception Anaxagoras found most clearly in touch, for our perception of temperature depends upon contrast. We know the taste of sweet and bitter only by contrast. Seeing, again, takes place by the reflection of an image in the pupil, but in a part of it which is of a different colour from the object seen. Eyes that see in the daytime are, generally speaking, dark, while animals with gleaming eyes see better by night.

Leucippus: Democritus.

In the Atomists the tendencies of earlier Greek thinkers reach mature development. The problem hitherto had been to determine what matter is, and Leucippus propounded a working hypothesis which has ever since been sufficient for the purposes of science. Though this theory is derived from sense, it departs very widely from the evidence of the senses. Knowledge, said Democritus, is of two kinds, genuine knowledge that there are atoms and void and nothing else, and knowledge which is dark or obscure, by which he meant the information given by the senses[3]. The existence of void apparently contradicts observation, experiment fails even now to obtain an absolute void. The properties of body are all given by sense. The Atomists accepted the evidence of sense for resistance, extension and weight (perhaps Democritus was unaware of this last quality), but rejected it for colours, sounds, odours and flavours. Out of impenetrable atoms of different shapes and sizes the whole universe is built up, and the different qualities in things are due either to difference of shape or size, or to different arrangements, of the atoms composing them[4]. The soul is no exception. It is a complex of atoms within the

[1] 404 a 25 sqq., 404 b 1—6, 405 a 13—21, 405 b 19—21, 429 a 18—20, b 23 sq.
[2] Frag. 12 D, quoted entire on p. 229 *infra*.
[3] Frag. 11 D apud Sext. Emp. *Adv. Mathematicos*, VII. 138 sq.
[4] *De A.* 404 a 1—4, *De Gen. et Corr.* I. 2, 315 b 6 sqq.

body. Soul-atoms are spherical in shape, extremely minute and mobile. They resemble the atoms of fire[1]. In thus postulating a body within the body to account for vital and intellectual functions, Democritus reverts more consistently and systematically than any previous philosopher to the standpoint of the savage who, when he sees an animal move, is unable to explain the fact except by supposing that there is a little animal inside to move him. But there is this difference, that the little animal is imagined to be alive, the soul-atoms of Democritus are mere matter[2]. Thus to push the implicit assumptions of their predecessors to their logical consequences and make the half-conscious hylozoism of the early Ionians blossom forth in materialism is the great merit of Leucippus and Democritus. All processes of sensation, then, are instances of the contact[3] between bodies. They are caused by "idols" or films which are constantly streaming off from the surface of bodies, of inconceivable thinness, yet preserving the relative shape of the parts. So far this agrees with Empedocles; but the latter made his emanations enter the body through channels, while the Atomists conceived them as entering by the void between the atoms. The same explanation would apply to thought, which is excited when the material image of an object enters the equally material mind. All the senses are thus but modifications of touch. This was made out satisfactorily for taste, and Democritus attempted to determine the shapes of the atoms which produce the different varieties of taste[4]. Things made of atoms angular, winding, small and thin, have an acid taste, those whose atoms are spherical and not too small taste sweet, and so on. His four simple colours, white, black, red and green, are accounted for by the shape and disposition of atoms, but a similar analysis was not attempted for the objects of sound and smell.

**Diogenes of Apollonia.**

In marked contrast with the attempts which the Atomists and even Empedocles made to bring physics and physiology into shape is the retrograde system of Diogenes of Apollonia, whose fantastic absurdities have been immortalised for us by Aristophanes. He was not satisfied with the resolution by Anaxagoras, himself a reactionary in physics, of bodies into infinitesimal particles possessing definite qualities, though he was

[1] 403 b 31—404 a 16, 405 a 5—13.
[2] Cf. *De A.* 406 b 15—22, 409 b 7—11.
[3] *De Sensu* 4, 442 a 29 sqq. For what follows see Theophrastus, *De Sensibus*, §§ 49—83, who treats of Democritus very fully.
[4] Theophrastus, *De Sensibus*, § 64 sqq.

more attracted by the supposition of unmixed Nous, which is the seat of intelligence. But he supplemented this theory by reverting to the position of the Ionians, one of whom, Anaximenes, had chosen air for his primary element. Diogenes endowed air with sentience and intelligence. "All creatures," he says, "live and see and hear by the same thing" (viz. air), "and from the same thing all derive their intelligence as well[1]." He thus made the air in us play an important part in the processes of perception and thought. From Alcmaeon he must have borrowed the idea that the brain is the central organ; the air in the sense-organs, the eye, the ear, the nostrils, transmitted the impression to the air in or near the brain. The common view that seeing takes place by the reflection of an image in the pupil he supplemented by postulating that this image must be blended with the internal air; otherwise, though the image is formed, there is no seeing. He pointed to the fact that, when the optic nerve is inflamed, blindness ensues because, as he thought, the admixture with the internal air is prevented. His account of hearing may be cited for the likeness it bears to that given in *De Anima*. "The animals which hear most acutely have slender veins, the orifice of the ear (like that of the nose) being in them short, slender and straight, and the external ear erect and large. For movement of the air in the ears sets in motion the internal air" [in or near the brain]. "Whereas, if the orifice be too wide, the movement of the air in the ears causes a ringing in them, and what is heard is indistinct noise, because the air upon which the audible sound impinges is not at rest[2]."

In the fifth century the evolution of successive systems came to a halt. The progress of enquiry had been marked by the foundation of new sciences like geometry and astronomy, both in a flourishing condition, and new arts, like rhetoric and dialectic. The bustle and unrest of the times was attended by a growing mistrust, not only of the old traditional religious and moral beliefs, but of the bewildering intellectual movement which in so short a space of time had put forward so many brilliant and contradictory speculations. The professional educators, whom we know as the Sophists, turned as a rule to practical interests and made humanism, literary criticism, erudition their main themes. Protagoras, the greatest of them, adopted a sceptical

**Protagoras.**

[1] See Simplicius, *in Physica*, p. 151, 24—153, 24, Theophrastus, *De Sensibus*, §§ 39—48.

[2] Theophr. *De Sensibus*, § 41: cf. *De A.* 420 a 3 sqq.

attitude and maintained that man was the measure of all things, which, as interpreted by Plato, means that, as things appear to me, so they are to me, or the denial of objective truth. There were many sceptical currents in the sea of speculation on which Greece had embarked. The followers of Heraclitus pushed the doctrine of flux to an extreme. Things never are, but are always becoming, they have no fixed attributes. When we say that a thing is, we must in the same breath pronounce that it is not. There are always two of these fluxes, one the movement or change producing sensations, flux outside, the other the movement which receives the sensations, the flux of our senses. The result of the contact between them is that, for example, wood becomes white wood and the eye becomes a seeing eye. When the flux of Socrates well comes in contact with wine, the wine will be sweet, but, if he is ill, it will be sour. Both these statements will be true: in fact, all statements are true. What wine is depends entirely on the man perceiving it. There is no criterion of truth in external things, they change so rapidly. On the other hand, Gorgias of Leontini in his essay on Nature or the Non-existent hardly caricatured the position of the younger Eleatics when he put forward the thesis that, if anything existed, it could not be known, and, if anything did exist and was known, it could not be communicated. Such views as these or that of Euthydemus that falsehood is impossible are by no means universal among the Sophists, many of whom had no psychological or epistemological theories at all; and, where their views were sceptical, it was the scepticism not of one school, but of many. Aristotle justifies the revolt of the Sophists against philosophy, he holds that most of the leading Pre-Socratic systems tend implicitly or explicitly to the doctrine of Protagoras. Protagoras first called attention to the importance of the knowing mind in every act of knowledge. In the view of a plain man like Socrates all the systems were discredited and the question, what is knowledge, was for the time more urgent than the ambitious problems proposed by those who had sought to know the nature of the universe. Psychology can glean nothing from the ethical discussions of the historical Socrates. When he declared that virtue is knowledge, he was confessedly using the latter term as one which neither he nor his interlocutors could adequately define.

**Plato.**

Plato in his writings is always talking about the soul, but not all that he says is intended to be taken seriously. We must allow for the mythical element, and in

particular for his imaginative sympathy with the whole mass of floating legend, myth and dogma, of a partly religious, partly ethical character, which, as was stated above, found a wide but not universal acceptance at an early time in the Orphic and Pythagorean associations and brotherhoods[1]. The Platonic myths afford ample evidence that Plato was perfectly familiar with all the leading features of this strange creed. The divine origin of the soul, its fall from bliss and from the society of the gods, its long pilgrimage of penance through hundreds of generations, its task of purification from earthly pollution, its reincarnations in successive bodies, its upward or downward progress, and the law of retribution for all offences, these and kindred subjects the fancy of Plato has embellished with all the beauty and sublimity which the art of a lost poet could bestow upon prose. Such themes stir his imagination. His approval of ethical fiction is attested by his own words, but it would be the height of imprudence to infer that any part of his philosophy is bound up with his gorgeous poetical imagery. Plato never set about writing a treatise *De Anima*. We find anticipations of a science, but not the science itself. In each dialogue he has a particular end in view. He proposes to examine the doctrine of Protagoras or, it may be, the import of predication. Incidentally in the course of a long controversy we come across models of psychological analysis which for subtlety and insight have never been equalled. Such an analysis was something absolutely new. The psychical or mental states on which Plato fixed his attention had hitherto, when they were not ignored altogether, been confounded with their bodily concomitants: a mistake not unnatural, so long as both sensation and thought were regarded as changes in the body. In the *Theaetetus*[2] we find the following argument. We do not perceive by but through the senses. What we perceive through one sense we cannot perceive through another. Consequently, if we know something about both a sound and a colour, it cannot be known through sense. Now we do know many such things; that they are, that they are different from one another, that both are two things and that each is one. How do we know such facts? The soul apprehends them through itself without any sense-organs. Being and Not-Being, likeness and unlikeness, number, identity and diversity are not apprehended through sense, but through the soul alone. The soul apprehends the noble and the base, the good and the

[1] See Cornford, "Plato and Orpheus" in *Class. Rev.* XVII. pp. 433—445.
[2] 184 B—186 E.

bad, not through the senses, but by calculating in herself the past or present in relation to the future. All men and animals from the moment of birth have by nature sensations which pass through the body and reach the soul, but to compare these sensations in relation to Being and expediency comes with difficulty and requires a long time, much trouble and education. It is impossible to attain truth and know it without attaining Being; knowledge does not consist in affections of sense because we cannot by them attain Being. It is by reasoning about sensations that this is alone possible.

In the *Phaedo*[1] the Platonic Socrates undertakes to prove that learning is reminiscence, which indeed is implied by the fact that, if questions are properly put, the right answers are elicited, showing that the knowledge sought, the knowledge, *e.g.* of geometry, existed previously in the mind of the respondent. This proof is as follows. The picture of a lyre reminds us of the person who used the lyre, a picture of Simmias may remind us of Kebes or of Simmias himself, so that the reminiscence may be brought about either indirectly or directly. If it is effected directly and the object seen is similar to the object it recalls, we cannot fail to see how far the remembrance is exact. For instance, we affirm that there is an idea of equality which is called to our minds by our perception of sensibles which are equal. That this idea is something distinct from the equal sensibles is clear; for the sensibles may appear equal to one observer, unequal to another; but about the idea of equality no difference of opinion is possible. Now we are to observe that all sensible equals appear to us as falling short of the standard of absolute equality, which plainly shows that our knowledge of absolute equality is prior to our perception of the sensibles. And whereas (1) this sense of deficiency in the sensibles has been present so long as we have had any perceptions of them, (2) our perceptions of them date from the moment of our birth, it inevitably follows that our knowledge of the idea must have been acquired before our birth. Now this of course applies to all ideas as well as to that of equality. Since, then, we have obtained this knowledge, two alternatives are open: either we are born in full possession of it and retain it through life, or we lose it at birth and gradually regain it. The first must be dismissed on this ground: if a man knows a thing, he can give an account of it, but we see that men cannot give an account of the ideas: it

[1] 72 E—76 D. In the summary of the argument I have mainly followed that given by Mr Archer-Hind, p. 77.