

ARISTOTLE

W. D. ROSS

a complete
exposition of
his works &
thought

MERIDIAN BOOKS

M 65

\$1.45 Canada \$1.60

ARISTOTLE

W. D. ROSS

a complete
exposition of
his works &
thought

Contents

1	Life and Works	9
2	Logic	25
3	Philosophy of Nature	65
4	Biology	112
5	Psychology	128
6	Metaphysics	152
7	Ethics	183
8	Politics	228
9	Rhetoric and Poetics	262
	BIBLIOGRAPHY AND LIST OF ABBREVIATIONS	281
	CHRONOLOGY OF ARISTOTLE'S SUCCESSORS AND COMMENTATORS	289
	NOTES	291
	INDEX	315

their universal form but in so far as they apply to the objects of the science; and of the laws of contradiction and excluded middle he observes that they are not normally included among the premises of demonstration; we reason not from them but in accordance with them.¹²⁰

The starting-points of science include (2) "theses" peculiar to the several sciences. These are subdivided into (a) "hypotheses," i.e. the premises referred to above, which say "that so-and-so is or is not," and (b) "definitions," which say what so-and-so is. Science assumes the definitions of all its terms, but assumes the existence only of its primary objects (e.g. arithmetic that of the unit, geometry that of spatial magnitude), and proves the existence of the rest. Thus there are three objects of science—the genus which is assumed to exist, the common axioms presupposed by proof, and the attributes proved of the genus by means of the axioms; in other words, that about which we prove, that on the basis of which we prove, and that which we prove.¹²¹

The three types of proposition presupposed by science are to be distinguished from a type which Aristotle does not allow it to presuppose, viz. "postulates," which are assumptions contrary to the opinion of the learner (i.e. not universally admitted), or propositions which should be proved instead of being assumed. They are to be distinguished also from assumptions which serve to bring the truth of the conclusion home to the student but whose truth is not required by the proof; e.g. the geometer's assumption that the line he draws is a foot long or that it is straight.¹²²

This account of the presuppositions of science provokes a comparison with the presuppositions stated by Euclid. In describing science as passing from the less familiar but more intelligible to the more familiar but less intelligible, Aristotle clearly has in mind a science which is no longer in its first stage, that of enquiry, but has been so far developed as to be capable of being stated in continuous expository form. And the only model of such a science which he had before him was that afforded by mathematics, and particularly by geometry. Euclid was only a generation later than Aristotle, and there were already in Aristotle's time *Elements of Geometry* which Euclid simply augmented and recast. It is noteworthy that almost all the examples of presuppositions and proofs in the first book of the *Posterior Analytics* are taken from mathematics.¹²³ The word "axiom" is expressly said to be borrowed from mathematics.¹²⁴ Aristotle's Axioms

sary causation may be traced back to a certain point but cannot be traced farther. This point is a cause which has no cause. There are conditions already existing which make it certain that every man will die, but whether he will die by disease or by violence is not yet determined, and will only be determined when such an uncaused cause—an act of choice—has come into being.

In another passage⁶⁰ Aristotle asserts that some events are clearly not necessary; we can say of them only "they are about to be," not "they will be." Are there, then, he asks, *any* events which are absolutely necessary? The only events of which absolute necessity can be predicated are those which form part of a recurrent series—either of a literally circular series like the orbits of the heavenly bodies, or of a metaphorically cyclical series such as the succession of the seasons, or the series cloud—rain—cloud—rain . . . , or man—seed—child—boy—man . . . This evidently leaves much detail in the history of the world (even apart from free will) the prey of contingency. Yet it is doubtful whether that is Aristotle's real thought.

MOVEMENT

Nature being a principle of movement, Aristotle turns⁶¹ to consider what movement is. From this he will proceed to consider certain notions implied in movement. Movement is *continuous*, and the continuous is often defined as that which is divisible to *infinity*. *Place, time, void* are also thought to be implied in movement.

The Eleatics had denied the existence of movement (or change) altogether. The half-way Eleaticism of the mechanists (Empedocles, Anaxagoras, the Atomists) had denied the existence of change of quality; there was according to them only "mixing and divorce."⁶² On the other hand the Megaric School had abolished the continuity of movement by dividing it into indivisible unitary movements.⁶³ We may compare with this Plato's suggestion that movement takes place discontinuously "in the instant."⁶⁴ Aristotle maintains both the reality and the continuity of movement. It is according to him not a sudden replacement of one state by another but the passage between them.

Motion is "the actualisation of that which is potentially, as

such." I.e. if there is something which is actually x and potentially y , motion is the making actual of its y -ness. The motion called building, for instance, is the bringing over of the bricks and mortar which are buildable-into-a-house, into the state of being a house. Before building began, the buildable was not yet being actualised; when building is over, the buildable is no longer being actualised. Only when building is going on is the buildable as such being actualised, and building is just its actualisation. And motion in general is the actualising of the potential. Thus it is part of the nature of movement that the potential has not yet completely lost its potentiality and become actual; that is the difference between movement and activity.⁶⁵ In each moment of activity, potentiality is completely cancelled and transformed into actuality; in movement the transformation is not complete till the movement is over. In other words movement differs from activity as the incomplete from the complete; or, more loosely, movement is incomplete activity and activity is completed movement. Movement cannot be classed *simpliciter* either as potentiality or as activity. It is an actualisation, but one which implies its own incompleteness and the continued presence of potentiality.

The elements involved in change are—that which produces movement, that which is moved, the time in which it is moved, that from which and that into which it is moved (the latter two including not only the two places involved in locomotion but the two substantial characters involved in generation-destruction, the two sizes involved in growth and diminution, the two qualities involved in alteration).⁶⁶ Change is always between contraries or between one contrary and an intermediate (which then stands for the other contrary), or between contradictories. Leaving out of account incidental change (change attaching to a because of a 's concomitance with b , the real subject of change) and change attaching to a because b , the real subject of change, is part of a , we find that movement proper must be:

- (1) from a positive term to a positive term (its contrary),
- (2) from a positive term to its contradictory,
- (3) from a negative term to its contradictory, or
- (4) from a negative term to a negative term.

But (4) is not change since it is not between opposites. Case (3) is generation, case (2) destruction. Case (3) is change, but not movement, because only that which is, and that which is in place, can be moved. Case (2) is change, but not move-

something within the head. A transparent medium must therefore extend right up to the inner organ, and hence the crystalline lens has to be composed of a transparent substance, water. And (2) transparency is now treated as being present in greater or less degree in all bodies whatsoever, and colour is described as the boundary of the transparent *in bodies* (i.e. in so far as the transparent is imprisoned in bodies mainly opaque), while light is the actuality of the transparent *in its unbounded condition*, i.e. as it exists in transparent media such as air and water.

5. 230c3 24c3

"SENSUS COMMUNIS"

Aristotle's account of the special senses, though it contains much acute reasoning, is largely vitiated by being bound up with an untenable physics and physiology. We must turn to his account of unspecialised perception, *sensus communis*. The phrase is rare in Aristotle,⁴² but conveniently sums up a whole mass of doctrine, provided it be interpreted not as being another sense over and above the five and apprehending a more varied group of objects, but as the common nature inherent in all the five. We must think of sense as a single faculty which discharges certain functions in virtue of its generic nature but for certain purposes specifies itself into the five senses and creates for itself organs adapted to their special functions.

The functions in which the perceptive faculty operates in this unspecialised way are the following:—(1) The perception of the "common sensibles."⁴³ All of these are, Aristotle maintains, perceived by means of movement, i.e. a mental movement which he regards (rather obscurely) as proportioned to the object. The common sensibles are incidental to the special sensibles⁴⁴ just as much as are the objects which are technically called the "incidentals," but he distinguishes between the two on the ground that whereas the coincidence, say, of white with sweet or with the son of Diaries is a merely occasional one, *every* object—at least of sight and touch—has size, shape, duration, either rest or movement, either unity or number. We perceive the common sensibles by sight not qua sight, but in virtue of the general perceptive faculty which besides its specialised functions of sight, hearing, etc.,

moved mover of the universe,¹⁸ and in the second place the intelligences which, moved by God, move the planetary spheres.¹⁹ And thirdly he indicates that the human reason (or the "active" element in it) is, on the death of the individual, capable of existing apart from any body.²⁰

THE FIRST PRINCIPLES OF DEMONSTRATION

Having stated that metaphysics will study the first principles of demonstration, Aristotle proceeds²¹ to establish the two main principles that underlie all demonstration, the "common first principles" of the *Posterior Analytics*—the law of contradiction and that of excluded middle. The former is first expressed in the form "the same attribute cannot belong and not belong to the same thing at the same time and in the same respect." This is, it will be observed, stated quite objectively as a law of being. But from it follows a psychological law; to think that the same attribute does and does not belong to the same thing at the same time in the same respect would be to be oneself oppositely qualified at the same time in the same respect, and is therefore impossible.²²

Aristotle rightly makes no attempt to prove the law. To demand a proof of it is, he says, to betray one's want of training in logic. To demand a proof of *everything* is to demand a regress which must be infinite; and a demand which from the nature of the case cannot be satisfied should not be made. And if something must be known without proof, what is there fitter to be so known than the law of contradiction, a law which, as we have seen, it is impossible to doubt in thought, though we may deny it in words? What we may do by way of commending the law is (1) to refute those who deny it by showing that in denying it they are assuming its truth, and (2) to show the insufficiency of the reasons which lead to its denial.²³

(1) Our opponent must be prepared to say something; if he refuses to do this, we cannot be expected to convince him, any more than we could be expected to convince a vegetable. We need not demand that he shall make a statement; we need only ask him to utter a single word, e.g. "man." If he says this he evidently means something by it, and some one thing. He is already implying that "being man" is something definite and is not also "not being man," and therefore that

the first mover is not specified, but since the first mover is the single ruler of the universe,¹²⁸ that on which "the heaven and the whole of nature depend,"¹²⁹ we must suppose that it moves the intelligences as the object of their desire and love. The detail of the system is left somewhat obscure, but we must probably think of each heavenly sphere as a unity of soul and body desiring and loving its corresponding "intelligence."

How does love or desire produce the physical movements that have to be explained? The theory is that each of these spheres desires a life as like as possible to that of its moving principle. The life of its moving principle is a continuous unchanging spiritual life. The spheres cannot reproduce this, but they do the next best by performing the only perfectly continuous physical movement, viz. movement in a circle.¹³⁰ Rectilinear movement was ruled out for Aristotle by the fact that if it is to be continuous it requires infinite space, in which he disbelieved.¹³¹

We may now turn to Aristotle's account of the prime mover itself. Physical activity being excluded by its immaterial nature, he ascribes to it only mental activity, and only that kind of mental activity which owes nothing to the body, viz. knowledge; and only that kind of knowledge which involves no process, no transition from premises to conclusion, but is direct and intuitive. The prime mover is not only form and actuality, but life and mind, and the term God, which has not so far appeared, begins to be applied to it.¹³²

Now knowledge, when not dependent, as in man, on sense and imagination, must be of that which is best; and that which is best is God. The object of his knowledge is therefore Himself. "Now mind knows itself by participation in the known; it becomes known by touching and knowing, so that the same thing is mind and object of mind."¹³³ I.e., in intuition mind is as it were in direct contact with its object; it is not then knowing one thing by means of another as middle term. Just as in sensation the sensible form is carried over into the mind, leaving the matter behind,¹³⁴ so in knowledge the intelligible form is carried over. And the character of mind is to have no character of its own but to be characterised entirely by what at the moment it knows; if it had a character of its own, that would interfere with the perfect reproduction of the object in the knowing mind, as a mirror with a colour of its own reproduces less perfectly the colour of the mirrored object.¹³⁵ Thus in knowledge mind

and its object have an identical character, and to know an object is to know one's mind as it is in knowing the object.

This explanation of self-consciousness is intended primarily to explain the self-consciousness which accompanies knowledge of an object. It is in and by knowing something else that mind becomes object of mind. We must not suppose that what it knows primarily itself, or what is offered as an explanation of its becoming its own object turns into a *petitio principii*. But what Aristotle ascribes to God is knowledge which has only itself for its object. An attempt has been made to render Aristotle's conception of the divine knowledge more tolerable by exhibiting it as being, conversely to ordinary knowledge, knowledge of itself directly and of the world indirectly. *Nec tamen sequitur*, says St. Thomas, *quod omnia alia a se ei sunt ignota; nam intelligendo se intelligit omnia alia*.¹³⁶ Many others of the schoolmen express the same view, and Brentano supports it by reference to a passage¹³⁷ in which Aristotle says that the knowledge of correlatives is the same. All things other than God owe their being entirely to God, so that God's self-knowledge must be at the same time a knowledge of all other things. This is a possible and a fruitful line of thought, but it is not that which Aristotle adopts. For him, that God should know Himself, and that He should know other things, are alternatives,¹³⁸ and in affirming the first alternative he implicitly denies the second. Indeed he denies explicitly much that the second would involve; he denies to God all knowledge of evil, and all transition from one object of thought to another.¹³⁹ The result of the wish to exclude from the divine life any relation to evil and any "shadow of turning" is the impossible and barren ideal of a knowledge with no object but itself.

The conception of God presented in Λ is certainly an unsatisfactory one. God, as conceived by Aristotle, has a knowledge which is not knowledge of the universe, and an influence on the universe which does not flow from His knowledge; an influence which can hardly be called an activity since it is the sort of influence that one person may unconsciously have on another, or that even a statue or a picture may have on its admirer. Little wonder that commentators have found it hard to believe that this is really Aristotle's view, and have tried to read some thing different into what he says. Even Alexander tried to find in his master some recognition of divine providence, and most ancient scholars agreed with him in this. Even Averroes, while deny-

jective contingency which is not a mere euphemism for our ignorance of the future. He had no clear conception of a universal law of causation;⁴⁴ (2) He takes up a decided stand against the Socratic view that no one is willingly bad, that action follows necessarily on our state of belief.⁴⁵ On the whole we must say that he shared the plain man's belief in free will but that he did not examine the problem very thoroughly, and did not express himself with perfect consistency.

THE MORAL VIRTUES

Aristotle now proceeds to illustrate and test his theory of virtue, and in particular the doctrine of the mean, by a detailed examination of the virtues. They are said to be concerned with feelings and actions. Their scope is defined sometimes by reference to a type of feeling, sometimes by reference to a type of action, but this is only a matter of convenience; a virtue is a tendency to control a certain class of feeling and to act rightly in a certain kind of situation. The list of virtues⁴⁶ may be summarised as we have shown them on the following page. Thus we have (1) three virtues consisting in the right attitude towards the primitive feelings of fear, pleasure, anger,⁴⁷ (2) four virtues concerned with two of the main pursuits of man in society—the pursuit of wealth and that of honour, (3) three virtues of social intercourse, (4) two qualities which are not virtues since they are not dispositions of the will. These last are intermediate states and are praised, but they are mean states of feeling, not attitudes of will towards feeling. They are ingeniously treated in the *Eudemian Ethics*⁴⁸ as the instinctive qualities out of which temperance and justice respectively are developed. The account of the opposites of righteous indignation in the *Nicomachean Ethics*⁴⁹ is seriously confused and in Book IV. this "mean of feeling" does not appear at all.

This part of the *Ethics* presents a lively and often amusing account of the qualities admired or disliked by cultivated Greeks of Aristotle's time. The method adopted is the very reverse of that followed by Plato. Plato (in the *Republic*) takes the four cardinal virtues recognised in his day—wisdom, courage, self-control, justice,—and interprets them so widely that each is in danger of overlapping the others, and two of

- ⁶⁴ III. 3-8.
⁶⁵ III. 4.
⁶⁶ III. 6.
⁶⁷ III. 7, 8.
⁶⁸ 427 ^b14-16, 431 ^a16, 432 ^a7-14; *De Mem.* 449 ^b31.
⁶⁹ 431 ^b2.
⁷⁰ 434 ^a9, cf. *An. Post.* 100 ^a4-16; *Met.* 980 ^b28-981 ^a12.
⁷¹ *De Mem.* 449 ^b30-450 ^a9.
⁷² *Rep.* 510 b-511 d.
⁷³ Aristotle speaks of "passive reason" but does not actually use the phrase "active reason."
⁷⁴ iii. 5.
⁷⁵ ἐν τῇ ψυχῇ can hardly mean only "in the case of the soul." And a temporary union of the two reasons within one personality is implied by χωρισθείς I. 22. So, too, Theophrastus says (ap. Them. 108, 23) μεκτόν γάρ πως ὁ νοῦς ἐκ τε τοῦ ποιητικοῦ καὶ τοῦ δυνάμει.
⁷⁶ So Theophrastus describes active νοῦς as ὁ κινῶν, that which sets passive νοῦς to work (ap. Prisc. 29, 14, ap. Them. 108, 24).
⁷⁷ *Met.* 1049 ^b24.
⁷⁸ *Met.* 1072 ^b14, 24; *E.N.* 1177 ^b26-1178 ^a8, 1178 ^b18-32.
⁷⁹ *Rep.* 507b-509d.
⁸⁰ 418 ^b12.
⁸¹ *Met.* 1070 ^a26.
⁸² 408 ^b24-30.
⁸³ *De Reb. Nat.*, *De mente agente*, capp. 12, 13.
⁸⁴ *De An.* 430 ^a17.
⁸⁵ *Met.* 1072 ^a26-32.
⁸⁶ Good accounts of the various interpretations may be seen in Hicks's ed. of the *De Anima*, lxiv-lxix; Adamson, *Development of Gk. Phil.* 249-254; Webb, *Studies in the Hist. of Nat. Theol.* 264-273; Kurfess, *Zur Gesch. d. Erklärung d. Arist. Lehre vom sog. νοῦς ποιητικός u. παθητικός.*

METAPHYSICS

¹ *Met. A.* 1.² *A.* 2.³ *A.* 10.⁴ *διόπται.*⁵ *T.* 1004 ^a33, I. 1053 ^b10, *M.* 1076 ^a39, ^b39, 1086 ^a34(?), ^b15.⁶ Cf. p. 13 f.⁷ There are in all some 15 problems, which are propounded in *B.* 1 and discussed dialectically in *B.* 2-6.⁸ These form the subject of *Met. I.*⁹ *Γ.* 1, 2.¹⁰ *E.N.* 1096 ^a19.¹¹ *Met. E.* 1.¹² *Ib.*¹³ 1069 ^a36.¹⁴ Only a metaphysics of nature, of course.¹⁵ *A.* 987 ^b14.¹⁶ *M.* 2, 3.¹⁷ *Z.* 1036 ^a11.¹⁸ *A.* 7.¹⁹ *A.* 8.²⁰ *A.* 1070 ^a24-26; *De An.* III.

5.

²¹ *T.* 3-8.²² *T.* 3.²³ I have space only to indicate some of the more salient points of the complicated argument which follows. A full discussion of it will be found in Maier, *Syll. d. Arist.* I. 41-101.²⁴ 1006 ^a11-^b34.²⁵ 1007 ^b18-1008 ^a2.²⁶ 1008 ^a7-^b2.²⁷ 1008 ^b12-27.²⁸ 1009 ^a6-38.²⁹ 1009 ^a38-^b11.³⁰ 1010 ^a1-^b1.³¹ 1010 ^b1-1011 ^b12.³² 1010 ^b20 f.³³ *Ib.* 19-26.³⁴ 1010 ^b30-1011 ^a2.³⁵ 1010 ^b3-11.³⁶ *Θ.* 1047 ^a4-7 also implies that secondary qualities (heat, sweetness) belong to objects independently of sensation.³⁷ *P.A.* 648 ^b12-649 ^b7.³⁸ *T.* 7.³⁹ *E.* 2, 3.⁴⁰ *E.* 4.

¹¹⁶ 261 ^b27-263 ^a3, 264 ^a7-265 ^a12.

¹¹⁷ A. 1071 ^b4-11.

¹¹⁸ Cf. A. 991 ^a8-11, ^b3-9, 992 ^a29-32; Z. 1033 ^b26-1034 ^a5.

¹¹⁹ A. 1071 ^b12-22.

¹²⁰ 1072 ^a22.

¹²¹ Cf. *Phys.* 257 ^a31-^b13.

¹²² *Ib.* 202 ^a3-7.

¹²³ *Ib.* 267 ^b6-9.

¹²⁴ *De Caelo* 279 ^a18.

¹²⁵ *Ib.* 285 ^a29, 292 ^a20, ^b1.

¹²⁶ *De Gen. et Corr.* 336 ^a32, ^b6.

¹²⁷ A. 1074 ^a23.

¹²⁸ 1076 ^a4.

¹²⁹ 1072 ^b13.

¹³⁰ *Phys.* 265 ^b1.

¹³¹ 265 ^a17.

¹³² A. 1072 ^b25.

¹³³ *Ib.* 20.

¹³⁴ *De An.* 424 ^a18.

¹³⁵ *Ib.* 429 ^a13-22.

¹³⁶ *In Met.* lib. xii. lect. xi.

¹³⁷ *Top.* 105 ^b31-34.

¹³⁸ A. 1074 ^b22.

¹³⁹ *Ib.* 25, 32, 26.

¹⁴⁰ It is examined in detail by K. Elser in *Die Lehre des A. über das Wirken Gottes*, Münster, 1893. I have reviewed the main points of Brentano's argument in *Mind* xxiii. 289-291.

¹⁴¹ *De Caelo* 292 ^a22, ^b4; *E.N.* 1158 ^b35, 1159 ^a4, 1178 ^b10; *Pol.* 1325 ^b28. *ἁπάτας* is ascribed to God in *E.N.* 1154 ^b25, *Pol.* 1325 ^b30, but in a wider sense in which *θεωρία* is a kind of *ἁπάτας* (1325 ^b20).

¹⁴² *Met.* B. 1000 ^b3; *De An.* 410 ^b4.

¹⁴³ *De Caelo* 301 ^b31, 279 ^b12 ff.

¹⁴⁴ Notably *De An.* 430 ^a23.

¹⁴⁵ 1075 ^a11-15.

¹⁴⁶ 1075 ^a15, 1076 ^a4, 1075 ^a19.

¹⁴⁷ *De Gen. et Corr.* 336 ^b31.

¹⁴⁸ A. 984 ^b15.

¹⁴⁹ *De Caelo* 271 ^a33.

¹⁵⁰ *Xen. Mem.* i. 4, 6, etc.; *Pl. Tim.* 30 c, 44 c.

¹⁵¹ His solution of the problem of evil lies in a reference to

τὸ κακοποιόν inherent in matter (*Phys.* 192 ^a15). Not that matter has any predisposition towards evil; but, being a potentiality of opposites, it is a potentiality of evil as well as of good.

¹⁵² *Phys.* 199 ^b26.

ETHICS

¹ *An. Post.* 89 ^b9; *Pol.* 1261 ^a31, etc. "Ethics" (*ἡ ἠθικὴ*) would mean the science of character.

² *E.N.* 1094 ^b7-10.

³ 1179 ^a33 ff.

⁴ At times, however, his teleology is immanent; the good act is a means to the good, in the sense that it forms an element in the ideal life.

⁵ 1094 ^a1-^b11.

⁶ ^b11-27.

⁷ 1095 ^a2-11, 30-^b13, 1098 ^a33-^b4, 1142 ^a11-20, 1145 ^b2-7.

⁸ *Top.* 101 ^a36-^b4.

⁹ 1095 ^a14-20.

¹⁰ 1095 ^b14-1096 ^a10.

¹¹ 1096 ^a11-1097 ^a14.

¹² 1097 ^a13-1098 ^a20.

¹³ 1098 ^b9-1099 ^b8.

¹⁴ 1100 ^b30.

¹⁵ 1102 ^a5-1103 ^a10.

¹⁶ 1103 ^a14-1105 ^b18.

¹⁷ 1103 ^a14-^b25.

¹⁸ ^b26-1104 ^b3.

¹⁹ 1104 ^b3-1105 ^a16.

²⁰ 1105 ^a17-^b18.

²¹ The fourth kind of quality recognised in *Cat.* 8—shape—is clearly irrelevant.

²² 1105 ^b19-1106 ^a13.

²³ 1106 ^a14-1107 ^a2.

²⁴ 1143 ^b18-1145 ^a11.

²⁵ 1107 ^a6-8.

²⁶ I owe the illustration to Professor J. A. Smith.

²⁷ 1104 ^a18.

²⁸ 1107 ^a8-27.

²⁹ ^a28-1108 ^b10.

³⁰ 1108 ^b11-30.

³¹ 1108 ^b30-1109 ^b26.

³² Though that may show