

ARISTOTLE

IN TWENTY-THREE VOLUMES

VIII

ON THE SOUL PARVA NATURALIA ON BREATH

WITH AN ENGLISH TRANSLATION BY
W. S. HETT, M.A.

SOMETIME SCHOLAR OF WADHAM COLLEGE, OXFORD



CAMBRIDGE, MASSACHUSETTS
HARVARD UNIVERSITY PRESS

LONDON
WILLIAM HEINEMANN LTD

MCMLXXXVI

ΑΡΙΣΤΟΤΕΛΟΥΣ
ΠΕΡΙ ΨΥΧΗΣ

Α

402 a I. Τῶν καλῶν καὶ τιμίῳ τὴν εἶδησιν ὑπολαμ-
βάνοντες, μᾶλλον δ' ἑτέραν ἑτέρας ἢ κατ' ἀκρίβειαν
ἢ τῷ βελτιόνων τε καὶ θαυμασιωτέρων εἶναι, δι'
ἀμφοτέρω ταῦτα τὴν τῆς ψυχῆς ἱστορίαν εὐλόγως
5 ἂν ἐν πρώτοις τιθεῖμεν. δοκεῖ δὲ καὶ πρὸς
ἀλήθειαν ἅπασαν ἢ γνώσις αὐτῆς μεγάλα συμβάλ-
λεσθαι, μάλιστα δὲ πρὸς τὴν φύσιν· ἔστι γὰρ οἶον
ἀρχὴ τῶν ζώων. ἐπιζητοῦμεν δὲ θεωρῆσαι καὶ
γινῶναι τὴν τε φύσιν αὐτῆς καὶ τὴν οὐσίαν, εἰθ'
ὅσα συμβέβηκε περὶ αὐτήν· ὧν τὰ μὲν ἴδια πάθη
10 τῆς ψυχῆς εἶναι δοκεῖ, τὰ δὲ δι' ἐκείνην καὶ τοῖς
ζώοις ὑπάρχειν. πάντῃ δὲ πάντως ἔστι τῶν χαλε-
πωτάτων λαβεῖν τινὰ πίστιν περὶ αὐτῆς. καὶ γὰρ
ὄντος κοινοῦ τοῦ ζητήματος πολλοῖς ἑτέροις, λέγω
δὲ τοῦ περὶ τὴν οὐσίαν καὶ τοῦ τί ἐστι, τάχ' ἂν
τῷ δόξειε μία τις εἶναι μέθοδος κατὰ πάντων περὶ
15 ὧν βουλόμεθα γινῶναι τὴν οὐσίαν, ὥσπερ καὶ τῶν
κατὰ συμβεβηκὸς ἰδίῳ ἀπόδειξις,¹ ὥστε ζητητέον

¹ ἀπόδειξιν SUWX, Bekker.

ARISTOTLE: ON THE SOUL

BOOK I

I. We regard all knowledge as beautiful and valu-
able, but one kind more so than another, either in <sup>The object
and method
of the
inquiry.</sup> virtue of its accuracy, or because it relates to higher
and more wonderful things. On both these counts
it is reasonable to regard the inquiry concerning the
soul as of the first importance. Moreover this in-
vestigation seems likely to make a substantial con-
tribution to the whole body of truth, and particularly
to the study of nature; for the soul is in a sense the
principle of animal life. So we seek to examine and
investigate first the nature and essence of the soul,
and then its (essential) attributes. Of the latter
some seem to be affections peculiar to the soul, and
others seem to belong to living things also, by virtue
of the soul. But to attain any sure belief on the
subject is hedged with difficulties on every side.
This inquiry, I mean that which treats of the essence
or essential nature, is common to many other fields,
and one might suppose that there is one method
applicable to all the things whose real nature we wish
to understand; just as logical demonstration applies
to all their (essential) attributes. If so, this method

ἂν εἴη τὴν μέθοδον ταύτην. εἰ δὲ μὴ ἔστι μία
 τις καὶ κοινὴ μέθοδος περὶ τὸ τί ἐστίν, ἔτι χαλε-
 πώτερον γίνεται τὸ πραγματευθῆναι. δεήσει γὰρ
 λαβεῖν περὶ ἕκαστον τίς ὁ τρόπος, ἂν δὲ φανερόν
 20 ἢ πότερον ἀποδείξίς τις ἐστίν ἢ διαίρεσις ἢ καὶ
 τις ἄλλη μέθοδος, ἔτι¹ πολλὰς ἀπορίας ἔχει καὶ
 πλάνας, ἐκ τίνων δεῖ ζητεῖν. ἄλλαι γὰρ ἄλλων
 ἀρχαί, καθάπερ ἀριθμῶν καὶ ἐπιπέδων.

Πρῶτον δ' ἴσως ἀναγκαῖον διελεῖν ἐν τίνι τῶν
 γενῶν καὶ τί ἐστίν, λέγω δὲ πότερον τόδε τι καὶ
 25 οὐσία ἢ ποιὸν ἢ ποσόν ἢ καὶ τις ἄλλη τῶν διαιρε-
 θεισῶν κατηγοριῶν, ἔτι δὲ πότερον τῶν ἐν δυνάμει
 ὄντων ἢ μᾶλλον ἐντελέχειά τις διαφέρει γὰρ οὐ τι
 302 b σμικρόν. σκεπτέον δὲ καὶ εἰ μεριστὴ ἢ ἀμερής,
 καὶ πότερον ὁμοειδῆς ἅπαντα ψυχὴ ἢ οὐ· εἰ δὲ μὴ
 ὁμοειδῆς, πότερον εἶδει διαφέρουσιν ἢ γένει. νῦν
 μὲν γὰρ οἱ λέγοντες καὶ ζητοῦντες περὶ ψυχῆς
 5 περὶ τῆς ἀνθρωπίνης μόνης εἰκόσιν ἐπισκοπεῖν.
 εὐλαβητέον δ' ὅπως μὴ λανθάνῃ πότερον εἰς ὃ
 λόγος αὐτῆς ἐστίν, καθάπερ ζώου, ἢ καθ' ἕκαστον
 ἕτερος, οἷον ἵππου, κυνός, ἀνθρώπου, θεοῦ· τὸ δὲ
 ζῶον τὸ καθόλου ἦτοι οὐθέν ἐστίν ἢ ὕστερον.
 ὁμοίως δὲ κἂν εἴ τι κοινὸν ἄλλο κατηγοροῖτο. ἔτι
 δ' εἰ μὴ πολλαὶ ψυχαὶ ἀλλὰ μόρια, πότερον δεῖ

¹ μέθοδος. ἔτι δὲ TUVW, Bekker.

^a *Division.* Plato used and perhaps invented this method of forming a concept. If, for instance, you divide the term "living creature" into "footed" and "footless," and "footed" again into "biped" and "quadruped," and so on, you will after many such divisions and subdivisions form a clear concept of the meaning of "living creature." A. objects (*Post. An.* 11, c. 7, 92 b 5) to the method on several grounds, one being that such division presupposes the existence of the concept.

must be discovered; but if there is no one common method of finding the essential nature, our handling of the subject becomes still more difficult. For we shall be obliged to establish the proper method in each individual case; and even if it is patent whether syllogistic demonstration, or division,^a or some other method is the right one, there is still room for confusion and error as to the premisses from which we must start the inquiry; for the premisses of all subjects are not the same; for instance those of arithmetic and those of plane geometry are different.

Perhaps our first business is to determine to which To what category does the soul belong? of the genera the soul belongs, and what it is; I mean whether it is a particular thing, *i.e.*, a substance, or whether it is a quality, or quantity, or belongs to any other of our pre-established categories, and furthermore, whether it has potential or actual existence. For this makes no small difference. In the second place we must inquire whether it has parts or not, and whether every soul is of the same kind or not; and if not, whether the difference is one of species or of genus. For speakers and inquirers about the soul seem to-day to confine their inquiries to the soul of man. But one must be careful not to evade the question whether one definition of "soul" is enough, as we can give one definition of "living creature," or whether there must be a different one in each case; that is, one of the horse, one of the dog, one of man, and one of God, and whether the words "living creature" as a common term have no meaning, or logically come later. This question can of course be raised about any common term. Further, supposing that there are not several souls, but only parts of one, are we to inquire first

402 b

10 ζητεῖν πρότερον τὴν ὅλην ψυχὴν ἢ τὰ μέρη
χαλεπὸν δὲ καὶ τούτων διορίσαι ποῖα πέφυκεν
ἕτερα ἀλλήλων, καὶ πότερον τὰ μέρη χρήζητεῖν
πρότερον ἢ τὰ ἔργα αὐτῶν, οἷον τὸ νοεῖν ἢ τὸν
νοῦν καὶ τὸ αἰσθάνεσθαι ἢ τὸ αἰσθητικόν· ὁμοίως
δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ τὰ ἔργα πρότερον,
15 πάλιν ἂν τις ἀπορήσειεν εἰ τὰ ἀντικείμενα πρότερον
τούτων ζητητέον, οἷον τὸ αἰσθητὸν τοῦ αἰσθητικοῦ
καὶ τὸ νοητὸν τοῦ νοῦ.¹ ἔοικε δ' οὐ μόνον τὸ τί
ἐστὶ γνῶναι χρήσιμον εἶναι πρὸς τὸ θεωρῆσαι τὰς
αἰτίας τῶν συμβεβηκότων ταῖς οὐσίαις, ὥσπερ
ἐν τοῖς μαθήμασι τί τὸ εὐθύ καὶ καμπύλον ἢ τί
20 γραμμὴ καὶ ἐπίπεδον πρὸς τὸ κατιδεῖν πόσαις
ὀρθαῖς αἰ τοῦ τριγώνου γωνίαι ἴσαι, ἀλλὰ καὶ
ἀνάπαλιν τὰ συμβεβηκότα συμβάλλεται μέγα μέρος
πρὸς τὸ εἰδέναι τὸ τί ἐστίν· ἐπειδὴν γὰρ ἔχωμεν
ἀποδιδόναι κατὰ τὴν φαντασίαν περὶ τῶν συμ-
βεβηκότων, ἢ πάντων ἢ τῶν πλείστων, τότε καὶ
25 περὶ τῆς οὐσίας ἔξομεν λέγειν κάλλιστα· πάσης
γὰρ ἀποδείξεως ἀρχὴ τὸ τί ἐστίν, ὥστε καθ' ὅσους
403 α τῶν ὀρισμῶν μὴ συμβαίνει τὰ συμβεβηκότα γνωρί-
ζειν, ἀλλὰ μηδ' εἰκάσαι περὶ αὐτῶν εὐμαρές, δῆλον
ὅτι διαλεκτικῶς εἴρηγται καὶ κενῶς ἅπαντες.

¹ Ἀπορίαν δ' ἔχει καὶ τὰ πάθη τῆς ψυχῆς, πότερόν
ἐστὶ πάντα κοινὰ καὶ τοῦ ἔχοντος ἢ ἐστὶ τι καὶ

¹ νοῦ EVX, Biehl, Hicks: νοητοῦ S: νοητικοῦ cet.

into the soul as a whole or the several parts? Here and how shall we approach the analysis? again it is difficult to determine which parts differ in nature from one another, and whether we should inquire first into the parts of the soul, or their functions; for example, into the thinking or into that which thinks, into sensation or into that which feels; and a similar difficulty arises with all the other parts. If we are to take the functions first, a further problem may arise; whether we should consider the objects corresponding to them before the parts themselves—I mean, the thing felt before the part of the soul which feels it, and the thing thought before the mind which thinks it. A knowledge of a thing's essential nature is of course a valuable assistance towards the examination of the causes of its attributes; for instance, in mathematics, to know the meaning of "straight," "curved," "line," and "plane figure" helps to determine the number of right-angles to which the angles of a triangle are equal. But the converse is also true; the attributes contribute materially to the knowledge of what a thing is. For when we are in a position to expound all or most of the attributes as presented to us, we shall also be best qualified to speak about the essence. For the starting-point of every demonstration is the statement of the subject's essential nature, and definitions which do not enable us to know the attributes, or even to make a tolerable guess about them, are clearly laid down merely for argument's sake and are utterly valueless.

The affections of the soul present a further difficulty—Are they all shared also by that which contains the soul, or is any of them peculiar to the soul

Relations of soul and body.

408 a
 5 τῆς ψυχῆς ἴδιον αὐτῆς· τοῦτο γὰρ λαβεῖν μὲν ἀναγκαῖον, οὐ ῥάδιον δέ. φαίνεται δὲ τῶν πλείστων οὐθὲν ἄνευ σώματος πάσχειν οὐδὲ ποιεῖν, οἷον ὀργίζεσθαι, θαρρεῖν, ἐπιθυμεῖν, ὅλως αἰσθάνεσθαι. μάλιστα δ' ἔοικεν ἴδιον τὸ νοεῖν· εἰ δ' ἐστὶ καὶ τοῦτο φαντασία τις ἢ μὴ ἄνευ φαντασίας, οὐκ
 10 ἐνδέχοιτ' ἂν οὐδὲ τοῦτ' ἄνευ σώματος εἶναι. εἰ μὲν οὖν ἐστὶ τι τῶν τῆς ψυχῆς ἔργων ἢ παθημάτων ἴδιον, ἐνδέχοιτ' ἂν αὐτὴν χωρίζεσθαι· εἰ δὲ μηθὲν ἐστὶν ἴδιον αὐτῆς, οὐκ ἂν εἴη χωριστή, ἀλλὰ καθάπερ τῷ εὐθεῖ, ἢ εὐθύ, πολλὰ συμβαίνει, οἷον ἄπτεσθαι τῆς χαλκῆς σφαίρας κατὰ στιγμήν, οὐ
 15 μέντοι γ' ἄψεται οὕτω¹ χωρισθὲν τὸ εὐθύ· ἀχώριστον γάρ, εἴπερ αἰεὶ μετὰ σώματος τινός ἐστιν. ἔοικε δὲ καὶ τὰ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματος, θυμός, πραότης, φόβος, ἔλεος, θάρσος, ἔτι χαρὰ καὶ τὸ φιλεῖν τε καὶ μισεῖν· ἅμα γὰρ τούτοις πάσχει τι τὸ σῶμα. μὴνύει δὲ τὸ ποτέ
 20 μὲν ἰσχυρῶν καὶ ἐναργῶν παθημάτων συμβαινόντων μὴδὲν παροξύνεσθαι ἢ φοβεῖσθαι, ἐνίοτε δ' ὑπὸ μικρῶν καὶ ἀμαυρῶν κινεῖσθαι, ὅταν ὀργᾶ τὸ σῶμα καὶ οὕτως ἔχη ὥσπερ ὅταν ὀργίζηται. ἔτι δὲ τοῦτο μᾶλλον φανερόν· μὴθενὸς γὰρ φοβεροῦ συμβαίνοντος ἐν τοῖς πάθεσι γίνονται τοῖς τοῦ φοβου-
 25 μένου. εἰ δ' οὕτως ἔχει, δῆλον ὅτι τὰ πάθη λόγοι ἐνυλοὶ εἰσιν, ὥστε οἱ ὅροι τοιοῦτοι· οἷον τὸ ὀργίζεσθαι κίνησις τις τοῦ τοιουδὲ σώματος ἢ μέρους

¹ οὕτω E, Bonitz, Hicks: τούτου.

itself? This question must be faced, but its solution is not easy. In most cases it seems that none of the affections, whether active or passive, can exist apart from the body. This applies to anger, courage, desire and sensation generally, though possibly thinking is an exception. But if this too is a kind of imagination, or at least is dependent upon imagination, even this cannot exist apart from the body. If then any function or affection of the soul is peculiar to it, it can be separated from the body; but if there is nothing peculiar to the soul it cannot be separated. In the same way there are many attributes belonging to the straight, *qua* straight, as, for instance, that a straight line touches a bronze sphere at a point, yet if separated, the straightness will not so touch. It is in fact inseparable, if it is always associated with some body. Probably all the affections of the soul are associated with the body—anger, gentleness, fear, pity, courage and joy, as well as loving and hating; for when they appear the body is also affected. There is good evidence for this. Sometimes no irritation or fear is expressed, though the provocations are strong and obvious; and conversely, small and obscure causes produce movement, when the body is disposed to anger, and when it is in an angry mood. And here is a still more obvious proof. There are times when men show all the symptoms of fear without any cause of fear being present. If this is the case, then clearly the affections of the soul are formulae expressed in matter. Their definitions therefore must be in harmony with this; for instance, anger must be defined as a movement of a body, or of a part or faculty of a body, in a particular state roused by such a cause, with such an

403^a ἢ δυνάμει ὑπὸ τοῦδε ἕνεκα τοῦδε. καὶ διὰ ταῦτα
 ἤδη φυσικοῦ τὸ θεωρῆσαι περὶ ψυχῆς, ἢ πάσης ἢ
 τῆς τοιαύτης. διαφερόντως δ' ἂν ὀρίσαιντο φυσικός
 30 τε καὶ διαλεκτικός ἕκαστον αὐτῶν, οἷον ὀργὴ τί
 ἐστίν· ὁ μὲν γὰρ ὄρεξιν ἀντιλυπήσεως ἢ τι τοιοῦτον,
 403^b ὁ δὲ ζέσιν τοῦ περὶ καρδίαν αἵματος καὶ θερμοῦ.
 τούτων δὲ ὁ μὲν τὴν ὕλην ἀποδίδωσιν, ὁ δὲ τὸ
 εἶδος καὶ τὸν λόγον. ὁ μὲν γὰρ λόγος ὅδε¹ τοῦ
 πράγματος, ἀνάγκη δ' εἶναι τοῦτον ἐν ὕλῃ τοιαδί,
 εἰ ἔσται, ὥσπερ οἰκίας ὁ μὲν λόγος τοιοῦτος, ὅτι
 5 σκέπασμα κωλυτικὸν φθορᾶς ὑπ' ἀνέμων καὶ
 ὄμβρων καὶ καυμάτων, ὁ δὲ φήσει λίθους καὶ
 πλίνθους καὶ ξύλα, ἕτερος δ' ἐν τούτοις τὸ εἶδος,
 ἕνεκα τωνδί. τίς οὖν ὁ φυσικός τούτων; πότερον
 ὁ περὶ τὴν ὕλην, τὸν δὲ λόγον ἀγνοῶν, ἢ ὁ περὶ
 τὸν λόγον μόνον; ἢ μᾶλλον ὁ ἐξ ἀμφοῖν; ἐκείνων
 10 δὲ δὴ τίς ἐκάτερος; ἢ οὐκ ἔστι τις ὁ περὶ τὰ
 πάθη τῆς ὕλης τὰ μὴ χωριστά, μηδ' ἢ χωριστά,
 ἀλλ' ὁ φυσικός περὶ ἅπανθ' ὅσα τοῦ τοιοῦδι
 σώματος καὶ τῆς τοιαύτης ὕλης ἔργα καὶ πάθη·
 ὅσα² δὲ μὴ ἢ τοιαῦτα, ἄλλος, καὶ περὶ τινῶν
 μὲν τεχνίτης, ἐὰν τύχη, οἷον τέκτων ἢ ἰατρός,
 τῶν δὲ μὴ χωριστῶν μὲν, ἢ δὲ μὴ τοιοῦτου

¹ ὅδε W : ὁ δὲ ESTV : εἶδος UX, Bekker.

² ὅσα E, Torstrik : ὅποσα.

end in view. This at once makes it the business of the natural philosopher to inquire into the soul, either generally, or at least in this special aspect. But the natural philosopher and the logician will in every case offer different definitions, *e.g.*, in answer to the question what is anger. The latter will call it a craving for retaliation, or something of the sort; the former will describe it as a surging of the blood and heat round the heart. The one is describing the matter, the other the form or formula of the essence. For what he states is the formula of the thing, and if it is to exist, it must appear in appropriate matter. To illustrate this: the formula of a house is a covering to protect from damage by wind, rain and heat. But another will mean by a house stones, bricks and timber; and another again will mean the form expressed in these materials to achieve these objects. Now which of these is really the natural philosopher? The man who ignores the formula and is only concerned with the matter, or the man who is only concerned with the formula? Probably the man who bases his concept on both. What then are we to say of the other two? Surely there is no one who treats of the affections of matter which are inseparable, or regarded as inseparable.^a The natural philosopher's concern is with all the functions and affections of a given body, *i.e.*, of matter in a given state; any attribute not of this kind is the business of another; in some subjects it is the business of the expert, the carpenter, it may be, or the physician; but inseparables in so far as they are not affections of the body in such a state, that is, in the abstract,

^a *Sc.*, from their matter.

15 σώματος πάθη καὶ ἐξ ἀφαιρέσεως, ὁ μαθηματικός,
ἢ δὲ κεχωρισμένα, ὁ πρῶτος φιλόσοφος.

Ἄλλ' ἐπανιτέον ὅθεν ὁ λόγος. ἐλέγομεν δ' ὅτι
τὰ πάθη τῆς ψυχῆς ἀχώριστα τῆς φυσικῆς ὕλης
τῶν ζώων, ἢ δὴ τοιαῦθ' ὑπάρχει, θυμὸς καὶ φόβος,
καὶ οὐχ ὡσπερ γραμμὴ καὶ ἐπίπεδον.

20 II. Ἐπισκοποῦντας δὲ περὶ ψυχῆς ἀναγκαῖον ἅμα
διαποροῦντας περὶ ὧν εὐπορεῖν δεῖ, προελθόντας
τὰς τῶν προτέρων δόξας συμπαραλαμβάνειν ὅσοι
τι περὶ αὐτῆς ἀπεφῆναντο, ὅπως τὰ μὲν καλῶς
εἰρημένα λάβωμεν, εἰ δέ τι μὴ καλῶς, τοῦτ' εὐ-
25 λαβηθῶμεν. ἀρχὴ δὲ τῆς ζητήσεως προθέσθαι τὰ
μάλιστα δοκοῦνθ' ὑπάρχειν αὐτῇ κατὰ φύσιν. τὸ
ἔμψυχον δὴ τοῦ ἀψύχου δυοῖν μάλιστα διαφέρειν
δοκεῖ, κινήσει τε καὶ τῷ αἰσθάνεσθαι· παρειλή-
φωμεν δὲ καὶ παρὰ τῶν προγενεστέρων σχεδὸν
δύο ταῦτα περὶ ψυχῆς. φασὶ γὰρ ἔνιοι καὶ μάλιστα
καὶ πρώτως ψυχὴν εἶναι τὸ κινεῖν, οἰηθέντες δὲ
30 τὸ μὴ κινούμενον αὐτὸ μὴ ἐνδέχεσθαι κινεῖν ἕτερον,
τῶν κινουμένων τι τὴν ψυχὴν ὑπέλαβον εἶναι.
404 a ὅθεν Δημόκριτος μὲν πῦρ τι καὶ θερμόν φησιν
αὐτὴν εἶναι· ἀπείρων γὰρ ὄντων σχημάτων καὶ
ἀτόμων τὰ σφαιροειδῆ πῦρ καὶ ψυχὴν λέγει, οἶον
ἐν τῷ ἀέρι τὰ καλούμενα ξύσματα, ἃ φαίνεται ἐν
ταῖς διὰ τῶν θυρίδων ἀκτίσιν, ὧν τὴν πανσπερμίαν

^a i.e. the Metaphysician.

are the province of the mathematician, and in so far
as they are separable are the sphere of the First
Philosopher.^a

But we must now return to the point from which
our digression started. We were saying that the
affections of the soul, such as anger and fear, are in-
separable from the matter of living things in which
their nature is manifested, and are not separable like
a line or a plane.

II. In our inquiry about the soul we shall have to
raise problems for which we must find a solution, and
in our progress we must take with us for comparison
the theories expounded by our predecessors, in order
that we may adopt those which are well stated, and
be on our guard against any which are unsatisfactory.
But our inquiry must begin by laying down in advance
those things which seem most certainly to belong
to the soul by nature. There are two qualities in
which that which has a soul seems to differ radically
from that which has not; these are movement and
sensation. We have practically accepted these two
distinguishing characteristics of the soul from our
predecessors. Some say that capacity to produce
movement is first and foremost the characteristic of
the soul. But because they believe that nothing can
produce movement which does not itself move, they
have supposed that the soul is one of the things which
move. On this supposition Democritus argues that
the soul is a sort of fire or heat. For forms and atoms
being countless, he calls the spherical ones fire and
soul, and likens them to the (so-called) motes in the
air, which can be seen in the sunbeams passing
through our windows; the aggregate of these par-
ticles he calls the elements of which all nature is

Previous
theories as
to the
nature of
the soul.

404 a

5 στοιχεῖα λέγει τῆς ὅλης φύσεως. ὁμοίως δὲ καὶ
 Λεύκιππος. τούτων δὲ τὰ σφαιροειδῆ ψυχὴν, διὰ
 τὸ μάλιστα διὰ παντὸς δύνασθαι διαδύνειν τοὺς
 τοιούτους ῥυσμούς, καὶ κινεῖν τὰ λοιπὰ κινούμενα
 καὶ αὐτά, ὑπολαμβάνοντες τὴν ψυχὴν εἶναι τὸ
 παρέχον τοῖς ζώοις τὴν κίνησιν. διὸ καὶ τοῦ ζῆν
 10 ἴρον εἶναι τὴν ἀναπνοήν· συνάγοντος γὰρ τοῦ
 περιέχοντος τὰ σώματα, καὶ ἐκθλίβοντος τῶν
 σχημάτων τὰ παρέχοντα τοῖς ζώοις τὴν κίνησιν
 διὰ τὸ μηδ' αὐτὰ ἡρεμεῖν μηδέποτε, βοήθειαν
 γίνεσθαι θύραθεν ἐπεισιόντων ἄλλων τοιούτων ἐν
 τῷ ἀναπνεῖν· κωλύειν γὰρ αὐτὰ καὶ τὰ ἐνυπάρ-
 15 χοντα ἐν τοῖς ζώοις ἐκκρίνεσθαι, συναείργοντα τὸ
 συνάγον καὶ πηγνύον· καὶ ζῆν δὲ ἕως ἂν δύνωνται
 τοῦτο ποιεῖν. ἔοικε δὲ καὶ τὸ παρὰ τῶν Πυθ-
 αγορείων λεγόμενον τὴν αὐτὴν ἔχειν διάνοιαν·
 ἔφασαν γάρ τινες αὐτῶν ψυχὴν εἶναι τὰ ἐν τῷ ἀέρι
 ξύσματα, οἳ δὲ τὰ ταῦτα κινοῦν. περὶ δὲ τούτων
 20 εἴρηται, διότι συνεχῶς φαίνεται κινούμενα, καὶ ἢ
 νηνεμία παντελής. ἐπὶ ταῦτόν δὲ φέρονται καὶ ὅσοι
 λέγουσι τὴν ψυχὴν τὸ αὐτὸ κινοῦν· εἰκότασι γὰρ
 οὗτοι πάντες ὑπειληφέναι τὴν κίνησιν οἰκειότατον
 εἶναι τῇ ψυχῇ, καὶ τὰ μὲν ἄλλα πάντα κινεῖσθαι
 διὰ τὴν ψυχὴν, ταύτην δ' ὑφ' ἑαυτῆς, διὰ τὸ μηθὲν
 25 ὄραν κινοῦν ὃ μὴ καὶ αὐτὸ κινεῖται.

Ὅμοίως δὲ καὶ Ἀναξαγόρας ψυχὴν εἶναι λέγει
 τὴν κινούσαν, καὶ εἴ τις ἄλλος εἴρηκεν ὡς τὸ πᾶν

composed. And Leucippus adopts a similar position. It is the spherical atoms which they call the soul, because such shapes can most readily pass through anything, and can move other things by virtue of their own motion; for they suppose that the soul is that which imparts motion to living things. Hence they consider also that respiration is the essential condition of life; for the surrounding atmosphere exerts pressure upon bodies and thus forces out the atoms which produce movement in living things, because they themselves are never at rest. The resulting shortage is reinforced from outside, when other similar atoms enter in the act of breathing; for they prevent the atoms which are in the bodies at the time from escaping by checking the compressive and solidifying action of the surrounding atmosphere; and animals can live just as long as they are competent to do this. The theory handed down from the Pythagoreans seems to entail the same view; for some of them have declared that the soul is identical with the particles in the air, and others with what makes these particles move. These particles have found their place in the theory because they can be seen perpetually in motion even when the air is completely calm. Those who say that the soul is that which moves itself tend towards the same view. For they all seem to assume that movement is the distinctive characteristic of the soul, and that everything else owes its movement to the soul, which they suppose to be self-moved, because they see nothing producing movement which does not itself move.

In the same way Anaxagoras (and so too anyone else who has held that mind set everything in motion) says that the soul is the producer of movement,

404^a ἐκίνησε νοῦς, οὐ μὴν παντελῶς γ' ὥσπερ Δημό-
 κριτος. ἐκείνος μὲν γὰρ ἀπλῶς ταῦτ' ἔφη ψυχὴν
 καὶ νοῦν· τὸ γὰρ ἀληθές ἐστίν τὸ φαινόμενον· διὸ
 30 καλῶς ποιῆσαι τὸν Ὅμηρον ὡς "Ἐκτωρ κείτ' ἄλλο-
 φρονέων." οὐ δὲ χρῆται τῷ νῷ ὡς δυνάμει τινὶ περὶ
 τὴν ἀλήθειαν, ἀλλὰ ταῦτ' ἔφη ψυχὴν καὶ νοῦν.
 404^b Ἀναξαγόρας δ' ἦττον διασαφεί περὶ αὐτῶν·
 πολλαχοῦ μὲν γὰρ τὸ αἴτιον τοῦ καλῶς καὶ ὀρθῶς
 τὸν νοῦν λέγει, ἐτέρωθι δὲ τοῦτον εἶναι τὴν ψυχὴν·
 ἐν ἅσασιν γὰρ ὑπάρχειν αὐτὸν τοῖς ζώοις, καὶ
 5 μεγάλοις καὶ μικροῖς, καὶ τιμίοις καὶ ἀτιμοτέροις.
 οὐ φαίνεται δ' ὅ γε κατὰ φρόνησιν λεγόμενος νοῦς
 πᾶσιν ὁμοίως ὑπάρχειν τοῖς ζώοις, ἀλλ' οὐδὲ τοῖς
 ἀνθρώποις πᾶσιν.
 Ὅσοι μὲν οὖν ἐπὶ τὸ κινεῖσθαι τὸ ἔμφυχον ἀ-
 ἐβλεψαν, οὗτοι τὸ κινητικώτατον ὑπέλαβον τὴν
 ψυχὴν· ὅσοι δ' ἐπὶ τὸ γινώσκειν καὶ τὸ αἰσθάνεσθαι
 10 τῶν ὄντων, οὗτοι δὲ λέγουσι τὴν ψυχὴν τὰς ἀρχάς,
 οἱ μὲν πλείους ποιῶντες, οἱ δὲ μίαν ταύτην, ὥσπερ
 Ἐμπεδοκλῆς μὲν ἐκ τῶν στοιχείων πάντων, εἶναι
 δὲ καὶ ἕκαστον ψυχὴν τούτων, λέγων οὕτω

γαίῃ μὲν γὰρ γαίαν ὀπώπαμεν, ὕδατι δ' ὕδωρ,
 αἰθέρι δ' αἰθέρα δίαν, ἀτὰρ πυρὶ πῦρ αἰδηλον,
 15 στοργῇ δὲ στοργήν, νεῖκος δὲ τε νεῖκεϊ λυγρῷ.

τὸν αὐτὸν δὲ τρόπον καὶ Πλάτων ἐν τῷ *Τιμαίῳ*
 τὴν ψυχὴν ἐκ τῶν στοιχείων ποιεῖ· γινώσκεισθαι
 γὰρ τῷ ὁμοίῳ τὸ ὁμοιον, τὰ δὲ πράγματα ἐκ τῶν
 ἀρχῶν εἶναι. ὁμοίως δὲ καὶ ἐν τοῖς περὶ φιλοσοφίας

^a Because on D.'s theory the dying Hector's delusions are true. For the reference cf. *Iliad* xxiii. 698, and see note on *Metaphysics* 1009 b 30.

though not quite as Democritus taught. The latter actually identified soul and mind; for he believed that truth is subjective. Hence he regards Homer's description of Hector in his swooning as "lying thinking other thoughts" as accurate.^a He does not then employ the term mind as denoting a faculty concerned with the truth, but identifies the soul and the mind.

Anaxagoras is less precise in his dealing with the subject; for on many occasions he speaks of mind as responsible for what is right and correct, but at others he says that this is the soul: for mind he regards as existing in all living things, great and small, noble and base; but mind in the sense of intelligence does not appear to belong to all living things alike, nor even to all men.

Those then who have interpreted the soul in terms of motion have regarded the soul as most capable of producing movement. But those who have referred it to cognition and perception regard the soul as the first beginning of all things—some regarding this first beginning as plural and some as singular. Em-
 pedocles, for instance, thought that the soul was composed of all the elements, and yet considered each of these to be a soul. He says:

By Earth we see Earth, by Water Water,
 By Air the divine Air, by Fire destroying Fire,
 Love by Love, and Strife by bitter Strife.

In the same way, in the *Timaeus*, Plato constructs the soul out of the elements. For he maintains that "like" can only be known by "like," and that from these first beginnings grow the things which we perceive. A similar definition is laid down in his

404 b

20 λεγομένοις διωρίσθη, αὐτὸ μὲν τὸ ζῶον ἐξ αὐτῆς
 τῆς τοῦ ἑνὸς ιδέας καὶ τοῦ πρώτου μήκους καὶ
 πλάτους καὶ βάθους, τὰ δ' ἄλλα ὁμοιοτρόπως.
 ἔτι δὲ καὶ ἄλλως, νοῦν μὲν τὸ ἓν, ἐπιστήμην δὲ
 τὰ δύο (μοναχῶς γὰρ ἐφ' ἓν), τὸν δὲ τοῦ ἐπιπέδου
 ἀριθμὸν δόξαν, αἰσθησιν δὲ τὸν τοῦ στερεοῦ· οἱ
 25 μὲν γὰρ ἀριθμοὶ τὰ εἶδη αὐτὰ καὶ αἱ ἀρχαὶ ἐλέγοντο,
 εἰσὶ δ' ἐκ τῶν στοιχείων. κρίνεται δὲ τὰ πράγματα
 τὰ μὲν νῶ, τὰ δ' ἐπιστήμη, τὰ δὲ δόξη, τὰ δ'
 αἰσθήσει· εἶδη δ' οἱ ἀριθμοὶ οὗτοι τῶν πραγμάτων.

Ἐπεὶ δὲ καὶ κινητικὸν ἐδόκει ἡ ψυχὴ εἶναι καὶ
 γνωριστικόν, οὕτως ἔνιοι συνέπλεξαν ἐξ ἀμφοῖν,
 30 ἀποφηνάμενοι τὴν ψυχὴν ἀριθμὸν κινουμένην ἑαυτὸν.
 διαφέρονται δὲ περὶ τῶν ἀρχῶν, τίνες καὶ πόσαι,
 μάλιστα μὲν οἱ σωματικὰς ποιοῦντες τοῖς ἀσω-
 405 α μάτους,¹ τούτοις δ' οἱ μίξαντες καὶ ἀπ' ἀμφοῖν τὰς
 ἀρχὰς ἀποφηνάμενοι. διαφέρονται δὲ καὶ περὶ τὸ
 πλήθος· οἱ μὲν γὰρ μίαν οἱ δὲ πλείους λέγουσιν.
 ἐπομένως δὲ τούτοις καὶ τὴν ψυχὴν ἀποδιδόασιν·

¹ τοῖς ἀσωμάτους comm. vett.: τὰς ἀσωμάτους X: τοῖς
 ἀσωμάτοις vulgo.

* This difficult passage gives Aristotle's interpretation of Plato's theory of Ideas, as applied to the origin of the universe. We know of no treatise of Plato *About Philosophy*, but tradition ascribes the reference to some lecture notes of Plato to which Aristotle had access. According to this theory Pure Knowledge has some object corresponding to it; this object is not the world of Sense, but the world of Ideas. All the sensible world is thus but an imperfect copy of this world of Ideas. There is, for instance, in the world of Ideas an Idea Beauty. Objects in the world of Sense are beautiful only in so far as they are copies of this. But the world of Ideas includes the Ideas of numbers and, according to the theory Aristotle is discussing, from these are derived some

comments *About Philosophy*, where he maintains that the living universe is derived from the idea of the One and from the primary length, breadth and depth; and everything else in the same way. But he also gives another account, that mind is One and knowledge Two (for there is only one straight line from one point to another); and the number of the plane (Three) is opinion, and the number of the cube (Four) is sensation. For numbers are alleged to be identical with the forms themselves and ultimate principles, but they are composed of the elements.^a The sensible world is apprehended in some cases by mind, in others by knowledge, in others again by opinion, and in others by sensation; and these numbers are the forms of things.

But since the soul appears to contain an element which produces movement and one which produces knowledge, so some thinkers have constructed it from both, explaining the soul as a number moving itself. But men differ about the first principles of things, both as to their nature and quantity, especially those who make them corporeal from those who make them incorporeal, and from both these differ those who combine the two and explain the ultimate principles as compounded of both. They differ again about the number, some alleging that there is one, and others more than one. The account they give of the soul in each case follows their conclusions;

of our concepts. One was not considered by the Greeks as a number, but only as the fountain of all numbers. So the three dimensions are derived from the numbers 2, 3, and 4 respectively. As "like" is known by "like," there are similarly in the soul faculties corresponding to these. So mind corresponds to One, Knowledge to Two, and so on.

405 a

5 τό τε γὰρ κινητικὸν τὴν φύσιν τῶν πρώτων ὑπε-
 ειλήφασιν, οὐκ ἀλόγως. ὅθεν ἔδοξέ τισι πῦρ εἶναι·
 καὶ γὰρ τοῦτο λεπτομερέστατόν τε καὶ μάλιστα
 τῶν στοιχείων ἀσώματον, ἔτι δὲ κινεῖται τε καὶ
 κινεῖ τὰ ἄλλα πρώτως. Δημόκριτος δὲ καὶ γλα-
 φυρωτέρως εἴρηκεν ἀποφηνάμενος διὰ τί τούτων
 10 ἐκάτερον· ψυχὴν μὲν γὰρ εἶναι ταῦτό καὶ νοῦν,
 τοῦτο δ' εἶναι τῶν πρώτων καὶ ἀδιαιρέτων σω-
 μάτων, κινητικὸν δὲ διὰ μικρομέρειαν καὶ τὸ
 σχῆμα· τῶν δὲ σχημάτων εὐκινήτοτατον τὸ σφαιρο-
 ειδές λέγει· τοιοῦτον δ' εἶναι τὸν τε νοῦν καὶ τὸ
 πῦρ.

Ἀναξαγόρας δ' ἔοικε μὲν ἕτερον λέγειν ψυχὴν
 τε καὶ νοῦν, ὥσπερ εἵπομεν καὶ πρότερον, χρήται
 15 δ' ἀμφοῖν ὡς μιᾷ φύσει, πλὴν ἀρχὴν γε τὸν νοῦν
 τίθεται μάλιστα πάντων· μόνον γοῦν φησὶν αὐτὸν
 τῶν ὄντων ἀπλοῦν εἶναι καὶ ἀμιγῆ τε καὶ καθαρὸν.
 ἀποδίδωσι δ' ἀμφω τῇ αὐτῇ ἀρχῇ, τό τε γινώσκειν
 καὶ τὸ κινεῖν, λέγων νοῦν κινῆσαι τὸ πᾶν. ἔοικε
 20 δὲ καὶ Θαλῆς ἐξ ὧν ἀπομνημονεύουσι κινητικὸν τι
 τὴν ψυχὴν ὑπολαβεῖν, εἴπερ τὸν λίθον ἔφη ψυχὴν
 ἔχειν, ὅτι τὸν σίδηρον κινεῖ. Διογένης δ' ὥσπερ
 καὶ ἕτεροί τινες ἀέρα, τοῦτον οἰηθεὶς πάντων
 λεπτομερέστατον εἶναι καὶ ἀρχὴν· καὶ διὰ τοῦτο
 γινώσκειν τε καὶ κινεῖν τὴν ψυχὴν, ἥ μὲν πρῶτόν
 25 ἐστὶ, καὶ ἐκ τοῦτου τὰ λοιπά, γινώσκειν, ἥ δὲ
 λεπτότατον, κινητικὸν εἶναι. καὶ Ἡράκλειτος δὲ
 τὴν ἀρχὴν εἶναι φησι ψυχὴν, εἴπερ τὴν ἀναθυμίασιν,

^a i.e. "the Magnesian stone," or, as we call it, the magnet.

for they consider that which by its own nature pro-
 duces movement to be a primary reality ; which is
 not unreasonable. And so some have thought the
 soul to be fire ; for this is composed of the finest
 particles, and of all the elements is the nearest to
 incorporeal, and it also in a primary sense moves and
 causes movement in other things. Democritus has
 Democritus.
 explained with greater precision why each of these two
 things is so ; for he identifies the soul and the mind.
 This, he says, consists of primary and indivisible
 bodies, and its power of producing movement is
 due to the smallness of its parts, and its shape ; for he
 calls the spherical the most easily moved of all shapes ;
 and this characteristic is shared by mind and fire.

Anaxagoras indeed seems to regard soul and mind
 Anaxagoras.
 as different, as we have said before, but he treats
 them both as of one nature, except that he regards
 mind as above all things the ultimate principle ; at
 any rate, he speaks of it as the only existing thing
 which is simple, unmixed, and pure. But he assigns
 both the power of knowing and of moving to the same
 principle when he says that mind set everything
 moving. Thales, too, to judge from what is recorded
 Thales.
 of his views, seems to suppose that the soul is in a
 sense the cause of movement, since he says that a
 stone ^a has a soul because it causes movement to
 iron. Diogenes and some others think that the soul
 Diogenes.
 is air, regarding this as composed of the finest par-
 ticles, and as an ultimate principle ; for this reason
 he believes that the soul both knows, and causes
 movement ; it knows because it is primary and from
 it all else comes ; it causes movement because of
 its extreme tenuity. Heraclitus also calls the
 Heraclitus.
 first principle soul, as the emanation from which

405^a ἔξ ἧς τὰλλα συνίστησιν· καὶ ἀσωματώτατον δὴ
καὶ ῥέον αἰεὶ· τὸ δὲ κινούμενον κινουμένῳ γινώ-
σκεσθαι· ἐν κινήσει δ' εἶναι τὰ ὄντα κακείνος
ᾤετο καὶ οἱ πολλοί. παραπλησίως δὲ τούτοις
30 καὶ Ἀλκμαίων ἔοικεν ὑπολαβεῖν περὶ ψυχῆς· φησὶ
γὰρ αὐτὴν ἀθάνατον εἶναι διὰ τὸ εἰκέναι τοῖς
ἀθανάτοις, τοῦτο δ' ὑπάρχειν αὐτῇ ὡς αἰεὶ κινου-
μένη· κινεῖσθαι γὰρ καὶ τὰ θεία πάντα συνεχῶς
405^b αἰεὶ, σελήνην, ἥλιον, τοὺς ἀστέρας καὶ τὸν οὐρανὸν
ὄλον. τῶν δὲ φορτικωτέρων καὶ ὕδωρ τινὲς ἀπ-
εφήμαντο, καθάπερ Ἴππων. πεισθῆναι δ' εἰκόασιν
ἐκ τῆς γονῆς, ὅτι πάντων ὑγρὰ· καὶ γὰρ ἐλέγχει
5 τοὺς αἶμα φάσκοντας τὴν ψυχὴν, ὅτι ἡ γονὴ οὐχ
αἶμα· ταύτην δ' εἶναι τὴν πρώτην ψυχὴν. ἕτεροι
δ' αἶμα, καθάπερ Κριτίας, τὸ αἰσθάνεσθαι ψυχῆς
οἰκειότατον ὑπολαμβάνοντες, τοῦτο δ' ὑπάρχειν
διὰ τὴν τοῦ αἵματος φύσιν. πάντα γὰρ τὰ στοιχεῖα
κριτὴν εἶληφε, πλὴν τῆς γῆς· ταύτην δ' οὐθεὶς
10 ἀποπέφανται, πλὴν εἴ τις αὐτὴν εἴρηκεν ἐκ πάντων
εἶναι τῶν στοιχείων ἢ πάντα.
Ὅριζονται δὲ πάντες τὴν ψυχὴν τρισὶν ὡς εἰπεῖν,
κινήσει, αἰσθήσει, τῷ ἀσωμάτῳ· τούτων δ' ἕκαστον
ἀνάγεται πρὸς τὰς ἀρχάς. διὸ καὶ οἱ τῷ γινώσκειν
ὀριζόμενοι αὐτὴν ἢ στοιχεῖον ἢ ἐκ τῶν στοιχείων
ποιοῦσι, λέγοντες παραπλησίως ἀλλήλοις, πλὴν
15 ἐνός· φασὶ γὰρ γινώσκεσθαι τὸ ὅμοιον τῷ ὁμοίῳ·
ἐπειδὴ γὰρ ἡ ψυχὴ πάντα γινώσκει, συνιστᾶσιν
αὐτὴν ἐκ πασῶν τῶν ἀρχῶν. ὅσοι μὲν οὖν μίαν
τινὰ λέγουσιν αἰτίαν καὶ στοιχεῖον εἶναι, καὶ τὴν

^a Empedocles.^b Anaxagoras.

he constructs all other things ; it is most incorporeal and in ceaseless flux : he, like many others, supposed that a thing moving can only be known by something which moves, and that all that exists is in motion. Alcmaeon's suppositions about the soul are somewhat similar to these ; for he says it is immortal, because it resembles immortal things, and that this characteristic is due to its perpetual motion ; for things divine, the moon, the sun, the stars, and the whole heavens, are in a state of perpetual motion. Some of the less exact thinkers, like Hippo, have declared the soul to be water. This belief seems to arise from the fact that the seed of all animals is moist. For he rebuts those who say that the soul is blood, on the ground that the seed is not blood ; and seed, he says, is primary soul. Others, like Critias, have imagined the soul to be blood, because they have supposed that sensation is the peculiar characteristic of the soul, and that this is due to the nature of blood. In fact each of the elements in turn has found a supporter, except earth ; but this no one has suggested except in so far as one ^a has said that the soul is composed of, or is identical with, all the elements.

But all, or almost all, distinguish the soul by three of its attributes, movement, sensation, and incorporeality ; and each of these is referred back to the first principles. So those who define it by the power of knowing describe it as an element, or as derived from the elements, all arguing with one ^b exception on similar lines ; for they say that " like " is known by " like " ; for since everything is known by the soul, they construct it of all the principles. Those, then, who allege that there is only one cause, and but one

405 b

ψυχὴν ἐν τιθέασιν, οἷον πῦρ ἢ ἀέρα· οἱ δὲ πλείους
λέγοντες τὰς ἀρχὰς καὶ τὴν ψυχὴν πλείω ποιοῦσιν.
20 Ἀναξαγόρας δὲ μόνος ἀπαθῆ φησὶν εἶναι τὸν νοῦν,
καὶ κοινὸν οὐθέν οὐθενὶ τῶν ἄλλων ἔχειν. τοιοῦτος
δ' ὢν πῶς γνωριεῖ καὶ διὰ τίν' αἰτίαν, οὐτ' ἐκεῖνος
εἴρηκεν οὐτ' ἐκ τῶν εἰρημένων συμφανές ἐστιν.
ὅσοι δ' ἐναντιώσεις ποιοῦσιν ἐν ταῖς ἀρχαῖς, καὶ
τὴν ψυχὴν ἐκ τῶν ἐναντίων συνιστᾶσιν· οἱ δὲ
25 θάτερον τῶν ἐναντίων, οἷον θερμὸν ἢ ψυχρὸν ἢ τι
τοιοῦτον ἄλλο, καὶ τὴν ψυχὴν ὁμοίως ἐν τι τούτων
τιθέασιν. διὸ καὶ τοῖς ὀνόμασιν ἀκολουθοῦσιν, οἱ
μὲν τὸ θερμὸν λέγοντες, ὅτι διὰ τοῦτο καὶ τὸ ζῆν
ὠνόμασται, οἱ δὲ τὸ ψυχρὸν διὰ τὴν ἀναπνοὴν καὶ
τὴν κατάψυξιν καλεῖσθαι ψυχὴν. τὰ μὲν οὖν παρα-
30 δεδομένα περὶ ψυχῆς, καὶ δι' αἷς αἰτίας λέγουσιν
οὕτω, ταῦτ' ἐστίν.

III. Ἐπισκεπτέον δὲ πρῶτον μὲν περὶ κινήσεως·
ἴσως γὰρ οὐ μόνον ψευδὸς ἐστὶ τὸ τὴν οὐσίαν
406 a αὐτῆς τοιαύτην εἶναι οἷαν φασὶν οἱ λέγοντες ψυχὴν
εἶναι τὸ κινεῖν ἑαυτὸ ἢ δυνάμενον κινεῖν, ἀλλ' ἐν
τι τῶν ἀδυνάτων τὸ ὑπάρχειν αὐτῇ κίνησιν. ὅτι
μὲν οὖν οὐκ ἀναγκαῖον τὸ κινεῖν καὶ αὐτὸ κινεῖσθαι,
πρότερον εἴρηται· διχῶς δὲ κινουμένου παντός (ἢ
5 γὰρ καθ' ἕτερον ἢ καθ' αὐτό· καθ' ἕτερον δὲ
λέγομεν, ὅσα κινεῖται τῷ ἐν κινουμένῳ εἶναι, οἷον
πλωτῆρες· οὐ γὰρ ὁμοίως κινεῖνται τῷ πλοίῳ· τὸ
μὲν γὰρ καθ' αὐτὸ κινεῖται, οἱ δὲ τῷ ἐν κινουμένῳ

30

element, also make the soul one element, such as fire or air; but those who believe in more than one first principle make the soul also plural. Anaxagoras is alone in his belief that mind cannot be acted upon, and that it has nothing in common with anything else. But how mind, being thus constructed, can ever recognize anything, and by what agency, he does not explain, nor is it clear from his expressed views. All those who assume pairs of contrary opposites among their first principles also construct the soul from contraries; while those who suppose the first principle to be one of a pair of contraries such as hot and cold or the like, similarly also suppose the soul to be one of these. Thus they appeal to etymology also; those who identify the soul with heat derive ζῆν (to live) from ζεῖν (to boil), but those who identify it with cold maintains that soul (ψυχὴ) is so called after the cooling process (κατάψυξις) associated with respiration. These, then, are the traditional views about the soul and the grounds upon which they are held.

III. In the first place we must investigate the question of movement. For perhaps it is not merely untrue that the essence of the soul is such as those describe it to be who say that the soul moves or can move itself, but it may be quite impossible that movement should be characteristic of the soul at all. We have said before that it is not necessary that that which produces movement should itself move. But everything may be moved in two senses (directly and indirectly. We call movement indirect, when a thing moves because it is in something which moves; for instance the passengers in a ship. For they do not move in the same sense as the ship moves; for the ship moves directly, but they move only by being in

Does the soul move?

31

406 a

εἶναι. δῆλον δ' ἐπὶ τῶν μορίων· οἰκεία μὲν γὰρ ἐστὶ κίνησις ποδῶν βάδισις, αὕτη δὲ καὶ ἀνθρώπων· οὐχ ὑπάρχει δὲ τοῖς πλωτήρσι τότε), διχῶς δὲ λεγομένου τοῦ κινεῖσθαι, νῦν ἐπισκοποῦμεν περὶ τῆς ψυχῆς εἰ καθ' αὐτὴν κινεῖται καὶ μετέχει κινήσεως.

Τεσσάρων δὲ κινήσεων οὐσῶν, φορᾶς ἀλλοιώσεως φθίσεως ἀυξήσεως, ἢ μίαν τούτων κινεῖται ἂν ἢ πλείους ἢ πάσας. εἰ δὲ κινεῖται μὴ κατὰ συμβεβηκός, φύσει ἂν ὑπάρχοι κίνησις αὐτῇ· εἰ δὲ τοῦτο, καὶ τόπος· πᾶσαι γὰρ αἱ λεχθεῖσαι κινήσεις ἐν τόπῳ. εἰ δ' ἐστὶν ἡ οὐσία τῆς ψυχῆς τὸ κινεῖν ἑαυτήν, οὐ κατὰ συμβεβηκός αὐτῇ τὸ κινεῖσθαι ὑπάρξει, ὡσπερ τῷ λευκῷ ἢ τῷ τριπήχει· κινεῖται γὰρ καὶ ταῦτα, ἀλλὰ κατὰ συμβεβηκός· ὧ γὰρ ὑπάρχουσιν, ἐκεῖνο κινεῖται, τὸ σῶμα. διὸ καὶ οὐκ ἐστὶ τόπος αὐτῶν· τῆς δὲ ψυχῆς ἔσται, εἴπερ φύσει κινήσεως μετέχει.

Ἔτι δ' εἰ φύσει κινεῖται, καὶ βία κινηθεῖη· καὶ εἰ βία, καὶ φύσει. τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ ἡρεμίας· εἰς ὃ γὰρ κινεῖται φύσει, καὶ ἡρεμεῖ ἐν τούτῳ φύσει· ὁμοίως δὲ καὶ εἰς ὃ κινεῖται βία, καὶ ἡρεμεῖ ἐν τούτῳ βία. ποῖαι δὲ βίαιοι τῆς ψυχῆς κινήσεις ἔσονται καὶ ἡρεμῖαι, οὐδὲ πλάττειν

32

something which moves. And this becomes obvious if we consider the parts of the body. For the movement proper to the feet is walking, that is the movement natural to human beings; and at the moment the passengers are not exhibiting this kind of motion). Movement then having two different senses, we are at present inquiring whether the soul moves and has a share in direct movement.

Now there are four kinds of movement: (1) change of position, (2) change of state, (3) decay and (4) growth; if then the soul moves, it must have one, or more than one, or all of these kinds of movement. And if the movement of the soul is not accidental, then movement must belong to it by nature; if this is so, it must have position in space, for all the kinds of movement mentioned are in space. But if it is the essence of the soul to move itself, then movement will not belong to it by accident, as it does for instance to the quality of whiteness, or to a length of three cubits; these are liable to be moved, but only accidentally, and merely because the body to which they belong is moved. For this reason they have no position in space. But the soul must have position in space, if of its own nature it participates in movement.

Again, if it moves naturally, it must also be movable by force; and conversely if it is movable by force, then it must also move naturally. And the same thing is true about its rest; for it comes to rest by nature at the point to which it is moved by nature; and similarly it rests by force in the place to which it is moved by force. But what these enforced movements of the soul and enforced rests can be is not easy to explain, even if we are prepared to allow our

Four kinds of movement.

Difficulties of attributing movement to the soul.

33

406^a βουλομένοις ῥάδιον ἀποδοῦναι. ἔτι δ' εἰ μὲν ἄνω
κινήσεται, πῦρ ἔσται, εἰ δὲ κάτω, γῆ· τούτων γὰρ
τῶν σωμάτων αἱ κινήσεις αὐταί. ὁ δ' αὐτὸς λόγος
30 καὶ περὶ τῶν μεταξὺ.

Ἔτι δ' ἐπεὶ φαίνεται κινουσα τὸ σῶμα, ταύτας
εὐλογον κινεῖν τὰς κινήσεις ἅς καὶ αὐτὴ κινεῖται.
εἰ δὲ τοῦτο, καὶ ἀντιστρέψασιν εἰπεῖν ἀληθὲς ὅτι
406^b ἦν τὸ σῶμα κινεῖται, ταύτην καὶ αὐτή. τὸ δὲ
σῶμα κινεῖται φορᾶ· ὥστε καὶ ἡ ψυχὴ μεταβάλλοι
ἂν κατὰ τὸ σῶμα ἢ ὅλη ἢ κατὰ μέρη μεθισταμένη.
εἰ δὲ τοῦτ' ἐνδέχεται, καὶ ἐξελθοῦσαν εἰσιεῖναι
πάλιν ἐνδέχοιτ' ἄν· τούτῳ δ' ἔποιτ' ἂν τὸ ἀν-
5 ἴστασθαι τὰ τεθνεῶτα τῶν ζώων.

Τὴν δὲ κατὰ συμβεβηκὸς κίνησιν κἂν ὑφ' ἑτέρου
κινεῖτο· ὡσθὲν γὰρ ἂν βία τὸ ζῶον. οὐ δεῖ δὲ ὧ
τὸ ὑφ' ἑαυτοῦ κινεῖσθαι ἐν τῇ οὐσίᾳ, τοῦθ' ὑπ'
ἄλλου κινεῖσθαι, πλὴν εἰ μὴ κατὰ συμβεβηκός,
ὡσπερ οὐδὲ τὸ καθ' αὐτὸ ἀγαθὸν ἢ δι' αὐτό, τὸ
10 μὲν δι' ἄλλο εἶναι, τὸ δ' ἑτέρου ἔνεκεν. τὴν δὲ
ψυχὴν μάλιστα φαίη τις ἂν ὑπὸ τῶν αἰσθητῶν
κινεῖσθαι, εἴπερ κινεῖται.

Ἄλλὰ μὴν καὶ εἰ κινεῖ γε αὐτὴ αὐτήν, καὶ αὐτὴ
κινεῖτ' ἄν, ὥστ' εἰ πᾶσα κίνησις ἔκστασις ἐστὶ
τοῦ κινουμένου ἢ κινεῖται, καὶ ἡ ψυχὴ ἐξίσταιτ'
ἂν ἐκ τῆς οὐσίας, εἰ μὴ κατὰ συμβεβηκὸς αὐτήν

^a Many of the things we want we want for the sake of something else; e.g. we may want money for the sake of health, health for the sake of our work in the world, and so on. But ultimately we must reach a "good" which we want

fancies free play. Again, if the soul moves upwards it will be fire, and if downwards, earth; for these two movements belong respectively to these two bodies; and the same argument will apply to movements intermediate between "up" and "down."

Moreover, since the soul can be seen to move the body, it is reasonable to suppose that it imparts to it the same movements that it has itself; and if this is so, then it is true to assert conversely that the soul has the same movements as the body. Now the body moves by change of position; and therefore the soul must change position in the same manner as the body, either as a complete whole or in respect of its parts. But, if this is possible, it would also be possible for a soul which has left the body to enter in again; and upon this would follow the possibility of resurrection for animals which are dead.

Indirect movement of the soul may indeed be caused by something external to it; the living creature may be pushed by force. But that which has self-movement as part of its essence cannot be moved by anything else except incidentally: just as that which is good in itself is not good because of anything else, and that which is good for its own sake is not good for the sake of anything else.^a But one would be inclined to assert that the soul, if it is moved at all, is most likely to be moved by sensible objects.

Moreover, if the soul moves itself, it is also itself moved, so that, if all movement is a displacement of that which is moved *qua* moved, then the soul must depart from its essential nature, if it does not move

for its own sake. Similarly the essential self-movement of the soul is not to be explained as imparted indirectly from without.

15 κινεῖ, ἀλλ' ἔστιν ἡ κίνησις τῆς οὐσίας αὐτῆς καθ' αὐτήν.

"Ἐνιοὶ δὲ καὶ κινεῖν φασὶ τὴν ψυχὴν τὸ σῶμα ἐν ᾧ ἔστιν ὡς αὐτὴ κινεῖται, οἷον Δημόκριτος, παραπλησίως λέγων Φιλίππῳ τῷ κωμωδοδιδασκάλῳ· φησὶ γὰρ τὸν Δαίδαλον κινουμένην ποιῆσαι τὴν ξυλίνην Ἀφροδίτην, ἐγγέαντ' ἄργυρον χυτόν.
20 ὁμοίως δὲ καὶ Δημόκριτος λέγει· κινουμένας γὰρ φησὶ τὰς ἀδιαιρέτους σφαίρας διὰ τὸ πεφυκέναι μηδέποτε μένειν, συνεφέλκειν καὶ κινεῖν τὸ σῶμα πᾶν. ἡμεῖς δ' ἐρωτήσομεν εἰ καὶ ἡρέμῃσιν ποιεῖ ταῦτά ταῦτα. πῶς δὲ ποιήσει, χαλεπὸν ἢ καὶ ἀδύνατον εἰπέειν. ὅλως δ' οὐχ οὕτω φαίνεται
25 κινεῖν ἡ ψυχὴ τὸ ζῶον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως.

Τὸν αὐτὸν δὲ τρόπον καὶ ὁ Τίμαιος φυσιολογεῖ τὴν ψυχὴν κινεῖν τὸ σῶμα· τῷ γὰρ κινεῖσθαι αὐτὴν καὶ τὸ σῶμα κινεῖν διὰ τὸ συμπεπλέχθαι πρὸς αὐτό. συνεστηκυῖαν γὰρ ἐκ τῶν στοιχείων, καὶ μεμερισμένην κατὰ τοὺς ἀρμονικοὺς ἀριθμούς,
30 ὅπως αἰσθησὶν τε σύμφυτον ἀρμονίας ἔχη καὶ τὸ πᾶν φέρηται συμφώνους φοράς, τὴν εὐθυωρίαν εἰς κύκλον κατέκαμψεν· καὶ διελὼν ἐκ τοῦ ἐνὸς δύο
407^a κύκλους δισσαχῆ συνημμένους πάλιν τὸν ἕνα διεῖλεν εἰς ἑπτὰ κύκλους, ὡς οὕσας τὰς τοῦ οὐρανοῦ φοράς τὰς τῆς ψυχῆς κινήσεις.

Πρῶτον μὲν οὖν οὐ καλῶς τὸ λέγειν τὴν ψυχὴν μέγεθος εἶναι· τὴν γὰρ τοῦ παντός δῆλον ὅτι τοιαύτην εἶναι βούλεται οἷον ποτ' ἔστιν ὁ καλού-

* The point of the comparison is that both offer a purely external and mechanical explanation of movement.

itself accidentally, but movement is part of its very essence.

Some say that the soul moves its body exactly as it is moved itself. Such is the view of Democritus, arguing in the vein of Philippus the comic dramatist; for he tells us that Daedalus made his wooden Aphrodite move by pouring in quicksilver.^a Democritus speaks in a similar strain; for he says that the spherical atoms, as they move because it is their nature never to remain still, draw the whole body with them and so move it. But we shall ask whether these same atoms also produce rest. How they can do so, it is difficult, if not impossible, to say. In general the living creature does not appear to be moved by the soul in this way, but by some act of mind or will.

In the same way Plato's *Timaeus*^b also gives a physical account of how the soul moves the body; he thinks that the soul moves the body by its own movement, owing to their intimate inter-connexion. For first the Creator fashioned it out of all the elements, and divided it according to the harmonic ratios, in order that it might have innate perception of harmony and the universe might move by harmonic movements; then he bent the straight line into the form of a circle, and, having divided the one circle into two, meeting at two points, he again divided one of these into seven. Thus Plato identifies the movements of the soul with the spatial movements of the heavenly bodies.

(1) Now to say that the soul is a spatial magnitude is unsound; for he clearly means "the soul of the world" to be some such thing as what is called mind;

^b Plato, *Timaeus*, pp. 33 sqq.

Plato's view that the soul causes movement of the body.

Objections to Plato's view.

5 μενος νοῦς· οὐ γὰρ δὴ οἶόν γ' ἡ αἰσθητική, οὐδ' οἶον ἢ ἐπιθυμητική· τούτων γὰρ ἡ κίνησις οὐ κυκλοφορία. ὁ δὲ νοῦς εἰς καὶ συνεχής, ὡσπερ καὶ ἡ νόησις· ἡ δὲ νόησις τὰ νοήματα· ταῦτα δὲ τῷ ἐφεξῆς ἔν, ὡς ἀριθμός, ἀλλ' οὐχ ὡς τὸ μέγεθος. διόπερ οὐδ' ὁ νοῦς οὕτω συνεχής, ἀλλ' ἤτοι ἀμερῆς
 10 ἢ οὐχ ὡς μέγεθος τι συνεχής· πῶς γὰρ δὴ καὶ νοήσει μέγεθος ὧν; πότερον¹ ὄψουν μορίω τῶν αὐτοῦ; μορίων δ' ἤτοι κατὰ μέγεθος ἢ κατὰ στιγμήν, εἰ δεῖ καὶ τοῦτο μόριον εἰπεῖν. εἰ μὲν οὖν κατὰ στιγμήν, αὐταὶ δ' ἄπειροι, δῆλον ὡς οὐδέποτε διέξισιν, εἰ δὲ κατὰ μέγεθος, πολλάκις ἢ ἀπειράκις
 15 νοήσει τὸ αὐτό. φαίνεται δὲ καὶ ἄπαξ ἐνδεχόμενον. εἰ δ' ἰκανὸν θιγεῖν ὄψουν τῶν μορίων, τί δεῖ κύκλω κινεῖσθαι ἢ καὶ ὅλως μέγεθος ἔχειν; εἰ δ' ἀναγκαῖον νοῆσαι τῷ ὅλῳ κύκλω θιγόντα, τίς ἐστιν ἢ τοῖς μορίοις θίξις; ἔτι δὲ πῶς νοήσει τὸ μεριστὸν ἀμερεῖ καὶ τὸ ἀμερές μεριστῷ; ἀναγκαῖον δὲ τὸν
 20 νοῦν εἶναι τὸν κύκλον τοῦτον. νοῦ μὲν γὰρ κίνησις νόησις, κύκλου δὲ περιφορά. εἰ οὖν ἡ νόησις περιφορά, καὶ νοῦς ἂν εἴη ὁ κύκλος, οὐδ' ἡ τοιαύτη περιφορά [νόησις].² ἀεὶ δὲ δὴ τί νοήσει;³ δεῖ γάρ, εἴπερ αἰδῖος ἡ περιφορά· τῶν μὲν γὰρ πρακτικῶν νοήσεων
 25 ἔστι πέρατα (πᾶσαι γὰρ ἑτέρου χάριν), αἱ δὲ θεωρητικαὶ τοῖς λόγοις ὁμοίως ὀρίζονται· λόγος δὲ πᾶς

¹ ὧν; πότερον ὄψουν τῶν μορίων E¹, Biehl: ὧν ὄψουν τῶν μορίων Bekker.

² Torstrik.

³ δὴ τί νοήσει; Simplicius, Torstrik, Biehl, Rodier: δὴ τι νοήσει.

it is nothing like either the perceptive or desiderative faculty; for their movements are not circular. But mind is one and continuous in the same sense as the process of thinking; thinking consists of thoughts. But the unity of these is one of succession, like that of numbers, whereas the unity of spatial magnitudes is not. So also the mind is not continuous in this sense, but it either has no parts, or at any rate is not continuous as a magnitude. For, if it is a magnitude, how can it think? With any one of its parts indifferently? The parts must be regarded either as magnitudes or as points, if one can call a point a part. In the latter case, since the points are infinite in number, the mind can obviously never exhaust them; in the former, it will think the same thoughts very many or an infinite number of times. But it is clear that it is also capable of thinking a thought once only. (2) If it is sufficient for it to touch with any one of its parts, why should it move in a circle, or have magnitude at all? But if it can only think when its whole circle is in contact, what does the contact of its parts mean? (3) Again, how can it think that which has parts with that which has not, or that which has not with that which has? The mind must be identical with this circle; for the movement of the mind is thinking, and the movement of a circle is revolution. If then thinking is revolution, then the circle whose revolution is of this kind must be mind. But what can it be which mind always thinks?—as it must if the revolution is eternal. All practical thinking has limits (for it always has an object in view), and speculation is bounded like the verbal formulae which express it. Every such formula is a definition or a demonstration.

ὀρισμὸς ἢ ἀπόδειξις· αἱ δ' ἀποδείξεις καὶ ἀπ' ἀρχῆς, καὶ ἔχουσί πως τέλος τὸν συλλογισμόν ἢ τὸ συμπέρασμα· εἰ δὲ μὴ περατοῦνται, ἀλλ' οὐκ ἀνακάμπτουσί γε πάλιν ἐπ' ἀρχήν, προσλαμβάνουσαι δ' αἰεὶ μέσον καὶ ἄκρον εὐθυποροῦσιν· ἢ δὲ περιφορὰ πάλιν ἐπ' ἀρχήν ἀνακάμπτει. οἱ δ' ὀρισμοὶ πάντες πεπερασμένοι. ἔτι εἰ ἡ αὐτὴ περιφορὰ πολλάκις, δεήσει πολλάκις νοεῖν τὸ αὐτό. ἔτι δ' ἡ νόησις ἔουκεν ἡρεμήσει τινὶ καὶ ἐπιστάσει μᾶλλον ἢ κινήσει· τὸν αὐτὸν δὲ τρόπον καὶ ὁ συλλογισμός. ἀλλὰ μὴν οὐδὲ μακάριόν γε τὸ μὴ

407 b ῥάδιον ἀλλὰ βίαιον· εἰ δ' ἐστὶν ἡ κίνησις αὐτῆς μὴ οὐσία, παρὰ φύσιν ἂν κινῶτο. ἐπίπονον δὲ καὶ τὸ μεμίχθαι τῷ σώματι μὴ δυνάμενον ἀπολυθῆναι, καὶ προσέτι φευκτόν, εἴπερ βέλτιον τῷ νῷ μὴ μετὰ

5 σώματος εἶναι, καθάπερ εἴωθέ τε λέγεσθαι καὶ πολλοῖς συνδοκεῖ. ἄδηλος δὲ καὶ τοῦ κύκλω φέρεσθαι τὸν οὐρανὸν ἢ αἰτία· οὔτε γὰρ τῆς ψυχῆς ἢ οὐσία αἰτία τοῦ κύκλω φέρεσθαι, ἀλλὰ κατὰ συμβεβηκὸς οὕτω κινεῖται, οὔτε τὸ σῶμα αἴτιον, ἀλλ' ἡ ψυχὴ μᾶλλον ἐκείνῳ. ἀλλὰ μὴν οὐδ' ὅτι

10 βέλτιον λέγεται· καίτοι γ' ἐχρῆν διὰ τοῦτο τὸν θεὸν κύκλω ποιεῖν φέρεσθαι τὴν ψυχὴν, ὅτι βέλτιον αὐτῇ τὸ κινεῖσθαι τοῦ μένειν, κινεῖσθαι δ' οὕτως ἢ ἄλλως. ἐπεὶ δ' ἐστὶν ἡ τοιαύτη σκέψις ἐτέρων λόγων οἰκειότερα, ταύτην μὲν ἀφῶμεν τὸ νῦν.

Ἐκεῖνο δὲ ἄτοπον συμβαίνει καὶ τούτῳ τῷ λόγῳ

15 καὶ τοῖς πλείστοις τῶν περὶ ψυχῆς· συνάπτουσι γὰρ καὶ τιθέασιν εἰς σῶμα τὴν ψυχὴν, οὐθὲν προσ-

Demonstrations both start from a beginning, and have in a sense an end, *viz.*, the inference or conclusion. Even if they do not arrive at a conclusion, at least they do not return again to the beginning, but advance in a straight line by means of additional middle or extreme terms. But circular movement is for ever returning to its starting-point. Definitions, too, are all finite. Again, if the same revolution recurs frequently, the mind must frequently think the same thing. (4) Again, thinking seems more like a state of rest or a halting than a movement; and the same thing is true of the syllogism. (5) Furthermore, that which moves not easily but only by force cannot be happy; and if the soul's movement is not part of its essence, it will be moved unnaturally. (6) Again, the inescapable association of the mind with the body would be wearisome; such a conception must be rejected, if it is true that it is better for the mind to be without the body, as is usually said and widely accepted. (7) Again, the reason why the heavens should move in a circle is obscure. For the essence of the soul is not the cause of this circular movement—it only moves in this way by accident; nor is the body; on the contrary, the soul causes the body's movement. Nor is there any suggestion that this circular movement is better, and yet God should surely have made the soul move in a circle for this very reason, that movement is a better condition for it than rest, and this movement better than any other. But since this inquiry belongs more properly to another subject, let us leave it for the present.

But there is one absurd feature both in this argument, and in most of those about the soul. Men

associate the soul with and place it in the body, with-

Relation of soul and body.

407^b

διορίσαντες διὰ τίν' αἰτίαν καὶ πῶς ἔχοντος τοῦ σώματος. καίτοι δόξειεν ἂν τοῦτ' ἀναγκαῖον εἶναι· διὰ γὰρ τὴν κοινωνίαν τὸ μὲν ποιεῖ τὸ δὲ πάσχει καὶ τὸ μὲν κινεῖται τὸ δὲ κινεῖ, τούτων δ' οὐθὲν ὑπάρχει πρὸς ἄλληλα τοῖς τυχοῦσιν. οἱ δὲ μόνον ἐπιχειροῦσι λέγειν ποῖόν τι ἢ ψυχὴ, περὶ δὲ τοῦ δεξομένου σώματος οὐθὲν ἔτι προσδιορίζουσιν, ὥσπερ ἐνδεχόμενον κατὰ τοὺς Πυθαγορικοὺς μύθους τὴν τυχοῦσαν ψυχὴν εἰς τὸ τυχόν ἐνδύεσθαι σώμα. δοκεῖ γὰρ ἕκαστον ἴδιον ἔχειν εἶδος καὶ μορφήν. παραπλήσιον δὲ λέγουσιν ὥσπερ εἴ τις φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι· δεῖ γὰρ τὴν μὲν τέχνην χρῆσθαι τοῖς ὄργανοις, τὴν δὲ ψυχὴν τῷ σώματι.

IV. Καὶ ἄλλη δὲ τις δόξα παραδέδοται περὶ ψυχῆς, πιθανὴ μὲν πολλοῖς οὐδεμιᾶς ἦττον τῶν λεγομένων, λόγους δ' ὥσπερ εὐθύνας δεδωκυῖα καὶ τοῖς ἐν κοινῷ γινομένοις λόγοις· ἀρμονίαν γὰρ τινα αὐτὴν λέγουσι· καὶ γὰρ τὴν ἀρμονίαν κρᾶσιν καὶ σύνθεσιν ἐναντίων εἶναι, καὶ τὸ σῶμα συγκεῖσθαι ἐξ ἐναντίων.

Καίτοι γε ἢ μὲν ἀρμονία λόγος τίς ἐστι τῶν μιχθέντων ἢ σύνθεσις, τὴν δὲ ψυχὴν οὐδέτερον οἶόν τ' εἶναι τούτων. ἔτι δὲ τὸ κινεῖν οὐκ ἔστιν ἀρμονίας, ψυχῇ δὲ πάντες ἀπονέμουσι τοῦτο μάλιστα ὡς εἰπεῖν. ἀρμόζει δὲ μᾶλλον καθ' ὑγείας λέγειν ἀρμονίαν, καὶ ὅλως τῶν σωματικῶν ἀρετῶν, ἢ κατὰ ψυχῆς. φανερώτατον δ' εἴ τις ἀποδιδόναι πειραθείη τὰ πάθη καὶ τὰ ἔργα τῆς ψυχῆς ἀρμονία τινί· χαλεπὸν γὰρ ἐφαρμόζειν. ἔτι δ' εἰ λέγομεν¹ τὴν ἀρμονίαν εἰς δύο ἀποβλέποντες, κυριώτατα μὲν

¹ λέγομεν E¹STVX: λέγομεν.

out specifying why this is so, and how the body is conditioned; and yet this would seem to be essential. For it is by this association that the one acts and the other is acted upon, that the one moves and the other is moved; and no such mutual relation is found in haphazard combinations. But these thinkers only try to explain what is the nature of the soul, without adding any details about the body which is to receive it; as though it were possible, as the Pythagorean stories suggest, for any soul to find its way into any body, (which is absurd,) for we can see that every body has its own peculiar shape or form. Such a theory is like suggesting that carpentry can find its way into flutes; each craft must employ its own tools, and each soul its own body.

IV. There is another traditional theory about the soul, which many find the most credible of all current theories, and which has been approved by the verdict of public opinion. It is said that the soul is a harmony of some kind; for, they argue, a harmony is a blend or composition of contraries, and the body is composed of contraries.

But (1) a harmony is a fixed proportion or composition of the ingredients blended, and the soul cannot be either of these things. (2) Again, it is no part of harmony to cause movement, yet almost everyone ascribes this to the soul as its chief characteristic. (3) It seems more in accord with the facts to connect harmony with health or generally with good conditions of the body than with the soul. This will become quite obvious if one tries to attribute the soul's experiences and actions to some sort of harmony; for it is difficult to make them fit. (4) Again, we use the word harmony in two different senses: most properly

Is the soul a harmony or proportion?

Objections to this theory.

τῶν μεγεθῶν ἐν τοῖς ἔχουσι κίνησι καὶ θέσει τὴν σύνθεσιν αὐτῶν, ἐπειδὴν οὕτω συναρμόζωσι ὥστε μηδὲν συγγενὲς παραδέχεσθαι, ἐντεῦθεν δὲ καὶ τὸν τῶν μεμιγμένων λόγον.

- 10 Οὐδετέρως μὲν οὖν εὐλογον, ἢ δὲ σύνθεσις τῶν τοῦ σώματος μερῶν λίαν εὐεξέταστος· πολλαὶ τε γὰρ αἱ συνθέσεις τῶν μερῶν καὶ πολλαχῶς· τίνος οὖν ἢ πῶς ὑπολαβεῖν τὸν νοῦν χρῆ συνθεσιν εἶναι, ἢ καὶ τὸ αἰσθητικὸν ἢ ὀρεκτικόν; ὁμοίως δὲ ἄτοπον καὶ τὸν λόγον τῆς μίξεως εἶναι τὴν ψυχὴν·
- 15 οὐ γὰρ τὸν αὐτὸν ἔχει λόγον ἢ μίξις τῶν στοιχείων καθ' ἣν σὰρξ καὶ καθ' ἣν ὄστουν. συμβήσεται οὖν πολλὰς τε ψυχὰς ἔχειν καὶ κατὰ πᾶν τὸ σῶμα, εἴπερ πάντα μὲν ἐκ τῶν στοιχείων μεμιγμένων, ὁ δὲ τῆς μίξεως λόγος ἁρμονία καὶ ψυχὴ. ἀπαιτή-
σειε δ' ἂν τις τοῦτό γε καὶ παρ' Ἐμπεδοκλέους·
- 20 ἕκαστον γὰρ αὐτῶν λόγῳ τινὶ φησιν εἶναι· πότερον οὖν ὁ λόγος ἐστὶν ἢ ψυχὴ, ἢ μᾶλλον ἕτερόν τι οὐσα ἐγγίνεται τοῖς μέλεσιν; ἔτι δὲ πότερον ἢ φιλία τῆς τυχούσης αἰτία μίξεως ἢ τῆς κατὰ τὸν λόγον; καὶ αὕτη πότερον ὁ λόγος ἐστὶν ἢ παρὰ τὸν λόγον ἕτερόν τι; ταῦτα μὲν οὖν ἔχει τοιαύτας
- 25 ἀπορίας· εἰ δ' ἐστὶν ἕτερον ἢ ψυχὴ τῆς μίξεως, τί δὴ ποτε ἅμα τῷ σαρκὶ εἶναι ἀναιρεῖται καὶ τῷ τοῖς ἄλλοις μορίοις τοῦ ζώου; πρὸς δὲ τούτοις

^a Or "composition."

^b Love is Empedocles' personification of the force of attraction which accounts for the combination of elements into a whole, as its opposite repulsion (Strife) accounts for the separation of things into separate wholes.

of spatial magnitudes, to mean compaction^a in the case of things which have movement and position, when they cohere in such a way that they do not admit the intrusion of anything homogeneous; but in a derivative sense we also use the word to mean the ratio in which constituents are mixed.

In neither of these senses can harmony be reasonably identified with soul, but the view that the soul is a composition of parts of the body is easily refuted. For the compositions of parts are many, and take place in many ways. Of which of the parts, then, are we to suppose that the mind or the perceptive or appetitive faculty is a composition, and how is such a composition effected? But the view that the soul is a harmony in the sense of a ratio of mixture is equally absurd. For the mixture of the elements which go to make the flesh has not the same ratio as that which makes the bone. It will follow, then, that there are many souls distributed all over the body, since every part of it is a mixture of the elements and the ratio of each mixture is a harmony, *i.e.* a soul. One might put this question to Empedocles (for he says that each part of the body owes its distinctive nature to the ratio of its mixture): is this ratio the soul, or is the soul something distinct, which develops in the limbs? Again, does his principle of Love^b cause any random mixture, or only a mixture in the right ratio? And is Love this ratio, or is it some other thing distinct from the ratio? Such are the difficulties which these theories present. And if the soul is a different thing from the mixture, why is it destroyed at the same time as that which constitutes the flesh and the other parts of the living animal? Besides this, if each of the parts has not a separate

408 a

εἴπερ μὴ ἕκαστον τῶν μορίων ψυχὴν ἔχει, εἰ μὴ
ἔστιν ἢ ψυχὴ ὁ λόγος τῆς μίξεως, τί ἔστιν ὃ
φθείρεται τῆς ψυχῆς ἀπολειπούσης;

Ὅτι μὲν οὖν οὐθ' ἀρμονίαν οἶόν τ' εἶναι τὴν
80 ψυχὴν οὔτε κύκλῳ περιφέρεσθαι, δῆλον ἐκ τῶν
εἰρημένων. κατὰ συμβεβηκὸς δὲ κινεῖσθαι, καθ-
άπερ εἴπομεν, ἔστι καὶ κινεῖν ἑαυτήν, οἷον κινεῖσθαι
μὲν ἐν ᾧ ἔστί, τοῦτο δὲ κινεῖσθαι ὑπὸ τῆς ψυχῆς·
ἄλλως δ' οὐχ οἶόν τε κινεῖσθαι κατὰ τόπον αὐτήν.

Εὐλογώτερον δ' ἀπορήσειεν ἂν τις περὶ αὐτῆς ὡς
408 b κινουμένης, εἰς τὰ τοιαῦτα ἀποβλέψας. φαμέν γὰρ
τὴν ψυχὴν λυπεῖσθαι χαίρειν θαρρεῖν φοβεῖσθαι,
ἔτι δὲ ὀργίζεσθαι τε καὶ αἰσθάνεσθαι καὶ διανοεῖ-
σθαι· ταῦτα δὲ πάντα κινήσεις εἶναι δοκοῦσιν.
5 ὅθεν οἰηθεῖται τις ἂν αὐτὴν κινεῖσθαι· τὸ δ' οὐκ ἔστιν
ἀναγκαῖον· εἰ γὰρ καὶ ὅτι μάλιστα τὸ λυπεῖσθαι ἢ
χαίρειν ἢ διανοεῖσθαι κινήσεις εἰσὶ, καὶ ἕκαστον
κινεῖσθαι τούτων, τὸ δὲ κινεῖσθαι ἔστιν ὑπὸ τῆς
ψυχῆς, οἷον τὸ ὀργίζεσθαι ἢ φοβεῖσθαι τὸ¹ τὴν καρ-
δίαν ὡδὶ κινεῖσθαι, τὸ δὲ διανοεῖσθαι ἢ τὸ τοῦτο²
10 ἴσως ἢ ἕτερόν τι (τούτων δὲ συμβαίνει τὰ μὲν
κατὰ φοράν τινῶν κινουμένων, τὰ δὲ κατ' ἀλ-
λοίωσιν. ποῖα δὲ καὶ πῶς, ἕτερός ἐστι λόγος).
τὸ δὲ λέγειν ὀργίζεσθαι τὴν ψυχὴν ὅμοιον κἂν εἴ
τις λέγοι τὴν ψυχὴν ὑφαίνειν ἢ οἰκοδομεῖν· βέλτιον
γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ
15 διανοεῖσθαι, ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ. τοῦτο
δὲ μὴ ὡς ἐν ἐκείνῃ τῆς κινήσεως οὔσης, ἀλλ' ὅτε
μὲν μέχρι ἐκείνης, ὅτε δ' ἀπ' ἐκείνης, οἷον ἢ μὲν

¹ τὸ V, Bonitz : τῷ.² τὸ τοῦτο Bonitz : τοιοῦτον.

soul of its own, and if the soul is not the ratio of the mixture, what is it which perishes when the soul leaves the body?

It is clear from what has been said that the soul cannot be a harmony, nor can it revolve in a circle. It is, however, possible, as we have said, that it may be moved, and even move itself, incidentally (*e.g.*, that which contains it may be moved, and be moved by the soul); but in no other sense can it move in space.

The following considerations suggest even more reasonable criticisms of the theory that the soul moves. We say that the soul grieves, rejoices, is courageous, or afraid, and also grows angry, perceives and thinks; all these seem to be movements; hence one might suppose that the soul is moved; but this is not a necessary inference. Let us grant that grief, joy and thinking are all movements, *i.e.*, that each of them is a process of being moved; let us further admit that the movement is caused by the soul—*e.g.*, that anger and fear are particular movements of the heart, and that thinking is a movement of this or of something else, some of these processes involving change of place and others change of quality in certain parts (of what parts and under what conditions need not be considered now): still to say that the soul gets angry is as if one were to say that the soul weaves or builds a house. Probably it is better not to say that the soul pities, or learns, or thinks, but to say rather that the soul is the instrument whereby man does these things; that is to say, that the movement does not take place in the soul, but sometimes penetrates to it, and sometimes starts from it. For instance perception starts from particular objects and reaches

Summary.

Further difficulties about the soul's movement.

αἰσθησις ἀπὸ τωνδὶ, ἢ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς.

Ὁ δὲ νοῦς ἔοικεν ἐγγίνεσθαι οὐσία τις οὐσα, καὶ οὐ φθείρεσθαι. μάλιστα γὰρ ἐφθείρετ' ἂν ὑπὸ τῆς ἐν τῷ γήρα ἀμαυρώσεως, νῦν δ' ἴσως ὅπερ ἐπὶ τῶν αἰσθητηρίων συμβαίνει· εἰ γὰρ λάβοι ὁ πρεσβύτης ὄμμα τοιονδί, βλέποι ἂν ὡσπερ καὶ ὁ νέος. ὥστε τὸ γήρας οὐ τῷ τὴν ψυχὴν τι πεπονθέναι, ἀλλ' ἐν ᾧ, καθάπερ ἐν μέθαις καὶ νόσοις. καὶ τὸ νοεῖν δὴ καὶ τὸ θεωρεῖν μαραίνεται ἄλλου τινὸς ἔσω φθειρομένου, αὐτὸ δὲ ἀπαθές ἐστιν. τὸ δὲ διανοεῖσθαι καὶ φιλεῖν ἢ μισεῖν οὐκ ἔστιν ἐκείνου πάθη, ἀλλὰ τουδὶ τοῦ ἔχοντος ἐκείνο, ἢ ἐκείνο ἔχει. διὸ καὶ τούτου φθειρομένου οὔτε μνημονεύει οὔτε φιλεῖ· οὐ γὰρ ἐκείνου ἦν, ἀλλὰ τοῦ κοινού, ὃ ἀπόλωλεν· ὁ δὲ νοῦς ἴσως θεϊότερόν τι καὶ ἀπαθές ἐστιν. ὅτι μὲν οὖν οὐχ οἶόν τε κινεῖσθαι τὴν ψυχὴν, φανερόν ἐκ τούτων· εἰ δ' ὅλως μὴ κινεῖται, δηλὸν ὡς οὐδ' ὑφ' ἑαυτῆς.

Πολὸν δὲ τῶν εἰρημένων ἀλογώτατον τὸ λέγειν ἀριθμὸν εἶναι τὴν ψυχὴν κινουῦνθ' ἑαυτόν· ὑπάρχει γὰρ αὐτοῖς ἀδύνατα^α πρῶτα μὲν τὰ ἐκ τοῦ κινεῖσθαι συμβαίνοντα, ἰδίᾳ δ' ἐκ τοῦ λέγειν αὐτὴν ἀριθμόν· πῶς γὰρ χρή νοῆσαι μονάδα κινουμένην, καὶ ὑπὸ τίνος, καὶ πῶς, ἀμερῆ καὶ ἀδιάφορον οὖσαν; εἰ γὰρ ἐστι κινητικὴ καὶ κινητὴ, διαφέρειν δεῖ. ἔτι

^a This is the theory of Xenocrates, a contemporary of Aristotle, who succeeded Speusippus as head of the "Academy."

the soul; recollection starts from the soul and extends to the movements or resting points in the sense organs.

But mind seems to be an independent substance engendered in us, and to be imperishable. ^{Does the soul perish?} If it could be destroyed the most probable cause would be the feebleness of old age, but, in fact, probably the same thing occurs as in the sense organs; for if an old man could acquire the right kind of eye, he would see as a young man sees. Hence old age is due to an affection, not of the soul, but only of that in which the soul resides, as in the case in drunkenness and disease. Thus the power of thought and speculation decays because something else within perishes, but itself it is unaffected. Thinking, loving and hating, are affections not of the mind, but rather of the individual which possesses the mind, in so far as it does so. Memory and love fail when this perishes; for they were never part of the mind, but of the whole entity which has perished. Presumably the mind is something more divine, and is unaffected. It is then obvious from these considerations that the soul cannot be moved; and, if it cannot be moved at all, it is obviously not moved by itself.

But of all the unreasonable theories about the soul the most unreasonable is that which calls the soul a number which moves itself.^a ^{The soul as a self-moving number.} In this theory there are inherent impossibilities, first those which are implied by the theory of the soul's being moved, and also special ones which follow from calling the soul a number. For (1) how can one conceive of a unit moving? by what is it moved, and in what way, being as it is without parts or differences? For if it can cause and suffer movement it must have differences.

409^a δ' ἐπεὶ φασὶ κινηθεῖσαν γραμμὴν ἐπίπεδον ποιεῖν,
 5 στιγμὴν δὲ γραμμὴν, καὶ αἱ τῶν μονάδων κινήσεις
 γραμμαὶ ἔσσονται· ἡ γὰρ στιγμή μονάς ἐστὶ θέσιν
 ἔχουσα· ὁ δ' ἀριθμὸς τῆς ψυχῆς ἤδη ποῦ ἐστὶ καὶ
 θέσιν ἔχει. ἔτι δ' ἀριθμοῦ μὲν εἰς ἀφέλην τις
 ἀριθμὸν ἢ μονάδα, λείπεται ἄλλος ἀριθμὸς· τὰ δὲ
 φυτὰ καὶ τῶν ζώων πολλὰ διαιρούμενα ζῆ, καὶ
 10 δοκεῖ τὴν αὐτὴν ψυχὴν ἔχειν τῷ εἶδει. δόξειε δ'
 ἂν οὐθὲν διαφέρειν μονάδας λέγειν ἢ σωματῖα
 μικρά· καὶ γὰρ ἐκ τῶν Δημοκρίτου σφαιρίων εἰς
 γένωνται στιγμαί, μόνον δὲ μένη τὸ ποσόν, ἔσται
 τι ἐν αὐτῷ τὸ μὲν κινεῖν τὸ δὲ κινούμενον, ὥσπερ
 ἐν τῷ συνεχεῖ· οὐ γὰρ διὰ τὸ μεγέθει διαφέρειν ἢ
 15 μικρότητι συμβαίνει τὸ λεχθέν, ἀλλ' ὅτι ποσόν.
 διὸ ἀναγκαῖον εἶναι τι τὸ κινήσον τὰς μονάδας.
 εἰ δ' ἐν τῷ ζῳῷ τὸ κινεῖν ἢ ψυχὴ, καὶ ἐν τῷ
 ἀριθμῷ, ὥστε οὐ τὸ κινεῖν καὶ τὸ κινούμενον ἢ
 ψυχὴ, ἀλλὰ τὸ κινεῖν μόνον. ἐνδέχεται δὲ ἰδὴ
 πῶς μονάδα ταύτην εἶναι;¹ δεῖ γὰρ ὑπάρχειν τιὰ
 20 αὐτῇ διαφορὰν πρὸς τὰς ἄλλας· στιγμῆς δὲ μονα-
 δικῆς τίς ἂν εἴη διαφορὰ πλὴν θέσις; εἰ μὲν οὖν
 εἰσὶν ἕτεραι αἱ ἐν τῷ σώματι μονάδες καὶ αἱ
 στιγμαί, ἐν τῷ αὐτῷ ἔσσονται αἱ μονάδες· καθέξει
 γὰρ χώραν στιγμῆς. καίτοι τί κωλύει ἐν τῷ
 αὐτῷ εἶναι, εἰ δύο, καὶ ἀπείρους; ὦν γὰρ ὁ τόπος
 25 ἀδιαίρετος, καὶ αὐτά. εἰ δ' αἱ ἐν τῷ σώματι
 στιγμαὶ ὁ ἀριθμὸς ὁ τῆς ψυχῆς, ἢ εἰ ὁ ἐκ τῶν ἐν
 τῷ σώματι στιγμῶν ἀριθμὸς ἢ ψυχὴ, διὰ τί οὐ

¹ δὴ πῶς . . . εἶναι. Bekker.

(2) Again, since they say that a moving line describes a surface, and a moving point a line, the movements of the soul's units will be lines. For a point is a unit having position; and the number of the soul is *ipso facto* somewhere, and has position. (3) Now, if one subtracts a number or unit from a number, another number is left. But plants and many animals continue to live even when divided, and seem to retain in these fragments a soul specifically the same as before. It would seem to make no difference whether we speak of units or of minute particles; for if we suppose Democritus's spherical atoms to be converted into points and to retain nothing but their quantitative nature, there will still be in each of them something which moves and something which is moved, just as in a continuum. For what we have mentioned does not occur through any difference of size in the atoms, but because they possess quantity. There must, then, be something to give movement to the units. But if that which produces movement in the animal is the soul, then it is also so in the number, so that the soul is not both that which produces movement and that which is moved, but only that which produces movement. But how can this possibly be a unit? Such a unit must differ inherently from the others. But what difference can a unit which is a point exhibit, except position? If then the soul-units in the body are different from the points in the body, the former will be in the same place as the latter, for each will occupy the place of a point. And yet if two units can be in the same place, why not an infinite number? for things which occupy an indivisible space are themselves indivisible. But if the bodily points are identical with the units of the soul number, or if the number of bodily points is the soul, why do not

409 a πάντα ψυχὴν ἔχουσι τὰ σώματα; στιγμαὶ γὰρ ἐν
 ἅπασιν δοκοῦσιν εἶναι καὶ ἄπειροι. ἔτι δὲ πῶς οἶόν
 τε χωρίζεσθαι τὰς στιγμάς¹ καὶ ἀπολύεσθαι τῶν
 30 σωμάτων, εἴ γε μὴ διαιροῦνται αἱ γραμμαὶ εἰς
 στιγμάς;

V. Συμβαίνει δέ, καθάπερ εἵπομεν, τῇ μὲν ταῦτό
 λέγειν τοῖς σώματι τι λεπτομερὲς αὐτὴν τιθεῖσι, τῇ
 409 b δ', ὡς περ Δημόκριτος κινεῖσθαι φησὶν ὑπὸ τῆς
 ψυχῆς, ἴδιον τὸ ἄτοπον· εἴπερ γὰρ ἔστιν ἡ ψυχὴ
 ἐν παντὶ τῷ αἰσθανομένῳ σώματι, ἀναγκαῖον ἐν
 τῷ αὐτῷ δύο εἶναι σώματα, εἴ σώματι ἡ ψυχὴ·
 τοῖς δ' ἀριθμὸν λέγουσιν, ἐν τῇ μιᾷ στιγμῇ πολ-
 5 λὰς στιγμάς ἢ πᾶν σῶμα ψυχὴν ἔχειν, εἴ μὴ
 διαφέρων τις ἀριθμὸς ἐγγίνεται καὶ ἄλλος τις τῶν
 ὑπαρχουσῶν ἐν τῷ σώματι στιγμῶν. συμβαίνει
 τε κινεῖσθαι τὸ ζῶον ὑπὸ τοῦ ἀριθμοῦ, καθάπερ
 καὶ Δημόκριτον ἔφαμεν αὐτὸ κινεῖν· τί γὰρ
 διαφέρει σφαίρας λέγειν σμικρὰς ἢ μονάδας μεγά-
 10 λας, ἢ ὅλως μονάδας φερομένας; ἀμφοτέρως γὰρ
 ἀναγκαῖον κινεῖν τὸ ζῶον τῷ κινεῖσθαι ταύτας.

Τοῖς δὲ συμπλέξασιν εἰς τὸ αὐτὸ κίνησιν καὶ
 ἀριθμὸν ταυτὰ τε συμβαίνει καὶ πολλὰ ἕτερα
 τοιαῦτα· οὐ γὰρ μόνον ὀρισμὸν ψυχῆς ἀδύνατον
 τοιοῦτον εἶναι, ἀλλὰ καὶ συμβεβηκός. δῆλον δ'
 15 εἴ τις ἐπιχειρήσειεν ἐκ τοῦ λόγου τούτου τὰ πάθη
 καὶ τὰ ἔργα τῆς ψυχῆς ἀποδιδόναι, οἷον λογισμούς,
 αἰσθήσεις, ἡδονάς, λύπας, ὅσα ἄλλα τοιαῦτα·
 ὡς περ γὰρ εἵπομεν πρότερον, οὐδὲ μαντεύσασθαι
 ῥᾶδιον ἐξ αὐτῶν.

¹ ψυχὰς STU.

all bodies have a soul? For there appear to be points
 —infinitely many, indeed—in all of them. And again
 how is it possible to separate the points and free them
 from the bodies, if lines cannot be resolved into
 points?

V. In effect, as we have said, this theory in one respect repeats the view of those who suppose the soul to be a body of fine particles, and in another, just as when Democritus states that the body is moved by the soul, it has an absurdity of its own. For if the soul exists in every part of the sentient body then there must be two bodies in the same place, if the soul is a body. And those who say that the soul is a number must believe that there are many points in one point, or else that every body has a soul, unless the number engendered in the body is different and distinct from the points already present in the body. And it follows that the living creature is moved by the number, just as we have already said that Democritus accounted for its movement; for what difference does it make whether we call them small spheres, or large units, or generally moving units? For in either case we can only account for the movement of the living creature by the movement of these particles.

These are some of the difficulties in the view which combines movement and number, and there are many others of a like nature; for this combination, so far from being a definition of the soul, cannot even be one of its attributes. And this will become clear to anyone, if he tries on this theory to give an explanation of the affections and functions of the soul, such as calculations, perceptions, pleasures, pains, and so on; for, as we have said before, on these lines it is not easy even to conjecture an explanation.

Xeno-
 crates'
 theory
 further
 criticized.

Conclusion.

Τριῶν δὲ τρόπων παραδεδομένων καθ' οὓς
 30 ὀρίζονται τὴν ψυχὴν, οἱ μὲν τὸ κινητικώτατον
 ἀπεφήναντο τῷ κινεῖν ἑαυτό, οἱ δὲ σῶμα τὸ λε-
 πτομερέστατον ἢ τὸ ἀσωματώτατον τῶν ἄλλων.
 ταῦτα δὲ τίνας ἀπορίας τε καὶ ὑπεναντιώσεις ἔχει,
 διεληλύθαμεν σχεδόν. λείπεται δ' ἐπισκέψασθαι
 πῶς λέγεται τὸ ἐκ τῶν στοιχείων αὐτὴν εἶναι.
 35 λέγουσι μὲν γάρ, ἵν' αἰσθάνηται τε τῶν ὄντων
 καὶ ἕκαστον γνωρίζῃ, ἀναγκαῖον δὲ συμβαίνειν
 πολλὰ καὶ ἀδύνατα τῷ λόγῳ· τίθενται γὰρ γνωρίζειν
 τῷ ὁμοίῳ τὸ ὅμοιον, ὥσπερ ἂν εἰ τὴν ψυχὴν τὰ
 πράγματα τίθεντες. οὐκ ἔστι δὲ μόνα ταῦτα,
 40 πολλὰ δὲ καὶ ἕτερα, μᾶλλον δ' ἴσως ἄπειρα τὸν
 ἀριθμόν, τὰ ἐκ τούτων. ἐξ ὧν μὲν οὖν ἔστιν
 ἕκαστον τούτων, ἔστω γινώσκειν τὴν ψυχὴν καὶ
 αἰσθάνεσθαι· ἀλλὰ τὸ σύνολον τίτι γνωριεῖ ἢ
 αἰσθήσεται, οἷον τί θεὸς ἢ ἄνθρωπος ἢ σὰρξ ἢ
 410 α ὄστούν; ὁμοίως δὲ καὶ ἄλλο ὅτιοῦν τῶν συνθέτων·
 οὐ γὰρ ὀπωσοῦν ἔχοντα τὰ στοιχεῖα τούτων ἕκα-
 στον, ἀλλὰ λόγῳ τινὶ καὶ συνθέσει, καθάπερ φησὶ
 καὶ Ἐμπεδοκλῆς τὸ ὄστούν·

ἢ δὲ χθῶν ἐπίηρος ἐν εὐστέροισι χοάνοισιν
 5 τῷ¹ δύο τῶν ὀκτῶ μερέων λάχε νήστιδος αἴγλης,
 τέσσαρα δ' Ἡφαίστοιο· τὰ δ' ὄστέα λεύκ'
 ἐγένοντο.

οὐδὲν οὖν ὄφελος εἶναι τὰ στοιχεῖα ἐν τῇ ψυχῇ, εἰ
 μὴ καὶ οἱ λόγοι ἐνέσσονται καὶ ἡ σύνθεσις· γνωριεῖ
 γὰρ ἕκαστον τὸ ὅμοιον, τὸ δ' ὄστούν ἢ τὸν ἄνθρω-

¹ τῷ Torstrik, Biehl¹, Rodier, Diels: τῶν E¹STUXy, comm.
 vett., Biehl²: τὰ E²V, Bekker.

Three methods of defining the soul have come down to us; some have regarded it as the principal cause of movement, because it moves itself; others have described the soul as composed of the finest particles, or as the least corporeal of all bodies. We have pretty well exhausted the difficulties and contradictions which these two definitions involve. But it remains to see what is meant by saying that the soul is composed of the elements. This theory is intended to account for the soul's perception and cognition of everything that is, but the theory necessarily involves many impossibilities; its supporters assume that like is recognized by like, as though they thus identified the soul with the things it knows. But these elements are not the only things existing; there are many—to be more exact, infinitely many—other things, composed of the elements. Granted that the soul might know and perceive the elements of which each of these things is composed; yet by what will it perceive and know a composite whole: *e.g.*, what god, man, flesh, or bone is? and similarly any other compound whole; for such wholes do not consist of the elements arranged at random, but in a certain ratio and with some principle of composition, as Empedocles says in his description of bone:

“The kindly earth in broad-bosomed crucibles got two of the eight parts from the gleam of moisture, and four from Hephaestus; and bones come into being all white.”

It is then no use for the elements to exist in the soul, unless the ratios and the principle of composition also exist in it; for each element will recognize its like, but there will be nothing in the soul to recognize

The soul
 as a com-
 pound of
 the ele-
 ments.

410 a

10 πον οὐθέν, εἰ μὴ καὶ ταῦτ' ἐνέσται. τοῦτο δ' ὅτι ἀδύνατον, οὐθέν δεῖ λέγειν· τίς γὰρ ἂν ἀπορήσειεν εἰ ἐνεστιν ἐν τῇ ψυχῇ λίθος ἢ ἄνθρωπος; ὁμοίως δὲ καὶ τὸ ἀγαθὸν καὶ τὸ μὴ ἀγαθόν. τὸν αὐτὸν δὲ τρόπον καὶ περὶ τῶν ἄλλων.

"Ἐτι δὲ πολλαχῶς λεγομένου τοῦ ὄντος (σημαίνει γὰρ τὸ μὲν τόδε τι, τὸ δὲ ποσὸν ἢ ποιὸν ἢ καὶ 15 τινα ἄλλην τῶν διαιρηθεισῶν κατηγοριῶν) πότερον ἐξ ἀπάντων ἔσται ἢ ψυχὴ ἢ οὐ; ἀλλ' οὐ δοκεῖ κοινὰ πάντων εἶναι στοιχεῖα. ἄρ' οὖν ὅσα τῶν οὐσιῶν ἐκ τούτων μόνον; πῶς οὖν γινώσκει καὶ τῶν ἄλλων ἕκαστον; ἢ φήσουσιν ἕκαστου γένους εἶναι στοιχεῖα καὶ ἀρχὰς ἰδίας, ἐξ ὧν τὴν ψυχὴν 20 συνεστάναι; ἔσται ἄρα ποσὸν καὶ ποιὸν καὶ οὐσία. ἀλλ' ἀδύνατον ἐκ τῶν τοῦ ποσοῦ στοιχείων οὐσίαν εἶναι καὶ μὴ ποσόν. τοῖς δὲ λέγουσιν ἐκ πάντων ταῦτά τε καὶ τοιαῦθ' ἕτερα συμβαίνει. ἄτοπον δὲ καὶ τὸ φάναι μὲν ἀπαθὲς εἶναι τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου, αἰσθάνεσθαι δὲ τὸ ὅμοιον τοῦ ὁμοίου καὶ 25 γινώσκειν τῷ ὁμοίῳ τὸ ὅμοιον. τὸ δ' αἰσθάνεσθαι πάσχειν τι καὶ κινεῖσθαι τιθέασιν· ὁμοίως δὲ καὶ τὸ νοεῖν τε καὶ γινώσκειν.

Πολλὰς δ' ἀπορίας καὶ δυσχερείας ἔχοντος τοῦ λέγειν, καθάπερ Ἐμπεδοκλῆς, ὡς τοῖς σωματικοῖς στοιχείοις ἕκαστα γνωρίζεται καὶ πρὸς τὸ ὅμοιον, 30 μαρτυρεῖ τὸ νῦν λεχθέν· ὅσα γὰρ ἐνεστιν ἐν τοῖς 410 b τῶν ζώων σώμασιν ἀπλῶς γῆς, οἷον ὅσα νεῦρα τρίχες, οὐθενὸς αἰσθάνεσθαι δοκεῖ, ὥστ' οὐδὲ τῶν ὁμοίων· καίτοι προσῆκεν. ἔτι δ' ἕκαστη τῶν

^a So that the soul can know other categories besides that of substance.

^b Sc., in the soul.

bone, for instance, or man, unless they too exist in it. But it is unnecessary to say that this is impossible. For who could seriously ask whether there is a stone or a man in the soul? The same argument applies to good and not-good; and so with all the rest.

Again, the word "being" has many senses; it is applied to substance, quantity, quality, or any other of the categories which we have distinguished. Will the soul consist of all of these or not? The categories cannot surely all have common elements. Does the soul then consist only of those elements which compose substances? How then is it to know each of the other categories? Will they maintain that every genus has its peculiar elements and principles, and that the soul is composed of all of these? ^a In that case it will be quantity, quality, and substance. But it is impossible that that which is composed of the elements of quantity should be a substance and not a quantity. Those who say that the soul is composed of all the elements are confronted with these and similar difficulties. It is also unreasonable to say on the one hand that like is not acted on by like, and on the other that like perceives and recognizes like by like; but they regard perceiving as a form of being acted upon and moved, and similarly with thinking and knowing.

There are many obscurities and difficulties in saying, as Empedocles does, that each class of things is known by its corporeal elements, and by reference to its like, ^b as is further testified by this fresh argument. For in the bodies of living creatures all the parts which are composed simply of earth, such as bone, sinews, and hair, seem to have no perception at all, and so cannot perceive their like; and yet on this theory they should do so. Again, in each of these

Difficulties in the theory.

Problems arising from Empedocles' theory.

ἀρχῶν ἄγνοια πλείων ἢ σύνεσις ὑπάρξει· γνώσεται
 μὲν γὰρ ἐν ἕκαστον, πολλὰ δ' ἀγνοήσει· πάντα
 5 γὰρ τάλλα· συμβαίνει δ' Ἐμπεδοκλεῖ γε καὶ
 ἀφρονέστατον εἶναι τὸν θεόν· μόνος γὰρ τῶν στοι-
 χείων ἐν οὐ γνωριεῖ, τὸ νεῖκος, τὰ δὲ θνητὰ πάντα·
 ἐκ πάντων γὰρ ἕκαστον· ὅλως τε διὰ τίν' αἰτίαν
 οὐχ ἅπαντα ψυχὴν ἔχει τὰ ὄντα, ἐπειδὴ πᾶν ἢ
 στοιχείου ἢ ἐκ στοιχείου ἑνὸς ἢ πλειόνων ἢ πάντων;
 10 ἀναγκαῖον γὰρ ἔστιν ἐν τι γνώσκειν ἢ τινα ἢ
 πάντα· ἀπορήσειε δ' ἂν τις καὶ τί ποτ' ἔστι τὸ
 ἐνοποιοῦν αὐτά· ὕλη γὰρ ἔοικε τά γε στοιχεῖα·
 κυριώτατον γὰρ ἐκείνο τὸ συνέχον ὃ τί ποτ' ἔστιν·
 τῆς δὲ ψυχῆς εἶναι τι κρείττον καὶ ἄρχον ἀδύνατον·
 ἀδυνατώτερον δ' ἔτι τοῦ νοῦ· εὐλογον γὰρ τοῦτον
 15 εἶναι προγενέστατον καὶ κύριον κατὰ φύσιν, τὰ δὲ
 στοιχεῖά φασι πρῶτα τῶν ὄντων εἶναι.

Πάντες δὲ καὶ οἱ διὰ τὸ γνωρίζειν καὶ αἰσθάνε-
 σθαι τὰ ὄντα τὴν ψυχὴν ἐκ τῶν στοιχείων λέγοντες
 αὐτήν, καὶ οἱ τὸ κινητικώτατον, οὐ περὶ πάσης
 λέγουσι ψυχῆς· οὔτε γὰρ τὰ αἰσθανόμενα πάντα
 20 κινητικά· φαίνεται γὰρ εἶναι τινα μόνιμα τῶν ζώων
 κατὰ τόπον, καίτοι δοκεῖ γε ταύτην μόνην τῶν
 κινήσεων κινεῖν ἢ ψυχὴ τὸ ζῶον· ὁμοίως δὲ καὶ
 ὅσοι τὸν νοῦν καὶ τὸ αἰσθητικὸν ἐκ τῶν στοιχείων
 ποιοῦσιν· φαίνεται γὰρ τά τε φυτὰ ζῆν οὐ μετ-
 έχοντα φορᾶς οὐδ' αἰσθήσεως, καὶ τῶν ζώων πολλὰ

first principles there will be more ignorance than understanding; for each will know one thing, but will be ignorant of many, in fact of everything else. On Empedocles' view at least it follows that God must be most unintelligent; for He alone will be ignorant of one of these elements, namely strife, whereas mortal creatures will know them all; for each individual is composed of them all. In general also, why have not all existing things a soul, since everything is an element, or composed of an element, or of more than one, or of all? For each of them must know one thing, or some things, or all things. There would be a further difficulty in deciding what is the unifying principle, for the elements correspond to matter, and the force, whatever it is, which combines them is supreme; but it is impossible that anything should be superior to and control the soul, or (*a fortiori*) the mind; for it is reasonable to suppose that the mind is by nature original and dominant, but they say that the elements are the first of all existing things.

All those too who describe the soul as composed of the elements, because it knows and perceives existing things, and equally those who call it the chief cause of motion, fail to offer an explanation which will cover every soul. For not everything which has sensation has movement also; for instance some living things seem to be stationary in space; and yet this seems to be the only kind of movement which the soul imparts to the living creature. The same difficulty arises for those who construct the mind and the perceptive faculty out of the elements; for plants seem to live without sharing in locomotion or in perception, and many living animals have no power

The defini-
 tion will
 not cover
 all the facts.

410 b
 25 διάνοιαν οὐκ ἔχειν. εἰ δέ τις καὶ ταῦτα παρα-
 χωρήσειε, καὶ θείη τὸν νοῦν μέρος τι τῆς ψυχῆς,
 ὁμοίως δὲ καὶ τὸ αἰσθητικόν, οὐδ' ἂν οὕτω λέγοιεν
 καθόλου περὶ πάσης ψυχῆς οὐδὲ περὶ ὅλης οὐδὲ
 μιᾶς. τοῦτο δὲ πέπονθε καὶ ὁ ἐν τοῖς Ὀρφικοῖς
 ἔπεσι καλουμένοις λόγος· φησὶ γὰρ τὴν ψυχὴν ἐκ
 30 τοῦ ὄλου εἰσιέναι ἀναπνεόντων, φερομένην ὑπὸ τῶν
 ἀνέμων. οὐχ οἶόν τε δὴ τοῖς φυτοῖς τοῦτο συμβαί-
 411 a νειν οὐδὲ τῶν ζώων ἐνίοις, εἴπερ μὴ πάντα ἀνα-
 πνεύουσιν. τοῦτο δὲ λέληθε τοὺς οὕτως ὑπειληφό-
 τας. εἴ τε δεῖ τὴν ψυχὴν ἐκ τῶν στοιχείων ποιεῖν,
 οὐθὲν δεῖ ἐξ ἀπάντων· ἱκανὸν γὰρ θάτερον μέρος
 τῆς ἐναντιώσεως ἑαυτοῦ τε κρίνειν καὶ τὸ ἀντικεί-
 5 μενον. καὶ γὰρ τῷ εὐθεί καὶ αὐτὸ καὶ τὸ καμπύλον
 γινώσκωμεν· κριτῆς γὰρ ἀμφοῖν ὁ κανὼν, τὸ δὲ
 καμπύλον οὐθ' ἑαυτοῦ οὔτε τοῦ εὐθέος. καὶ ἐν τῷ
 ὄλῳ δὲ τινες αὐτὴν μεμιχθαί φασιν, ὅθεν ἴσως καὶ
 Θαλῆς ᾤθηται πάντα πλήρη θεῶν εἶναι. τοῦτο δ'
 ἔχει τινὰς ἀπορίας· διὰ τίνα γὰρ αἰτίαν ἐν μὲν τῷ
 10 ἀέρι ἢ τῷ πυρὶ οὔσα ἡ ψυχὴ οὐ ποιεῖ ζῶον, ἐν δὲ
 τοῖς μικτοῖς, καὶ ταῦτα βελτίων ἐν τούτοις εἶναι
 δοκοῦσα; ἐπιζητήσειε γὰρ ἂν τις καὶ διὰ τίν'
 αἰτίαν ἢ ἐν τῷ ἀέρι ψυχὴ τῆς ἐν τοῖς ζώοις
 βελτίων ἐστὶ καὶ ἀθανατωτέρα. συμβαίνει δ'
 ἀμφοτέρως ἄτοπον καὶ παράλογον· καὶ γὰρ τὸ
 15 λέγειν ζῶον τὸ πῦρ ἢ τὸν ἀέρα τῶν παραλογω-
 τέρων ἐστὶ, καὶ τὸ μὴ λέγειν ζῶα ψυχῆς ἐνούσης
 ἄτοπον. ὑπολαβεῖν δ' εἰκόασιν εἶναι τὴν ψυχὴν

of thinking. But supposing one were to let this too
 pass, and assume that the mind is part of the soul, and
 similarly the perceptive faculty : not even so would
 their account hold good generally of every soul, or
 of the whole of any one soul. The theory in the
 so-called poems of Orpheus presents the same diffi-
 culty ; for this theory alleges that the soul, borne by
 the winds, enters from the universe into animals
 when they breathe. Now this cannot happen to
 plants, nor to some animals, since they do not all
 breathe : a point which has escaped those who sup-
 port this theory. And if we are to construct the
 soul out of the elements, it is quite unnecessary that
 it should be composed of all the elements ; for only
 one of a pair of contraries is needed to discern both
 itself and its opposite. For instance, by that which is
 straight we discern both straight and crooked ; for
 the carpenter's rule is the test of both, but the crooked
 tests neither itself nor the straight. Some think that
 the soul pervades the whole universe, whence perhaps
 came Thales' view that everything is full of gods.
 But this theory contains certain difficulties ; for why
 does not the soul make an animal when it is in air or
 in fire, but only when it is in a mixture of the elements,
 and that too though it seems to be in a purer form in
 the first case ? (One might also ask why the soul in
 the air is purer and less mortal than the soul in living
 creatures.) Either way the conclusion is absurd and
 irrational ; for to describe fire or air as living creatures
 is highly irrational, and yet to refuse to call them
 living creatures, if there is a soul in them, is absurd.
 They appear to suppose that soul is found in these

411 a

ἐν τούτοις, ὅτι τὸ ὅλον τοῖς μορίοις ὁμοειδές. ὥστ' ἀναγκαῖον αὐτοῖς λέγειν καὶ τὴν ψυχὴν ὁμοειδῆ τοῖς μορίοις εἶναι, εἰ τῷ ἀπολαμβάνεσθαι τι τοῦ περιέχοντος ἐν τοῖς ζώοις ἔμφυχα τὰ ζῶα γίνεται. εἰ δ' ὁ μὲν ἀὴρ διασπώμενος ὁμοειδής, ἡ δὲ ψυχὴ ἀνομοιομερής, τὸ μὲν τι αὐτῆς ὑπάρξει δῆλον ὅτι, τὸ δ' οὐχ ὑπάρξει. ἀναγκαῖον οὖν αὐτὴν ἢ ὁμοιομερῆ εἶναι ἢ μὴ ἐνυπάρχειν ἐν ὁμοίῳ τοῦ παντός.

Φανερόν οὖν ἐκ τῶν εἰρημένων ὡς οὔτε τὸ
25 γινώσκειν ὑπάρχει τῇ ψυχῇ διὰ τὸ ἐκ τῶν στοιχειῶν εἶναι, οὔτε τὸ κινεῖσθαι αὐτὴν καλῶς οὐδ' ἀληθῶς λέγεται. ἐπεὶ δὲ τὸ γινώσκειν τῆς ψυχῆς ἐστὶ καὶ τὸ αἰσθάνεσθαι τε καὶ τὸ δοξάζειν, ἔτι δὲ τὸ ἐπιθυμεῖν καὶ βούλεσθαι καὶ ὅλως αἱ ὀρέξεις, γίνεται δὲ καὶ ἡ κατὰ τόπον κίνησις τοῖς ζώοις
30 ὑπὸ τῆς ψυχῆς, ἔτι δ' αὔξη τε καὶ ἀκμὴ καὶ
411 b φθίσις, πότερον ὅλη τῇ ψυχῇ τούτων ἕκαστον ὑπάρχει, καὶ πάσῃ νοοῦμέν τε καὶ αἰσθανόμεθα καὶ τῶν ἄλλων ἕκαστον ποιούμεν τε καὶ πάσχομεν, ἢ μορίοις ἑτέροις ἕτερα; καὶ τὸ ζῆν δὴ πότερον ἐν τινι τούτων ἐστὶν ἐνὶ ἢ καὶ ἐν πλείοσιν
5 ἢ πᾶσιν, ἢ καὶ ἄλλο τι αἷτιον; λέγουσι δὲ τινες μεριστὴν αὐτὴν, καὶ ἄλλω μὲν νοεῖν ἄλλω δὲ ἐπιθυμεῖν. τί οὖν δὴ ποτε συνέχει τὴν ψυχὴν, εἰ μεριστὴ πέφυκεν; οὐ γὰρ δὴ τό γε σῶμα· δοκεῖ γὰρ τοῦναντίον μᾶλλον ἢ ψυχῇ τὸ σῶμα συνέχειν. ἐξελεύσεως γοῦν διαπνεῖται καὶ σήπεται. εἰ οὖν
10 ἕτερόν τι μίαν αὐτὴν ποιεῖ, ἐκείνο μάλιστα ἂν εἴη ψυχῇ. δεήσει δὲ καὶ πάλιν κἀκεῖνο ζητεῖν, πότερον

62

elements, on the ground that a whole is homogeneous with its parts; so they are compelled to say that the soul also is homogeneous with its parts, if living creatures become possessed of soul because some part of the surrounding air is cut off and enclosed in them. But if the air detached is homogeneous, while the soul has parts of different kinds, then evidently although one part of the soul will be present in this air, another will not. So that either the soul must be of similar parts, or else it does not exist in any and every part of the universe.

From what has been said it is obvious that the faculty of knowing does not belong to the soul because it is composed of the elements, nor is it right or true to say that it is moved. But since knowing, perceiving, and the forming of opinions are operations of the soul, besides desiring, wishing, and the appetites in general, and again since movement in space is induced in living creatures by the soul, besides growth, maturity, and decay, does each of these belong to the soul as a whole? Do we think, perceive, and do or suffer everything else with the whole soul, or do some functions belong to one part and others to another? Does life reside in one or several or all of these parts or is something else the cause of it? Some say that the soul has parts, and thinks with one part, and desires with another. In this case what is it which holds the soul together, if it naturally consists of parts? Certainly not the body: on the contrary the soul seems rather to hold the body together; at any rate when the soul is gone the body dissolves into air and decays. If then some other thing gives the soul unity, this would really be the soul. But we shall have to inquire again, whether

Can the soul be divided into parts according to its functions?

63

ἐν ἢ πολυμερές. εἰ μὲν γὰρ ἓν, διὰ τί οὐκ εὐθέως
καὶ ἡ ψυχὴ ἓν; εἰ δὲ μεριστόν, πάλιν ὁ λόγος
ζητήσῃ τί τὸ συνέχον ἐκεῖνο, καὶ οὕτω δὴ πρόεισιν
ἐπὶ τὸ ἄπειρον. ἀπορήσειε δ' ἂν τις καὶ περὶ τῶν
15 μορίων αὐτῆς, τί ν' ἔχει δύναμιν ἕκαστον ἐν τῷ
σώματι. εἰ γὰρ ἡ ὅλη ψυχὴ πᾶν τὸ σῶμα συνέχει,
προσῆκει καὶ τῶν μορίων ἕκαστον συνέχειν τι τοῦ
σώματος. τοῦτο δ' ἔοικεν ἀδυνάτῳ· ποῖον γὰρ
μόριον ἢ πῶς ὁ νοῦς συνέξει, χαλεπὸν καὶ πλά-
σαι. φαίνεται δὲ καὶ τὰ φυτὰ διαιρούμενα ζῆν
20 καὶ τῶν ζώων ἕνια τῶν ἐντόμων, ὡς τὴν αὐτὴν
ἔχοντα ψυχὴν τῷ εἶδει, εἰ καὶ μὴ ἀριθμῶ· ἑκάτερον
γούν τῶν μορίων αἰσθησὶν ἔχει καὶ κινεῖται κατὰ
τόπον ἐπὶ τινα χρόνον. εἰ δὲ μὴ διατελοῦσιν, οὐθὲν
ἄτοπον· ὄργανα γὰρ οὐκ ἔχουσιν ὥστε σώζειν τὴν
φύσιν. ἀλλ' οὐδὲν ἥττον ἐν ἑκατέρῳ τῶν μορίων
25 ἅπαντ' ἐνυπάρχει τὰ μόρια τῆς ψυχῆς, καὶ ὁμοειδεῖς
εἰσὶν ἀλλήλαις¹ καὶ τῇ ὅλῃ, ἀλλήλων μὲν ὡς οὐ
χωριστὰ ὄντα, τῆς δ' ὅλης ψυχῆς ὡς διαιρετῆς
οὔσης. ἔοικε δὲ καὶ ἡ ἐν τοῖς φυτοῖς ἀρχὴ ψυχῆς
τις εἶναι· μόνης γὰρ ταύτης κοινωνεῖ καὶ ζῶα καὶ
30 φυτὰ. καὶ αὕτη μὲν χωρίζεται τῆς αἰσθητικῆς
ἀρχῆς, αἰσθησὶν δ' οὐθὲν ἄνευ ταύτης ἔχει.

¹ ὁμοειδῆ εἰσὶν ἀλλήλοις E²W, Bekker.

this is a unity or has many parts. If it is a unity, why should not the soul be directly described as a unit? And if it has parts, the progress of the argument will again demand to know what is its combining principle, and thus we shall proceed *ad infinitum*. There may also be some doubt about the parts of the soul, as to what is the function of each in the body. For if the soul as a whole holds together the whole body, it is natural that each of the parts should hold together some part of the body. But this seems impossible; for it is hard even to imagine what part the mind will hold together, or how it will do it. Moreover plants clearly live even when divided, and some of the insects also; which implies that the parts have a soul specifically if not numerically the same as that of the whole; at any rate each of the two parts has sensation and moves in space for some time. It is not at all surprising that they do not continue to do so; for they have not the organs necessary to maintain their natural state. But none the less all the parts of the soul are present in each of the two segments, and the two half-souls are homogeneous both with each other and with the whole; which implies that although the parts of the soul are inseparable from one another, the soul as a whole is divisible. The first principle in plants, too, seems to be a kind of soul; for this principle alone is common to both animals and plants. It can exist in separation from the sensitive principle, but nothing can have sensation without it.

412^a I. Τὰ μὲν δὴ ὑπὸ τῶν πρότερον παραδεδομένα περὶ
 ψυχῆς εἰρήσθω· πάλιν δ' ὡσπερ ἐξ ὑπαρχῆς ἐπ-
 5 ἀνιώμεν, πειρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς
 ἂν εἴη κοινότατος λόγος αὐτῆς. λέγομεν δὴ γένος
 ἔν τι τῶν ὄντων τὴν οὐσίαν, ταύτης δὲ τὸ μὲν ὡς
 ὕλην, ὃ καθ' αὐτὸ μὲν οὐκ ἔστι τόδε τι, ἕτερον δὲ
 μορφήν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε τι,
 καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη
 10 δύναμις, τὸ δ' εἶδος ἐντελέχεια, καὶ τοῦτο διχῶς,
 τὸ μὲν ὡς ἐπιστήμη, τὸ δ' ὡς τὸ θεωρεῖν. οὐσίαι
 δὲ μάλιστ' εἶναι δοκοῦσι τὰ σώματα, καὶ τούτων
 τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων ἀρχαί. τῶν δὲ
 φυσικῶν τὰ μὲν ἔχει ζωὴν, τὰ δ' οὐκ ἔχει· ζωὴν
 δὲ λέγομεν τὴν δι' αὐτοῦ τροφήν τε καὶ αὔξησιν
 15 καὶ φθίσιν. ὥστε πᾶν σῶμα φυσικὸν μετέχον
 ζωῆς οὐσία ἂν εἴη, οὐσία δ' οὕτως ὡς συνθέτη.
 ἐπεὶ δ' ἐστὶ σῶμα τοιόνδε, ζωὴν γὰρ ἔχον, οὐκ
 ἂν εἴη τὸ σῶμα ψυχὴ· οὐ γάρ ἐστι τῶν καθ'
 ὑποκειμένου τὸ σῶμα, μᾶλλον δ' ὡς ὑποκείμενον

^a If you have the capacity to acquire knowledge of a subject, you may be said to have potential knowledge of it, which will become actual by study. In another sense, if

I. The theories of the soul handed down by our predecessors have been sufficiently discussed; now ^{Definition of the soul.} let us start afresh, as it were, and try to determine what the soul is, and what definition of it will be most comprehensive. We describe one class of existing things as substance; and this we subdivide into three: (1) matter, which in itself is not an individual thing; (2) shape or form, in virtue of which individuality is directly attributed, and (3) the compound of the two. Matter is potentiality, while form is realization or actuality, and the word actuality is used in two senses, illustrated by the possession of knowledge and the exercise of it.^a Bodies seem to be pre-eminently substances, and most particularly those which are of natural origin; for these are the sources from which the rest are derived. But of natural bodies some have life and some have not; by life we mean the capacity for self-sustenance, growth, and decay. Every natural body, then, which possesses life must be substance, and substance of the compound type. But since it is a body of a definite kind, *viz.*, having life, the body cannot be soul, for the body is not something predicated of a subject, but rather is itself to be regarded as a sub-

you possess knowledge which you are not using, it may be called potential, actual only when you are using it.

412 a
 20 καὶ ὕλη. ἀναγκαῖον ἄρα τὴν¹ ψυχὴν οὐσίαν εἶναι
 ὡς εἶδος σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος.
 ἢ δ' οὐσία ἐντελέχεια. τοιούτου ἄρα σώματος
 ἐντελέχεια. αὕτη δὲ λέγεται διχῶς, ἢ μὲν ὡς
 ἐπιστήμη, ἢ δ' ὡς τὸ θεωρεῖν. φανερόν οὖν ὅτι
 ὡς ἐπιστήμη· ἐν γὰρ τῷ ὑπάρχειν τὴν ψυχὴν καὶ
 25 ὕπνος καὶ ἐγρήγορσις ἐστίν, ἀνάλογον δ' ἢ μὲν
 ἐγρήγορσις τῷ θεωρεῖν, ὁ δ' ὕπνος τῷ ἔχειν καὶ
 μὴ ἐνεργεῖν. προτέρα δὲ τῇ γενέσει ἐπὶ τοῦ αὐτοῦ
 ἢ ἐπιστήμη. διὸ ψυχὴ ἐστίν ἐντελέχεια ἢ πρώτη
 σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος. τοιοῦτο
 412 b δέ, ὃ ἂν ἢ ὀργανικόν. (ὄργανα δὲ καὶ τὰ τῶν
 φυτῶν μέρη, ἀλλὰ παντελῶς ἀπλά, οἷον τὸ φύλλον
 περικαρπίου σκέπασμα, τὸ δὲ περικάρπιον καρποῦ.
 αἱ δὲ ρίζαι τῷ στόματι ἀνάλογον· ἄμφω γὰρ ἔλκει
 τὴν τροφήν.) εἰ δὴ τι κοινὸν ἐπὶ πάσης ψυχῆς
 5 δεῖ λέγειν, εἴη ἂν ἐντελέχεια ἢ πρώτη σώματος
 φυσικοῦ ὀργανικοῦ. διὸ καὶ οὐ δεῖ ζητεῖν εἰ ἐν ἢ
 ψυχῇ καὶ τὸ σῶμα, ὥσπερ οὐδὲ τὸν κηρὸν καὶ τὸ
 σχῆμα, οὐδ' ὅλως τὴν ἐκάστου ὕλην καὶ τὸ οὐ
 ὕλη· τὸ γὰρ ἐν καὶ τὸ εἶναι ἐπεὶ πλεοναχῶς
 λέγεται, τὸ κυρίως ἢ ἐντελέχειά ἐστίν.
 10 Καθόλου μὲν οὖν εἴρηται τί ἐστίν ἢ ψυχῆ· οὐσία
¹ τὸν (sic) Bekker.

^o Every "substance" is composed of two factors—matter

ject, *i.e.*, as matter.^o So the soul must be substance in the sense of being the form of a natural body, which potentially has life. And substance in this sense is actuality. The soul, then, is the actuality of the kind of body we have described. But actuality has two senses, analogous to the possession of knowledge and the exercise of it. Clearly actuality in our present sense is analogous to the possession of knowledge; for both sleep and waking depend upon the presence of soul, and waking is analogous to the exercise of knowledge, sleep to its possession but not its exercise. Now in one and the same person the possession of knowledge comes first. The soul may therefore be defined as the first actuality of a natural body potentially possessing life; and such will be any body which possesses organs. (The parts of plants are organs too, though very simple ones: *e.g.*, the leaf protects the pericarp, and the pericarp protects the seed; the roots are analogous to the mouth, for both these absorb food.) If then one is to find a definition which will apply to every soul, it will be "the first actuality of a natural body possessed of organs." So one need no more ask whether body and soul are one than whether the wax and the impression it receives are one, or in general whether the matter of each thing is the same as that of which it is the matter; for admitting that the terms unity and being are used in many senses, the paramount sense is that of actuality.

We have, then, given a general definition of what and form; *e.g.* a billiard ball. Its matter is ivory, its form spherical. An animate body, then, as it is a substance, consists of matter and form. The body must be matter, for it is not itself an attribute, but has attributes. Therefore the soul is form.

The soul
as form.

412 b

γὰρ ἢ κατὰ τὸν λόγον. τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιῶδι σώματι, καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν ἦν σῶμα, οἷον πέλεκυς· ἦν γὰρ ἂν τὸ πελέκει εἶναι ἢ οὐσία αὐτοῦ, καὶ ἢ ψυχὴ τοῦτο· χωρισθείσης γὰρ ταύτης οὐκ ἂν ἔτι πέλεκυς ἦν, 15 ἀλλ' ἢ ὁμωνύμως. νῦν δ' ἐστὶ πέλεκυς· οὐ γὰρ τοιοῦτου σώματος τὸ τί ἦν εἶναι καὶ ὁ λόγος ἢ ψυχὴ, ἀλλὰ φυσικοῦ τοιοῦδι ἔχοντος ἀρχὴν κινήσεως καὶ στάσεως ἐν ἑαυτῷ. θεωρεῖν δὲ καὶ ἐπὶ τῶν μερῶν δεῖ τὸ λεχθέν. εἰ γὰρ ἦν ὁ ὀφθαλμὸς ζῶον, ψυχὴ ἂν ἦν αὐτοῦ ἢ ὄψις· αὕτη γὰρ οὐσία 20 ὀφθαλμοῦ ἢ κατὰ τὸν λόγον. ὁ δ' ὀφθαλμὸς ὕλη ὄψεως, ἣς ἀπολειπούσης οὐκ ἔστιν ὀφθαλμὸς, πλὴν ὁμωνύμως, καθάπερ ὁ λίθινος καὶ ὁ γεγραμμένος. δεῖ δὲ λαβεῖν τὸ ἐπὶ μέρους ἐφ' ὅλου τοῦ ζῶντος σώματος· ἀνάλογον γὰρ ἔχει ὡς τὸ μέρος πρὸς τὸ 25 μέρος, οὕτως ἢ ὅλη αἴσθησις πρὸς τὸ ὅλον σῶμα τὸ αἰσθητικόν, ἢ τοιοῦτο. ἔστι δὲ οὐ τὸ ἀποβεβληκὸς τὴν ψυχὴν τὸ δυνάμει ὄν ὥστε ζῆν, ἀλλὰ τὸ ἔχον. τὸ δὲ σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιοῦδι σῶμα. ὡς μὲν οὖν ἢ τμήσις καὶ 413 a ἢ ὄρασις, οὕτω καὶ ἢ ἐγγρήγορις ἐντελέχεια, ὡς δ' ἢ ὄψις καὶ ἢ δύνάμις τοῦ ὀργάνου, ἢ ψυχὴ· τὸ δὲ σῶμα τὸ δυνάμει ὄν· ἀλλ' ὥσπερ ὁ ὀφθαλμὸς ἢ

* A.'s argument in the rest of this chapter is not quite easy to follow. The introduction of the axe seems at first irrelevant, because, as A. afterwards explains, being inanimate, it is not really parallel to the living creature. But his point is clear, the axe consists of the matter (wood and metal) of which it is composed, and its form (*i.e.* what makes it an axe—cutting edge, weight, and so forth). If you take away (*e.g.*) its edge, what remains? Still an axe, although one that will not cut. But this is not true of the living creature. It has a body which is its matter, and a soul

70

the soul is : it is substance in the sense of formula ; *i.e.*, the essence of such-and-such a body. Suppose ^a that an implement, *e.g.* an axe, were a natural body ; the substance of the axe would be that which makes it an axe, and this would be its soul ; suppose this removed, and it would no longer be an axe, except equivocally. As it is, it remains an axe, because it is not of this kind of body that the soul is the essence or formula, but only of a certain kind of natural body which has in itself a principle of movement and rest. We must, however, investigate our definition in relation to the parts of the body. If the eye were a living creature, its soul would be its vision ; for this is the substance in the sense of formula of the eye. But the eye is the matter of vision, and if vision fails there is no eye, except in an equivocal sense, as for instance a stone or painted eye. Now we must apply what we have found true of the part to the whole living body. For the same relation must hold good of the whole of sensation to the whole sentient body *qua* sentient as obtains between their respective parts. That which has the capacity to live is not the body which has lost its soul, but that which possesses its soul ; so seed and fruit are potentially bodies of this kind. The waking state is actuality in the same sense as the cutting of the axe or the seeing of the eye, while the soul is actuality in the same sense as the faculty of the eye for seeing, or of the implement for doing its work. The body is that which exists potentially ; but just as the pupil and the faculty of seeing make an eye, so in the other case

which is its form. Take away the latter and the body perishes, so that the whole is no longer a living creature ; by removing the form of a living creature we destroy its identity.

71

413 a

κόρη καὶ ἡ ὄψις, κακεὶ ἡ ψυχὴ καὶ τὸ σῶμα τὸ
ζῶον. ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ
5 σώματος, ἢ μέρη τινὰ αὐτῆς, εἰ μεριστὴ πέφυκεν,
οὐκ ἄδηλον· ἐνίων γὰρ ἡ ἐντελέχεια τῶν μερῶν
ἐστὶν αὐτῶν. οὐ μὴν ἀλλ' ἐνιά γε οὐθέν κωλύει,
διὰ τὸ μηθενὸς εἶναι σώματος ἐντελεχείας. ἔτι
δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἢ
ψυχῆ ὡσπερ πλωτῆρ πλοίου. τύπῳ μὲν οὖν ταύτῃ
10 διωρίσθω καὶ ὑπογεγράφθω περὶ ψυχῆς.

II. Ἐπεὶ δ' ἐκ τῶν ἀσαφῶν μὲν φανερωτέρων δὲ
γίγνεται τὸ σαφὲς καὶ κατὰ τὸν λόγον γνωριμώ-
τερον, πειρατέον πάλιν οὕτως ἐπελθεῖν περὶ αὐτῆς·
οὐ γὰρ μόνον τὸ ὅτι δεῖ τὸν ὀριστικὸν λόγον δηλοῦν,
15 ὡσπερ οἱ πλείστοι τῶν ὄρων λέγουσιν, ἀλλὰ καὶ
τὴν αἰτίαν ἐνυπάρχειν καὶ ἐμφαίνεσθαι. νῦν δ'
ὡσπερ συμπεράσμαθ' οἱ λόγοι τῶν ὄρων εἰσίν·
οἷον τί ἐστὶ τετραγωνισμός; τὸ ἴσον ἑτερομήκει
ὀρθογώνιον εἶναι ἰσόπλευρον. ὁ δὲ τοιοῦτος ὄρος
λόγος τοῦ συμπεράσματος. ὁ δὲ λέγων ὅτι ἐστὶν
20 ὁ τετραγωνισμὸς μέσης εὗρεσις, τοῦ πράγματος
λέγει τὸ αἷτιον.

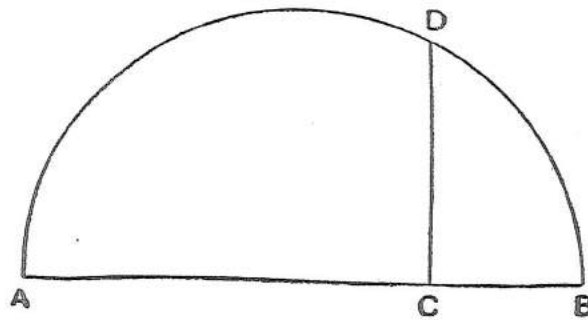
^a For a discussion of this difficult sentence see Hicks *ad loc.*

^b NOTE.—The reference is to the figure opposite.

AB is a straight line divided into two parts at C. On AB a semicircle ADB is described. CD is drawn at right angles to AB to meet the circumference in D. Two conclusions can be proved. (1) The square on CD is equal to the rectangle AC.CB. (2) CD is the mean proportional between AC and CB, or in other words $AC:CD::CD:CB$. For the proofs of these two propositions *cf.* Euclid ii. 14 and vi. 13.

the soul and body make a living creature. It is quite clear, then, that neither the soul nor certain parts of it, if it has parts, can be separated from the body; for in some cases the actuality belongs to the parts themselves. Not but what there is nothing to prevent some parts being separated, because they are not actualities of any body. It is also uncertain whether the soul as an actuality bears the same relation to the body as the sailor to the ship.^a This must suffice as an attempt to determine in rough outline the nature of the soul.

II. But since the definite and logically more in-
telligible conception arises from the vague but more ^{True} definition.
obvious data of sense, we must try to review the question of the soul in this light; for a definitive formula ought not merely to show the fact, as most definitions do, but to contain and exhibit the cause. But in practice the formulae of our definitions are like conclusions; for instance, what is squaring a rectangle? The construction of an equilateral rectangle equal to an oblong rectangle. Such a definition is merely a statement of the conclusion. But if a man says that squaring a rectangle is the finding of a mean proportional, he is giving the underlying cause of the thing to be defined.^b



413 a

Λέγομεν οὖν ἀρχὴν λαβόντες τῆς σκέψεως, διωρίσθαι τὸ ἐμψυχον τοῦ ἀψύχου τῷ ζῆν. πλεοναχῶς δὲ τοῦ ζῆν λεγομένου, κὰν ἔν τι τούτων ἐνυπάρχη μόνον, ζῆν αὐτό φαμεν, οἶον νοῦς, αἰσθησις, κίνησις καὶ στάσις ἢ κατὰ τόπον, ἔτι
25 κίνησις ἢ κατὰ τροφήν καὶ φθίσις τε καὶ αὔξεισις. διὸ καὶ τὰ φύομενα πάντα δοκεῖ ζῆν· φαίνεται γὰρ ἐν αὐτοῖς ἔχοντα δύναμιν καὶ ἀρχὴν τοιαύτην, δι' ἧς αὔξεισίν τε καὶ φθίσιν λαμβάνουσι κατὰ τοὺς ἐναντίους τόπους· οὐ γὰρ ἄνω μὲν αὔξεται, κάτω δ' οὐ, ἀλλ' ὁμοίως ἐπ' ἄμφω καὶ πάντοσε καὶ
30 τρέφεται καὶ ζῆν διὰ τέλους, ἕως ἂν δύνηται λαμβάνειν τροφήν. χωρίζεσθαι δὲ τοῦτο μὲν τῶν ἄλλων δυνατὸν, τὰ δ' ἄλλα τούτου ἀδύνατον ἐν τοῖς θνητοῖς. φανερόν δ' ἐπὶ τῶν φυομένων·
413 b οὐδεμία γὰρ αὐτοῖς ὑπάρχει δύναμις ἄλλη ψυχῆς.

Τὸ μὲν οὖν ζῆν διὰ τὴν ἀρχὴν ταύτην ὑπάρχει τοῖς ζῶσι, τὸ δὲ ζῶν διὰ τὴν αἰσθησιν πρῶτως· καὶ γὰρ τὰ μὴ κινούμενα μὴδ' ἀλλάττοντα τόπον, ἔχοντα δ' αἰσθησιν ζῶα λέγομεν καὶ οὐ ζῆν μόνον.
5 αἰσθήσεως δὲ πρῶτον ὑπάρχει πᾶσιν ἀφή. ὥσπερ δὲ τὸ θρεπτικὸν δύναται χωρίζεσθαι τῆς ἀφῆς καὶ πάσης αἰσθήσεως, οὕτως ἢ ἀφή τῶν ἄλλων αἰσθήσεων. θρεπτικὸν δὲ λέγομεν τὸ τοιοῦτον μόριον τῆς ψυχῆς οὐ καὶ τὰ φυτὰ μετέχει· τὰ δὲ ζῶα πάντα φαίνεται τὴν ἀπτικήν αἰσθησιν ἔχοντα·
10 δι' ἣν δ' αἰτίαν ἐκάτερον τούτων συμβέβηκεν, ὕστερον ἐροῦμεν.

Νῦν δ' ἐπὶ τοσοῦτον εἰρήσθω μόνον, ὅτι ἐστὶν ἢ

We say then, assuming a fresh starting-point for our inquiry, that that which has soul is distinguished from that which has not by living. But the word living is used in many senses, and we say that a thing lives if any one of the following is present in it—mind, sensation, movement or rest in space, besides the movement implied in nutrition and decay or growth. Consequently all plants are considered to live, for they evidently have in themselves a capacity and first principle by means of which they exhibit both growth and decay in opposite directions; for they do not grow up and not down, but equally in both directions, and in every direction, and they are nourished and continue to live, as long as they are able to absorb food. This capacity to absorb food may exist apart from all other powers, but the others cannot exist apart from this in mortal beings. This is evident in the case of plants; for they have no other capacity of the soul.

This, then, is the principle through which all living things have life, but the first characteristic of an animal is sensation; for even those which do not move or change their place, but have sensation, we call living creatures, and do not merely say that they live. The first essential factor of sensation, which we all share, is a sense of touch. Just as the merely nutritive faculty may exist apart from touch and from all sensation, so touch may exist apart from all other senses. (By "nutritive faculty" I mean that part of the soul which even the plants share; all animals obviously possess the sense of touch.) Why each of these two facts is so, we shall explain later on.^a

But for the moment let us be satisfied with saying

^a In Book III. ch. xii.

413 b ψυχή τῶν εἰρημένων τούτων ἀρχή καὶ τούτοις ὄρισται, θρεπτικῶ, αἰσθητικῶ, διανοητικῶ, κινήσει. πότερον δὲ τούτων ἕκαστόν ἐστι ψυχή ἢ μόριον ψυχῆς, καὶ εἰ μόριον, πότερον οὕτως ὥστ' εἶναι
 15 χωριστόν λόγῳ μόνον ἢ καὶ τόπῳ, περὶ μὲν τινῶν τούτων οὐ χαλεπὸν ἰδεῖν, ἔνια δὲ ἀπορίαν ἔχει. ὥσπερ γὰρ ἐπὶ τῶν φυτῶν ἔνια διαιρούμενα φαίνεται ζῶντα καὶ χωριζόμενα ἀπ' ἀλλήλων, ὡς οὐσῆς τῆς ἐν τούτοις ψυχῆς ἐντελεχεία μὲν μιᾶς ἐν ἑκάστῳ φυτῶ, δυνάμει δὲ πλειόνων, οὕτως
 20 ὁρῶμεν καὶ περὶ ἐτέρας διαφορὰς τῆς ψυχῆς συμβαίνον ἐπὶ τῶν ἐντόμων ἐν τοῖς διατεμνομένοις· καὶ γὰρ αἰσθησιν ἑκάτερον τῶν μερῶν ἔχει καὶ κινήσιν τὴν κατὰ τόπον, εἰ δ' αἰσθησιν, καὶ φαντασίαν καὶ ὄρεξιν· ὅπου μὲν γὰρ αἰσθησις, καὶ λύπη τε καὶ ἡδονή, ὅπου δὲ ταῦτα, ἐξ ἀνάγκης
 25 καὶ ἐπιθυμία. περὶ δὲ τοῦ νοῦ καὶ τῆς θεωρητικῆς δυνάμεως οὐδὲν πῶ φανερόν, ἀλλ' ἔοικε ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεται χωρίζεσθαι, καθάπερ τὸ αἰδίου τοῦ φθαρτοῦ. τὰ δὲ λοιπὰ μόρια τῆς ψυχῆς φανερόν ἐκ τούτων ὅτι οὐκ ἔστι χωριστά, καθάπερ τινὲς φασιν· τῷ δὲ
 30 λόγῳ ὅτι ἕτερα, φανερόν· αἰσθητικῶ γὰρ εἶναι καὶ δοξαστικῶ ἕτερον, εἴπερ καὶ τὸ αἰσθάνεσθαι τοῦ δοξάζειν. ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον τῶν εἰρημένων. ἔτι δ' ἐνίοις μὲν τῶν ζώων ἅπανθ' ὑπάρχει ταῦτα, τισὶ δὲ τινὰ τούτων, ἑτέροις δὲ ἐν
 414 a μόνον. τοῦτο δὲ ποιεῖ διαφορὰν τῶν ζώων· διὰ τίνα δ' αἰτίαν, ὕστερον ἐπισκεπτέον. παραπλήσιον δὲ καὶ περὶ τὰς αἰσθήσεις συμβέβηκεν· τὰ μὲν γὰρ

^a Cf. Introduction.

^b iii. 12, 13.

that the soul is the origin of the characteristics we have mentioned, and is defined by them, that is by the faculties of nutrition, sensation, thought and movement. The further questions, whether each of these faculties is a soul, or part of a soul, and, if a part, whether a part in the sense that it is only separable in thought or also in space, are in some cases easy of solution, but others involve difficulty. For just as in the case of plants some parts clearly live when divided and separated from each other, so that the soul in them appears to be one in actuality in each whole plant, but potentially more than one, so we can see that in other varieties of the soul the same thing happens, e.g., in insects which are divided; for each of the parts has sensation and movement in space; and, if it has sensation, it must also have imagination^a and appetite; for, where sensation is, there is also pain and pleasure, and where these are there must also be desire. But in the case of the mind and the thinking faculty nothing is yet clear; it seems to be a distinct kind of soul, and it alone admits of being separated, as the immortal from the perishable. But it is quite clear from what we have said that the other parts of the soul are not separable, as some say; though it is obvious that they are theoretically different; for there is a difference between the abstract faculties of sensation and opinion, just as feeling is different from opining. The same is true of all the other faculties we have mentioned. Again, some animals have all these faculties, some only some of them, and others again only one. It is this which constitutes the differences between animals; the reason for it must be considered later.^b It is much the same with the senses;

414^a ἔχει πάσας, τὰ δὲ τινάς, τὰ δὲ μίαν τὴν ἀναγκαιοτάτην, ἀφήν.
 5 Ἐπεὶ δὲ ᾧ ζῶμεν καὶ αἰσθανόμεθα διχῶς λέγεται, καθάπερ ᾧ ἐπιστάμεθα (λέγομεν δὲ τὸ μὲν ἐπιστήμην τὸ δὲ ψυχὴν· ἐκατέρῳ γὰρ τούτων φαινομένη ἐπίστασθαι)· ὁμοίως δὲ καὶ [ᾧ]¹ ὑγιαίνομεν τὸ μὲν ὑγίεια,² τὸ δὲ μορίῳ τινὶ τοῦ σώματος ἢ καὶ ὅλῳ. τούτων δ' ἡ μὲν ἐπιστήμη τε καὶ ὑγίεια μορφή
 10 καὶ εἶδος τι καὶ λόγος καὶ οἷον ἐνέργεια τοῦ δεκτικοῦ, ἡ μὲν τοῦ ἐπιστημονικοῦ, ἡ δὲ τοῦ ὑγιαστικοῦ (δοκεῖ γὰρ ἐν τῷ πάσχοντι καὶ διατιθεμένῳ ἢ τῶν ποιητικῶν ὑπάρχειν ἐνέργεια), ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοοῦμεθα πρῶτως, ὥστε λόγος τις ἂν εἴη καὶ εἶδος, ἀλλ'
 15 οὐχ ὕλη καὶ τὸ ὑποκείμενον. τριχῶς γὰρ λεγομένης τῆς οὐσίας, καθάπερ εἶπομεν, ὧν τὸ μὲν εἶδος, τὸ δὲ ὕλη, τὸ δὲ ἐξ ἀμφοῖν· τούτων δ' ἡ μὲν ὕλη δύναμις, τὸ δὲ εἶδος ἐντελέχεια· ἐπεὶ δὲ τὸ ἐξ ἀμφοῖν ἔμψυχον, οὐ τὸ σῶμά ἐστιν ἐντελέχεια ψυχῆς, ἀλλ' αὕτη σώματος τινος. καὶ διὰ τοῦτο
 20 καλῶς ὑπολαμβάνουσιν οἷς δοκεῖ μήτ' ἄνευ σώματος εἶναι μήτε σῶμά τι ἢ ψυχὴ· σῶμα μὲν γὰρ οὐκ ἔστι, σῶματος δέ τι, καὶ διὰ τοῦτο ἐν σώματι ὑπάρχει, καὶ ἐν σώματι τοιοῦτῳ, καὶ οὐχ ὥσπερ οἱ πρότερον εἰς σῶμα ἐνήρμοζον αὐτήν, οὐθὲν προσδιορίζοντες ἐν τίνι καὶ ποίῳ, καίπερ οὐδὲ
 25 φαινομένου τοῦ τυχόντος δέχεσθαι τὸ τυχόν. οὕτω

¹ Bywater.² ὑγίεια Sophonias, Torstrik, Hicks: ὑγίεια vel ὑγίειαν codd.^a 412 a 6.

for some animals have all, some only some, and some again one only—the most indispensable—touch.

The phrase "that whereby we live and perceive" has two senses, as has "that whereby we know" (in the one sense we mean knowledge and in the other the soul; for we can say that we know by each of these); similarly we are healthy either by health or by part or the whole of the body. Now of these, knowledge and health are a kind of shape or form, or notion; an actuality, as it were, of the recipient, *i.e.* of that which is capable of knowledge or health (for the actualization of active processes appears to reside in the patient upon which the effect is produced), and the soul is that whereby we live and perceive and think in the primary sense; so that the soul would be the notion or form, and not the matter or substrate. As we have already said,^a substance is used in three senses, form, matter, and a compound of the two. Of these matter is potentiality, and form actuality; and since the compound is an animate thing, the body cannot be the actuality of a soul, but the soul is the actuality of some body. For this reason those are right in their view who maintain that the soul cannot exist without the body, but is not itself in any sense a body. It is not a body, it is associated with a body, and therefore resides in a body, and in a body of a particular kind; not at all as our predecessors supposed, who fitted it to any body, without adding any limitations as to what body or what kind of body, although it is unknown for any chance thing to admit any other chance thing. But

^{414 a} δὲ γίνεται καὶ κατὰ λόγον· ἐκάστου γὰρ ἡ ἐντελέχεια ἐν τῷ δυνάμει ὑπάρχοντι καὶ τῇ οἰκείᾳ ὕλη πέφυκεν ἐγγίνεσθαι. ὅτι μὲν οὖν ἐντελέχειά τις ἐστὶ καὶ λόγος τοῦ δυνάμει ἔχοντος εἶναι τοιούτου, φανερόν ἐκ τούτων.

III. Τῶν δὲ δυνάμεων τῆς ψυχῆς αἱ λεχθεῖσαι τοῖς
³⁰ μὲν ὑπάρχουσι πᾶσαι, καθάπερ εἵπομεν, τοῖς δὲ
 τινὲς αὐτῶν, ἐνίοις δὲ μία μόνη. δυνάμεις δ'
 εἵπομεν θρεπτικόν, ὀρεκτικόν, αἰσθητικόν, κινη-
 τικόν κατὰ τόπον, διανοητικόν. ὑπάρχει δὲ τοῖς
^{414 b} μὲν φυτοῖς τὸ θρεπτικόν μόνον, ἑτέροις δὲ τοῦτό
 τε καὶ τὸ αἰσθητικόν. εἰ δὲ τὸ αἰσθητικόν, καὶ
 τὸ ὀρεκτικόν· ὀρεξις μὲν γὰρ ἐπιθυμία καὶ θυμὸς
 καὶ βούλησις, τὰ δὲ ζῶα πάντ' ἔχουσι μίαν γε
 τῶν αἰσθήσεων, τὴν ἀφήν· ᾧ δ' αἰσθησις ὑπάρχει,
⁵ τούτῳ ἡδονή τε καὶ λύπη καὶ τὸ ἡδύ τε καὶ
 λυπηρόν, οἷς δὲ ταῦτα, καὶ ἡ ἐπιθυμία· τοῦ γὰρ
 ἡδέος ὀρεξις αὕτη. ἔτι δὲ τῆς τροφῆς αἰσθησιν
 ἔχουσιν· ἡ γὰρ ἀφή τῆς τροφῆς αἰσθησις· ξηροῖς
 γὰρ καὶ ὑγροῖς καὶ θερμοῖς καὶ ψυχροῖς τρέφεται
 τὰ ζῶα πάντα, τούτων δ' αἰσθησις ἀφή· τῶν δ'
¹⁰ ἄλλων αἰσθητῶν κατὰ συμβεβηκός· οὐθὲν γὰρ εἰς
 τροφήν συμβάλλεται ψόφος οὐδὲ χρώμα οὐδὲ
 ὄσμη. ὁ δὲ χυμὸς ἐν τι τῶν ἀπτῶν ἐστίν. πείνα
 δὲ καὶ δίψα· ἐπιθυμία, καὶ ἡ μὲν πείνα ξηροῦ καὶ
 θερμοῦ, ἡ δὲ δίψα ψυχροῦ καὶ ὑγροῦ· ὁ δὲ χυμὸς
 οἷον ἡδυσμὰ τι τούτων ἐστίν. διασαφητέον δὲ
¹⁵ περὶ αὐτῶν ὕστερον, νῦν δ' ἐπὶ τοσοῦτον εἰρήσθω,
 ὅτι τῶν ζῶων τοῖς ἔχουσιν ἀφήν καὶ ὀρεξις ὑπ-
 ἄρχει. περὶ δὲ φαντασίας ἄδηλον, ὕστερον δ' ἐπι-

^a i.e. on general grounds we should expect a particular soul to belong to a particular body.

our view explains the facts quite reasonably ^a; for the actuality of each thing is naturally inherent in its potentiality, that is in its own proper matter. From all this it is clear that the soul is a kind of actuality or notion of that which has the capacity of having a soul.

III. Now of the faculties of the soul which we have mentioned, some living things, as we have said, have All living creatures have not all faculties. all, others only some, and others again only one. Those which we have mentioned are the faculties for nourishment, for appetite,^b for sensation, for movement in space, and for thought. Plants have the nutritive faculty only, but other living things have the faculty for sensation too. But if for sensation then also for appetite; for appetite consists of desire, inclination, and wish, and all animals have at least one of the senses, that of touch; and that which has sensation knows pleasure and pain, the pleasant and the painful, and that which knows these has also desire; for desire is an appetite for what is pleasant. Again, they have a sense which perceives food; for touch is the sense which does this. All animals feed on what is dry or wet, hot or cold, and touch is the sense which apprehends these; the other objects of sense are only indirectly apprehended by touch. Neither sound, nor colour, nor smell contributes anything to nourishment; but flavour is one of the things apprehended by touch. Hunger and thirst are desire, the former for what is dry and hot, the latter for what is cold and wet; flavour is a kind of seasoning of these. We must be precise about these subjects later, but for the moment let it suffice to say that those animals which have a sense of touch have also appetite. The question of imagination is obscure,

^b Appetite is not included in the list in 413 b 13.

414 b

σκεπτέον. ἐνίοις δὲ πρὸς τούτοις ὑπάρχει καὶ τὸ κατὰ τόπον κινητικόν, ἑτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἷον ἀνθρώποις καὶ εἴ τι τοιοῦτον ἕτερόν ἐστιν ἢ καὶ τιμιώτερον.

20 Δῆλον οὖν ὅτι τὸν αὐτὸν τρόπον εἰς ἂν εἴη λόγος ψυχῆς τε καὶ σχήματος· οὔτε γὰρ ἐκεῖ σχῆμα παρὰ τὸ τρίγωνόν ἐστι καὶ τὰ ἐφεξῆς, οὔτ' ἐνταῦθα ψυχὴ παρὰ τὰς εἰρημέναις. γένοιτο δ' ἂν καὶ ἐπὶ τῶν σχημάτων λόγος κοινός, ὃς ἐφαρμόσει μὲν πᾶσιν, ἴδιος δ' οὐδενὸς ἔσται σχήματος· ὁμοίως
25 δὲ καὶ ἐπὶ ταῖς εἰρημέναις ψυχαῖς. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον καὶ ἐπὶ τούτων καὶ ἐφ' ἑτέρων, ὃς οὐδενὸς ἔσται τῶν ὄντων ἴδιος λόγος, οὐδὲ κατὰ τὸ οἰκείον καὶ ἄτομον εἶδος, ἀφέντας τὸν τοιοῦτον.

Παραπλησίως δ' ἔχει τῷ περὶ τῶν σχημάτων καὶ τὰ κατὰ ψυχὴν· αἰεὶ γὰρ ἐν τῷ ἐφεξῆς
30 ὑπάρχει δυνάμει τὸ πρότερον ἐπὶ τε τῶν σχημάτων καὶ ἐπὶ τῶν ἐμφύχων, οἷον ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῷ δὲ τὸ θρεπτικόν· ὥστε καθ' ἕκαστον ζητητέον, τίς ἐκάστου ψυχῆς, οἷον τίς φυτοῦ καὶ τίς ἀνθρώπου ἢ θηρίου. διὰ τίνα
415 a δ' αἰτίαν τῷ ἐφεξῆς οὕτως ἔχουσι, σκεπτέον. ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ τὸ αἰσθητικὸν οὐκ ἔστιν· τοῦ δ' αἰσθητικοῦ χωρίζεται τὸ θρεπτικόν ἐν τοῖς φυτοῖς. πάλιν δ' ἄνευ μὲν τοῦ ἄπτικοῦ τῶν ἄλλων αἰσθήσεων οὐδεμία ὑπάρχει, ἀφή δ'

^a The argument of this paragraph is as follows: Just as figure has a definition applicable to all varieties of figures, so soul has a similar "common" definition; but to understand individual types of soul, e.g., of man, animal, and plant, we must study these types themselves.

and must be considered later. In addition to these senses some also possess the power of movement in space, and others again—viz., man, and any other being similar or superior to him—have the power of thinking and intelligence.

Thus it is clear that there must be a single definition ^{Definition of soul} of soul, just as there is of rectilinear figure; for as in the latter case there is no figure besides the triangle and those that follow it (i.e., quadrilateral, pentagon, etc.), so there is no soul besides those we have mentioned. It would be possible in the case of figures to frame a common definition, which would fit them all, but would be descriptive of no particular figure; and similarly in the case of the kinds of soul we have mentioned. Hence it would be ridiculous, in this case as in others, to look for the common definition, which is the particular definition of no existing thing, and has no reference to any special or individual species, while we neglect such a particular definition.^a

The facts regarding the soul are much the same ^{similar to mathematical definition.} as those relating to figures; for both in figures and in things which possess soul, the earlier type always exists potentially in that which follows; e.g., the triangle is implied by the quadrilateral, and the nutritive faculty by the sensitive. We must then inquire in each several case, what is the soul of each individual, for instance of the plant, the man, and the beast. But we must also consider why they are thus arranged in a series. For without the nutritive faculty the sensitive does not exist, but in plants the nutritive is divorced from the sensitive faculty. Again, without the sense of touch none of the other senses exists, but touch may exist without any

415^a
 5 ἄνευ τῶν ἄλλων ὑπάρχει· πολλὰ γὰρ τῶν ζώων οὐτ' ὄψιν οὐτ' ἀκοήν ἔχουσιν οὐτ' ὀσμῆς ὄλως αἰσθησιν. καὶ τῶν αἰσθητικῶν δὲ τὰ μὲν ἔχει τὸ κατὰ τόπον κινήτικόν, τὰ δ' οὐκ ἔχει. τελευταῖον δὲ καὶ ἐλάχιστα λογισμὸν καὶ διάνοιαν· οἷς μὲν γὰρ ὑπάρχει λογισμὸς τῶν φθαρτῶν, τούτοις καὶ
 10 τὰ λοιπὰ πάντα, οἷς δ' ἐκείνων ἕκαστον, οὐ πᾶσι λογισμὸς, ἀλλὰ τοῖς μὲν οὐδὲ φαντασία, τὰ δὲ ταύτη μόνῃ ζῶσιν. περὶ δὲ τοῦ θεωρητικοῦ νοῦ ἕτερος λόγος. ὅτι μὲν οὖν ὁ περὶ τούτων ἕκαστου λόγος οὗτος οἰκειότατος καὶ περὶ ψυχῆς, δῆλον.

IV. Ἀναγκαῖον δὲ τὸν μέλλοντα περὶ τούτων
 15 σκέψιν ποιείσθαι λαβεῖν ἕκαστον αὐτῶν τί ἐστίν, εἴθ' οὕτως περὶ τῶν ἐχομένων ἢ καὶ περὶ τῶν ἄλλων ἐπιζητεῖν. εἰ δὲ χρῆνὴ λέγειν τί ἕκαστον αὐτῶν, οἶον τί τὸ νοητικόν ἢ τὸ αἰσθητικόν ἢ τὸ θρεπτικόν, πρότερον ἔτι λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι· πρότερον γὰρ εἰσι τῶν δυνάμεων αἰ
 20 ἐνέργειαι καὶ αἱ πράξεις κατὰ τὸν λόγον. εἰ δ' οὕτως, τούτων δ' ἔτι πρότερα τὰ ἀντικείμενα δεῖ τεθεωρηκέναι, περὶ ἐκείνων πρῶτον ἂν δεοί δι-
 ορίσαι διὰ τὴν αὐτὴν αἰτίαν, οἶον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ. ὥστε πρῶτον περὶ τροφῆς καὶ γεννήσεως λεκτέον· ἢ γὰρ θρεπτικὴ ψυχὴ καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη
 25 δυνάμις ἐστὶ ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν. ἣς ἐστὶν ἔργα γεννῆσαι καὶ τροφῆν χρῆσθαι· φυσικώτατον γὰρ τῶν ἔργων τοῖς ζῶσιν,

^a We proceed from the exercise of the functions, which we know and see, to assume the existence of the faculty; nature proceeds in the opposite order.

others; for many of the animals have neither vision nor hearing nor any sense of smell at all. Again, of those which have sensation, some have the locomotive faculty, and some have not. And lastly, and most rarely, living creatures have power of reasoning and thought. For those perishable creatures which have reasoning power have all the other powers as well, but not all those which have any one of them have reasoning power; some have not even imagination, while others live in virtue of this alone. The consideration of the speculative faculty is another question. It is clear, then, that the account of each of these faculties is also the most relevant account that can be given of the soul.

IV. If one intends to investigate these faculties, The method of inquiry. one must first grasp what each of them is, and then proceed to inquire into secondary matters, and so on. But if one is to state what each of them—*e.g.*, the thinking, sensitive, or nutritive faculty—is, one must again first explain what thinking and perceiving are; for logically ^a the exercise of their functions comes before the faculties themselves. And if this is so, and if one should have examined, even before these functions, the objects corresponding to them, then for the same reason one must first of all determine the facts about those objects, *e.g.*, about food or the object of perception or thought. First, then, we must speak of food and reproduction; for the nutritive soul belongs to all other living creatures besides man, and is the first and most widely shared faculty of the soul, in virtue of which they all have life. Its functions are reproduction and the assimilation of food. For this is the most natural of all func-

415 a ὅσα τέλεια καὶ μὴ πηρώματα, ἢ τὴν γένεσιν αὐτο-
 μάτην ἔχει, τὸ ποιῆσαι ἕτερον οἶον αὐτό, ζῶον
 μὲν ζῶον, φυτόν δὲ φυτόν, ἵνα τοῦ αἰεὶ καὶ τοῦ
 415 b θείου μετέχωσιν ἢ δύνανται· πάντα γὰρ ἐκείνου
 ὀρέγεται, καὶ κείνου ἕνεκα πράττει ὅσα πράττει κατὰ
 φύσιν. τὸ δ' οὐδ' ἕνεκα διττόν, τὸ μὲν οὐ, τὸ δὲ
 ᾧ. ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ αἰεὶ καὶ τοῦ
 θείου τῇ συνεχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν
 5 φθαρτῶν ταῦτό καὶ ἐν ἀριθμῶ διαμένειν, ἢ δύναται
 μετέχειν ἕκαστον, κοινωνεῖ ταύτῃ, τὸ μὲν μᾶλλον
 τὸ δ' ἥττον· καὶ διαμένει οὐκ αὐτὸ ἀλλ' οἶον αὐτό,
 ἀριθμῶ μὲν οὐχ ἓν, εἶδει δ' ἓν.

Ἔστι δὲ ἡ ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ
 10 ἀρχή. ταῦτα δὲ πολλαχῶς λέγεται. ὁμοίως δ' ἡ
 ψυχὴ κατὰ τοὺς διωρισμένους τρόπους τρεῖς αἰτία·
 καὶ γὰρ ὅθεν ἡ κίνησις αὐτή, καὶ οὐδ' ἕνεκα, καὶ ὡς
 ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ αἰτία.
 ὅτι μὲν οὖν ὡς οὐσία, δηλον· τὸ γὰρ αἴτιον τοῦ
 εἶναι πᾶσιν ἡ οὐσία, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι
 ἐστίν, αἰτία δὲ καὶ ἀρχὴ τούτων ἡ ψυχὴ. ἔτι τοῦ
 15 δυνάμει ὄντος λόγος ἡ ἐντελέχεια. φανερόν δ' ὡς
 καὶ οὐδ' ἕνεκεν ἡ ψυχὴ αἰτία· ὡσπερ γὰρ ὁ νοῦς

^a Cf. *Metaph.* 983 a 26 "the word cause is used . . .
 (1) as the essential nature, (2) as the source of movement,
 (3) as the final cause."

^b i.e., existence and life.

^c e.g., a sphere exists potentially in any lump of matter,
 but the sphere is not actualized until in that matter there is
 induced the form or essential formula of sphericity.

tions among living creatures, provided that they are perfect and not maimed, and do not have spontaneous generation: viz., to reproduce one's kind, an animal producing an animal, and a plant a plant, in order that they may have a share in the immortal and divine in the only way they can; for every creature strives for this, and for the sake of this performs all its natural functions. "That for sake of which" has two meanings: (1) that for the purpose of which, and (2) that for the benefit of which. Since, then, they cannot share in the immortal and divine by continuity of existence, because no perishable thing can remain numerically one and the same, they share in these in the only way they can, some to a greater and some to a lesser extent; what persists is not the individual itself, but something in its image, identical not numerically but specifically.

The soul is the cause and first principle of the living body. The words cause and first principle are used in several separate senses. But the soul is equally the cause in each of the three senses which we have distinguished^a; for it is the cause in the sense of being that from which motion is derived, in the sense of the purpose or final cause, and as being the substance of all bodies that have souls. (1) That the soul is the cause in the sense of substance is obvious; for substance is the cause of existence in all things, and for living creatures existence is life, and of these^b the soul is the cause and first principle. Also the actuality of that which exists potentially is its essential formula.^c (2) Clearly the soul is also the cause in the final sense. For just as mind acts with

The nature
of the soul.

415 b

ἕνεκά του ποιεί, τὸν αὐτὸν τρόπον καὶ ἡ φύσις, καὶ τοῦτ' ἔστιν αὐτῇ τέλος. τοιοῦτον δ' ἐν τοῖς ζώοις ἢ ψυχῇ καὶ κατὰ φύσιν· πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ὄργανα, καὶ καθάπερ
 20 τὰ τῶν ζώων, οὕτω καὶ τὰ τῶν φυτῶν, ὡς ἕνεκα τῆς ψυχῆς ὄντα. διττῶς δὲ τὸ οὐ ἕνεκα, τό τε οὐ καὶ τὸ ὤ. ἀλλὰ μὴν καὶ ὅθεν πρῶτον ἢ κατὰ τόπον κίνησις, ψυχῇ· οὐ πᾶσι δ' ὑπάρχει τοῖς ζώοις ἢ δύναμις αὕτη. ἔστι δὲ καὶ ἀλλοίωσις καὶ αὐξήσις κατὰ ψυχὴν· ἢ μὲν γὰρ αἰσθησις ἀλλοιώσις
 25 τις εἶναι δοκεῖ, αἰσθάνεται δ' οὐθέν ὃ μὴ ἔχει ψυχὴν. ὁμοίως δὲ καὶ περὶ αὐξήσεώς τε καὶ φθίσεως ἔχει· οὐδὲν γὰρ φθίνει οὐδ' αὖξεται φυσικῶς μὴ τρεφόμενον, τρέφεται δ' οὐθέν ὃ μὴ κοινωνεῖ ζωῆς.

Ἐμπεδοκλῆς δ' οὐ καλῶς εἶρηκε τοῦτο, προστιθεὶς τὴν αὐξήσιν συμβαίνειν τοῖς φυτοῖς κάτω
 416 a μὲν συρριζουμένοις διὰ τὸ τὴν γῆν οὕτω φέρεσθαι κατὰ φύσιν, ἄνω δὲ διὰ τὸ πῦρ ὡσαύτως. οὔτε γὰρ τὸ ἄνω καὶ κάτω καλῶς λαμβάνει· οὐ γὰρ ταῦτ' οὐδὲν πᾶσι τὸ ἄνω καὶ κάτω καὶ τῷ παντί, ἀλλ' ὡς ἡ κεφαλὴ τῶν ζώων, οὕτως αἱ ρίζαι τῶν φυτῶν,
 5 εἰ χρὴ τὰ ὄργανα λέγειν ἕτερα καὶ ταῦτ' οὐκ ἔργοις. πρὸς δὲ τούτοις τί τὸ συνέχον εἰς τὰναντία φερόμενα τὸ πῦρ καὶ τὴν γῆν; διασπασθήσεται γάρ, εἰ μὴ τι ἔσται τὸ κωλύσον· εἰ δ' ἔσται, τοῦτ' ἔστιν ἡ ψυχὴ καὶ τὸ αἴτιον τοῦ αὐξάνεσθαι καὶ τρέφεσθαι.

some purpose in view, so too does nature, and this purpose is its end. In living creatures the soul supplies such a purpose, and this is in accordance with nature, for all natural bodies are instruments of the soul; and just as is the case with the bodies of animals, so with those of plants. This shows that they exist for the sake of the soul. ("That for the sake of which" has two meanings—"that for the purpose of which" and "that for the benefit of which.") (3) Lastly, the soul is the primary source of locomotion; but this capacity does not belong to all living creatures. Change of state and growth are also due to the soul; for sensation is held to be change of state, and nothing feels which has not a soul. The same is true about growth and decay; for nothing decays or grows in nature without nourishment, and nothing has nourishment which does not share in life.

Empedocles is mistaken in his account of this, when he adds that the growth in plants, when their roots spread downwards, is due to the fact that earth naturally tends in this direction, and that when they grow upwards, it is due to the natural movement of fire. His theory of "upwards" and "downwards" is wrong; for up and down are not the same for all individuals as for the universe, but the head in animals corresponds to the roots in plants, if we are to identify and distinguish organs by their functions. But in addition to this, what is it that holds fire and earth together when they tend to move in contrary directions? For they will be torn apart, unless there is something to prevent this; but if there is anything of the sort this will be the soul, and the cause of growth and nourishment.

416 a

10 Δοκεῖ δὲ τισιν ἢ τοῦ πυρὸς φύσις ἀπλῶς αἰτία τῆς τροφῆς καὶ τῆς αὐξήσεως εἶναι· καὶ γὰρ αὐτὸ φαίνεται μόνον τῶν σωμάτων ἢ τῶν στοιχείων τρεφόμενον καὶ αὐξόμενον. διὸ καὶ ἐν τοῖς φυτοῖς καὶ ἐν τοῖς ζώοις ὑπολάβοι τις ἂν τοῦτο εἶναι τὸ ἐργαζόμενον. τὸ δὲ συναίτιον μὲν πῶς
15 ἐστίν, οὐ μὴν ἀπλῶς γε αἴτιον, ἀλλὰ μάλλον ἢ ψυχῆ· ἢ μὲν γὰρ τοῦ πυρὸς αὐξήσις εἰς ἄπειρον, ἕως ἂν ἢ τὸ καυστόν, τῶν δὲ φύσει συνισταμένων πάντων ἐστὶ πέρασ καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα δὲ ψυχῆς, ἀλλ' οὐ πυρός, καὶ λόγου μάλλον ἢ ὕλης.

Ἐπεὶ δ' ἢ αὐτῆ δύναμις τῆς ψυχῆς θρεπτικὴ
20 καὶ γεννητικὴ, περὶ τροφῆς ἀναγκαῖον διωρίσθαι πρῶτον· ἀφορίζεται γὰρ πρὸς τὰς ἄλλας δυνάμεις τῷ ἔργῳ τούτῳ. δοκεῖ δ' εἶναι ἢ τροφή τὸ ἐναντίον τῷ ἐναντίῳ, οὐ πᾶν δὲ παντί, ἀλλ' ὅσα τῶν ἐναντίων μὴ μόνον γένεσιν ἐξ ἀλλήλων ἔχουσιν ἀλλὰ καὶ αὐξήσιν· γίνεται γὰρ πολλὰ ἐξ ἀλλήλων,
25 ἀλλ' οὐ πάντα ποσά, οἶον ὑγιὲς ἐκ κάμνοντος. φαίνεται δ' οὐδ' ἐκεῖνα τὸν αὐτὸν τρόπον ἀλλήλοις εἶναι τροφή, ἀλλὰ τὸ μὲν ὕδωρ τῷ πυρὶ τροφή, τὸ δὲ πῦρ οὐ τρέφει τὸ ὕδωρ. ἐν μὲν οὖν τοῖς ἀπλοῖς σώμασι ταῦτ' εἶναι δοκεῖ μάλιστα τὸ μὲν τροφή τὸ δὲ τρεφόμενον. ἀπορίαν δ' ἔχει· φασὶ γὰρ οἱ
30 μὲν τὸ ὅμοιον τῷ ὁμοίῳ τρέφεσθαι, καθάπερ καὶ αὐξάνεσθαι, τοῖς δ' ὡσπερ εἶπομεν τοῦμπαλιν δοκεῖ, τὸ ἐναντίον τῷ ἐναντίῳ, ὡς ἀπαθοῦς ὄντος τοῦ ὁμοίου ὑπὸ τοῦ ὁμοίου, τὴν δὲ τροφήν μεταβάλλειν καὶ πέττεσθαι· ἢ δὲ μεταβολὴ πᾶσιν εἰς τὸ ἀντι-

To some the nature of fire seems by itself to be the cause of nutrition and growth; for it alone of all bodies and elements seems to be nourished and grow of itself. Hence one might suppose that it is the operating principle in both plants and animals. It is in a sense a contributory cause, but not absolutely the cause, which is much more properly the soul; for the growth of fire is without limit, so long as there is something to be burned, but of all things naturally composed there is a limit or proportion of size and growth; this is due to the soul, not to fire, and to the essential formula rather than to matter.

Fire in relation to growth.

Since the same faculty of the soul is at once nutritive and generative, we must first define nutriment carefully; for the nutritive faculty is distinguished from the others by its function of nutrition. There is a general opinion that contrary is nutriment to contrary; not of course in every case, but among such contraries as have not merely their birth from each other, but their growth as well; for many things arise from each other, but they are not all quantities; e.g., a healthy from a diseased thing. But not even the things mentioned seem to be food for each other in the same way; water feeds fire,^a but fire does not feed water. It seems, then, that in simple bodies especially the food and the thing fed are contraries. But this presents a difficulty; for some say that like is fed, as also it grows, by like, but others, as we have said, hold the opposite view, that contrary is fed by contrary, on the ground that like is unaffected by like, but that food changes and is digested. But all change is to the opposite, or to an

The nature of food.

^a It was supposed that wood, when perfectly dry, would not keep a fire alight.

416 a

35 κείμενον ἢ τὸ μεταξύ. ἔτι πάσχει τι ἢ τροφή ὑπὸ
416 b τοῦ τρεφομένου, ἀλλ' οὐ τοῦτο ὑπὸ τῆς τροφῆς,
ὡσπερ οὐδ' ὁ τέκτων ὑπὸ τῆς ὕλης, ἀλλ' ὑπ' ἐκεί-
νου αὐτῆ· ὁ δὲ τέκτων μεταβάλλει μόνον εἰς ἐν-
έργειαν ἐξ ἀργίας.

Πότερον δ' ἐστὶν ἡ τροφή τὸ τελευταῖον προσ-
γινόμενον ἢ τὸ πρῶτον, ἔχει διαφοράν. εἰ δ'
5 ἄμφω, ἀλλ' ἡ μὲν ἀπεπτος ἢ δὲ πεπεμμένη,
ἀμφοτέρως ἂν ἐνδέχοιτο τὴν τροφήν λέγειν· ἡ μὲν
γὰρ ἀπεπτος, τὸ ἐναντίον τῷ ἐναντίῳ τρέφεται,
ἡ δὲ πεπεμμένη, τὸ ὁμοίον τῷ ὁμοίῳ. ὡστε
φανερὸν ὅτι λέγουσί τινα τρόπον ἀμφοτέροι καὶ
ὀρθῶς καὶ οὐκ ὀρθῶς. ἐπεὶ δ' οὐθὲν τρέφεται
10 μὴ μετέχον ζωῆς, τὸ ἔμψυχον ἂν εἴη σῶμα
τὸ τρεφόμενον, ἢ ἔμψυχον, ὡστε καὶ ἡ τροφή
πρὸς ἔμψυχόν ἐστι καὶ οὐ κατὰ συμβεβηκός.
ἔστι δ' ἕτερον τροφῆ καὶ αὐξητικῶ εἶναι· ἡ μὲν
γὰρ ποσόν τι τὸ ἔμψυχον, αὐξητικόν, ἡ δὲ τόδε τι
καὶ οὐσία, τροφή· σώζει γὰρ τὴν οὐσίαν, καὶ
15 μέχρι τούτου ἐστὶν ἕως ἂν καὶ τρέφεται· καὶ
γενέσεως ποιητικὸν οὐ τοῦ τρεφομένου, ἀλλ' οἷον
τὸ τρεφόμενον· ἡδὴ γὰρ ἐστὶν αὐτῆ ἢ οὐσία, γεννᾷ
δ' οὐθὲν αὐτὸ ἑαυτό, ἀλλὰ σώζει. ὡσθ' ἡ μὲν
τοιαύτη τῆς ψυχῆς ἀρχὴ δύναμις ἐστὶν οἷα σώζειν
τὸ ἔχον αὐτὴν ἢ τοιοῦτον, ἡ δὲ τροφή παρασκευάζει
20 ἐνεργεῖν. διὸ στερηθὲν τροφῆς οὐ δύναται εἶναι.
ἐπεὶ δ' ἐστὶ τρία, τὸ τρεφόμενον καὶ ᾧ τρέφεται
καὶ τὸ τρέφον, τὸ μὲν τρέφον ἐστὶν ἡ πρώτη
ψυχὴ, τὸ δὲ τρεφόμενον τὸ ἔχον αὐτὴν σῶμα, ᾧ
δὲ τρέφεται, ἡ τροφή. ἐπεὶ δὲ ἀπὸ τοῦ τέλους

intermediate state. Again, the food is affected by the thing fed, and not *vice versa*, just as the carpenter is not affected by his material, but the material by the carpenter; the carpenter merely changes from idleness to activity.

Now it makes a difference whether "food" means the last or the first form of what is added. If both are food, the one being undigested and the other digested, we might speak of food in both the ways referred to above; for when the food is undigested, contrary feeds on contrary, but when it is digested, like feeds on like. Thus clearly both views are, in a sense, both right and wrong. But since nothing is fed which does not share in life, that which is fed must be the body which has a soul, *qua* having a soul, so that food is related to that which has a soul and that not accidentally. But nutritivity and the promotion of growth are not the same; for it is *qua* quantitative that that which has soul has its growth promoted by food, and *qua* individual and substance that it is nourished by it; for it preserves its substance and continues to exist, so long as it is nourished, and it causes the generation not of that which is nourished, but of another like it; for its actual substance already exists, and a thing cannot generate but only preserves itself. Thus the soul-principle in question is a power of preserving what possesses it as an individual, while food prepares it for work. For this reason it cannot continue to exist when deprived of food. Now there are three separate factors: the thing fed, the means by which it is fed, and the feeding agent. The feeding agent is soul in the primary sense; the thing fed is the body which contains the soul, and the means by which it is fed is the food. But since everything

Solution of
the diffi-
culty.

416 b

ἅπαντα προσαγορεύειν δίκαιον, τέλος δὲ τὸ γεννῆσαι
 25 οἷον αὐτό, εἴη ἂν ἡ πρώτη ψυχὴ γεννητικὴ οἷον
 αὐτό. ἔστι δὲ ὧ τρέφεται διττόν, ὥσπερ καὶ ὧ
 κυβερνᾶ, ἡ χεὶρ καὶ τὸ πηδάλιον, τὸ μὲν κινοῦν
 καὶ κινούμενον, τὸ δὲ κινοῦν μόνον. πᾶσαν δ'
 ἀναγκαῖον τροφήν δύνασθαι πέττεσθαι, ἐργάζεται
 δὲ τὴν πέψιν τὸ θερμόν· διὸ πᾶν ἔμφυχον ἔχει θερ-
 30 μότητα. τύπῳ μὲν οὖν ἡ τροφή τί ἐστὶν εἴρηται·
 διασαφητέον δ' ἐστὶν ὕστερον περὶ αὐτῆς ἐν τοῖς
 οἰκείοις λόγοις.

V. Διωρισμένων δὲ τούτων λέγωμεν κοινῇ περὶ
 πάσης αἰσθήσεως. ἡ δ' αἰσθησις ἐν τῷ κινεῖσθαι
 τε καὶ πάσχειν συμβαίνει, καθάπερ εἴρηται· δοκεῖ
 35 γὰρ ἀλλοιώσις τις εἶναι. φασὶ δὲ τινες καὶ τὸ
 417 a ὅμοιον ὑπὸ τοῦ ὁμοίου πάσχειν. τοῦτο δὲ πῶς
 δυνατὸν ἢ ἀδύνατον, εἰρήκαμεν ἐν τοῖς καθόλου
 λόγοις περὶ τοῦ ποιεῖν καὶ πάσχειν. ἔχει δ'
 ἀπορίαν διὰ τί καὶ τῶν αἰσθήσεων αὐτῶν οὐ
 γίνεται αἰσθησις, καὶ διὰ τί ἄνευ τῶν ἔξω οὐ
 5 ποιούσιν αἰσθησιν, ἐνότος πυρὸς καὶ γῆς καὶ τῶν
 ἄλλων στοιχείων, ὧν ἐστὶν ἡ αἰσθησις καθ' αὐτὰ
 ἢ τὰ συμβεβηκότα τούτοις. δῆλον οὖν ὅτι τὸ
 αἰσθητικὸν οὐκ ἐστὶν ἐνεργεία, ἀλλὰ δυνάμει μόνον.
 διὸ καθάπερ τὸ καυστὸν οὐ καίεται αὐτὸ καθ' αὐτὸ
 ἄνευ τοῦ καυστικοῦ· ἔκαιε γὰρ ἂν ἑαυτό, καὶ οὐθὲν
 10 ἐδεῖτο τοῦ ἐντελεχείᾳ πυρὸς ὄντος. ἐπειδὴ δὲ τὸ
 αἰσθάνεσθαι λέγομεν διχῶς (τό τε γὰρ δυνάμει
 ἀκούον καὶ ὄρων ἀκούειν καὶ ὄραν λέγομεν, καὶ

* No such treatise has come down to us.

should be named in view of its end, and in this case
 the end is the reproduction of the species, primary
 soul will be that which reproduces another like itself.
 But "the means by which it is nourished" is ambigu-
 ous, just like the phrase "that by which the helms-
 man steers," meaning either his hand or the rudder,
 the latter both moving and being moved, and the
 former only moving. Now all food requires digestion,
 and that which produces digestion is heat; therefore
 everything which has a soul has heat. The nature of
 food has now been described in outline; later on we
 must be more precise about it in a treatise of its own.^a

V. Having established these points, let us dis-
 417 a cuss sensation in general. Sensation consists, as has
 been said, in being moved and acted upon; for it
 is held to be sort of change of state. Now some say
 that like is affected only by like. But the sense
 in which this is possible or impossible we have already
 stated in our general account of acting and being
 acted upon.^b The question arises as to why we have
 no sensation of the senses ^c themselves; that is, why
 they give no sensation apart from external objects,
 although they contain fire and earth and the other
 elements which (either in themselves, or by their
 attributes) excite sensation. It is clear from this that
 the faculty of sensation has no actual but only
 potential existence. So it is like the case of fuel,
 which does not burn by itself without something
 to set fire to it; for otherwise it would burn itself,
 and would not need any fire actually at work. But
 since we speak of perceiving in two senses (for we
 say that that which has the power of hearing and

Sensation
in general.

^b *De Gen. et Corr.* i. 7. 323 b 18 sqq.

^c Or rather "sense-organs."

τύχη καθεύδον, καὶ τὸ ἤδη ἐνεργοῦν), διχῶς ἂν λέγοιτο καὶ ἡ αἴσθησις, ἡ μὲν ὡς δυνάμει, ἡ δὲ ὡς ἐνεργείᾳ. ὁμοίως δὲ καὶ τὸ αἰσθάνεσθαι, τότε δυνάμει ὄν καὶ τὸ ἐνεργείᾳ.

15 Πρῶτον μὲν οὖν ὡς τοῦ αὐτοῦ ὄντος τοῦ πάσχειν καὶ τοῦ κινεῖσθαι καὶ τοῦ ἐνεργεῖν λέγωμεν· καὶ γὰρ ἔστιν ἡ κίνησις ἐνεργείᾳ τις, ἀτελής μέντοι, καθάπερ ἐν ἑτέροις εἴρηται. πάντα δὲ πάσχει καὶ κινεῖται ὑπὸ τοῦ ποιητικοῦ καὶ ἐνεργείᾳ ὄντος. διὸ ἔστι μὲν ὡς ὑπὸ τοῦ ὁμοίου πάσχει, ἔστι δὲ
20 ὡς ὑπὸ τοῦ ἀνομοίου, καθάπερ εἴπομεν· πάσχει μὲν γὰρ τὸ ἀνόμοιον, πεπονθὸς δ' ὁμοίον ἔστιν.

Διαιρετέον δὲ καὶ περὶ δυνάμεως καὶ ἐντελεχείας· νῦν γὰρ ἀπλῶς λέγομεν περὶ αὐτῶν. ἔστι μὲν γὰρ οὕτως ἐπιστήμῳν τι ὡς ἂν εἴπομεν ἀνθρώπου ἐπιστήμονα, ὅτι ὁ ἄνθρωπος τῶν ἐπι-
25 στημόνων καὶ ἔχόντων ἐπιστήμην· ἔστι δ' ὡς ἤδη λέγομεν ἐπιστήμονα τὸν ἔχοντα τὴν γραμματικὴν. ἑκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατὸς ἔστιν, ἀλλ' ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ' ὅτι βουληθεὶς δυνατὸς θεωρεῖν, ἂν μὴ τι κωλύσῃ τῶν ἕξωθεν· ὁ δ' ἤδη θεωρῶν ἐντελεχεία
30 ὧν καὶ κυρίως ἐπιστάμενος τότε τὸ Α. ἀμφότεροι μὲν οὖν οἱ πρῶτοι κατὰ δύναμιν ἐπιστήμονες, ἀλλ' ὁ μὲν διὰ μαθήσεως ἀλλοιωθεὶς καὶ πολλάκις ἐξ ἐναντίας μεταβαλὼν ἕξεως, ὁ δ' ἐκ τοῦ ἔχειν τὴν

¹ e.g., *Phys.* iii. 2, 201 b 31.

seeing hears and sees, even if it happens to be asleep, as well as when the faculty is actually operative), so the term sensation must be used in two senses, as potential and as actual. Similarly to perceive means both to possess the faculty and to exercise it.

To begin with, let us assume that being acted upon and moved is the same as exercising the function; for movement is a form of activity, though incomplete, as has been said elsewhere.^a But everything is acted upon and moved by something which produces an effect and actually exists. Therefore, as we have said, a thing is acted upon in one sense by like, in another by unlike; for while it is being acted upon it is unlike, but when the action is complete, it is like.

But we must also distinguish certain senses of Potential and actual. potentiality and actuality; for so far we have been using these terms quite generally. One sense of "instructed" is that in which we might call a man instructed because he is one of a class of instructed persons who have knowledge; but there is another sense in which we call instructed a person who knows (say) grammar. Each of these two has capacity, but in a different sense: the former, because the class to which he belongs, *i.e.*, his *matter*, is of a certain kind, the latter, because he is capable of exercising his knowledge whenever he likes, provided that external causes do not prevent him. But there is a third kind of instructed person—the man who is already exercising his knowledge; he is in actuality instructed and in the strict sense knows (*e.g.*) this particular A. The first two men are both only potentially instructed; but whereas the one becomes so in actuality through a qualitative alteration by means of learning, and after frequent changes from a contrary state, the other passes by a different process

417^b αἰσθησιν ἢ τὴν γραμματικὴν, μὴ ἐνεργεῖν δ' εἰς
 τὸ ἐνεργεῖν ἄλλον τρόπον. οὐκ ἔστι δ' ἀπλοῦν
 οὐδὲ τὸ πάσχειν, ἀλλὰ τὸ μὲν φθορά τις ὑπὸ τοῦ
 ἐναντίου, τὸ δὲ σωτηρία μᾶλλον τοῦ δυνάμει ὄντος
 ὑπὸ τοῦ ἐντελεχείᾳ ὄντος καὶ ὁμοίου, οὕτως ὡς
⁵ δύναμις ἔχει πρὸς ἐντελέχειαν· θεωροῦν γὰρ
 γίγνεται τὸ ἔχον τὴν ἐπιστήμην, ὅπερ ἢ οὐκ ἔστιν
 ἀλλοιοῦσθαι (εἰς αὐτὸ γὰρ ἢ ἐπίδοσις καὶ εἰς
 ἐντελέχειαν) ἢ ἕτερον γένος ἀλλοιώσεως. διὸ οὐ
 καλῶς ἔχει λέγειν τὸ φρονεῖν, ὅταν φρονῇ, ἀλλοιοῦ-
 σθαι, ὡςπερ οὐδὲ τὸν οἰκοδόμον ὅταν οἰκοδομῇ.
¹⁰ τὸ μὲν οὖν εἰς ἐντελέχειαν ἄγον ἐκ δυνάμει ὄντος
 κατὰ τὸ νοῦν καὶ φρονεῖν οὐ διδασκαλίαν ἀλλ'
 ἑτέραν ἐπωνυμίαν ἔχειν δίκαιον· τὸ δ' ἐκ δυνάμει
 ὄντος μανθάνον καὶ λαμβάνον ἐπιστήμην ὑπὸ τοῦ
 ἐντελεχείᾳ ὄντος καὶ διδασκαλικοῦ ἦτοι οὐδὲ
 πάσχειν φατέον, ὡςπερ εἴρηται, ἢ δύο τρόπους
¹⁵ εἶναι ἀλλοιώσεως, τὴν τε ἐπὶ τὰς στερητικὰς
 διαθέσεις μεταβολὴν καὶ τὴν ἐπὶ τὰς ἕξεις καὶ τὴν
 φύσιν. τοῦ δ' αἰσθητικοῦ ἢ μὲν πρώτη μεταβολὴ
 γίνεται ὑπὸ τοῦ γεννῶντος, ὅταν δὲ γεννηθῇ, ἔχει
 ἤδη ὡςπερ ἐπιστήμην καὶ τὸ αἰσθάνεσθαι. καὶ
²⁰ διαφέρει δέ, ὅτι τοῦ μὲν τὰ ποιητικὰ τῆς ἐνεργείας
 ἕξωθεν, τὸ ὄρατόν καὶ τὸ ἀκουστόν, ὁμοίως δὲ
 καὶ τὰ λοιπὰ τῶν αἰσθητῶν. αἴτιον δ' ὅτι τῶν
 καθ' ἕκαστον ἢ καθ' ἐνέργειαν αἰσθησις, ἢ δ'

^a When we see the colour red we see a particular object, which is red, at a particular time. But knowledge of "red" is not knowledge of any red object at any one time but of the colour red detached from such objects, *i.e.* in A.'s phraseology as "universal."

from the inactive possession of sensation or grammar to its active exercise. Even the term "being acted upon" is not used in a single sense, but sometimes it means a form of destruction of something by its contrary, and sometimes rather a preservation of that which is potential by something actual which is like it, in accordance with the relation of potentiality to actuality; for that which merely possesses knowledge comes to exercise it by a process which either is not alteration at all (for the development is into its real self or actuality), or else is a unique kind of alteration. So it is not sound to describe that which thinks as being altered when it thinks, any more than it is true to say that the builder is altered when he builds. That which produces development from potential to actual in the matter of understanding and thought ought not to be called teaching, but needs some other name; and that which, starting with a potentiality for knowledge, learns and acquires knowledge from what is actual and able to teach, either ought not to be described as "being acted upon," as has been said, or else there are two senses of alteration, one a change to a negative condition, and the other a change to a positive state, that is, a realization of its nature. In sentient creatures the first change is caused by the male parent, and at birth the subject has sensation in the sense in which we spoke of the mere possession of knowledge. Again, actual sensation corresponds to the exercise of knowledge; with this difference, that the objects of sight and hearing (and similarly those of the other senses), which produce the actuality of sensation, are external.^a This is because actual sensation is of particulars, whereas knowledge is of universals;

417 b ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πῶς
 ἐστὶ τῇ ψυχῇ. διὸ νοῆσαι μὲν ἐπ' αὐτῷ, ὅποταν
 25 βούληται, αἰσθάνεσθαι δ' οὐκ ἐπ' αὐτῷ· ἀναγκαῖον
 γὰρ ὑπάρχειν τὸ αἰσθητόν. ὁμοίως δὲ τοῦτ' ἔχει
 καὶ ταῖς ἐπιστήμασι ταῖς τῶν αἰσθητῶν, καὶ διὰ
 τὴν αὐτὴν αἰτίαν, ὅτι τὰ αἰσθητὰ τῶν καθ' ἕκαστα
 καὶ τῶν ἕξωθεν.

Ἄλλὰ περὶ μὲν τούτων διασαφῆσαι καιρὸς γένοιτ'
 ἂν καὶ εἰσαυθις. νῦν δὲ διωρίσθω τοσοῦτον, ὅτι
 80 οὐχ ἄπλου ὄντος τοῦ δυνάμει λεγομένου, ἀλλὰ τοῦ
 μὲν ὡσπερ ἂν εἴποιμεν τὸν παῖδα δύνασθαι στρατη-
 γεῖν, τοῦ δὲ ὡς τὸν ἐν ἡλικίᾳ ὄντα, οὕτως ἔχει τὸ
 418 a αἰσθητικόν. ἐπεὶ δ' ἀνόνημος αὐτῶν ἡ διαφορὰ,
 διώριστα δὲ περὶ αὐτῶν ὅτι ἕτερα καὶ πῶς ἕτερα,
 χρῆσθαι ἀναγκαῖον τῷ πάσχειν καὶ ἀλλοιοῦσθαι
 ὡς κυρίοις ὀνόμασιν· τὸ δ' αἰσθητικόν δυνάμει
 ἐστὶν οἶον τὸ αἰσθητὸν ἤδη ἐντελεχεία, καθάπερ
 5 εἴρηται. πάσχει μὲν οὖν οὐχ ὁμοιον ὄν, πεπονθὸς
 δ' ὁμοίωται καὶ ἔστιν οἶον ἐκεῖνο.

VI. Λεκτέον δὲ καθ' ἕκαστην αἴσθησιν περὶ τῶν
 αἰσθητῶν πρῶτον. λέγεται δὲ τὸ αἰσθητὸν τριχῶς,
 ὧν δύο μὲν καθ' αὐτὰ φαμεν αἰσθάνεσθαι, τὸ δὲ
 10 ἐν κατὰ συμβεβηκός. τῶν δὲ δύο τὸ μὲν ἴδιόν
 ἐστὶν ἐκάστης αἰσθήσεως, τὸ δὲ κοινὸν πασῶν.
 λέγω δ' ἴδιον μὲν ὃ μὴ ἐνδέχεται ἕτερα αἰσθήσει
 αἰσθάνεσθαι, καὶ περὶ ὃ μὴ ἐνδέχεται ἀπατηθῆναι,

these in a sense exist in the soul itself. So it lies in man's power to use his mind whenever he chooses, but it is not in his power to experience sensation; for the presence of the sensible object is essential. The same thing is true of our knowledge of sensible objects, and for the same reason, *viz.*, that sensible objects are particular and external.

But there will be a later opportunity to clear our impressions about these things. For the moment it will be enough to establish that the term "potential" ^{Potential as applied to sensation.} is used with two meanings; first as we might say of a boy that he is a potential general, and secondly as we might say it of an adult. These two meanings apply also to the potentially sentient. But since there is no name corresponding to this difference in meaning, and we have now explained that the meanings differ, and how they differ, we must continue to use the phrases "to be acted upon" and "altered" as though they were precise terms. The sentient subject, as we have said, is potentially such as the object of sense is actually. Thus during the process of being acted upon it is unlike, but at the end of the process it has become like that object, and shares its quality.

VI. In discussing the several senses we must speak ^{The objects of sense.} first of their respective objects. The term "object of sense" is used of three types; two of them we say that we perceive directly, and one indirectly. Of the first two, one is an object proper to a given sense, and the other is an object perceptible by all the senses. By proper object I mean that which cannot be perceived by any other sense, and concerning which error is impossible; *e.g.*, sight is concerned with

418 a

οἷον ὄψις χρώματος καὶ ἀκοή ψόφου καὶ γεύσις
 χυμοῦ. ἢ δ' ἀφή πλείους μὲν ἔχει διαφοράς· ἀλλ'
 15 ἑκάστη γε κρίνει περὶ τούτων, καὶ οὐκ ἀπατάται
 ὅτι χρῶμα οὐδ' ὅτι ψόφος, ἀλλὰ τί τὸ κεχρω-
 σμένον ἢ ποῦ, ἢ τί τὸ ψοφοῦν ἢ ποῦ. τὰ μὲν οὖν
 τοιαῦτα λέγεται ἴδια ἐκάστου, κοινὰ δὲ κίνησις,
 ἡρεμία, ἀριθμός, σχῆμα, μέγεθος· τὰ γὰρ τοιαῦτα
 οὐδεμιᾶς ἐστὶν ἴδια, ἀλλὰ κοινὰ πάσαις· καὶ γὰρ
 20 ἀφή κίνησις τίς ἐστὶν αἰσθητὴ καὶ ὄψει. κατὰ
 συμβεβηκὸς δὲ λέγεται αἰσθητόν, οἷον εἰ τὸ λευκὸν
 εἶη Διάρους υἱός· κατὰ συμβεβηκὸς γὰρ τούτου
 αἰσθάνεται, ὅτι τῷ λευκῷ συμβέβηκε τοῦτο οὐ
 αἰσθάνεται. διὸ καὶ οὐδὲν πάσχει ἢ τοιοῦτον ὑπὸ
 τοῦ αἰσθητοῦ. τῶν δὲ καθ' αὐτὰ αἰσθητῶν τὰ
 25 ἴδια κυρίως ἐστὶν αἰσθητά, καὶ πρὸς ἃ ἡ οὐσία
 πέφυκεν ἐκάστης αἰσθήσεως.

VII. Οὐ μὲν οὖν ἐστὶν ἡ ὄψις, τοῦτ' ἐστὶν
 ὄρατόν. ὄρατόν δ' ἐστὶν χρῶμά τε, καὶ ὁ λόγῳ
 μὲν ἔστιν εἰπεῖν, ἀνώνυμον δὲ τυγχάνει ὄν· δῆλον
 δὲ ἔσται ὃ λέγομεν προελθοῦσι μάλιστα. τὸ γὰρ
 ὄρατόν ἐστι χρῶμα. τοῦτο δ' ἐστὶ τὸ ἐπὶ τοῦ
 30 καθ' αὐτὸ ὄρατοῦ· καθ' αὐτὸ δὲ οὐ τῷ λόγῳ, ἀλλ'
 ὅτι ἐν ἑαυτῷ ἔχει τὸ αἴτιον τοῦ εἶναι ὄρατόν. πᾶν
 418 b δὲ χρῶμα κινητικόν ἐστὶ τοῦ κατ' ἐνέργειαν
 διαφανοῦς, καὶ τοῦτ' ἐστὶν αὐτοῦ ἢ φύσις. διόπερ
 οὐχ ὄρατόν ἀνευ φωτός, ἀλλὰ πᾶν τὸ ἐκάστου
 χρῶμα ἐν φωτὶ ὄρατόν.

colour, hearing with sound, and taste with flavour. Touch of course has many varieties of object. Each sense has its proper sphere, nor is it deceived as to the fact of colour or sound, but only as to the nature and position of the coloured object or the thing which makes the sound. Such objects we call proper to a particular sense, but perception of movement, rest, number, shape and size is shared by several senses. For things of this kind are not proper to any one sense, but are common to all; for instance, some kinds of movement are perceptible both by touch and by sight. I call an object indirectly perceived if, for instance, the white thing seen is the son of Diares; this is an indirect perception, because that which is perceived (the son of Diares) only belongs incidentally to the whiteness. Hence the percipient is not acted upon by the thing perceived as such. But of *per se* perceptibles those are most strictly perceptible which are proper to a given sense, and it is to these that the special nature of the several senses is adapted.

VII. The object of sight is the visible. This is ^{Vision.} either colour, or something which can be described in words, but has in fact no name; what we mean by this will become quite clear as we proceed. The visible, then, is colour, *i.e.* that which overlies what is in itself visible; by "in itself" we mean not that the object is by its definition visible but that it has in itself the cause of its visibility. Every colour can produce movement in that which is actually transparent, and it is its very nature to do so. This is why it is not visible without light, but it is only in light that the colour of each individual thing is seen.

Διὸ περὶ φωτὸς πρῶτον λεκτέον τί ἐστίν. ἔστι δὴ τι διαφανές. διαφανές δὲ λέγω ὃ ἔστι μὲν ὄρατόν, οὐ καθ' αὐτὸ δὲ ὄρατόν ὡς ἀπλῶς εἰπεῖν, ἀλλὰ δι' ἄλλότριον χρώμα. τοιοῦτον δὲ ἔστιν ἀήρ καὶ ὕδωρ καὶ πολλὰ τῶν στερεῶν· οὐ γὰρ ἢ ὕδωρ οὐδ' ἢ ἀήρ, διαφανές, ἀλλ' ὅτι ἔστι φύσις ἐνυπάρχουσα ἢ αὐτῇ ἐν τούτοις ἀμφοτέροις καὶ ἐν τῷ αἰδίῳ τῷ ἄνω σώματι. φῶς δὲ ἔστιν ἢ τούτου ἐνέργεια τοῦ διαφανοῦς ἢ διαφανές. δυνάμει δὲ ἐν ᾧ τούτ' ἐστίν, καὶ τὸ σκότος. τὸ δὲ φῶς οἶον χρώμά ἐστι τοῦ διαφανοῦς, ὅταν ἢ ἐντελεχεία διαφανές ὑπὸ πυρὸς ἢ τοιοῦτου οἶον τὸ ἄνω σῶμα· καὶ γὰρ τούτῳ τι ὑπάρχει ἐν καὶ ταυτόν. τί μὲν οὖν τὸ διαφανές καὶ τί τὸ φῶς, εἴρηται, ὅτι οὔτε πῦρ οὔθ' ὅλως σῶμα οὐδ' ἀπορροή σώματος οὐδενός (εἴη γὰρ ἂν σῶμά τι καὶ οὕτως), ἀλλὰ πυρὸς ἢ τοιοῦτου τινὸς παρουσία ἐν τῷ διαφανεῖ· οὐδὲ γὰρ δύο σώματα ἅμα δυνατὸν ἐν τῷ αὐτῷ εἶναι. δοκεῖ δὲ τὸ φῶς ἐναντίον εἶναι τῷ σκότει. ἔστι δὲ τὸ σκότος στέρησις τῆς τοιαύτης ἕξεως ἐκ διαφανοῦς, ὥστε δῆλον ὅτι καὶ ἢ τούτου παρουσία τὸ φῶς ἐστίν. καὶ οὐκ ὀρθῶς Ἐμπεδοκλῆς, οὐδ' εἴ τις ἄλλος οὕτως εἴρηκεν, ὡς φερομένου τοῦ φωτὸς καὶ γιγνομένου ποτὲ μεταξὺ τῆς γῆς καὶ τοῦ περιέχοντος, ἡμᾶς δὲ λανθάνοντος· τοῦτο γὰρ ἔστι καὶ παρὰ τὴν τοῦ λόγου ἐνάργειαν¹ καὶ παρὰ τὰ φαινόμενα· ἐν μικρῷ μὲν γὰρ διαστήματι λάθου ἂν, ἀπ' ἀνατολῆς δ' ἐπὶ δυσμᾶς τὸ λανθάνειν μέγα

¹ ἐνάργειαν TWy, Sophonias, Torstrik : ἐνέργειαν E : ἀλήθειαν vulgo.

Consequently we must explain in the first place *Light*. what light is. Transparency evidently exists. By transparent I mean that which is visible, only not absolutely and in itself, but owing to the colour of something else. This character is shared by air, water, and many solid objects ; it is not *qua* water or air that water or air is transparent, but because the same nature belongs to these two as to the everlasting upper firmament. Now light is the activity of this transparent substance *qua* transparent ; and, wherever it is present, darkness also is potentially present. Light is then in a sense the colour of the transparent, owing to fire or any such agency as the upper firmament ; for one and the same quality belongs to this also. We have thus described what the transparent is, and what light is : it is neither fire, nor in general any body, nor an emanation from any body (for in that case too it would be a body of some kind), but the presence of fire, or something of the kind, in the transparent ; for there cannot be two bodies in the same place at the same time. Light is considered to be the contrary of darkness ; but darkness is a removal from the transparent of the active condition described above, so that obviously light is the presence of this. Empedocles, and anyone else who has argued on similar lines, is wrong in saying that light travels, and arrives at a certain time between the earth and its envelope, without our noticing it ; this is contrary both to the light of reason, and to observed facts ; it would be possible for it to escape our observation in a small intervening space, but that it does so all the way between east and west is too large a claim.

418 b λίαν τὸ αἴτημα. ἔστι δὲ χρώματος μὲν δεκτικὸν
 τὸ ἄχρουν, ψόφου δὲ τὸ ἄψοφον. ἄχρουν δ' ἔστι
 τὸ διαφανὲς καὶ τὸ ἀόρατον ἢ τὸ μόλις ὀρώμενον,
 οἷον δοκεῖ τὸ σκοτεινόν. τοιοῦτον δὲ τὸ διαφανὲς
 30 μὲν, ἀλλ' οὐχ ὅταν ἢ ἐντελεχεία διαφανές, ἀλλ'
 ὅταν δυνάμει· ἢ γὰρ αὐτὴ φύσις ὅτε μὲν σκότος
 419 a ὅτε δὲ φῶς ἐστίν. οὐ πάντα δὲ ὄρατὰ ἐν φωτὶ
 ἐστίν, ἀλλὰ μόνον ἐκάστου τὸ οἰκείον χρώμα·
 ἕνια γὰρ ἐν μὲν τῷ φωτὶ οὐχ ὄραται, ἐν δὲ τῷ
 σκότει ποιεῖ αἰσθησιν, οἷον τὰ πυρῶδη φαινόμενα
 καὶ λάμποντα (ἀνώνυμα δ' ἔστι ταῦτα ἐνὶ ὀνόματι),
 5 οἷον μύκης, κρέας,¹ κεφαλαὶ ἰχθύων καὶ λεπιδες καὶ
 ὀφθαλμοί· ἀλλ' οὐδενὸς ὄραται τούτων τὸ οἰκείον
 χρώμα· δι' ἣν μὲν οὖν αἰτίαν ταῦτα ὄραται, ἄλλος
 λόγος· νῦν δ' ἐπὶ τοσοῦτον φανερόν ἐστίν, ὅτι τὸ
 μὲν ἐν φωτὶ ὀρώμενον χρώμα· διὸ καὶ οὐχ ὄραται
 10 ἄνευ φωτός· τοῦτο γὰρ ἦν αὐτῷ τὸ χρώματι εἶναι
 τὸ κινητικῶς εἶναι τοῦ κατ' ἐνέργειαν διαφανοῦς·
 ἢ δ' ἐντελέχεια τοῦ διαφανοῦς φῶς ἐστίν. σημεῖον
 δὲ τούτου φανερόν· ἐὰν γὰρ τις θῆ τὸ ἔχον χρώμα
 ἐπ' αὐτὴν τὴν ὄψιν, οὐκ ὄψεται· ἀλλὰ τὸ μὲν
 χρώμα κινεῖ τὸ διαφανές, οἷον τὸν ἀέρα, ὑπὸ
 15 τούτου δὲ συνεχοῦς ὄντος κινεῖται τὸ αἰσθητήριον.
 οὐ γὰρ καλῶς τοῦτο λέγει Δημόκριτος οἰόμενος,
 εἰ γένοιτο κενὸν τὸ μεταξύ, ὄρασθαι ἂν ἀκριβῶς
 καὶ εἰ μύρμηξ ἐν τῷ οὐρανῷ εἶη· τοῦτο γὰρ
 ἀδύνατόν ἐστιν. πάσχοντος γὰρ τι τοῦ αἰσθητικοῦ
 γίνεται τὸ ὄραν· ὑπ' αὐτοῦ μὲν οὖν τοῦ ὀρωμένου
 20 χρώματος ἀδύνατον, λείπεται δὲ ὑπὸ τοῦ μεταξύ,
 ὥστ' ἀναγκαῖόν τι εἶναι μεταξύ· κενοῦ δὲ γενο-
 μένου οὐχ ὅτι ἀκριβῶς, ἀλλ' ὅλως οὐθὲν ὀφθήσεται.

¹ κρέας Chandler: κέρας.

It is the colourless which is receptive of colour, as the
 soundless is of sound. The transparent is colourless,
 and so is the invisible or barely visible, such as the
 dark is held to be. This, then, is the nature of the
 transparent, when it is not actually, but potentially
 transparent; the same underlying nature is some-
 times darkness and sometimes light. But not every-
 thing is visible in the light, but only the proper colour
 of each individual thing; for some things are not
 seen in the light, but are only perceptible in the dark,
 such as those which appear fiery or luminous (there
 is no single name for these), like fungi, flesh, the
 heads, scales, and eyes of fishes; but in none of these
 is the proper colour seen. Why such things are
 visible is another question; but so much is now clear,
 that what is visible in light is colour. Hence too it
 is not seen without light; for, as we saw, it is the
 essence of colour to produce movement in the actually
 transparent; and the actuality of the transparent
 is light. The evidence for this is clear; for if one
 puts that which has colour right up to the eye, it
 will not be visible. Colour moves the transparent
 medium, e.g., the air, and this, being continuous,
 acts upon the sense organ. Democritus is mistaken in
 thinking that if the intervening space were empty,
 even an ant in the sky would be clearly visible;
 for this is impossible. For vision occurs when the
 sensitive faculty is acted upon; as it cannot be
 acted upon by the actual colour which is seen, there
 only remains the medium to act on it, so that some
 medium must exist; in fact, if the intervening space
 were void, not merely would accurate vision be
 impossible, but nothing would be seen at all. We

The medium
of vision.

419 a δι' ἣν μὲν οὖν αἰτίαν τὸ χρῶμα ἀναγκαῖον ἐν φωτὶ
 ὁρᾶσθαι, εἴρηται. πῦρ δὲ ἐν ἀμφοῖν ὁρᾶται, καὶ
 ἐν σκοτει καὶ ἐν φωτὶ, καὶ τοῦτο ἐξ ἀνάγκης· τὸ
 25 γὰρ διαφανὲς ὑπὸ τούτου γίνεται διαφανές.

Ὁ δ' αὐτὸς λόγος καὶ περὶ ψόφου καὶ ὀσμῆς
 ἐστίν· οὐθὲν γὰρ αὐτῶν ἀπτόμενον τοῦ αἰσθητηρίου
 ποιεῖ τὴν αἴσθησιν, ἀλλ' ὑπὸ μὲν ὀσμῆς καὶ ψόφου
 τὸ μεταξὺ κινεῖται, ὑπὸ δὲ τούτου τῶν αἰσθητηρίων
 30 ἐκάτερον· ὅταν δ' ἐπ' αὐτὸ τις ἐπιθῇ τὸ αἰσθη-
 τήριον τὸ ψοφοῦν ἢ τὸ ὄζον, οὐδεμίαν αἴσθησιν
 ποιήσει. περὶ δὲ ἀφῆς καὶ γεύσεως ἔχει μὲν
 ὁμοίως, οὐ φαίνεται δέ· δι' ἣν δ' αἰτίαν, ὕστερον
 ἔσται δῆλον. τὸ δὲ μεταξὺ ψόφων μὲν ἀήρ, ὀσμῆς
 δ' ἀνώνυμον· κοινὸν γὰρ δὴ τι πάθος ἐπ' ἀέρος
 καὶ ὕδατος ἐστίν, ὡσπερ τὸ διαφανὲς χρώματι,
 35 οὕτω τῷ ἔχοντι ὀσμὴν ὃ ἐν ἀμφοτέροις ὑπάρχει
 τούτοις· φαίνεται γὰρ καὶ τὰ ἐνυδρα τῶν ζώων
 419 b ἔχειν αἴσθησιν ὀσμῆς. ἀλλ' ὃ μὲν ἄνθρωπος καὶ
 τῶν πεζῶν ὅσα ἀναπνεῖ, ἀδυνατεῖ ὀσμᾶσθαι μὴ
 ἀναπνέοντα. ἢ δ' αἰτία καὶ περὶ τούτων ὕστερον
 λεχθήσεται.

VIII. Νῦν δὲ πρῶτον περὶ ψόφου καὶ ἀκοῆς
 5 διορίσωμεν. ἔστι δὲ διττὸς ὁ ψόφος· ὃ μὲν γὰρ
 ἐνέργειά τις, ὃ δὲ δύναμις· τὰ μὲν γὰρ οὐ φαμεν
 ἔχειν ψόφον, οἶον σπόγγον, ἔρια, τὰ δ' ἔχειν, οἶον
 χαλκὸν καὶ ὅσα στερεὰ καὶ λεία, ὅτι δύναται
 ψοφήσθαι· τοῦτο δ' ἐστὶν αὐτοῦ μεταξὺ καὶ τῆς

^a 422 b 34 sqq.

^b Fishes have certain olfactory apparatus, but it is very doubtful whether they have a sense of smell.

^c 421 b 13 to 422 a 6.

^d There seems to be little point in this distinction, nor does

have then explained why colour can only be seen in the light. Now fire is visible in both darkness and light, and this is necessarily so; for it is because of the fire that the transparent becomes transparent.

The same theory applies also to sound and smell; A medium is also necessary for sound and scent. no sound or smell provokes sensation because it touches the sense organ, but movement is produced in the medium by smell and sound, and in the appropriate sense organ by the medium; but, when one puts the sounding or smelling object in contact with the sense organ, no sensation is produced. The same thing is true of touch and taste, although it is not apparent; why this is so will become clear later on.^a The medium in the case of sound is air, but in the case of smell has no name; for air and water have certainly a common characteristic, which is present in both of them, and bears the same relation to that which emits smell as the transparent does to colour; for even animals which live under water seem to have the sense of smell,^b whereas man, and all the land animals which breathe, cannot smell except when they are breathing. The reason for this will be discussed later.^c

VIII. Let us now first clear up certain points about sound and hearing. There are two kinds of sound, The conditions in which sound is heard. one actual, the other potential^d; for we say that some things have no sound, such as a sponge or wool, but that others have, such as bronze, and all things which are both solid and smooth, because they can give forth sound. That is to say, they can actually produce sound between the object itself and the organ

A. make any use of it. What he means is that bronze has "potential" sound because sound can be produced from it, whereas from wool no sound can be produced.

419 b ἀκοῆς ἐμποιῆσαι ψόφον ἐνεργεία. γίνεται δ' ὁ
 10 κατ' ἐνεργείαν ψόφος αἰεὶ τινος πρὸς τι καὶ ἐν
 τινι· πληγὴ γὰρ ἐστὶν ἡ ποιοῦσα. διὸ καὶ ἀδύνατον
 ἐνὸς ὄντος γενέσθαι ψόφον· ἕτερον γὰρ τὸ τύπτον
 καὶ τὸ τυπτόμενον· ὥστε τὸ ψοφοῦν πρὸς τι
 ψοφεῖ. πληγὴ δ' οὐ γίνεται ἄνευ φορᾶς. ὥσπερ
 δ' εἶπομεν, οὐ τῶν τυχόντων πληγὴ ὁ ψόφος·
 15 οὐθένα γὰρ ποιεῖ ψόφον ἔρια ἂν πληγῆ, ἀλλὰ
 χαλκὸς καὶ ὅσα λεία καὶ κοῖλα, ὁ μὲν χαλκός, ὅτι
 λείος· τὰ δὲ κοῖλα τῆ ἀνακλάσει πολλὰς ποιεῖ
 πληγὰς μετὰ τὴν πρώτην, ἀδυνατοῦντος ἐξελεῖν
 τοῦ κινήεντος. ἔτι ἀκούεται ἐν αἰερί καὶ ὕδατι,
 ἀλλ' ἦττον. οὐκ ἔστι δὲ ψόφου κύριος ὁ αἶρ οὐδὲ
 20 τὸ ὕδωρ· ἀλλὰ δεῖ στερεῶν πληγὴν γενέσθαι πρὸς
 ἄλληλα καὶ πρὸς τὸν αἶρα. τοῦτο δὲ γίνεται,
 ὅταν ὑπομένη πληγεῖς ὁ αἶρ καὶ μὴ διαχυθῆ.
 διὸ ἐὰν ταχέως καὶ σφοδρῶς πληγῆ, ψοφεῖ· δεῖ
 γὰρ φθάσαι τὴν κίνησιν τοῦ ραπίζοντος τὴν
 θρύψιν τοῦ αἰερος, ὥσπερ ἂν εἰ σωρὸν ἢ ὄρμαθὸν
 25 ψάμμου τύπτοι τις φερόμενον ταχύ.

Ἦχώ δὲ γίνεται, ὅταν ἀπὸ τοῦ αἰερος ἐνὸς
 γενομένου διὰ τὸ ἀγγεῖον τὸ διορίσαν καὶ κωλύσαν
 θρυφθῆναι πάλιν ὁ αἶρ ἀπωσθῆ, ὥσπερ σφαῖρα.
 ἔοικε δ' αἰεὶ γίνεσθαι ἦχώ, ἀλλ' οὐ σαφές, ἐπεὶ
 συμβαίνει γε ἐπὶ τοῦ ψόφου καθάπερ καὶ ἐπὶ τοῦ
 80 φωτός· καὶ γὰρ τὸ φῶς αἰεὶ ἀνακλάται (οὐδὲ γὰρ
 ἂν ἐγένετο πάντῃ φῶς, ἀλλὰ σκότος ἔξω τοῦ ἡλίου-

^a *Sc.*, when sound occurs at all.

of hearing. But the sound actually produced is of something striking against something else in a medium; for that which produces the sound is a blow. So if there is only one condition present there can be no sound; for the striker and the thing struck are two different things; so that what produces the sound sounds against something else. And no blow occurs without movement. But, as we have said, sound is not caused by the collision of any two things; for wool produces no sound when it is struck, but bronze and things which are hollow and smooth do; bronze because it is smooth, and hollow things after the original blow produce a number of other sounds by reverberation, because that which is moved (*i.e.*, the medium) cannot escape. Sound is heard also in water as well as in air, but less loudly. But neither the air nor the water is responsible for the sound; but there must be a striking of solid objects against each other, and against the air. This occurs when the air remains in its place when struck, and is not dispersed. Hence it can only sound under a sudden and violent blow; for it is necessary that the movement of the striker should forestall the escape of air, just as it would be if one were to strike at a heap or revolving column of sand in rapid motion.

Echo occurs when air rebounds, like a bouncing ball, *Echo.* from another body of air unified by the vessel which confines it, and prevents it from escaping. It seems likely that there is always an echo,^a but it is not always noticeable, since the same thing happens with sound as with light; for light is always reflected (otherwise there would not be light everywhere, but there would be darkness in every region outside that

419 b

μένου), ἀλλ' οὐχ οὕτως ἀνακλάται ὥσπερ ἀφ' ὕδατος ἢ χαλκοῦ ἢ καὶ τινος ἄλλου τῶν λείων, ὥστε σκιὰν ποιεῖν, ἢ τὸ φῶς ὀρίζομεν. τὸ δὲ κενὸν ὀρθῶς λέγεται κύριον τοῦ ἀκούειν. δοκεῖ γὰρ εἶναι κενὸν ὁ ἀήρ, οὗτος δ' ἐστὶν ὁ ποιῶν
 35 ἀκούειν, ὅταν κινήθῃ συνεχῆς καὶ εἰς. ἀλλὰ διὰ
 420 a τὸ ψαθυρὸς εἶναι οὐ γεγωνεῖ, ἂν μὴ λείον ἢ τὸ πληγέν. τότε δὲ εἰς γίνεται ἅμα διὰ τὸ ἐπίπεδον· ἐν γὰρ τὸ τοῦ λείου ἐπίπεδον.

Ψοφητικὸν μὲν οὖν τὸ κινήτικὸν ἐνὸς ἀέρος συνεχεῖα μέχρις ἀκοῆς, ἀκοὴ δὲ συμφυῆς ἀέρι.
 5 διὰ δὲ τὸ ἐν ἀέρι εἶναι, κινουμένον τοῦ ἔξω τὸ εἶσω κινεῖται.¹ διόπερ οὐ πάντῃ τὸ ζῶον ἀκούει, οὐδὲ πάντῃ διέρχεται ὁ ἀήρ· οὐ γὰρ πάντῃ ἔχει ἀέρα τὸ κινήσόμενον μέρος καὶ ἔμφοφον.² αὐτὸς³ μὲν δὲ ἄμφοφον ὁ ἀήρ διὰ τὸ εὐθρυπτον· ὅταν δὲ κωλυθῇ θρύπτεσθαι, ἢ τούτου κίνησις ψόφος. ὁ
 10 δ' ἐν τοῖς ὡσὶν ἐγκατωκοδόμηται πρὸς τὸ ἀκίνητος εἶναι, ὅπως ἀκριβῶς αἰσθάνηται πάσας τὰς διαφορὰς τῆς κινήσεως. διὰ ταῦτα δὲ καὶ ἐν ὕδατι ἀκούομεν, ὅτι οὐκ εἰσέρχεται πρὸς αὐτὸν τὸν συμφυῆ ἀέρα· ἀλλ' οὐδ' εἰς τὸ οὖς διὰ τὰς ἔλικας. ὅταν δὲ τοῦτο συμβῇ, οὐκ ἀκούει· οὐδ' ἂν ἢ
 15 μῆνιγξ κάμη, ὥσπερ τὸ ἐπὶ τῇ κόρῃ δέρμα ὅταν κάμη. ἀλλὰ καὶ σημεῖον τοῦ ἀκούειν ἢ μὴ τὸ

¹ κινεῖ STVW, Bekker. ² ἔμφοφον Torstrick: ἔμψυχον.
³ αὐτὸς Torstrick: αὐτό.

directly illuminated by the sun), but it is not always reflected as it is by water or bronze or any other smooth surface, in such a way as to cause a shadow, which is our test of light. It is correct to say that "void" is essential to hearing; for the air is commonly thought to be void, and it is air, when moved as one continuous whole, which causes hearing. But owing to its fragility the air produces no sound unless the object which it strikes is smooth; when this is so, the air forms a single continuous mass, because the surface of the smooth object is a continuous unity.

That, then, is sound-producing, which can produce movement in a body of air, which is single and continuous as far as the organ of hearing, and the air is physically one with the organ of hearing; and since this organ of hearing is in the air, when the air outside is moved, the air inside is moved too. So that the animal does not hear with every part of it, nor does the air penetrate everywhere; for the part which will be affected and produce sound has not air everywhere in it. The air itself is incapable of sound, because it is easily dissipated; only when there is something to prevent its dissipation does its movement result in sound. The air in the ears is lodged deep, so as to be unmoved, in order that it may accurately perceive all differences of motion. That is why we can hear even in water, for the water does not enter as far as the air which forms part of the ear; nor even into the ear itself, because of the convolutions. When this does occur, there is no hearing; nor again if the membrane is damaged, just as when the membrane over the eye is damaged. A test of our hearing or not is the continual ringing in the ear

The process of hearing.

420 a

ἤχεῖν αἰεὶ τὸ οὖς ὥσπερ τὸ κέρας· αἰεὶ γὰρ οἰκείαν
 τινὰ κίνησιν ὁ ἀήρ κινεῖται ὁ ἐν τοῖς ὠσίν· ἀλλ' ὁ
 ψόφος ἀλλότριος καὶ οὐκ ἴδιος. καὶ διὰ τοῦτό
 φασιν ἀκούειν τῷ κενῷ καὶ ἠχοῦντι, ὅτι ἀκούομεν
 20 τῷ ἔχοντι ὠρισμένον τὸν ἀέρα. πότερον δὲ ψο-
 φεῖ τὸ τυπτόμενον ἢ τὸ τύπτον; ἢ καὶ ἄμφω,
 τρόπον δ' ἕτερον· ἔστι γὰρ ὁ ψόφος κίνησις τοῦ
 δυναμένου κινεῖσθαι τὸν τρόπον τοῦτον ὄνπερ τὰ
 ἀφαλλόμενα ἀπὸ τῶν λείων, ὅταν τις κρούσῃ. οὐ
 δὴ πᾶν, ὥσπερ εἴρηται, ψοφεῖ τυπτόμενον καὶ
 25 τύπτον, οἷον ἐὰν πατάξῃ βελόνῃ βελόνῃν· ἀλλὰ
 δεῖ τὸ τυπτόμενον ὀμαλὸν εἶναι, ὥστε τὸν ἀέρα
 ἀθροῦν ἀφάλλεσθαι καὶ σείεσθαι. αἱ δὲ διαφοραὶ
 τῶν ψοφούντων ἐν τῷ κατ' ἐνέργειαν ψόφῳ
 δηλοῦνται· ὥσπερ γὰρ ἄνευ φωτὸς οὐχ ὄραται τὰ
 χρώματα, οὕτως οὐδ' ἄνευ ψόφου τὸ ὀξύ καὶ τὸ
 βαρὺ. ταῦτα δὲ λέγεται κατὰ μεταφορὰν ἀπὸ
 30 τῶν ἀπτῶν· τὸ μὲν γὰρ ὀξύ κινεῖ τὴν αἴσθησιν ἐν
 ὀλίγῳ χρόνῳ ἐπὶ πολὺ, τὸ δὲ βαρὺ ἐν πολλῷ ἐπ'
 ὀλίγον. οὐ δὴ ταχὺ τὸ ὀξύ, τὸ δὲ βαρὺ βραδύ,
 ἀλλὰ γίνεται τοῦ μὲν διὰ τὸ τάχος ἢ κίνησις
 420 b τοιαύτη, τοῦ δὲ διὰ βραδυτήτα. καὶ ἔοικεν ἀνά-
 λογον ἔχειν τῷ περὶ τὴν ἀφήν ὀξεῖ καὶ ἀμβλεῖ·
 τὸ μὲν γὰρ ὀξύ οἷον κεντεῖ, τὸ δ' ἀμβλὺ οἷον
 ὠθεῖ διὰ τὸ κινεῖν, τὸ μὲν ἐν ὀλίγῳ, τὸ δὲ ἐν
 πολλῷ, ὥστε συμβαίνει τὸ μὲν ταχὺ τὸ δὲ βραδὺ
 5 εἶναι. περὶ μὲν οὖν ψόφου ταύτη διωρίσθω.

Ἡ δὲ φωνὴ ψόφος τίς ἐστὶν ἐμφύχου· τῶν γὰρ
 ἀμφύχων οὐθέν φωνεῖ, ἀλλὰ καθ' ὁμοιότητα λέγεται

114

like a horn ; for the air in the ear always moves with
 a special movement of its own ; but sound is from an
 outside source, and not a property of the ear. This
 is why they say that we hear by something which is
 empty and resonant, because we hear by that which
 has the air enclosed in it. Now which makes the
 sound—the thing struck or the striker ? Surely both,
 but in different senses ; for sound is the movement
 of what can be moved, in the way that things rebound
 from a smooth surface when struck against it. But,
 as has been said,^a not everything produces a sound,
 when it strikes or is struck, for instance, if one needle
 strikes another ; but that which is struck must be
 flat, so that the air may rebound and vibrate as one
 mass. But the differences in things which sound are
 shown in sound actually realized ; for just as colours
 cannot be seen without light, so sharp and heavy
 noises cannot be distinguished without sound. These
 terms are used by analogy from the sense of touch.
 The sharp sensation excites to a great extent in a
 short time, the heavy to a slight extent in a long time.
 It is not that the sharp is itself quick, while the heavy
 is slow, but that their respective movements differ
 in quality because of their speed and slowness. There
 seems to be an analogy to the sharp and blunt in the
 sphere of touch ; for the sharp stabs, so to speak,
 but the blunt pushes its way in, because the former
 produces its effect in a short, the latter in a long time,
 so that the one is swift and the other slow. So much
 for our analysis of the properties of sound.

Voice is the sound produced by a creature posses- Voice.
 sing a soul ; for inanimate things never have a voice ;
 they can only metaphorically be said to give voice, e.g.,

^a 419 b 6.

115

420 b

φωνεῖν, οἷον αὐλὸς καὶ λύρα καὶ ὅσα ἄλλα τῶν
 ἀψύχων ἀπότασιν ἔχει καὶ μέλος καὶ διάλεκτον·
 εἶκοι γὰρ ὅτι καὶ ἡ φωνὴ ταύτ' ἔχει, πολλὰ δὲ
 10 τῶν ζώων οὐκ ἔχουσι φωνήν, οἷον τὰ τε ἀναιμα
 καὶ τῶν ἐναίμων ἰχθύες. καὶ τοῦτ' εὐλόγως, εἶπερ
 ἀέρος κίνησις τίς ἐστίν ὁ ψόφος. ἀλλ' οἱ λεγό-
 μνοι φωνεῖν, οἷον ἐν τῷ Ἀχελώῳ, ψοφοῦσι τοῖς
 βραγχίοις ἢ τινι ἑτέρῳ τοιούτῳ. φωνὴ δ' ἐστὶ
 ζῶου ψόφος, καὶ οὐ τῷ τυχόντι μορίῳ. ἀλλ' ἐπεὶ
 15 πᾶν ψοφεῖ τύπτοντός τινος καὶ τι καὶ ἐν τινι,
 τοῦτο δ' ἐστὶν ἀήρ, εὐλόγως ἂν φωνοίη ταῦτα
 μόνᾳ ὅσα δέχεται τὸν ἀέρα. ἤδη γὰρ τῷ ἀναπνεο-
 μένῳ καταχρῆται ἡ φύσις ἐπὶ δύο ἔργα, καθάπερ
 τῇ γλώττῃ ἐπὶ τε τὴν γεῦσιν καὶ τὴν διάλεκτον,
 ὧν ἡ μὲν γεῦσις ἀναγκαῖον (διὸ καὶ πλείοσιν
 20 ὑπάρχει), ἡ δ' ἐρμηνεία ἕνεκα τοῦ εἶδ', οὕτω καὶ
 τῷ πνεύματι πρὸς τε τὴν θερμότητα τὴν ἐντὸς
 ὡς ἀναγκαῖον (τὸ δ' αἴτιον ἐν ἑτέροις εἰρήσεται)
 καὶ πρὸς τὴν φωνήν, ὅπως ὑπάρχη τὸ εἶδ'. ὄργα-
 νον δὲ τῇ ἀναπνοῇ ὁ φάρυγξ· οὐ δ' ἕνεκα καὶ τὸ
 μούριόν ἐστι τοῦτο, πλεύμων· τούτῳ γὰρ τῷ μορίῳ
 25 πλείστον ἔχει τὸ θερμὸν τὰ πέζα τῶν ἄλλων.
 δεῖται δὲ τῆς ἀναπνοῆς καὶ ὁ περιὶ τὴν καρδίαν
 τόπος πρῶτος. διὸ ἀναγκαῖον εἶσω ἀναπνεομένου
 εἰσιέναι τὸν ἀέρα. ὥστε ἡ πληγὴ τοῦ ἀναπνεομένου
 ἀέρος ὑπὸ τῆς ἐν τούτοις τοῖς μορίοις ψυχῆς πρὸς

^a *Hist. Anim.* iv. 9, 535 b 14 "the boar in the Achelous."
 A cat-fish has been found in the Achelous of which this is
 true.

^b *Cf. De Resp.* ch. viii.

a flute or a lyre, and all the other inanimate things
 which have a musical compass, and tune, and modula-
 tion. The metaphor is due to the fact that the voice
 also has these, but many animals—*e.g.*, those which
 are bloodless, and of animals which have blood, fish
 —have no voice. And this is quite reasonable, since
 sound is a kind of movement of the air. The fish,
 such as those in the Achelous,^a which are said to have
 a voice, only make a sound with their gills, or with
 some other such part. Voice, then, is a sound made
 by a living animal, and that not with any part of it
 indiscriminately. But, since sound only occurs when
 something strikes something else in a certain medium,
 and this medium is the air, it is natural that only
 those things should have voice which admit the air.
 As air is breathed in Nature makes use of it for two
 functions: just as she uses the tongue both for taste
 and for articulation, of which taste is an essential to
 life (and consequently belongs to more species), and
 articulate speech is an aid to living well; so in the
 same way she employs breath both to conserve in-
 ternal heat, as something essential (why it is so will
 be explained in another treatise),^b and also for the
 voice, that life may be of good standard. The organ
 of respiration is the throat, and the part which this
 is designed to serve is the lung; it is because of this
 part that the land animals have more heat than the
 rest. But the region about the heart also has a
 primary need of respiration. Hence it is necessary
 that in respiration the air should enter the body.
 Hence voice consists in the impact of the inspired air
 upon what is called the windpipe under the agency

420 b

τὴν καλουμένην ἀρτηρίαν φωνὴ ἔστιν. οὐ γὰρ πᾶς
 30 ζώου ψόφος φωνή, καθάπερ εἵπομεν (ἔστι γὰρ
 καὶ τῇ γλώττῃ ψοφεῖν καὶ ὡς οἱ βήττοντες), ἀλλὰ
 δεῖ ἔμφυχόν τε εἶναι τὸ τύπτον καὶ μετὰ φαντασίας
 τινός· σημαντικὸς γὰρ δὴ τις ψόφος ἔστιν ἢ
 φωνή, καὶ οὐ τοῦ ἀναπνεομένου ἀέρος, ὥσπερ ἢ
 421 a βήξ· ἀλλὰ τούτῳ τύπτει τὸν ἐν τῇ ἀρτηρίᾳ πρὸς
 αὐτήν. σημεῖον δὲ τὸ μὴ δύνασθαι φωνεῖν ἀνα-
 πνεύοντα μὴδ' ἐκπνεύοντα, ἀλλὰ κατέχοντα· κινεῖ
 γὰρ τοῦτο ὁ κατέχων. φανερόν δὲ καὶ διότι οἱ
 ἰχθύες ἄφωνοι· οὐ γὰρ ἔχουσι φάρυγγα. τοῦτο
 5 δὲ τὸ μόνον οὐκ ἔχουσιν, ὅτι οὐ δέχονται τὸν
 ἀέρα οὐδ' ἀναπνεύουσιν. δι' ἣν μὲν οὖν αἰτίαν,
 ἕτερός ἐστι λόγος.

IX. Περὶ δὲ ὀσμῆς καὶ ὀσφραντοῦ ἦττον εὐ-
 διόριστόν ἐστι τῶν εἰρημένων· οὐ γὰρ δῆλον ποῖόν
 τί ἐστιν ἢ ὀσμῆ, οὕτως ὡς ὁ ψόφος ἢ τὸ χρώμα.
 10 αἴτιον δ' ὅτι τὴν αἴσθησιν ταύτην οὐκ ἔχομεν
 ἀκριβῆ, ἀλλὰ χείρῳ πολλῶν ζώων· φαύλως γὰρ
 ἄνθρωπος ὀσμάται, καὶ οὐθενὸς αἰσθάνεται τῶν
 ὀσφραντῶν ἄνευ τοῦ λυπηροῦ ἢ τοῦ ἠδέος, ὡς
 οὐκ ὄντος ἀκριβοῦς τοῦ αἰσθητηρίου. εὐλογον δ'
 οὕτω καὶ τὰ σκληρόφθαλμα τῶν χρωμάτων αἰσθά-
 νεσθαι, καὶ μὴ διαδήλους αὐτοῖς εἶναι τὰς δια-
 15 φορὰς τῶν χρωμάτων πλὴν τῷ φοβερῷ καὶ ἀφόβῳ.
 οὕτω δὲ καὶ τὰς ὀσμάς τὸ τῶν ἀνθρώπων γένος·
 εἶκοι μὲν γὰρ ἀνάλογον ἔχειν πρὸς τὴν γεῦσιν καὶ
 ὁμοίως τὰ εἶδη τῶν χυμῶν τοῖς τῆς ὀσμῆς, ἀλλ'
 ἀκριβεστέραν ἔχομεν τὴν γεῦσιν διὰ τὸ εἶναι αὐτὴν

^a Cf. Part. Anim. 669 a 2.

of the soul in those parts. For, as we have said, not every sound made by a living creature is a voice (for one can make a sound even with the tongue, or as in coughing), but that which even causes the impact, must have a soul, and use some imagination; for the voice is a sound which means something, and is not merely indicative of air inhaled, as a cough is; in uttering voice the agent uses the respired air to strike the air in the windpipe against the windpipe itself. Proof of this lies in the fact that it is impossible to speak either when inhaling or exhaling, but only when holding the breath; for it is only in holding the breath that one can make this movement. It is clear also why fish are dumb; it is because they have no throat. They have not this organ because they do not take in air or breathe. The reason for this is another question.^a

IX. Concerning sense of smell and objects smelt, ^{Smell.} it is less easy to give a precise account than in the subjects we have already discussed, for the character of smell is not so obvious as that of sound and colour. The reason is that this sense with us is not highly discriminating, far less so indeed than with many animals; for man's sense of smell is inferior, and it is also incapable of apprehending the object smelt without a consciousness of either pleasure or pain, which shows that the sense organ is not discriminating. It is probable that the hard-eyed animals perceive colours in a similar way, and that they are incapable of distinguishing colours except as to be feared or the reverse. The human race is in the same position towards smells; it would seem that there is an analogy between smell and taste, and that the species of tastes correspond to those of smells, but that taste is with us more discriminating because it is

421 a

20 ἀφήν τινα, ταύτην δ' ἔχειν τὴν αἰσθησιν τὸν
 ἄνθρωπον ἀκριβεστάτην· ἐν μὲν γὰρ ταῖς ἄλλαις
 λείπεται πολλῶν¹ τῶν ζώων, κατὰ δὲ τὴν ἀφήν
 πολλῶν² τῶν ἄλλων διαφερόντως ἀκριβοῖ. διὸ καὶ
 φρονιμώτατόν ἐστι τῶν ζώων. σημεῖον δὲ τὸ καὶ
 ἐν τῷ γένει τῶν ἀνθρώπων παρὰ τὸ αἰσθητήριον
 25 τοῦτο εἶναι εὐφνεῖς καὶ ἀφνεῖς, παρ' ἄλλο δὲ μηδέν·
 οἱ μὲν γὰρ σκληρόσαρκοι ἀφνεῖς τὴν διάνοιαν, οἱ δὲ
 μαλακόσαρκοι εὐφνεῖς.

Ἔστι δ' ὡσπερ χυμὸς ὁ μὲν γλυκὺς ὁ δὲ πικρὸς,
 οὕτω καὶ ὄσμαί. ἀλλὰ τὰ μὲν ἔχουσι τὴν ἀνάλογον
 ὄσμην καὶ χυμόν (λέγω δὲ οἷον γλυκεῖαν ὄσμην
 30 καὶ γλυκὺν χυμόν), τὰ δὲ τοῦναντίον. ὁμοίως δὲ
 καὶ δριμεῖα καὶ αὐστηρὰ καὶ ὀξεῖα καὶ λιπαρὰ ἐστὶν
 ὄσμη· ἀλλ' ὡσπερ εἶπομεν, διὰ τὸ μὴ σφόδρα δια-
 δήλους εἶναι τὰς ὄσμάς ὡσπερ τοὺς χυμούς, ἀπὸ
 421 b τούτων εἴληφε τὰ ὀνόματα καθ' ὁμοιότητα τῶν
 πραγμάτων· ἢ μὲν γὰρ γλυκεῖα ἀπὸ τοῦ κρόκου
 καὶ τοῦ μέλιτος, ἢ δὲ δριμεῖα θύμου καὶ τῶν
 τοιούτων τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων.
 ἔστι δ' ὡσπερ ἡ ἀκοὴ καὶ ἐκάστη τῶν αἰσθήσεων,
 5 ἢ μὲν τοῦ ἀκουστοῦ καὶ ἀνηκούστου, ἢ δὲ τοῦ
 ὄρατοῦ καὶ ἀοράτου, καὶ ἡ ὀσφρησις τοῦ ὀσφραντοῦ
 καὶ ἀνοσφραντοῦ. ἀνόσφραντον δὲ τὸ μὲν παρὰ
 τὸ ὄλως ἀδύνατον ἔχειν ὄσμην, τὸ δὲ μικρὰν ἔχον
 καὶ φαύλην. ὁμοίως δὲ καὶ τὸ ἀγευστον λέγεται.
 ἔστι δὲ καὶ ἡ ὀσφρησις διὰ τοῦ μεταξύ, οἷον ἀέρος
 10 ἢ ὕδατος· καὶ γὰρ τὰ ἐνυδρα δοκοῦσιν ὄσμης
 αἰσθάνεσθαι. ὁμοίως δὲ καὶ τὰ ἔναιμα καὶ τὰ
 ἀναιμα, ὡσπερ καὶ τὰ ἐν τῷ ἀέρι· καὶ γὰρ τούτων

¹ πολλῶν comm. vet. : πολλῶ ESUV, Bekker.

² πολλῶν Bekker.

itself a form of touch, and this sense in man is highly discriminating ; in the other senses he is behind many kinds of animal, but in touch he is much more discriminating than the other animals. This is why he is of all living creatures the most intelligent. Proof of this lies in the fact that among the human race men are well or poorly endowed with intelligence in proportion to their sense of touch, and no other sense ; for men of hard skin and flesh are poorly, and men of soft flesh well endowed with intelligence.

Just as flavours are sweet and bitter, so are smells. In some things the smell corresponds to the taste, e.g., both smell and taste are sweet ; in others they are contrasted. Smell, like flavour, may be pungent, rough, acid or oily. But, as we have said, smells being, unlike flavours, not easily differentiated, they have taken their names from flavours on the ground of a correspondence between them ; the smell of saffron or honey is called sweet, while that of thyme and similar herbs is called pungent ; and similarly in other cases. Just as hearing or any other given sense has for its object both the audible and the inaudible, or both the visible and the invisible, so smell has both the odorous and the odourless. " Odourless " means both that which has no smell at all and that which has a very small and slight smell. The sense of smell also operates through a medium, such as air or water ; for the water animals too, whether they have blood or not, seem to have a sense of smell, just like those

421 b

ἐνια πόρρωθεν ἀπαντᾷ πρὸς τὴν τροφήν ὑποσμά
γνώμενα.

Διὸ καὶ ἄπορον φαίνεται, εἰ πάντα μὲν ὁμοίως
ὀσμᾶται, ὃ δ' ἄνθρωπος ἀναπνέων μὲν, μὴ ἀνα-
15 πνέων δὲ ἄλλ' ἐκπνέων ἢ κατέχων τὸ πνεῦμα οὐκ
ὀσμᾶται, οὔτε πόρρωθεν οὔτ' ἐγγύθεν, οὔδ' ἂν
ἐπὶ τοῦ μυκτῆρος ἐντὸς τεθῆ. καὶ τὸ μὲν ἐπ'
αὐτῷ τιθέμενον τῷ αἰσθητηρίῳ ἀναίσθητον εἶναι
κοινὸν πάντων· ἀλλὰ τὸ ἄνευ τοῦ ἀναπνεῖν μὴ
αἰσθάνεσθαι ἴδιον ἐπὶ τῶν ἀνθρώπων· δῆλον δὲ
20 πειρωμένοις. ὥστε τὰ ἄναιμα, ἐπειδὴ οὐκ ἀνα-
πνεύουσιν, ἕτεραν ἂν τιν' αἰσθησιν ἔχοι παρὰ τὰς
λεγομένας. ἀλλ' ἀδύνατον, εἴπερ τῆς ὀσμῆς αἰ-
σθάνεται· ἢ γὰρ τοῦ ὀσφραντοῦ αἰσθησις καὶ
δυσώδους καὶ εὐώδους ὀσφρησις ἐστίν. ἔτι δὲ
καὶ φθειρόμενα φαίνεται ὑπὸ τῶν ἰσχυρῶν ὀσμῶν
25 ὑφ' ὧνπερ ἄνθρωπος, οἶον ἀσφάλτου καὶ θείου
καὶ τῶν τοιούτων. ὀσφραίνεσθαι μὲν οὖν ἀναγ-
καίον, ἀλλ' οὐκ ἀναπνέοντα.

Ἔοικε δὲ τοῖς ἀνθρώποις διαφέρειν τὸ αἰσθη-
τήριον τοῦτο πρὸς τὸ τῶν ἄλλων ζώων, ὥσπερ
τὰ ὄμματα πρὸς τὰ τῶν σκληροφθάλμων· τὰ μὲν
γὰρ ἔχει φράγμα καὶ ὥσπερ ἔλυτρον τὰ βλέφαρα,
30 ἃ μὴ κινήσας μὴδ' ἀνασπᾶσας οὐχ ὄρα· τὰ δὲ
σκληρόφθαλμα οὐδὲν ἔχει τοιοῦτον, ἀλλ' εὐθέως
ὄρα τὰ γινόμενα ἐν τῷ διαφανεῖ. οὕτως οὖν καὶ
422 a τὸ ὀσφραντικὸν αἰσθητήριον τοῖς μὲν ἀκάλυφες
εἶναι, ὥσπερ τὸ ὄμμα, τοῖς δὲ τὸν ἀέρα δεχο-
μένοις ἔχειν ἐπικάλυμμα, ὃ ἀναπνεόντων ἀπο-
καλύπτεσθαι, διευρυνομένων τῶν φλεβίων καὶ τῶν
πόρων. καὶ διὰ τοῦτο τὰ ἀναπνέοντα οὐκ ὀσμᾶται

which live in the air ; for some of them, guided by
the scent, come from a great distance to find their
food.

Hence a problem presents itself. All animals smell How the sense of smell operates.
in the same way, while man only smells during in-
halation ; when not inhaling, but either exhaling or
holding the breath, he cannot smell either at a dis-
tance or at close range, not even if the object of smell
is placed inside and in contact with the nostril. That
what is placed on the sense organ should be imper-
ceptible is common to all senses ; but to perceive
no smell without inhaling seems to be peculiar to
man. The fact, when tested, is obvious. So that
bloodless animals, since they do not inhale, would
seem to have another sense beyond the usually
accepted ones. But this is impossible, if what they
perceive is smell ; for perception of the odorous, and
of sweet or foul smell, is an act of smelling. Again,
we can observe that they are destroyed by the same
strong smells, such as bitumen, sulphur and the like,
which destroy man. So they must smell, but without
inhaling.

Probably this sense organ in man differs from its Man differs from the animal.
counterpart in other living creatures, just as human
eyes are different from those of hard-eyed animals ;
for human eyes have lids as a covering, and a sheath
as it were, without moving and raising which they
cannot see ; but hard-eyed animals have nothing of
the kind, but see directly what appears in the trans-
parency. Similarly in some animals the organ of
smell is uncovered like the eye, but others which
admit the air have a veil which is lifted when they
inhale, the veins and passages dilating. This is why
animals which inhale do not smell in water ; for to

422 a

5 ἐν τῷ ὑγρῷ· ἀναγκαῖον γὰρ ὀσφρανθῆναι ἀναπνεύσαντα, τοῦτο δὲ ποιεῖν ἐν τῷ ὑγρῷ ἀδύνατον. ἔστι δ' ἢ ὀσμὴ τοῦ ξηροῦ, ὡσπερ ὁ χυμὸς τοῦ ὑγροῦ· τὸ δὲ ὀσφραντικὸν αἰσθητήριον δυνάμει τοιοῦτον

X. Τὸ δὲ γευστὸν ἔστιν ἀπτὸν τι· καὶ τοῦτ' αἷτιον τοῦ μὴ εἶναι αἰσθητὸν διὰ τοῦ μεταξὺ
10 ἀλλοτρίου ὄντος σώματος· οὐδὲ γὰρ ἢ ἀφή. καὶ τὸ σῶμα δὲ ἐν ᾧ ὁ χυμὸς, τὸ γευστὸν, ἐν ὑγρῷ ὡς ὕλη· τοῦτο δ' ἀπτὸν τι. διὸ καὶ εἰ ἐν ὕδατι εἶμεν, αἰσθανοίμεθ' ἂν ἐμβληθέντος τοῦ γλυκέος, οὐκ ἦν δ' ἂν ἢ αἰσθησις ἡμῖν διὰ τοῦ μεταξὺ, ἀλλὰ τῷ μιχθῆναι τῷ ὑγρῷ, καθάπερ ἐπὶ τοῦ
15 ποτοῦ. τὸ δὲ χρῶμα οὐχ οὕτως ὀραται τῷ μίγνυσθαι, οὐδὲ ταῖς ἀπορροαῖς. ὡς μὲν οὖν τὸ μεταξὺ οὐθέν ἐστιν· ὡς δὲ χρῶμα τὸ ὀρατὸν, οὕτω τὸ γευστὸν ὁ χυμὸς. οὐθέν δὲ ποιεῖ χυμοῦ αἰσθησιν ἄνευ ὑγρότητος, ἀλλ' ἔχει ἐνεργεία ἢ δυνάμει ὑγρότητα, οἷον τὸ ἀλμυρὸν· εὐτηκτὸν τε γὰρ αὐτὸ καὶ συντηκτικὸν γλώττης.

20 Ὡσπερ δὲ καὶ ἢ ὄψις ἐστὶ τοῦ τε ὀρατοῦ καὶ τοῦ ἀοράτου (τὸ γὰρ σκότος ἀόρατον, κρίνει δὲ καὶ τοῦτο ἢ ὄψις), ἔτι τοῦ λίαν λαμπροῦ (καὶ γὰρ τοῦτο ἀόρατον, ἄλλον δὲ τρόπον τοῦ σκότους), ὁμοίως δὲ καὶ ἢ ἀκοή ψόφου τε καὶ σιγῆς, ὧν τὸ μὲν ἀκουστὸν τὸ δ' οὐκ ἀκουστὸν, καὶ μεγάλου
25 ψόφου, καθάπερ ἢ ὄψις τοῦ λαμπροῦ· ὡσπερ γὰρ ὁ μικρὸς ψόφος ἀνήκουστος τρόπον τινα, καὶ ὁ μέγας τε καὶ ὁ βίαιος· ἀόρατον δὲ τὸ μὲν ὅλως λέγεται, ὡσπερ καὶ ἐπ' ἄλλων τὸ ἀδύνατον, τὸ δ',

124

smell they must first inhale, and it is impossible to do this in water. Smell belongs to the dry, as flavour does to the wet; and the organ of smell is potentially dry.

X. The tasteable is a kind of tangible; and this is the reason why it is not perceptible through the medium of any foreign body; for the same thing is true of touch. Further, the tasteable body in which flavour resides is in a liquid material medium; and this is tangible. Hence if we lived in water, we should perceive sweetness injected into it, but our perception would not come through any medium, but would be due to the mixing of the sweet stuff with the water, just as in a drink. But colour is not seen by being mixed, nor by an emanation. Taste has nothing, then, to act as a medium; although as the object of sight is colour, so the object of taste is flavour. But
Taste like touch requires no medium,
but liquid must be present.

Now sight is concerned both with what can and with what cannot be seen (for darkness cannot be seen, and the power of sight distinguishes darkness), and also with that which is too bright (for this also cannot be seen, though in a different sense from darkness); and in the same way the power of hearing is concerned with both sound and silence, the former being that which is heard, and the latter that which is not heard, and also with very loud noise, just as sight is concerned with the too bright; for as a slight sound is in a sense inaudible, so also is a loud and violent one. The word invisible is used in one sense quite generally, like other terms which deny a

125

422 a

εἰν πεφυκὸς μὴ ἔχη ἢ φαύλως, ὥσπερ τὸ ἄπουν
καὶ τὸ ἀπύρηνον· οὕτω δὴ καὶ ἡ γεύσις τοῦ
30 γευστοῦ τε καὶ ἀγεύστου· τοῦτο δὲ τὸ μικρὸν ἢ
φαῦλον ἔχον χυμὸν ἢ φθαρτικὸν τῆς γεύσεως.
δοκεῖ δ' εἶναι ἀρχὴ τὸ ποτὸν καὶ ἄποτον· γεύσις
γάρ τις ἀμφότερα· ἀλλὰ τὸ μὲν φαύλη καὶ φθαρ-
τικὴ τῆς γεύσεως, τὸ δὲ κατὰ φύσιν. ἔστι δὲ
κοινὸν ἀφῆς καὶ γεύσεως τὸ ποτὸν.

422 b

Ἐπεὶ δ' ὑγρὸν τὸ γευστόν, ἀνάγκη καὶ τὸ
αἰσθητήριον αὐτοῦ μήτε ὑγρὸν εἶναι ἐντελεχεία
μήτε ἀδύνατον ὑγραίνεσθαι· πάσχει γάρ τι ἡ γεύ-
σις ὑπὸ τοῦ γευστοῦ, ἢ γευστόν. ἀναγκαῖον ἄρα
ὑγρανθῆναι τὸ δυνάμενον μὲν ὑγραίνεσθαι σωζό-
5 μενον, μὴ ὑγρὸν δέ, τὸ γευστικὸν αἰσθητήριον.
σημεῖον δὲ τὸ μήτε κατάξηρον οὔσαν τὴν γλώτταν
αἰσθάνεσθαι μήτε λίαν ὑγράν· αὕτη γὰρ ἀφή γί-
νεται τοῦ πρώτου ὑγροῦ, ὥσπερ ὅταν προγευμα-
τίσας τις ἰσχυροῦ χυμοῦ γεύηται ἑτέρου· καὶ
οἶον τοῖς κάμνουσι πικρὰ πάντα φαίνεται διὰ τὸ
10 τῇ γλώττῃ πλήρει τοιαύτης ὑγρότητος αἰσθάνε-
σθαι. τὰ δ' εἶδη τῶν χυμῶν, ὥσπερ καὶ ἐπὶ τῶν
χρωμάτων, ἀπλᾶ μὲν τὰναντία, τὸ γλυκὺ καὶ τὸ
πικρὸν, ἐχόμενα δὲ τοῦ μὲν τὸ λιπαρόν, τοῦ δὲ τὸ
ἀλμυρόν· μεταξὺ δὲ τούτων τό τε δριμύ καὶ τὸ
αὐστηρόν καὶ στρυφνὸν καὶ ὀξύ· σχεδὸν γὰρ αὗται
15 δοκοῦσιν εἶναι διαφοραὶ χυμῶν. ὥστε τὸ γευ-
στικὸν ἔστι τὸ δυνάμει τοιοῦτον, γευστόν δὲ τὸ
ποιητικὸν ἐντελεχεία αὐτοῦ.

XI. Περὶ δὲ τοῦ ἄπτοῦ καὶ ἀφῆς ὁ αὐτὸς λόγος.

126

capacity, and also in the sense of not having the quality or having it to a very small extent, though by nature qualified to possess it, like the words footless or stoneless. In just the same way the sense of taste is concerned with both that which is tasted and that which is not; the latter being that which has little or poor taste, or which is destructive of taste. The ultimate distinction seems to lie in the drinkable and undrinkable; for each implies a tasting, but the latter is bad and destructive of taste, while the former is natural. The drinkable is an object common to both touch and taste.

Since what is tasted is wet, the organ which perceives it must be neither actually liquid nor incapable of liquefaction; for taste is affected by the object of taste, in so far as it is tasted. Hence there must be liquefaction of the organ of taste, which must be liquefiable without loss of identity, but not liquid. This is proved by the fact that the tongue is as insensitive when too wet as when quite dry; what happens is a contact with the moisture already in the tongue, as when a man having first tasted a strong flavour then tastes another; or as when a man is ill everything tastes bitter, because he perceives it with a tongue filled with bitter fluid. The types of flavours, just as in the case of colours, in their simplest form are contraries, sweet and bitter; next to these respectively are oily and saline; between these latter come pungent, rough, astringent and acid. These seem to be nearly all the differences in flavours. Hence what is capable of tasting is that which potentially has these qualities; and the tasteable is that which actualizes this potentiality.

XI. The same account applies to the tangible and Touch.

127

422 b

εἰ γὰρ ἢ ἀφή μὴ μία ἐστὶν αἴσθησις ἀλλὰ πλείους, ἀναγκαῖον καὶ τὰ ἀπτά αἰσθητὰ πλείω εἶναι. ἔχει δ' ἀπορίαν πότερον πλείους εἰσὶν ἢ μία, καὶ τί τὸ αἰσθητήριον τὸ τοῦ ἀπτοῦ ἀπτικόν, πότερον ἢ σὰρξ καὶ ἐν τοῖς ἄλλοις τὸ ἀνάλογον, ἢ οὐ, ἀλλὰ τοῦτο μὲν ἐστὶ τὸ μεταξύ, τὸ δὲ πρῶτον αἰσθητήριον ἄλλο τί ἐστὶν ἐντός. πᾶσά τε γὰρ αἴσθησις μιᾶς ἐναντιώσεως εἶναι δοκεῖ, οἷον ὄψις λευκοῦ καὶ μέλανος καὶ ἀκοή ὀξέος καὶ βαρέος καὶ γεῦσις πικροῦ καὶ γλυκέος· ἐν δὲ τῷ ἀπτῷ πολλαὶ ἐνεῖσιν ἐναντιώσεις, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, σκληρὸν μαλακόν, καὶ τῶν ἄλλων ὅσα τοιαῦτα. ἔχει δὲ τινα λύσιν πρὸς γε ταύτην τὴν ἀπορίαν, ὅτι καὶ ἐπὶ τῶν ἄλλων αἰσθήσεών εἰσιν ἐναντιώσεις πλείους, οἷον ἐν φωνῇ οὐ μόνον ὀξύτης καὶ βαρύτης, ἀλλὰ καὶ μέγεθος καὶ μικρότης καὶ λειότης καὶ τραχύτης φωνῆς καὶ τοιαῦθ' ἕτερα. εἰσὶ δὲ καὶ περὶ χρώμα διαφοραὶ τοιαῦται ἕτεραι. ἀλλὰ τί τὸ ἐν τὸ ὑποκείμενον, ὡς περ ἀκοῆ ψόφος, οὕτω τῇ ἀφῇ, οὐκ ἔστιν ἐνδηλον.

Πότερον δ' ἐστὶ τὸ αἰσθητήριον ἐντός, ἢ οὐ, ἀλλ' εὐθέως ἢ σὰρξ; οὐδὲν δοκεῖ σημεῖον εἶναι τὸ γίνεσθαι τὴν αἴσθησιν ἅμα θιγγανομένων. καὶ γὰρ νῦν εἴ τις περὶ τὴν σάρκα περιτείνειεν οἷον ὑμένα ποιήσας, ὁμοίως τὴν αἴσθησιν εὐθέως ἀψάμενος ἐνσημαίνει· καίτοι δῆλον ὡς οὐκ ἔστιν ἐν τούτῳ τὸ αἰσθητήριον· εἰ δὲ καὶ συμφυῆς γένοιτο, θᾶπτον ἔτι διῖκνοῖτ' ἂν ἢ αἴσθησις. διὸ τὸ τοιοῦτο μόριον τοῦ σώματος ἔοικεν οὕτως ἔχειν ὡς περ ἂν εἰ κύκλῳ ἡμῖν περιεπεφύκει ὁ ἀήρ· ἐδοκοῦμεν

128

the sense of touch. For if touch is not one sense, but several, there must be several kinds of tangibles. It is difficult to say whether touch is one sense or more than one, and also what the organ is which is perceptive of the object of touch; whether it is flesh, and whatever is analogous to this in creatures without flesh, or whether this is only the medium, and the primary sense organ is something distinct and internal. For every sensation appears to be concerned with one pair of contraries, e.g., vision is of white and black, hearing of high and low pitch, and taste of bitter and sweet; but in the tangible there are many pairs of contraries, hot and cold, dry and wet, hard and soft, and all other like qualities. Some solution may be found to this difficulty in the fact that the other senses too are conscious of more than one pair of contraries: so in sound there is not merely high and low pitch, but also loud and soft, smooth and rough, and so on. There are similarly other differences in colour. But what in the case of touch is the single substrate corresponding to sound in hearing is not obvious.

Whether the sense organ is within, or whether the flesh feels directly, is not decided by the fact that sensation occurs instantly upon contact. For even as it is, if the flesh is surrounded with a closely fitting fabric, as soon as this is touched sensation is registered as before; yet it is quite clear that the sense organ is not in the fabric. And if the fabric actually grew on the flesh, the sensation would traverse it even more quickly. So this part of the body seems to have much the same effect as that of a natural envelope of air; for in that case we should suppose that our

What is the sense organ of touch?

129

422 a γὰρ ἂν ἐνὶ τινι αἰσθάνεσθαι καὶ ψόφου καὶ χρώ-
ματος καὶ ὀσμῆς, καὶ μία τις αἴσθησις εἶναι ὄψις
10 ἀκοή ὄσφρησις. νῦν δὲ διὰ τὸ διωρίσθαι δι' οὐ
γίνονται αἱ κινήσεις, φανερὰ τὰ εἰρημένα αἰσθη-
τήρια ἕτερα ὄντα. ἐπὶ δὲ τῆς ἀφῆς τοῦτο νῦν
ἀδηλον· ἐξ ἀέρος μὲν γὰρ ἢ ὕδατος ἀδύνατον συ-
στῆναι τὸ ἔμφυχον σῶμα· δεῖ γάρ τι στερεὸν
εἶναι. λείπεται δὲ μικτὸν ἐκ γῆς καὶ τούτων
15 εἶναι, οἷον βούλεται ἢ σὰρξ καὶ τὸ ἀνάλογον· ὥστε
ἀναγκαῖον καὶ τὸ σῶμα εἶναι μεταξὺ τοῦ ἄπτικοῦ
προσπεφυκός, δι' οὐ γίνονται αἱ αἰσθήσεις πλείους
οὔσαι. δηλοῖ δ' ὅτι πλείους ἢ ἐπὶ τῆς γλώττης
ἀφή· ἀπάντων γὰρ τῶν ἄπτῶν αἰσθάνεται κατὰ
τὸ αὐτὸ μῶριον καὶ χυμοῦ. εἰ μὲν οὖν καὶ ἡ
20 ἄλλη σὰρξ ἠσθάνετο τοῦ χυμοῦ, ἔδοκει ἂν ἡ αὐτὴ
καὶ μία εἶναι αἴσθησις ἢ γεῦσις καὶ ἡ ἀφή· νῦν
δὲ δύο διὰ τὸ μὴ ἀντιστρέφειν.

Ἀπορήσειε δ' ἂν τις, εἰ πᾶν σῶμα βάθος ἔχει,
τοῦτο δ' ἐστὶ τὸ τρίτον μέγεθος· ὦν δ' ἐστὶ δύο
σωμάτων μεταξὺ σῶμά τι, οὐκ ἐνδέχεται ταῦτα
ἀλλήλων ἄπτεσθαι. τὸ δ' ὑγρὸν οὐκ ἔστιν ἄνευ
25 σώματος, οὐδὲ τὸ διερόν, ἀλλ' ἀναγκαῖον ὕδωρ
εἶναι ἢ ἔχειν ὕδωρ. τὰ δὲ ἀπτόμενα ἀλλήλων ἐν
τῷ ὕδατι, μὴ ξηρῶν τῶν ἄκρων ὄντων, ἀναγκαῖον
ὕδωρ ἔχειν μεταξὺ, οὐκ ἀνάπλεα τὰ ἔσχατα. εἰ
δὲ τοῦτ' ἀληθές, ἀδύνατον ἄψασθαι ἄλλο ἄλλου
ἐν ὕδατι. τὸν αὐτὸν δὲ τρόπον καὶ ἐν τῷ ἀέρι·
30 ὁμοίως γὰρ ἔχει ὁ ἀήρ πρὸς τὰ ἐν αὐτῷ καὶ τὸ
ὕδωρ πρὸς τὰ ἐν τῷ ὕδατι. λανθάνει δὲ μᾶλλον
422 b ἡμᾶς, ὥσπερ καὶ τὰ ἐν τῷ ὕδατι ζῶα, εἰ διερόν

perception of sound, colour, and smell were all due to the one thing, and that vision, hearing, and smell were all one and the same sense. But, as it is, since the medium through which the movements occur is detached, it is obvious that the sense organs in question are different. But in the case of touch the fact is still obscure. The animate body cannot be made of water or air; it must be something solid. The alternative is that it is a mixture of these elements with earth, as flesh and its equivalent tend to be; so that the tactual medium through which the several sensations are felt must be an organically attached body. That they are several is clear from a consideration of touch in the case of the tongue; for the tongue perceives all tangible objects with the same part with which it perceives flavour. If then the rest of the flesh also could perceive flavour, taste and touch would seem to be one and the same sense. But, as it is, they are proved two, because they are not convertible.

But here a difficulty arises. Every body has depth, The medium in the case of touch. i.e., the third dimension; and when two bodies have a third between them, they cannot touch each other. But the liquid or wet cannot exist without a body, and must either be, or contain, water. Those things, then, which touch each other in water, as their extremities are not dry, must have water between them, of which their extremities are full. If this is true, then it is impossible for one thing to touch another in water. The same thing will be true of air, for air has the same relation to things in it, as water has to things in water. But we tend to overlook this point, just as animals living in water do not notice if the surfaces of things which touch are wet.

423 b

διερού ἄπτεται. πότερον οὖν πάντων ὁμοίως ἐστὶν ἢ αἰσθησις, ἢ ἄλλων ἄλλως, καθάπερ νῦν δοκεῖ ἢ μὲν γεῦσις καὶ ἢ ἀφή τῷ ἄπτεσθαι, αἱ δ' ἄλλαι ἄποθεν; τὸ δ' οὐκ ἐστίν, ἀλλὰ καὶ τὸ σκληρὸν καὶ τὸ μαλακὸν δι' ἐτέρων αἰσθανόμεθα, ὥσπερ καὶ τὸ ψοφητικὸν καὶ τὸ ὄρατὸν καὶ τὸ ὀσφραντόν· ἀλλὰ τὰ μὲν πόρρωθεν, τὰ δ' ἐγγύθεν. διὸ λανθάνει, ἐπεὶ αἰσθανόμεθά γε πάντων διὰ τοῦ μέσου· ἀλλ' ἐπὶ τούτων λανθάνει. καίτοι καθάπερ εἶπαμεν καὶ πρότερον, κἂν εἰ δι' ὑμένοιο αἰσθανόμεθα τῶν ἀπτῶν ἀπάντων λανθάνοντος ὅτι διείργει, ὁμοίως ἂν ἔχοιμεν ὥσπερ καὶ νῦν ἐν τῷ ὕδατι καὶ ἐν τῷ ἀέρι· δοκοῦμεν γὰρ αὐτῶν ἄπτεσθαι καὶ οὐδὲν εἶναι διὰ μέσου. ἀλλὰ διαφέρει τὸ ἀπτὸν τῶν ὄρατῶν καὶ τῶν ψοφητικῶν, ὅτι ἐκείνων μὲν αἰσθανόμεθα τῷ τὸ μεταξὺ ποιεῖν τι ἡμᾶς, τῶν δὲ ἀπτῶν οὐχ ὑπὸ τοῦ μεταξὺ ἀλλ' ἅμα τῷ μεταξὺ, ὥσπερ ὁ δι' ἀσπίδος πληγείς· οὐ γὰρ ἡ ἀσπίς πληγείσα ἐπάταξεν, ἀλλ' ἅμ' ἅμφω¹ συνέβη πληγῆναι. ὅλως δ' ἔοικεν ἢ σὰρξ καὶ ἢ γλῶττα, ὡς ὁ ἀήρ καὶ τὸ ὕδωρ πρὸς τὴν ὄψιν καὶ τὴν ἀκοήν καὶ τὴν ὀσφρησιν ἔχουσιν, οὕτως ἔχειν πρὸς τὸ αἰσθητήριον ὥσπερ ἐκείνων ἕκαστον. αὐτοῦ δὲ τοῦ αἰσθητηρίου ἀπτομένου οὐτ' ἐκεῖ οὐτ' ἐνταῦθα γένοιτ' ἂν αἰσθησις, οἷον εἴ τις σῶμα τὸ λευκὸν ἐπὶ τοῦ ὀμματος θείη τὸ ἔσχατον. ἢ καὶ δῆλον ὅτι ἐντὸς τὸ τοῦ ἀπτοῦ αἰσθητικόν. οὕτω γὰρ ἂν συμβαίνοι ὅπερ καὶ ἐπὶ τῶν ἄλλων· ἐπι-
25 τιθεμένων γὰρ ἐπὶ τὸ αἰσθητήριον οὐκ αἰσθάνεται,

¹ ἀλλ' ἅμ' ἅμφω E, Themistius, Sophonias, vet. trans., Torstrik: ἀλλ' ἅμφω vulgo.

Is then the perception of all things one only, or is it different of different things, just as it is now generally supposed that taste and touch both act by contact, but that the other senses act at a distance? This is not the truth; we perceive hard and soft through a medium, just as we apprehend what sounds, or is seen, or smelt; but since we perceive the latter from a distance, and the former only from near by, the facts escape us. We perceive all things through a medium; but in this case the medium is not obvious. Still, as we have said before, if we were to perceive all tangible things through a fabric, without noticing the separation caused by it, we should react exactly in the same way as we do now in water and in air; for we seem to touch them directly without the intervention of any medium. But there is a difference between tangible things, and visible or audible things. We perceive the latter because some medium acts on us, but we perceive tangible things not by a medium, but at the same time as the medium, like a man wounded through his shield; for it is not the stricken shield that struck him, but both he and the shield were struck simultaneously. In a general sense we may say that as air and water are related to vision, hearing and smell, so is the relation of the flesh and the tongue to the sense organ in the case of touch. In neither class of case mentioned would sensation result from touching the sense organ; for instance, if one were to put a white body on the surface of the eye. From this it is clear that that which is perceptive of what is touched is within. Thus would occur what is true in the other cases; for when objects are placed on the other sense organs no sensation occurs, but when

423 b ἐπὶ δὲ τὴν σάρκα ἐπιτιθεμένων αἰσθάνεται· ὥστε τὸ μεταξὺ τοῦ ἀπτικού ἢ σάρξ.

Ἄπται μὲν οὖν εἰσὶν αἱ διαφοραὶ τοῦ σώματος ἢ σώμα· λέγω δὲ διαφορὰς αἰ τὰ στοιχεῖα διορίζουσι, θερμὸν ψυχρὸν, ξηρὸν ὑγρὸν, περὶ ὧν εἰρήκαμεν πρότερον ἐν τοῖς περὶ στοιχείων. τὸ δὲ αἰσθη-
80 τήριον αὐτῶν τὸ ἀπτικόν, καὶ ἐν ᾧ ἢ καλουμένη ἀφή ὑπάρχει πρῶτον, τὸ δυνάμει τοιοῦτόν ἐστι
424 a μόριον· τὸ γὰρ αἰσθάνεσθαι πάσχειν τι ἐστίν. ὥστε τὸ ποιοῦν οἶον αὐτὸ ἐνεργεία, τοιοῦτον ἐκείνου ποιεῖ δυνάμει ὄν. διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ ἢ σκληροῦ καὶ μαλακοῦ οὐκ αἰσθανόμεθα, ἀλλὰ τῶν ὑπερβολῶν, ὡς τῆς αἰσθήσεως οἶον
5 μεσότητός τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεται γὰρ πρὸς ἐκάτερον αὐτῶν θάτερον τῶν ἄκρων· καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθήσεσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργεία, δυνάμει δ' ἄμφω (οὕτω δὲ
10 καὶ ἐπὶ τῶν ἄλλων)¹ καὶ ἐπὶ τῆς ἀφῆς μήτε θερμὸν μήτε ψυχρὸν. ἔτι δ' ὥσπερ ὄρατοῦ καὶ ἀοράτου ἦν πως ἢ ὄψις, ὁμοίως δὲ καὶ αἱ λοιπαὶ τῶν ἀντικειμένων, οὕτω καὶ ἢ ἀφή τοῦ ἀπτοῦ καὶ ἀνάπτου· ἀνάπτου δ' ἐστὶ τό τε μικρὰν ἔχον ἀμπαν δια-
15 ἀπτῶν αἰ ὑπερβολαί, ὥσπερ τὰ φθαρτικά. καθ' ἐκάστην μὲν οὖν τῶν αἰσθήσεων εἴρηται τύπος.

¹ οὕτω . . . ἄλλων in parenthesi Torstrick.

they are placed on the flesh it does; hence the medium of the tangible is flesh.

The distinguishing characteristics of the body, *qua* ^{The sense is a mean.} body, are tangible; by distinguishing characteristics I mean those which differentiate the elements hot and cold, dry and wet, about which we have spoken before in our discussion of the elements.^a The tactual organ which perceives them, *i.e.*, that in which the sense of touch, as it is called, primarily resides, is a part which has potentially the qualities of the objects touched. For perception is a form of being acted upon. Hence that which an object makes actually like itself is potentially such already. This is why we have no sensation of what is as hot, cold, hard, or soft as we are, but only of what is more so, which implies that the sense is a sort of mean between the relevant sensible extremes. That is how it can discern sensible objects. It is the mean that has the power of discernment; for it becomes an extreme in relation to each of the extremes in turn; and just as that which is to perceive white and black must be actually neither, but potentially both (and similarly with the other senses), so in the case of touch it must be neither hot nor cold. And just as we saw ^b that sight is in a sense concerned with both visible and invisible, and the other senses similarly with opposite objects, so touch is concerned with both tangible and intangible; by intangible we mean what has the quality of the tangible to an extremely small extent, as is the case with air, and also those tangibles which show excess, such as those which are destructive. Now we have described in outline each of the senses.

^a *De Gen. et Corr.* cc. ii. and iii.
^b 422 a 20.

424 a

XII. Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἢ μὲν αἰσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης, ὡς οὖν τὸ κηρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χρυσοῦν ἢ τὸ χαλκοῦν σημεῖον, ἀλλ' οὐχ ἢ χρυσοῦς ἢ χαλκός, ὁμοίως δὲ καὶ ἢ αἰσθησίς ἐκάστου ὑπὸ τοῦ ἔχοντος χρῶμα ἢ χυμὸν ἢ ψόφον πάσχει, ἀλλ' οὐχ ἢ ἕκαστον ἐκείνων λέγεται, ἀλλ' ἢ τοιονδί, καὶ κατὰ τὸν λόγον. αἰσθητήριον δὲ πρῶτον ἐν ᾧ ἡ τοιαύτη δύναμις. ἐστὶ μὲν οὖν ταῦτόν, τὸ δ' εἶναι ἕτερον· μέγεθος μὲν γὰρ ἂν τι εἴη τὸ αἰσθανόμενον· οὐ μὴν τό γε αἰσθητικῶ εἶναι, οὐδ' ἢ αἰσθησίς μέγεθός ἐστιν, ἀλλὰ λόγος τις καὶ δύναμις ἐκείνου. φανερόν δ' ἐκ τούτων καὶ διὰ τί ποτε τῶν αἰσθητῶν αἰ ὑπερβολαὶ φθείρουσι τὰ αἰσθητήρια· εἰ γὰρ ἢ ἰσχυροτέρα τοῦ αἰσθητηρίου ἢ κίνησις, λύεται ὁ λόγος· (τοῦτο δ' ἦν ἢ αἰσθησίς), ὥσπερ καὶ ἡ συμφωνία καὶ ὁ τόνος κρουομένων σφόδρα τῶν χορδῶν. καὶ διὰ τί ποτε τὰ φυτὰ οὐκ αἰσθάνεται, ἔχοντά τι μῦρον ψυχικὸν καὶ πάσχοντά

424 b τι ὑπὸ τῶν ἀπῶν· καὶ γὰρ ψύχεται καὶ θερμαίνεται· αἴτιον γὰρ τὸ μὴ ἔχειν μεσότητα, μηδὲ τοιαύτην ἀρχὴν ὡς τὰ εἶδη δέχεσθαι τῶν αἰσθητῶν, ἀλλὰ πάσχειν μετὰ τῆς ὕλης. ἀπορήσειε δ' ἂν τις εἰ πάθου ἂν τι ὑπ' ὁσμῆς τὸ ἀδύνατον ὀσφρανθῆναι, ἢ ὑπὸ χρώματος τὸ μὴ δυνάμενον ἰδεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ τὸ ὀσφραντὸν ὀσμῇ, εἴ τι ποιεῖ τὴν ὀσφρησιν, ἢ

^a Sc., for receiving the impression.

XII. We must understand as true generally of every sense (1) that sense is that which is receptive of the form of sensible objects without the matter, just as the wax receives the impression of the signet-ring without the iron or the gold, and receives the impression of the gold or bronze, but not as gold or bronze; so in every case sense is affected by that which has colour, or flavour, or sound, but by it, not *qua* having a particular identity, but *qua* having a certain quality, and in virtue of its formula; (2) the sense organ in its primary meaning is that in which this potentiality^a lies. The organ and the potentiality are identified, but their essential nature is not the same. The sentient subject must be extended, but sensitivity and sense cannot be extended; they are a kind of ratio and potentiality of the said subject. From this it is also clear why excess in the perceptibility of objects destroys the sense organs; for if the excitement of the sense organ is too strong, the ratio of its adjustment (which, as we saw, constitutes the sense) is destroyed; just as the adjustment and pitch of a lyre is destroyed when the strings are struck hard. It is also clear why plants do not feel, though they have one part of the soul, and are affected to some extent by objects touched, for they show both cold and heat; the reason is that they have no mean, *i.e.*, no first principle such as to receive the form of sensible objects, but are affected by the matter at the same time as the form. One might wonder whether anything that cannot smell is affected at all by smell, or that which cannot see by colour; and in the same way with all other sensible objects. But if the object of smell is smell, if anything affects the sense of smell, it must be smell, so that it is

ὄσμη ποιεί. ὥστε τῶν ἀδυνάτων ὀσφρανθῆναι
 οὐθέν οἶόν τε πάσχειν ὑπ' ὀσμῆς· ὁ δ' αὐτὸς
 λόγος καὶ ἐπὶ τῶν ἄλλων· οὐδὲ τῶν δυνατῶν,
 ἀλλ' ἢ αἰσθητικὸν ἕκαστον. ἅμα δὲ δῆλον καὶ
 10 οὕτως. οὔτε γὰρ φῶς καὶ σκότος οὔτε ψόφος
 οὔτε ὄσμη οὐδὲν ποιεί τὰ σώματα, ἀλλ' ἐν οἷς
 ἐστίν, οἷον ἀήρ ὁ μετὰ βροντῆς διύστησι τὸ ξύλον.
 ἀλλὰ τὰ ἀπτά καὶ οἱ χυμοὶ ποιούσιν· εἰ γὰρ μή,
 ὑπὸ τίνος ἂν πάσχοι τὰ ἄψυχα καὶ ἀλλοιοῖτο;
 ἀρ' οὖν κάκεῖνα ποιήσει; ἢ οὐ πᾶν σῶμα παθη-
 15 τικὸν ὑπ' ὀσμῆς καὶ ψόφου· καὶ τὰ πάσχοντα
 ἀόριστα, καὶ οὐ μένει, οἷον ἀήρ· ὄζει γὰρ ὥσπερ
 παθῶν τι. τί οὖν ἐστὶ τὸ ὀσμαιῆσθαι παρὰ τὸ
 πάσχειν τι; ἢ τὸ μὲν ὀσμαιῆσθαι αἰσθάνεσθαι, ὁ
 δ' ἀήρ παθῶν ταχέως αἰσθητὸς γίνεται.

impossible for anything which cannot smell to be affected by a smell; and the same argument applies to the other senses; nor can any of those things which can be acted upon be affected, except in so far as each has the sense in question. And the point is equally clear from the following argument. For neither light and darkness, nor sound, nor smell affects bodies at all: it is the objects in which they reside that produce the effect, just as it is the air with the thunderbolt that splits the timber. But it may be said that tangible objects and flavours do affect bodies; otherwise, by what could inanimate objects be affected and altered? Will then the objects of other senses affect things? Perhaps it is not every body that is affected by smell and sound: the things affected are indefinable and impermanent, such as air; for it smells as though affected somehow. What, then, is smelling apart from being affected in some way? Probably the act of smelling is an act of perception, whereas the air, being only temporarily affected, merely becomes perceptible.

I. Ὅτι δ' οὐκ ἔστιν αἰσθησις ἑτέρα παρὰ τὰς πέντε (λέγω δὲ ταύτας ὄψιν, ἀκοήν, ὄσφρησιν, γεῦσιν, ἀφήν), ἐκ τῶνδε πιστεύσειεν ἂν τις. εἰ
 25 γὰρ παντός οὐδ' ἔστιν αἰσθησις ἀφή, καὶ νῦν αἰσθησιν ἔχομεν (πάντα γὰρ τὰ τοῦ ἀπτοῦ ἢ ἀπτόν πάθη τῇ ἀφῇ ἡμῖν αἰσθητά ἐστίν), ἀνάγκη τ', εἴπερ ἐκλείπει τις αἰσθησις, καὶ αἰσθητήριόν τι ἡμῖν ἐκλείπειν· καὶ ὅσων μὲν αὐτῶν ἀπτόμενοι αἰσθανόμεθα, τῇ ἀφῇ αἰσθητά ἐστίν, ἢν τυγχάνομεν ἔχοντες· ὅσα δὲ διὰ τῶν μεταξὺ, καὶ μὴ
 30 αὐτῶν ἀπτόμενοι, τοῖς ἀπλοῖς, λέγω δ' οἶον ἀέρι καὶ ὕδατι· ἔχει δ' οὕτως, ὥστ' εἰ μὲν δι' ἐνὸς πλείω αἰσθητὰ ἕτερα ὄντα ἀλλήλων τῷ γένει, ἀνάγκη τὸν ἔχοντα τὸ τοιοῦτον αἰσθητήριον ἀμφοῖν αἰσθητικὸν εἶναι (οἶον εἰ ἐξ ἀέρος ἐστὶ τὸ αἰσθητήριον, καὶ ἔστιν ὁ ἀήρ καὶ ψόφου καὶ
 425 α χρόας), εἰ δὲ πλείω τοῦ αὐτοῦ, οἶον χρόας καὶ ἀήρ καὶ ὕδωρ (ἄμφω γὰρ διαφανῆ), καὶ ὁ τὸ ἕτερον αὐτῶν ἔχων μόνον αἰσθήσεται ἀμφοῖν τῶν δὲ ἀπλῶν ἐκ δύο τούτων αἰσθητήρια μόνον ἐστίν, ἐξ ἀέρος καὶ ὕδατος (ἢ μὲν γὰρ κόρη

I. ONE may be satisfied that there are no senses There are only five senses. apart from the five (I mean vision, hearing, smell, taste and touch) from the following arguments. We may assume that we actually have perception of everything which is apprehended by touch (for by touch we perceive all those things which are qualities of the tangible object, *qua* tangible). Again, if we lack some sense, we must lack some sense organ; and, again, all the things which we perceive by direct contact are perceptible by touch, a sense which we in fact possess; but all those things which are perceived through media, and not by direct contact, are perceptible by means of the elements, *viz.*, air and water. Again, the facts are such that, if objects of more than one kind are perceived through one medium, the possessor of the appropriate sense organ will apprehend both (for instance, if the sense organ is composed of air, and air is the medium both of sound and of colour), but if there is more than one medium of the same thing, as for instance both air and water are media of colour (for both are transparent), then he that has either of these will perceive what is perceptible through both. But sense organs are composed of only two of these elements, air and water (for the pupil of the eye is composed of water,

425 a

5 ὕδατος, ἢ δ' ἀκοὴ ἀέρος, ἢ δ' ὄσφρησις θατέρου
τούτων), τὸ δὲ πῦρ ἢ οὐθενὸς ἢ κοινὸν πάντων
(οὐθέν γὰρ ἄνευ θερμότητος αἰσθητικόν), γῆ δὲ
ἢ οὐθενός, ἢ ἐν τῇ ἀφῆι μάλιστα μέμικται ἰδίως·
διὸ λείποιτ' ἂν μηθὲν εἶναι αἰσθητήριον ἔξω ὕδατος
καὶ ἀέρος· ταῦτα δὲ καὶ νῦν ἔχουσιν ἕνια ζῶα·
10 πᾶσαι ἄρα αἱ αἰσθήσεις ἔχονται ὑπὸ τῶν μὴ
ἀτελῶν μηδὲ πεπηρωμένων· φαίνεται γὰρ καὶ ἡ
σπάλαξ ὑπὸ τὸ δέρμα ἔχουσα ὀφθαλμούς. ὥστ'
εἰ μὴ τι ἕτερόν ἐστι σῶμα, καὶ πάθος ὁ μηθενός
ἐστι τῶν ἐνταῦθα σωμάτων, οὐδεμία ἂν ἐκλίποι
αἰσθησις.

Ἄλλὰ μὴν οὐδὲ τῶν κοινῶν οἷόν τ' εἶναι αἰ-
15 σθητήριόν τι ἴδιον, ἂν ἐκάστη αἰσθήσει αἰσθानο-
μεθα κατὰ συμβεβηκός, οἷον κινήσεως, στάσεως,
σχήματος, μεγέθους, ἀριθμοῦ, ἑνός· ταῦτα γὰρ
πάντα κινήσει αἰσθανόμεθα, οἷον μέγεθος κινήσει·
ὥστε καὶ σχῆμα· μέγεθος γάρ τι τὸ σχῆμα. τὸ
δ' ἡρεμοῦν τῷ μὴ κινεῖσθαι· ὁ δ' ἀριθμὸς τῇ ἀπο-
20 φάσει τοῦ συνεχοῦς καὶ τοῖς ἰδίοις· ἐκάστη γὰρ
ἐν αἰσθάνεται αἰσθησις. ὥστε δῆλον ὅτι ἀδύνατον
ὄπουσιν ἰδίαν αἰσθησιν εἶναι τούτων, οἷον κινή-
σεως· οὕτω γὰρ ἔσται ὥσπερ νῦν τῇ ὄψει τὸ
γλυκὺ αἰσθανόμεθα. τοῦτο δ' ὅτι ἀμφοῖν ἔχοντες
τυγχάνομεν αἰσθησιν, ἢ καὶ ὅταν συμπέσωσιν ἀνα-
γνωρίζομεν· εἰ δὲ μὴ, οὐδαμῶς ἂν ἀλλ' ἡ κατὰ

^a This is the conclusion to which all the preceding arguments lead.

^b i.e., when and because they move.

^c When a thing is "continuous" it is "one," which in the Greek mind was not a number.

and the hearing organ of air, while the organ of smell is composed of one or other of these). But fire is the medium of no perception, or else is common to them all (for there is no possibility of perception without heat), and earth is the medium of no sense perception, or else is connected in a special way with the sense of touch. So we are left to suppose that there is no sense organ apart from water and air; and some animals actually have organs composed of these.^a The conclusion is that all the senses are possessed by all such animals as are neither undeveloped nor maimed; even the mole, we find, has eyes under the skin. If then there is no other body, and no property other than those which belong to the bodies of this world, there can be no sense perception omitted from our list.

But, again, it is impossible that there should be a special sense organ to perceive common sensibles, which we perceive incidentally by each sense, such, I mean, as motion, rest, shape, magnitude, number and unity; for we perceive all these things by movement^b; for instance we perceive magnitude by movement, and shape also; for shape is a form of magnitude. What is at rest is perceived by absence of movement; number by the negation of continuity,^c and by the special sensibles; for each sense perceives one kind of object. Thus it is clearly impossible for there to be a special sense of any of these common sensibles, e.g., movement; if there were, we should perceive them in the same way as we now perceive what is sweet by sight. But we do this because we happen to have a sense for each of these qualities, and so recognize them when they occur together; otherwise we should never perceive them except

The perception of common sensibles.

^{425 a}
²⁵ συμβεβηκός ἤσθανόμεθα, οἷον τὸν Κλέωνος υἱὸν
 οὐχ ὅτι Κλέωνος υἱός, ἀλλ' ὅτι λευκός· τούτῳ δὲ
 συμβεβήκεν υἱῷ Κλέωνος εἶναι. τῶν δὲ κοινῶν ἤδη
 ἔχομεν αἰσθησιν κοινήν, οὐ κατὰ συμβεβηκός· οὐκ
 ἄρ' ἐστὶν ἰδία· οὐδαμῶς γὰρ ἂν ἤσθανόμεθα ἀλλ'
³⁰ ἢ οὕτως ὡςπερ εἴρηται τὸν Κλέωνος υἱὸν ἡμᾶς
 ὁρᾶν. τὰ δ' ἀλλήλων ἴδια κατὰ συμβεβηκός
 αἰσθάνονται αἱ αἰσθήσεις, οὐχ ἡ αὐταί,¹ ἀλλ' ἡ
^{425 b} μία, ὅταν ἅμα γένηται ἡ αἰσθησις ἐπὶ τοῦ αὐτοῦ,
 οἷον χολὴν ὅτι πικρὰ καὶ ξανθή· οὐ γὰρ δὴ ἑτέρας
 γε τὸ εἰπεῖν ὅτι ἄμφω ἔν· διὸ καὶ ἀπατάται, καὶ
 ἐὰν ἡ ξανθὸν, χολὴν οἶεται εἶναι. ζητήσῃ δ' ἂν
 τις τίνος ἕνεκα πλείους ἔχομεν αἰσθήσεις, ἀλλ' οὐ
 μίαν μόνην. ἡ ὅπως ἦττον λαμβάνη τὰ ἀκολου-
 θοῦντα καὶ κοινά, οἷον κίνησις καὶ μέγεθος καὶ
 ἀριθμός· εἰ γὰρ ἦν ἡ ὄψις μόνη, καὶ αὕτη² λευκοῦ,
 ἐλάνθανεν ἂν μᾶλλον καὶ ἐδόκει ταῦτό εἶναι πάντα
¹⁰ διὰ τὸ ἀκολουθεῖν ἀλλήλοις ἅμα χρῶμα καὶ
 μέγεθος. νῦν δ' ἐπεὶ καὶ ἐν ἑτέρῳ αἰσθητῷ τὰ
 κοινὰ ὑπάρχει, δῆλον ποιεῖ ὅτι ἄλλο τι ἕκαστον
 αὐτῶν.

II. Ἐπεὶ δ' αἰσθανόμεθα ὅτι ὁρῶμεν καὶ ἀκούο-
 μεν, ἀνάγκη ἢ τῇ ὄψει αἰσθάνεσθαι ὅτι ὁρᾶ, ἢ
 ἑτέρα. ἀλλ' ἡ αὕτη ἔσται τῆς ὄψεως καὶ τοῦ
¹⁵ ὑποκειμένου χρώματος. ὥστε ἡ δύο τοῦ αὐτοῦ
 ἔσονται ἢ αὕτη αὐτῆς. ἔτι δ' εἰ καὶ ἑτέρα εἴη ἢ³
 τῆς ὄψεως αἰσθησις, ἢ εἰς ἄπειρον εἰσιν ἡ αὕτη

¹ αἱ αὐταί Bekker.

² αὕτη Jackson: αὐτή.

³ ἢ om. Bekker.

incidentally, as, e.g., we perceive of Cleon's son, not that he is Cleon's son, but that he is white; and this white object is incidentally Cleon's son. But we have already a common faculty which apprehends common sensibles directly. Therefore there is no special sense for them. If there were, we should have no perception of them, except as we said that we saw Cleon's son. The senses perceive each other's proper objects incidentally, not in their own identity, but acting together as one, when sensation occurs simultaneously in the case of the same object, as for instance of bile, that it is bitter and yellow; for it is not the part of any single sense to state that both objects are one. Thus sense may be deceived, and, if an object is yellow, may think that it is bile. One might ask why we have several senses and not one only. It may be in order that the accompanying common sensibles, such as movement, size and number, may escape us less; for if vision were our only sense, and it perceived mere whiteness, they would be less apparent; indeed all sensibles would be indistinguishable, because of the concomitance of, e.g., colour and size. As it is, the fact that common sensibles inhere in the objects of more than one sense shows that each of them is something distinct.

II. Since we can perceive that we see and hear, ^{How do we know that we see?} it must be either by sight itself, or by some other sense. But then the same sense must perceive both sight and colour, the object of sight. So that either two senses perceive the same object, or sight perceives itself. Again, if there is a separate sense perceiving sight, either the process will go on *ad infinitum*,

τις ἔσται αὐτῆς. ὥστ' ἐπὶ τῆς πρώτης τοῦτο ποιητέον. ἔχει δ' ἀπορίαν· εἰ γὰρ τὸ τῆ ὄψει αἰσθάνεσθαι ἔστω ὄραν, ὀράται δὲ χρῶμα ἢ τὸ ἔχον, εἰ ὄψεται τις τὸ ὄρων, καὶ χρῶμα ἔξει τὸ ὄρων πρῶτον. φανερόν τοίνυν ὅτι οὐχ ἔν τὸ τῆ ὄψει αἰσθάνεσθαι· καὶ γὰρ ὅταν μὴ ὄρωμεν, τῆ ὄψει κρίνομεν καὶ τὸ σκότος καὶ τὸ φῶς, ἀλλ' οὐχ ὡσαύτως. ἔτι δὲ καὶ τὸ ὄρων ἔστιν ὡς κε-
 20 χρωμάτισται· τὸ γὰρ αἰσθητήριον δεκτικὸν τοῦ αἰσθητοῦ ἀνευ τῆς ὕλης ἕκαστον. διὸ καὶ ἀ-
 25 ελθόντων τῶν αἰσθητῶν ἔνεισιν αἱ αἰσθήσεις καὶ φαντασίαι ἐν τοῖς αἰσθητηρίοις.

Ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἢ αὐτῆ μὲν ἔστι καὶ μία, τὸ δ' εἶναι οὐ ταυτὸν αὐταῖς· λέγω δ' οἷον ψόφος ὁ κατ' ἐνέργειαν καὶ ἀκοή ἢ κατ' ἐνέργειαν· ἔστι γὰρ ἀκοήν ἔχοντα μὴ ἀκούειν, καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ.
 30 ὅταν δ' ἐνεργῇ τὸ δυνάμενον ἀκούειν καὶ ψοφῇ τὸ δυνάμενον ψοφεῖν, τότε ἢ κατ' ἐνέργειαν ἀκοή
 426 a ἅμα γίνεται καὶ ὁ κατ' ἐνέργειαν ψόφος, ὧν εἴπειν ἂν τις τὸ μὲν εἶναι ἀκουσιν τὸ δὲ ψόφησιν.

Εἰ δ' ἔστιν ἡ κίνησις καὶ ἡ ποίησις καὶ τὸ πάθος ἐν τῷ ποιουμένῳ, ἀνάγκη καὶ τὸν ψόφον καὶ τὴν ἀκοήν τὴν κατ' ἐνέργειαν ἐν τῇ κατὰ δυνάμιν
 5 εἶναι· ἢ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται. διὸ οὐκ ἀνάγκη τὸ κινεῖν κινεῖσθαι. ἢ μὲν οὖν τοῦ ψοφητικοῦ ἐνέρ-
 γειά ἔστι ψόφος ἢ ψόφησις, ἢ δὲ τοῦ ἀκουστικοῦ

* If we suppose a special sense to apprehend that we see, we must suppose another to apprehend this and so on.

^b Sc., as we discern colours. ° Cf. ch. viii.

or a sense must perceive itself.^a So we may assume that this occurs with the first sense. But here is a difficulty ; for if perception by vision is seeing, and that which is seen either is colour or has colour, then if one is to see that which sees, it follows that what primarily sees will possess colour. It is therefore obvious that the phrase "perceiving by vision" has not merely one meaning ; for, even when we do not see, we discern darkness and light by vision, but not in the same way.^b Moreover that which sees does in a sense possess colour ; for each sense organ is receptive of the perceived object, but without its matter. This is why, even when the objects of perception are gone, sensations and mental images are still present in the sense organ.

The activity of the sensible object and of the sensa-
 tion is one and the same,^c though their essence is not the same ; in saying that they are the same, I mean the actual sound and the actual hearing ; for it is possible for one who possesses hearing not to hear, and that which has sound is not always sounding. But when that which has the power of hearing is exercising its power, and that which can sound is sounding, then the active hearing and the active sound occur together ; we may call them respectively audition and sonance.

If then the movement, that is, the acting and being acted upon, takes place in that which is acted upon, then the sound and the hearing in a state of activity must reside in the potential hearing ; for the activity of what is moving and active takes place in what is being acted upon. Hence that which causes motion need not be moved. The activity, then, of the object producing sound is sound, or sonance, and of that

426^a ἀκοή ἢ ἀκουσις· διττὸν γὰρ ἡ ἀκοή, καὶ διττὸν ὁ ψόφος. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων αἰσθήσεων καὶ αἰσθητῶν. ὡς περὶ γὰρ ἡ ποίησις
 10 καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἄλλ' οὐκ ἐν τῷ ποιοῦντι, οὕτω καὶ ἡ τοῦ αἰσθητοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ αἰσθητικῷ. ἀλλ' ἐπ' ἐνίων μὲν ἰσχύονται, οἷον ἡ ψόφισις καὶ ἡ ἀκουσις, ἐπὶ δ' ἐνίων ἀνόνημον θάτερον· ὄρασις γὰρ λέγεται ἡ τῆς ὄψεως ἐνέργεια, ἡ δὲ τοῦ
 15 χρώματος ἀνόνημος, καὶ γεῦσις ἡ τοῦ γευστικοῦ, ἡ δὲ τοῦ χυμοῦ ἀνόνημος. ἐπεὶ δὲ μία μὲν ἐστὶν ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ ἡ τοῦ αἰσθητικοῦ, τὸ δ' εἶναι ἕτερον, ἀνάγκη ἅμα φθίρεισθαι καὶ σώζεσθαι τὴν οὕτω λεγομένην ἀκοήν καὶ ψόφον, καὶ χυμὸν δὴ καὶ γεῦσιν καὶ τὰ ἄλλα ὁμοίως·
 20 τὰ δὲ κατὰ δύναμιν λεγόμενα οὐκ ἀνάγκη, ἀλλ' οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῇ μὲν γὰρ ἔλεγον ὀρθῶς, τῇ δ' οὐκ ὀρθῶς· διχῶς γὰρ λεγομένης τῆς αἰσθήσεως καὶ τοῦ αἰσθητοῦ, τῶν μὲν
 25 κατὰ δύναμιν τῶν δὲ κατ' ἐνέργειαν, ἐπὶ τούτων μὲν συμβαίνει τὸ λεχθέν, ἐπὶ δὲ τῶν ἐτέρων οὐ συμβαίνει. ἀλλ' ἐκεῖνοι ἀπλῶς ἔλεγον περὶ τῶν λεγομένων οὐχ ἀπλῶς.

Εἰ δ' ἡ συμφωνία φωνῆ τίς ἐστὶν, ἡ δὲ φωνῆ καὶ ἡ ἀκοή ἐστὶν ὡς ἐν ἐστὶ [καὶ ἐστὶν ὡς οὐχ ἐν τὸ αὐτό],¹ λόγος δ' ἡ συμφωνία, ἀνάγκη καὶ τὴν
 30 ἀκοήν λόγον τιὰ εἶναι. καὶ διὰ τοῦτο καὶ φθίρει

¹ incl. Torstrik.

^a If a red object is in the dark it does not appear red. Some philosophers maintained that it is not red, and that
 148

producing hearing is hearing or audition, for hearing is used in two senses, and so is sound. The same argument applies to all other senses and sensible objects. For just as acting and being acted upon reside in that which is acted upon, and not in the agent, so also the activity of the sensible object and that of the sensitive subject lie in the latter. In some cases we have names for both, such as sonance and audition, but in others one of the terms has no name; for the activity of vision is called seeing, but that of colour has no name; the activity of taste is called tasting, but that of flavour has no name. But since the activity of the sensible and of the sensitive is the same, though their essence is different, it follows that hearing in the active sense must cease or continue simultaneously with the sound, and so with flavour and taste and the rest; but this does not apply to their potentialities. The earlier natural philosophers were at fault in this, supposing that white and black have no existence without vision, nor flavour without taste.^a In one sense they were right, but in another wrong; for the terms sensation and sensible being used in two senses, that is potentially and actually, their statements apply to the latter class, but not to the former. These thinkers did not distinguish the meanings of terms which have more than one meaning.

If harmony is a species of voice, and voice and
 hearing are in one sense one and the same, and if ^{Sensation as a harmony.} harmony is a ratio, then it follows that hearing must be in some sense a ratio. That is why both high and

"red" has no existence except when we see it. A. argues that such an object is "potentially" red, because, given the right conditions, it will appear red.

426^a ἕκαστον ὑπερβάλλον, καὶ τὸ ὀξύ καὶ τὸ βαρὺ, τὴν
 426^b ἀκοήν· ὁμοίως δὲ καὶ ἐν χυμοῖς τὴν γεῦσιν, καὶ
 ἐν χρώμασι τὴν ὄψιν τὸ σφόδρα λαμπρὸν ἢ
 ζοφερόν, καὶ ἐν ὀσφρήσει ἢ ἰσχυρὰ ὀσμὴ καὶ
 γλυκεῖα καὶ πικρά, ὡς λόγου τινὸς ὄντος τῆς
 αἰσθήσεως. διὸ καὶ ἡδέα μὲν, ὅταν εἰλικρινῆ καὶ
 5 ἀμιγῆ ἄγεται εἰς τὸν λόγον, οἶον τὸ ὀξύ ἢ γλυκὺ
 ἢ ἀλμυρὸν· ἡδέα γὰρ τότε. ὅλως δὲ μᾶλλον τὸ
 μικτὸν συμφωνία ἢ τὸ ὀξύ ἢ βαρὺ, ἀφ᾽ ἧ δὲ τὸ
 θερμαντὸν ἢ ψυκτὸν· ἢ δ' αἰσθησις ὁ λόγος·
 ὑπερβάλλοντα δὲ λυπεῖ ἢ φθείρει.

Ἐκάστη μὲν οὖν αἰσθησις τοῦ ὑποκειμένου
 αἰσθητοῦ ἐστίν, ὑπάρχουσα ἐν τῷ αἰσθητηρίῳ ἢ
 10 αἰσθητήριον, καὶ κρίνει τὰς τοῦ ὑποκειμένου αἰ-
 σθητοῦ διαφοράς, οἶον λευκὸν μὲν καὶ μέλαν ὄψις,
 γλυκὺ δὲ καὶ πικρὸν γεῦσις. ὁμοίως δ' ἔχει τοῦτο
 καὶ ἐπὶ τῶν ἄλλων. ἐπεὶ δὲ καὶ τὸ λευκὸν καὶ
 τὸ γλυκὺ καὶ ἕκαστον τῶν αἰσθητῶν πρὸς ἕκαστον
 κρίνομεν, τίμη¹ καὶ αἰσθανόμεθα ὅτι διαφέρει;
 15 ἀνάγκη δὴ αἰσθήσει· αἰσθητὰ γὰρ ἐστίν. ἢ καὶ
 δῆλον ὅτι ἡ σὰρξ οὐκ ἔστι τὸ ἔσχατον αἰσθητήριον·
 ἀνάγκη γὰρ ἦν ἀπτόμενον αὐτοῦ κρίνειν τὸ κρίνον.
 οὔτε δὴ κεχωρισμένοις ἐνδέχεται κρίνειν ὅτι ἕτερον
 τὸ γλυκὺ τοῦ λευκοῦ, ἀλλὰ δεῖ ἐνί τινι ἄμφω δῆλα
 εἶναι. οὔτω μὲν γὰρ κἂν εἰ τοῦ μὲν ἐγὼ τοῦ δὲ
 20 σὺ αἰσθοιο, δῆλον ἂν εἴη ὅτι ἕτερα ἀλλήλων. δεῖ
 δὲ τὸ ἐν λέγειν ὅτι ἕτερον· ἕτερον γὰρ τὸ γλυκὺ
 τοῦ λευκοῦ. λέγει ἄρα τὸ αὐτό, ὥστε, ὡς λέγει,

¹ τίμη . . . διαφέρει; Trendelenburg: τῶν . . . διαφέρει.

low pitch, if excessive, destroy hearing; in the same way in flavours excess destroys taste, and in colours the over-brilliant or over-dark destroys vision, and in smelling the strong scent, whether sweet or bitter, destroys smell; which implies that sense is some kind of ratio. That is also why things are pleasant when they enter pure and unmixed into the ratio,^a e.g., acid, sweet or salt; for in that case they are pleasant. But generally speaking a mixed constitution produces a better harmony than the high or low pitch, and to the touch that is more pleasant which can be warmed or cooled; the sense is the ratio, and excess hurts or destroys.

Each sense then relates to its sensible subject-matter; it resides in the sense organ as such, and discerns differences in the said subject-matter; e.g., vision discriminates between white and black, and taste between sweet and bitter; and similarly in all other cases. But, since we also distinguish white and sweet, and compare all objects perceived with each other, by what sense do we perceive that they differ? It must evidently be by some sense that we perceive the difference; for they are objects of sense. Incidentally it becomes clear that flesh is not the ultimate sense organ; for, if it were, judgement would depend on being in contact. Nor, again, is it possible to judge that sweet and white are different by separate senses, but both must be clearly presented to a single sense. For, in the other case, if you perceived one thing and I another, it would be obvious that they differed from each other. That which asserts the difference must be one; for sweet differs from white. It is the same faculty, then, that asserts this; hence as it asserts, so it thinks and

^a i.e., the ratio which constitutes the sense-organ.

How do we apprehend the difference between the objects of different senses?

^{426 b} οὕτω καὶ νοεῖ καὶ αἰσθάνεται. ὅτι μὲν οὖν οὐχ
οἶόν τε κεχωρισμένους κρίνειν τὰ κεχωρισμένα,
δηλον· ὅτι δ' οὐδ' ἐν κεχωρισμένῳ χρόνῳ, ἐντεύθεν.
²⁵ ὥσπερ γὰρ τὸ αὐτὸ λέγει ὅτι ἕτερον τὸ ἀγαθὸν
καὶ τὸ κακόν, οὕτω καὶ ὅτε θάτερον λέγει ὅτι
ἕτερον, καὶ θάτερον οὐ κατὰ συμβεβηκὸς τὸ ὅτε
(λέγω δ', οἶον νῦν λέγω ὅτι ἕτερον, οὐ μέντοι ὅτι
νῦν ἕτερον). ἀλλ' οὕτω λέγει, καὶ νῦν, καὶ ὅτι
νῦν ἅμα ἅρα. ὥστε ἀχώριστον καὶ ἐν ἀχωρίστῳ
³⁰ χρόνῳ. ἀλλὰ μὴν ἀδύνατον ἅμα τὰς ἐναντίας
κινήσεις κινεῖσθαι τὸ αὐτὸ ἢ ἀδιαίρετον καὶ ἐν
ἀδιαίρετῳ χρόνῳ. εἰ γὰρ τὸ γλυκὺ ὠδὶ κινεῖ τὴν
^{427 a} αἴσθησιν ἢ τὴν νόησιν, τὸ δὲ πικρὸν ἐναντίως,
καὶ τὸ λευκὸν ἐτέρως. ἄρ' οὖν ἅμα μὲν καὶ
ἀριθμῷ ἀδιαίρετον καὶ ἀχώριστον τὸ κρίνον, τῷ
εἶναι δὲ κεχωρισμένον; ἔστι δὴ πως ὡς τὸ δι-
αιρετὸν τῶν διηρημένων αἰσθάνεται, ἔστι δ' ὡς ἢ
⁵ ἀδιαίρετον· τῷ εἶναι μὲν γὰρ διαιρετόν, τόπῳ δὲ
καὶ ἀριθμῷ ἀδιαίρετον. ἢ οὐχ οἶόν τε; δυνάμει
μὲν γὰρ τὸ αὐτὸ καὶ ἀδιαίρετον τὰναντία, τῷ δ'
εἶναι οὐ, ἀλλὰ τῷ ἐνεργεῖσθαι διαιρετόν, καὶ οὐχ
οἶόν τε ἅμα λευκὸν καὶ μέλαν εἶναι· ὥστ' οὐδέ
τὰ εἶδη πάσχειν αὐτῶν, εἰ τοιοῦτον ἢ αἴσθησις
¹⁰ καὶ ἡ νόησις, ἀλλ' ὥσπερ ἦν καλοῦσί τινες σιγμῆν,
ἢ μία καὶ ἢ δύο, ταύτη καὶ διαιρετή. ἢ μὲν οὖν
ἀδιαίρετον, ἐν τὸ κρίνον ἔστι καὶ ἅμα, ἢ δὲ

perceives. Evidently, therefore, it is impossible to
pass judgement on separate objects by separate
faculties; and it is also obvious from the following
considerations that they are not judged at separate
times. For just as the same faculty declares that
good and evil are different, so also when it declares
that one is different and the other different, the
“time when” is not merely incidental (as when
e.g., I *now* say that there is a difference, but do not
say that there is *now* a difference). The faculty says
now, and also that the difference is now; hence both
are different at once. So the judging sense must be
undivided, and also must judge without an interval.
But, again, it is impossible that the same faculty
should be moved at the same time with contrary
movements, in so far as it is indivisible, and in
divisible time. For if the object is sweet it excites
sensation or thought in one way, but if bitter, in the
contrary way, and if white, in a different way alto-
gether. Are we, then, to suppose that the judging
faculty is numerically indivisible and inseparable, but
is divided in essence? Then in one sense it is what
is divided that perceives divided things, but in
sense it does this *qua* indivisible. For it is indivisible
in essence, but indivisible spatially and numerically.
Or is this impossible? For although the same in-
divisible thing may be both contraries potentially,
it is not so in essence, but it becomes divisible in
actualization; the same thing cannot be at once
white and black, and so the same thing cannot be
acted upon by the forms of these, if this is what
happens in perception and thought. The fact is that
just as what some thinkers describe as a point is, a
being both one and two, in this sense divisible, so
too in so far as the judging faculty is indivisible, it

427^a διαιρετὸν ὑπάρχει, δις τῷ αὐτῷ χρήται σημεῖω
 ἅμα. ἢ μὲν οὖν δυσὶ χρήται τῷ πέρατι, δύο
 κρίνει, καὶ κεχωρισμένα ἐστὶν ὡς κεχωρισμένῳ¹.
 15 ἢ δ' ἓν, ἐνὶ καὶ ἅμα.

Περὶ μὲν οὖν τῆς ἀρχῆς ἢ φασὲν τὸ ζῶον αἰσθη-
 τικὸν εἶναι, διωρίσθω τὸν τρόπον τοῦτον.

III. Ἐπεὶ δὲ δύο διαφοραῖς ὀρίζονται μάλιστα
 τὴν ψυχὴν, κινήσει τε τῇ κατὰ τόπον καὶ τῷ νοεῖν
 καὶ τῷ κρίνειν καὶ αἰσθάνεσθαι, δοκεῖ δὲ καὶ τὸ
 20 νοεῖν καὶ τὸ φρονεῖν ὡσπερ αἰσθάνεσθαι τι εἶναι.
 ἐν ἀμφοτέροις γὰρ τοῦτοις κρίνει τι ἢ ψυχὴ καὶ
 γνωρίζει τῶν ὄντων, καὶ οἷ γε ἀρχαῖοι τὸ φρονεῖν
 καὶ τὸ αἰσθάνεσθαι ταῦτόν εἶναι φασιν, ὡσπερ καὶ
 Ἐμπεδοκλῆς εἶρηκε “πρὸς παρεὸν γὰρ μῆτις
 ἀέξεται ἀνθρώποισιν” καὶ ἐν ἄλλοις “ὅθεν σφίσι
 25 αἰεὶ καὶ τὸ φρονεῖν ἄλλοῖα παρίσταται.” τὸ δ'
 αὐτὸ τοῦτοις βούλεται καὶ τὸ Ὀμήρου “τοῖος γὰρ
 νόος ἐστίν.” πάντες γὰρ οὗτοι τὸ νοεῖν σωμα-
 τικὸν ὡσπερ τὸ αἰσθάνεσθαι ὑπόλαμβάνουσιν, καὶ
 αἰσθάνεσθαι τε καὶ φρονεῖν τῷ ὁμοίῳ τὸ ὅμοιον,
 ὡσπερ καὶ ἐν τοῖς κατ' ἀρχὰς λόγοις διωρίσαμεν.
 427^b καίτοι εἶδει ἅμα καὶ περὶ τοῦ ἠπατήσθαι αὐτοὺς
 λέγειν· οἰκειότερον γὰρ τοῖς ζῴοις, καὶ πλείω
 χρόνον ἐν τούτῳ διατελεῖ ἢ ψυχῇ. διὸ ἀνάγκη
 ἦτοι ὡσπερ ἔνιοι λέγουσι, πάντα τὰ φαινόμενα
 εἶναι ἀληθῆ, ἢ τὴν τοῦ ἀνομοίου θίξιν ἀπάτην
 5 εἶναι· τοῦτο γὰρ ἐναντίον τῷ τῷ ὁμοίῳ τὸ ὅμοιον
 γνωρίζειν· δοκεῖ δὲ καὶ ἡ ἀπάτη καὶ ἡ ἐπιστήμη

¹ κεχωρισμένῳ ELT, Torstrik, Belger; κεχωρισμένων vel κεχωρισμένα vulgo.

^a *Od.* xviii. 136.

^b *Bk. I.* ch. 2.

one and instantaneous in action; but in so far as it is divisible, it uses the same symbol twice at the same time. In so far, then, as it treats the limit as two, it passes judgement on two distinct things, as being itself in a sense distinct; but in so far as it judges of it as only one, it judges by one faculty and at one time.

Concerning the principle in virtue of which we call a living creature sentient, let this account suffice.

III. Now there are two special characteristics which distinguish soul, viz., (1) movement in space, and (2) thinking, judging and perceiving. Thinking, both speculative and practical, is regarded as a form of perceiving; for in both cases the soul judges and has cognizance of something which is. Indeed the older philosophers assert that thinking and perceiving are identical. For instance Empedocles has said “Understanding grows with a man according to what appears to him,” and in another passage “whence it befalls them ever to think different thoughts.” Homer’s phrase, again, “Such is the nature of man’s mind”^a implies the same thing. For all these authors suppose the process of thinking to be a bodily function like perceiving, and that men both perceive and recognize like by like, as we have explained at the beginning of this treatise.^b And yet they ought to have made some mention of error at the same time; for error seems to be more natural to living creatures, and the soul spends more time in it. From this belief it must follow either that, as some say, all appearances are true, or that error is contact with the unlike; for this is the opposite to recognizing like by like. But it appears that in the case of contraries error, like

Relation
between
sensation
and
thinking.

τῶν ἐναντίων ἢ αὐτῆ εἶναι. ὅτι μὲν οὖν οὐ ταυ-
τόν ἐστι τὸ αἰσθάνεσθαι καὶ τὸ φρονεῖν, φανερόν·
τοῦ μὲν γὰρ πᾶσι μέτεστι, τοῦ δὲ ὀλίγοις τῶν
ζώων. ἀλλ' οὐδὲ τὸ νοεῖν, ἐν ᾧ ἐστὶ τὸ ὀρθῶς
10 καὶ τὸ μὴ ὀρθῶς, τὸ μὲν ὀρθῶς φρόνησις καὶ
ἐπιστήμη καὶ δόξα ἀληθής, τὸ δὲ μὴ ὀρθῶς
τᾶναντία τούτων· οὐδὲ τοῦτο¹ ἐστὶ ταῦτο τῷ
αἰσθάνεσθαι· ἢ μὲν γὰρ αἰσθησις τῶν ἰδίων αἰεὶ
ἀληθής, καὶ πᾶσιν ὑπάρχει τοῖς ζώοις, διανοεῖσθαι
δ' ἐνδέχεται καὶ ψευδῶς, καὶ οὐδενὶ ὑπάρχει ᾧ
15 μὴ καὶ λόγος· φαντασία γὰρ ἕτερον καὶ αἰσθησεως
καὶ διανοίας· αὐτῆ τε οὐ γίνγεται ἄνευ αἰσθη-
σεως, καὶ ἄνευ ταύτης οὐκ ἔστιν ὑπόληψις. ὅτι
δ' οὐκ ἔστιν ἢ αὐτῆ νόησις καὶ ὑπόληψις, φανερόν.
τοῦτο μὲν γὰρ τὸ πάθος ἐφ' ἡμῖν ἐστίν, ὅταν
βουλώμεθα (πρὸ ὀμμάτων γὰρ ἐστὶ ποιήσασθαι,
20 ὡσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ εἰδωλο-
ποιοῦντες), δοξάζειν δ' οὐκ ἐφ' ἡμῖν· ἀνάγκη γὰρ
ἢ ψεύδεσθαι ἢ ἀληθεύειν. ἔτι δὲ ὅταν μὲν δοξά-
σωμεν δεινόν τι ἢ φοβερόν, εὐθύς συμπάσχομεν,
ὁμοίως δὲ κἂν θαρραλέον· κατὰ δὲ τὴν φαντασίαν
ὡσαύτως ἔχομεν ὡσπερ ἂν οἱ θεώμενοι ἐν γραφῇ
25 τὰ δεινὰ ἢ θαρραλέα. εἰσὶ δὲ καὶ αὐτῆς τῆς
ὑπολήψεως διαφοραί, ἐπιστήμη καὶ δόξα καὶ
φρόνησις καὶ τᾶναντία τούτων, περὶ ὧν τῆς δια-
φορᾶς ἕτερος ἔστω λόγος.

Περὶ δὲ τοῦ νοεῖν, ἐπεὶ ἕτερον τοῦ αἰσθάνεσθαι,
τούτου δὲ τὸ μὲν φαντασία δοκεῖ εἶναι τὸ δὲ

¹ δ' post τοῦτο in plerisque codd. repertum delendum
censuit Vahlen.

^a In normal cases if a man sees a red object, it is red.

^b ? *Eth. Nic.* 1139 b 15.

knowledge, is one and the same. Now it is quite
clear that perceiving and practical thinking are not
the same; for all living creatures have a share in
the former, but only a few in the latter. Nor again
is speculative thinking, which involves being right
or wrong—"being right" corresponding to intelli-
gence and knowledge and true opinion, and "being
wrong" to their contraries—the same thing as per-
ceiving; for the perception of proper objects is
always true,^a and is a characteristic of all living
creatures, but it is possible to think falsely, and
thought belongs to no animal which has not reasoning
power; for imagination is different from both per-
ception and thought; imagination always implies
perception, and is itself implied by judgement. But
clearly imagination and judgement are different
modes of thought. For the former is an affection
which lies in our power whenever we choose (for it
is possible to call up mental pictures, as those do
who employ images in arranging their ideas under
a mnemonic system), but it is not in our power to
form opinions as we will; for we must either hold a
false opinion or a true one. Again, when we form
an opinion that something is threatening or frighten-
ing, we are immediately affected by it, and the same
is true of our opinion of something that inspires
courage; but in imagination we are like spectators
looking at something dreadful or encouraging in a
picture. Judgement itself, too, has various forms—
knowledge, opinion, prudence, and their opposites,
but their differences must be the subject of another
discussion.^b

As for thought, since it is distinct from perception, *Imagina-*
and is held to comprise imagination and judgement, *tion.*

427 b ὑπόληψις, περὶ φαντασίας διορίσαντας οὕτω περὶ
 428 a θατέρου λεκτέον. εἰ δὴ ἔστιν ἡ φαντασία καθ'
 ἣν λέγομεν φάντασμά τι ἡμῖν γίνεσθαι καὶ μὴ
 εἶ τι κατὰ μεταφορὰν λέγομεν, μία τίς ἐστι τού-
 των δύναμις ἢ ἕξις, καθ' ἣν κρίνομεν καὶ ἀλη-
 θεύομεν ἢ ψευδόμεθα. τοιαῦται δ' εἰσὶν αἰσθησις,
 5 δόξα, ἐπιστήμη, νοῦς. ὅτι μὲν οὖν οὐκ ἔστιν
 αἰσθησις, δῆλον ἐκ τῶνδε. αἰσθησις μὲν γὰρ ἦτοι
 δύναμις ἢ ἐνέργεια, οἷον ὄψις καὶ ὄρασις, φαίνεται
 δέ τι καὶ μηδετέρου ὑπάρχοντος τούτων, οἷον τὰ
 ἐν τοῖς ὕπνοις. εἴτα αἰσθησις μὲν ἀεὶ πάρεστι,
 φαντασία δ' οὔ. εἰ δὲ τῇ ἐνεργείᾳ τὸ αὐτό, πᾶσιν
 10 ἂν ἐνδέχοιτο τοῖς θηρίοις φαντασίαν ὑπάρχειν.
 δοκεῖ δ' οὔ, οἷον μύρμηκι ἢ μελίττῃ ἢ σκώλῃκι.
 εἴτα αἰ μὲν ἀληθεῖς αἰεὶ, αἰ δὲ φαντασίαι γίνονται
 αἰ πλείους ψευδεῖς. ἔπειτ' οὐδὲ λέγομεν, ὅταν
 ἐνεργῶμεν ἀκριβῶς περὶ τὸ αἰσθητόν, ὅτι φαίνεται
 τοῦτο ἡμῖν ἄνθρωπος· ἀλλὰ μᾶλλον ὅταν μὴ ἐν-
 15 ἀργῶς αἰσθανώμεθα.¹ καὶ ὅπερ δὲ ἐλέγομεν πρό-
 τερον, φαίνεται καὶ μύουσιν ὄραματα. ἀλλὰ μὴν
 οὐδὲ τῶν ἀεὶ ἀληθευόντων οὐδεμία ἔσται, οἷον
 ἐπιστήμη ἢ νοῦς· ἐστὶ γὰρ φαντασία καὶ ψευδής.
 λείπεται ἄρα ἰδεῖν εἰ δόξα γίνεται γὰρ δόξα καὶ
 20 ἀληθής καὶ ψευδής. ἀλλὰ δόξῃ μὲν ἔπεται πίστις
 (οὐκ ἐνδέχεται γὰρ δοξάζοντα οἷς δοκεῖ μὴ
 πιστεύειν), τῶν δὲ θηρίων οὐθενὶ ὑπάρχει πίστις,
 φαντασία δὲ πολλοῖς. ἔτι πάσῃ μὲν δόξῃ ἀκο-
 λουθεῖ πίστις, πιστεῖ δὲ τὸ πεπεισθαι, πειθοῖ δὲ
 λόγος· τῶν δὲ θηρίων ἐνίοις φαντασία μὲν ὑπάρχει,

¹ quae hic vulgo sequuntur τότε ἢ ἀληθὴς ἢ ψευδὴς unc. inclusit Torstrick.

it will be best to discuss it after having completed our analysis of imagination. If imagination is (apart from any metaphorical sense of the word) the process by which we say that an image is presented to us, it is one of those faculties or states of mind by which we judge and are either right or wrong. Such are sensation, opinion, knowledge and intelligence. It is clear from the following considerations that imagination is not sensation. Sensation is either potential or actual, e.g., either sight or seeing, but imagination occurs when neither of these is present, as when objects are seen in dreams. Secondly, sensation is always present but imagination is not. If sensation and imagination were identical in actuality, then imagination would be possible for all creatures; but this appears not to be the case; for instance it is not true of the ant, the bee, or the grub. Again, all sensations are true, but most imaginations are false. Nor do we say "I imagine that it is a man" when our sense is functioning accurately with regard to its object, but only when we do not perceive distinctly. And, as we have said before, visions are seen by men even with their eyes shut. Nor is imagination any one of the faculties which are always right, such as knowledge or intelligence; for imagination may be false. It remains, then, to consider whether it is opinion; for opinion may be either true or false. But opinion implies belief (for one cannot hold opinions in which one does not believe); and no animal has belief, but many have imagination. Again, every opinion is accompanied by belief, belief by conviction, and conviction by rational discourse; but although some creatures have imagination, they

428^a λόγος δ' οὐ. φανερόν τοίνυν ὅτι οὐδὲ δόξα μετ'
 αἰσθήσεως, οὐδὲ δι' αἰσθήσεως, οὐδὲ συμπλοκῇ
 δόξης καὶ αἰσθήσεως φαντασία ἂν εἴη, διὰ τε
 ταῦτα καὶ [δηλον]¹ ὅτι οὐκ ἄλλου τινός ἐστιν ἢ
 δόξα, ἀλλ' ἐκείνου ἐστίν οὐ καὶ αἰσθησις· λέγω
 δ', ἐκ τῆς τοῦ λευκοῦ δόξης καὶ αἰσθήσεως ἢ
 30 συμπλοκῇ φαντασία ἐστίν· οὐ γὰρ δὴ ἐκ τῆς δόξης
 428^b μὲν τῆς τοῦ ἀγαθοῦ, αἰσθήσεως δὲ τῆς τοῦ λευκοῦ.
 τὸ οὖν φαίνεσθαι ἐστὶ τὸ δοξάζειν ὅπερ αἰσθάνεται
 μὴ κατὰ συμβεβηκός. φαίνεται δὲ καὶ ψευδῇ,
 περὶ ὧν ἅμα ὑπόληψιν ἀληθῆ ἔχει, οἷον φαίνεται
 μὲν ὁ ἥλιος ποδιαῖος, πεπίστευται δ' εἶναι μείζων
 5 τῆς οἰκουμένης· συμβαίνει οὖν ἤτοι ἀποβεβλη-
 κέναι τὴν ἑαυτοῦ ἀληθῆ δόξαν, ἣν εἶχε, σωζομένου
 τοῦ πράγματος, μὴ ἐπιλαθόμενον μηδὲ μεταπει-
 σθέντα, ἢ εἰ ἔτι ἔχει, ἀνάγκη τὴν αὐτὴν ἀληθῆ
 εἶναι καὶ ψευδῆ. ἀλλὰ ψευδῆς ἐγένετο, ὅτε λάθου
 μεταπεσόν τὸ πρᾶγμα. οὗτ' ἄρα ἐν τι τούτων
 10 ἐστίν οὗτ' ἐκ τούτων ἢ φαντασία.

Ἄλλ' ἐπειδὴ ἔστι κινήεντος τουδὶ κινεῖσθαι
 ἕτερον ὑπὸ τούτου, ἢ δὲ φαντασία κίνησις τις
 δοκεῖ εἶναι καὶ οὐκ ἄνευ αἰσθήσεως γίνεσθαι ἀλλ'
 αἰσθανομένοις καὶ ὧν αἰσθησις ἐστίν, ἔστι δὲ
 γίνεσθαι κίνησιν ὑπὸ τῆς ἐνεργείας τῆς αἰσθή-
 σεως, καὶ ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει,
 15 εἴη ἂν αὐτῇ ἢ κίνησις οὔτε ἄνευ αἰσθήσεως ἐνδε-
 χομένη οὔτε μὴ αἰσθανομένοις ὑπάρχειν, καὶ πολλὰ
 κατ' αὐτὴν καὶ ποιεῖν καὶ πάσχειν τὸ ἔχον, καὶ
 εἶναι καὶ ἀληθῆ καὶ ψευδῆ. τοῦτο δὲ συμβαίνει

¹ Shorey.

have no reasoning power. It is clear, then, that imagination cannot be either opinion in conjunction with sensation, or opinion based on sensation, or a blend of opinion and sensation, both for the reasons given, and because the opinion relates to nothing else but the object of sensation: I mean that imagination is the blend of the perception of white with the opinion that it is white—not, surely, of the perception of white with the opinion that it is good. To imagine, then, is to form an opinion exactly corresponding to a direct perception. But things about which we have at the same time a true belief may have a false appearance; for instance the sun appears to measure a foot across, but we are convinced that it is greater than the inhabited globe; it follows, then, that either the percipient, without any alteration in the thing itself, and without forgetting or changing his mind, has rejected the true opinion which he had, or, if he still holds that opinion, it must be at once true and false. But a true opinion only becomes false when the fact changes unnoticed. Imagination, then, is not one of these things, nor a compound of them.

But since when a particular thing is moved another thing may be moved by it, and since imagination seems to be some kind of movement, and not to occur apart from sensation, but only to men when perceiving, and in connexion with what is perceptible, and since movement may be caused by actual sensation, and this movement must be similar to the sensation, this movement cannot exist without sensation, or when we are not perceiving; in virtue of it the possessor may act and be acted upon in various ways; and the movement may be true or false. The reason

428^b διὰ τὰδε. ἡ αἴσθησις τῶν μὲν ἰδίων ἀληθῆς ἔστω
 ἢ ὅτι ὀλίγιστον ἔχουσα τὸ ψεῦδος. δεύτερον δὲ
 20 τοῦ συμβεβηκέναι ταῦτα· καὶ ἐνταῦθα ἤδη ἐνδέ-
 χεται διαψεύδεσθαι· ὅτι μὲν γὰρ λευκόν, οὐ ψεύ-
 δεται, εἰ δὲ τοῦτο τὸ λευκόν ἢ ἄλλο τι, ψεύδεται.
 τρίτον δὲ τῶν κοινῶν καὶ ἐπομένων τοῖς συμ-
 βεβηκόσιν, οἷς ὑπάρχει τὰ ἴδια· λέγω δ' οἷον
 κίνησις καὶ μέγεθος, ἃ συμβέβηκε τοῖς αἰσθητοῖς,
 25 περὶ ἃ μάλιστα ἤδη ἔστιν ἀπατηθῆναι κατὰ τὴν
 αἴσθησιν. ἡ δὲ κίνησις ἢ ὑπὸ τῆς ἐνεργείας γνω-
 μένη διοίσει τῆς αἰσθήσεως τῆς ἀπὸ τούτων τῶν
 τριῶν αἰσθήσεων. καὶ ἡ μὲν πρώτη παρουσίας
 τῆς αἰσθήσεως ἀληθῆς, αἱ δ' ἕτεραι καὶ παρουσίας
 καὶ ἀπούσης εἰεν ἂν ψευδεῖς, καὶ μάλιστα ὅταν
 30 πόρρω τὸ αἰσθητὸν ᾖ. εἰ οὖν μηθὲν μὲν ἄλλο
 429^a ἔχει ἢ τὰ εἰρημένα ἢ φαντασία,¹ τοῦτο δ' ἔστι
 τὸ λεχθέν, ἢ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς
 αἰσθήσεως τῆς κατ' ἐνέργειαν γυνομένης. ἐπεὶ
 δ' ἡ ὄψις μάλιστα αἰσθησίς ἐστι, καὶ τὸ ὄνομα
 ἀπὸ τοῦ φάους εἴληφεν, ὅτι ἄνευ φωτὸς οὐκ ἔστιν
 5 ἰδεῖν. καὶ διὰ τὸ ἐμμένειν καὶ ὁμοίως εἶναι ταῖς
 αἰσθήσεσι, πολλὰ κατ' αὐτὰς πράττει τὰ ζῶα, τὰ
 μὲν διὰ τὸ μὴ ἔχειν νοῦν, οἷον τὰ θηρία, τὰ δὲ
 διὰ τὸ ἐπικαλύπτεσθαι τὸν νοῦν ἐνίοτε πάθει ἢ
 νόσοις ἢ ὕπνω, οἷον οἱ ἄνθρωποι. περὶ μὲν οὖν
 φαντασίας, τί ἐστι καὶ διὰ τί ἐστίν, εἰρήσθω ἐπὶ
 τοσοῦτον.

10 IV. Περὶ δὲ τοῦ μορίου τοῦ τῆς ψυχῆς ᾧ γινώ-
 σκει τε ἡ ψυχὴ καὶ φρονεῖ, εἴτε χωριστοῦ ὄντος

¹ ἔχει ἢ . . . ἢ φαντασία E: ἔχει . . . ἢ μὴ φαντασίαν
 Bekker: alii aliter.

for this last fact is as follows. The perception of proper objects is true, or is only capable of error to the least possible degree. Next comes perception that they are attributes, and here a possibility of error at once arises; for perception does not err in perceiving that an object is white, but only as to whether the white object is one thing or another. Thirdly comes perception of the common attributes which accompany the concomitants to which the proper sensibles belong (I mean, e.g., motion and magnitude); it is about these that error is most likely to occur. But the movement produced by the sense-activity will differ from the actual sensation in each of these three modes of perception. The first is true whenever the sensation is present, but the others may be false both when it is present and when it is absent, and especially when the sensible object is at a distance. If, then, imagination involves nothing else than we have stated, and is as we have described it, then imagination must be a movement produced by sensation actively operating. Since sight is the chief sense, the name φαντασία (imagination) is derived from φάος (light), because without light it is impossible to see. Again, because imaginations persist in us and resemble sensations, living creatures frequently act in accordance with them, some, viz., the brutes, because they have no mind, and some, viz., men, because the mind is temporarily clouded over by emotion, or disease, or sleep. Let this suffice about the nature and cause of imagination.

IV. Concerning that part of the soul (whether it is separable in extended space, or only in thought)

Feeling and
 thinking
 are not
 analogous.

429^a εἶτε καὶ μὴ χωριστοῦ κατὰ μέγεθος ἀλλὰ κατὰ
 λόγον, σκεπτέον τίν' ἔχει διαφοράν, καὶ πῶς ποτὲ
 γίνεται τὸ νοεῖν. εἰ δὴ ἔστι τὸ νοεῖν ὡσπερ τὸ
 αἰσθάνεσθαι, ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ
 15 ἢ τι τοιοῦτον ἕτερον. ἀπαθὲς ἄρα δεῖ εἶναι, δεκτι-
 κὸν δὲ τοῦ εἶδους καὶ δυνάμει τοιοῦτον ἀλλὰ μὴ
 τοῦτο, καὶ ὁμοίως ἔχειν, ὡσπερ τὸ αἰσθητικὸν
 πρὸς τὰ αἰσθητά, οὕτω τὸν νοῦν πρὸς τὰ νοητά.
 ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμυγῆ εἶναι, ὡσπερ
 φησὶν Ἀναξαγόρας, ἵνα κρατῆ, τοῦτο δ' ἔστιν ἵνα
 20 γνωρίζῃ· παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλό-
 τριον καὶ ἀντιφράττει, ὥστε μὴδ' αὐτοῦ εἶναι
 φύσιν μηδεμίαν ἀλλ' ἢ ταύτην, ὅτι δυνατόν. ὁ
 ἄρα καλούμενος τῆς ψυχῆς νοῦς (λέγω δὲ νοῦν ὧ
 διανοεῖται καὶ ὑπολαμβάνει ἢ ψυχῇ) οὐθέν ἐστιν
 ἐνεργεῖα τῶν ὄντων πρὶν νοεῖν. διὸ οὐδὲ μεμίχθαι
 25 εὐλόγον αὐτὸν τῷ σώματι· ποιός τις γὰρ ἂν
 γίγνοιτο, ψυχρὸς ἢ θερμὸς, ἢ κἂν ὄργανόν τι εἴη,
 ὡσπερ τῷ αἰσθητικῷ· νῦν δ' οὐθέν ἐστιν. καὶ εἰ
 δὴ οἱ λέγοντες τὴν ψυχὴν εἶναι τόπον εἰδῶν, πλήν
 ὅτι οὔτε ὄλη ἀλλ' ἢ νοητικῇ, οὔτε ἐντελεχεία ἀλλὰ
 30 δυνάμει τὰ εἶδη· ὅτι δ' οὐχ ὁμοία ἢ ἀπάθεια τοῦ
 αἰσθητικοῦ καὶ τοῦ νοητικοῦ, φανερόν ἐπὶ τῶν
 αἰσθητηρίων καὶ τῆς αἰσθήσεως. ἢ μὲν γὰρ
 429^b αἰσθησις οὐ δύναται αἰσθάνεσθαι ἐκ τοῦ σφόδρα
 αἰσθητοῦ, οἷον ψόφου ἐκ τῶν μεγάλων ψόφων, οὐδ'

with which the soul knows and thinks, we have to
 consider what is its distinguishing characteristic, and
 how thinking comes about. If it is analogous to per-
 ceiving, it must be either a process in which the soul
 is acted upon by what is thinkable, or something else
 of a similar kind. This part, then, must (although
 impassive) be receptive of the form of an object, *i.e.*,
 must be potentially the same as its object, although
 not identical with it: as the sensitive is to the sen-
 sible, so must mind be to the thinkable. It is necessary
 then that mind, since it thinks all things, should be
 uncontaminated, as Anaxagoras says, in order that
 it may be in control, that is, that it may know; for
 the intrusion of anything foreign hinders and obstructs
 it. Hence the mind, too, can have no characteristic
 except its capacity to receive. That part of the soul,
 then, which we call mind (by mind I mean that part
 by which the soul thinks and forms judgements) has
 no actual existence until it thinks. So it is unreason-
 able to suppose that it is mixed with the body; for
 in that case it would become somehow qualitative,
e.g., hot or cold, or would even have some organ, as
 the sensitive faculty has; but in fact it has none. It
 has been well said that the soul is the place of forms,
 except that this does not apply to the soul as a whole,
 but only in its thinking capacity, and the forms occupy
 it not actually but only potentially. But that the
 perceptive and thinking faculties are not alike in
 their impassivity is obvious if we consider the sense
 organs and sensation. For the sense loses sensation
 under the stimulus of a too violent sensible object;
e.g., of sound immediately after loud sounds, and

ἐκ τῶν ἰσχυρῶν χρωμάτων καὶ ὁσμῶν οὔτε ὄραν οὔτε ὁσμάσθαι· ἀλλ' ὁ νοῦς ὅταν τι νοήσῃ σφόδρα νοητόν, οὐχ ἦττον νοεῖ τὰ ὑποδεέστερα, ἀλλὰ καὶ μάλλον· τὸ μὲν γὰρ αἰσθητικὸν οὐκ ἄνευ σώματος, ὁ δὲ χωριστός. ὅταν δ' οὕτως ἕκαστα γένηται ὡς ἐπιστήμων λέγεται ὁ κατ' ἐνέργειαν (τοῦτο δὲ συμβαίνει, ὅταν δύνηται ἐνεργεῖν δι' αὐτοῦ), ἔστι μὲν¹ καὶ τότε δυνάμει πως, οὐ μὴν ὁμοίως καὶ πρὶν μαθεῖν ἢ εὐρεῖν· καὶ αὐτὸς δὲ αὐτὸν τότε ¹⁰ δύννεται νοεῖν.

Ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι καὶ ὕδωρ καὶ ὕδατι εἶναι (οὕτω δὲ καὶ ἐφ' ἐτέρων πολλῶν, ἀλλ' οὐκ ἐπὶ πάντων· ἐπ' ἐνίῳ γὰρ ταυτόν ἐστι) τὸ σαρκὶ εἶναι καὶ σάρκα ἢ ἄλλῳ ἢ ἄλλως ἔχοντι κρίνει· ἢ γὰρ σὰρξ οὐκ ἄνευ τῆς ὕλης, ἀλλ' ὥσπερ τὸ σιμόν τόδε ἐν τῷδε. τῷ ¹⁵ μὲν οὖν αἰσθητικῷ τὸ θερμόν καὶ τὸ ψυχρόν κρίνει, καὶ ὦν λόγος τις ἢ σὰρξ· ἄλλῳ δὲ ἦτοι χωριστῷ ἢ ὡς ἢ κεκλασμένη ἔχει πρὸς αὐτὴν ὅταν ἐκταθῆ, τὸ σαρκὶ εἶναι κρίνει. πάλιν δ' ἐπὶ τῶν ἐν ἀφαιρέσει ὄντων τὸ εὐθὺ ὡς τὸ σιμόν· μετὰ συνεχοῦς ²⁰ γὰρ τὸ δὲ τί ἦν εἶναι, εἰ ἔστιν ἕτερον τὸ εὐθεῖ εἶναι καὶ τὸ εὐθύ, ἄλλο· ἔστω γὰρ δυάς. ἐτέρῳ ἄρα ἢ ἐτέρως ἔχοντι κρίνει. καὶ ὅλως ἄρα ὡς

¹ ἔστι μὲν ὁμοίως Bekker.

² ἄλλο TVX, Bonitz: ἄλλῳ.

neither seeing nor smelling is possible just after strong colours and scents; but when mind thinks the highly intelligible, it is not less able to think of slighter things, but even more able; for the faculty of sense is not apart from the body, whereas the mind is separable. But when the mind has become the several groups of its objects, as the learned man when active is said to do (and this happens, when he can exercise his function by himself), even then the mind is in a sense potential, though not quite in the same way as before it learned and discovered; moreover the mind is then capable of thinking itself.

Since magnitude is not the same as the essence of magnitude, nor water the same as the essence of water (and so too in many other cases, but not in all, because in some cases there is no difference), we judge flesh and the essence of flesh either by different faculties, or by the same faculty in different relations; for flesh cannot exist without its matter, but like "snub-nosed" implies a definite form in a definite matter. Now it is by the sensitive faculty that we judge hot and cold, and all qualities whose due proportion constitutes flesh; but it is by a different sense, either quite distinct, or related to it in the same way as a bent line to itself when pulled out straight, that we judge the essence of flesh. Again, among abstract objects "straight" is like "snub-nosed," for it is always combined with extension; but its essence, if "straight" and "straightness" are not the same, is something different; let us call it duality. Therefore we judge it by another faculty, or by the same faculty in a different relation. And speaking gener-

χωριστὰ τὰ πράγματα τῆς ὕλης, οὕτω καὶ τὰ περὶ τὸν νοῦν.

Ἀπορήσειε δ' ἂν τις, εἰ ὁ νοῦς ἀπλοῦν ἐστὶ καὶ ἀπαθὲς καὶ μηθεὶς μηθὲν ἔχει κοινόν, ὥσπερ φησὶν
 25 Ἀναξαγόρας, πῶς νοήσει, εἰ τὸ νοεῖν πάσχειν τί ἐστίν. ἢ γὰρ τι κοινόν ἀμφοῖν ὑπάρχει, τὸ μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν. ἔτι δ' εἰ νοητὸς καὶ αὐτός. ἢ γὰρ τοῖς ἄλλοις ὁ νοῦς ὑπάρξει (εἰ μὴ κατ' ἄλλο αὐτὸς νοητός, ἐν δὲ τι τὸ νοητὸν εἶδει), ἢ μεμιγμένον τι ἔξει, ὃ ποιεῖ νοητὸν αὐτὸν ὥσπερ
 30 τάλλα. ἢ τὸ μὲν πάσχειν κατὰ κοινόν τι διήρηται πρότερον, ὅτι δυνάμει πῶς ἐστὶ τὰ νοητὰ ὁ νοῦς, ἀλλ' ἐντελεχεία οὐδέν, πρὶν ἂν νοῆ. δεῖ δ' οὕτως
 430 α ὥσπερ ἐν γραμματείῳ ἢ μηθὲν ὑπάρχει ἐντελεχεία γεγραμμένον. ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ. καὶ αὐτὸς δὲ νοητὸς ἐστὶν ὥσπερ τὰ νοητά. ἐπὶ μὲν γὰρ τῶν ἄνευ ὕλης τὸ αὐτὸ ἐστὶ τὸ νοῦν καὶ τὸ
 5 νοούμενον· ἢ γὰρ ἐπιστήμη ἢ θεωρητικὴ καὶ τὸ οὕτως ἐπιστητὸν τὸ αὐτὸ ἐστὶν τοῦ δὲ μὴ ἀεὶ νοεῖν τὸ αἴτιον ἐπισκεπτόν. ἐν δὲ τοῖς ἔχουσιν ὕλην δυνάμει ἕκαστόν ἐστι τῶν νοητῶν· ὥστ' ἐκείνοις μὲν οὐχ ὑπάρξει νοῦς (ἄνευ γὰρ ὕλης δύναμις ὁ νοῦς τῶν τοιούτων), ἐκείνῳ δὲ τὸ νοητὸν ὑπάρξει.

^a This and the succeeding sentence are not very satisfactory; but A. is apparently arguing that if mind is *sui generis* it cannot be an object of thought, for this would put it in the same class as other objects of thought.

^b Cf. *Met.* xi. 7 and 9.

ally, as objects are separable from their matter so also are the corresponding faculties of the mind.

One might raise the question: if the mind is a ^{Two} simple thing, and not liable to be acted upon, and has ^{Probl} nothing in common with anything else, as Anaxagoras says, how will it think, if thinking is a form of being acted upon? For it is when two things have something in common that we regard one as acting and the other as acted upon. And our second problem is whether the mind itself can be an object of thought. ^{(1) H} For either mind will be present in all other objects ^{does} (if, that is, mind is an object of thought in itself and ^{mind} not in virtue of something else, and what is thought is always identical in form), or else it will contain some common element, which makes it an object of thought like other things. ^{(2) I} Or there is the explanation ^{mind} which we have given before of the phrase "being ^{objec} acted upon in virtue of some common element," that ^{thou} mind is potentially identical with the objects of thought but is actually nothing, until it thinks. What the mind thinks must be in it in the same sense as letters are on a tablet which bears no actual writing; this is just what happens in the case of the mind. It is also itself thinkable, just like other objects of thought.^b For in the case of things without matter that which thinks and that which is thought are the same; for speculative knowledge is the same as its object. (We must consider why mind does not always think.) In things which have matter, each of the objects of thought is only potentially present. Hence while material objects will not have mind in them (for it is apart from their matter that mind is potentially identical with them) mind will still have the capacity of being thought.

10 V. Ἐπεὶ δ' ὡς περ ἐν ἀπάσῃ τῇ φύσει ἐστὶ τι τὸ μὲν ὕλη ἐκάστῳ γένει (τοῦτο δὲ ὁ πάντα δυνάμει ἐκεῖνα), ἕτερον δὲ τὸ αἴτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἢ τέχνη πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς. καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἔξῃς τις, οἷον τὸ φῶς· τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργεῖα χρώματα. καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγῆς τῇ οὐσίᾳ ὧν ἐνεργεῖα. αἰεὶ γὰρ τιμιώτερον τὸ ποιοῦν τοῦ πάσχοντος καὶ ἢ ἀρχὴ τῆς ὕλης. τὸ δ' 20 αὐτὸ ἐστὶν ἢ κατ' ἐνεργεῖαν ἐπιστήμη τῷ πράγματι· ἢ δὲ κατὰ δύναμιν χρόνῳ προτέρα ἐν τῷ ἐνί, ὅλως δὲ οὐ χρόνῳ· ἀλλ' οὐχ ὅτε μὲν νοεῖ ὅτε δ' οὐ νοεῖ. χωρισθεῖς δ' ἐστὶ μόνον τοῦθ' ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ αἰδίου (οὐ μνημονεύομεν δέ, ὅτι τοῦτο μὲν ἀπαθές, ὁ δὲ παθητικὸς νοῦς 25 φθαρτός), καὶ ἄνευ τούτου οὐθὲν νοεῖ.

VI. Ἡ μὲν οὖν τῶν ἀδιαιρέτων νόησις ἐν τούτοις, περὶ ἃ οὐκ ἔστι τὸ ψεῦδος· ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές, σύνθεσίς τις ἤδη νοημάτων ὡς περ ἐν ὄντων, καθάπερ Ἐμπεδοκλῆς ἔφη "ἢ πολλῶν 30 μὲν κόρσαι ἀναύχενες ἐβλαστησαν," ἔπειτα συντίθεσθαι τῇ φιλίᾳ—, οὕτω καὶ ταῦτα κεχωρισμένα συντίθεται, οἷον τὸ ἀσύμμετρον καὶ ἢ διάμετρος, 430 b ἂν δὲ γενομένων¹ ἢ ἐσομένων, τὸν χρόνον προσ-

¹ γνωμένων VWX, Bekker, Trendelenburg.

^a Sc., its previous activity.

V. Since in every class of objects, just as in the whole of nature, there is something which is their matter, *i.e.*, which is potentially all the individuals, and something else which is their cause or agent in that it makes them all—the two being related as an art to its material—these distinct elements must be present in the soul also. Mind in the passive sense is such because it becomes all things, but mind has another aspect in that it makes all things; this is a kind of positive state like light; for in a sense light makes potential into actual colours. Mind in this sense is separable, impassive and unmixed, since it is essentially an activity; for the agent is always superior to the patient, and the originating cause to the matter. Actual knowledge is identical with its object. Potential is prior in time to actual knowledge in the individual, but in general it is not prior in time. Mind does not think intermittently. When isolated it is its true self and nothing more, and this alone is immortal and everlasting (we do not remember ^a because, while mind in this sense cannot be acted upon, mind in the passive sense is perishable), and without this nothing thinks.

VI. The thinking of indivisible objects of thought occurs among things concerning which there can be no falsehood; where truth and falsehood are possible there is implied a compounding of thoughts into a fresh unity, as Empedocles said, ^b "where without necks the heads of many grew," and then were joined together by Love—, so also these separate entities are combined, as for instance "incommensurable" and "diagonal." But if the thinking is concerned with things past or future, then we take into account

^b Fr. 57.

εννοῶν καὶ συντιθείς. τὸ γὰρ ψεῦδος ἐν συν-
 θέσει αἰεί· καὶ γὰρ ἂν τὸ λευκὸν μὴ λευκόν, τὸ
 μὴ λευκὸν συνέθηκεν. ἐνδέχεται δὲ καὶ διαίρεσιν
 φάναι πάντα. ἀλλ' οὖν ἔστι γε οὐ μόνον τὸ ψεῦδος
 ἢ ἄληθές, ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι
 ἦν ἢ ἔσται. τὸ δὲ ἐν ποιούν, τοῦτο ὁ νοῦς ἕκαστον.

Τὸ δ' ἀδιαίρετον ἐπεὶ διχῶς, ἢ δυνάμει ἢ
 ἐνεργείᾳ, οὐθὲν κωλύει νοεῖν τὸ ἀδιαίρετον, ὅταν
 νοῆῃ τὸ μῆκος (ἀδιαίρετον γὰρ ἐνεργείᾳ), καὶ ἐν
 χρόνῳ ἀδιαιρέτω· ὁμοίως γὰρ ὁ χρόνος διαιρετὸς
 10 καὶ ἀδιαίρετος τῷ μήκει. οὐκ οὖν ἔστιν εἰπεῖν ἐν
 τῷ ἡμίσει τί ἐνόει¹ ἑκατέρῳ· οὐ γὰρ ἔστω, ἂν
 μὴ διαιρεθῇ, ἀλλ' ἢ δυνάμει. χωρὶς δ' ἑκάτεροι
 νοῶν τῶν ἡμίσεων διαιρεῖ καὶ τὸν χρόνον ἅμα·
 τότε δ' οἰονεῖ μήκη. εἰ δ' ὡς ἐξ ἀμφοῖν, καὶ ἐν
 τῷ χρόνῳ τῷ ἐπ' ἀμφοῖν.

15 Τὸ δὲ μὴ κατὰ ποσὸν ἀδιαίρετον ἀλλὰ τῷ εἶδει
 νοεῖ ἐν ἀδιαιρέτῳ χρόνῳ καὶ ἀδιαιρέτῳ τῆς ψυχῆς·
 κατὰ συμβεβηκὸς δέ, καὶ οὐχ ἢ ἐκεῖνα διαιρετά,
 ᾧ νοεῖ καὶ ἐν ᾧ χρόνῳ, ἀλλ' ἢ ἀδιαίρετα· ἐνεστι
 γὰρ κἂν τούτοις τι ἀδιαίρετον, ἀλλ' ἴσως οὐ
 χωριστόν, ὃ ποιεῖ ἓνα τὸν χρόνον καὶ τὸ μῆκος.
 20 καὶ τοῦθ' ὁμοίως ἐν ἅπαντί ἐστι τῷ συνεχεῖ καὶ
 χρόνῳ καὶ μήκει. ἢ δὲ στιγμή καὶ πᾶσα διαίρεσις,
 καὶ τὸ οὕτως ἀδιαίρετον, δηλοῦται ὡσπερ ἢ

¹ ἐνόει L, Torstrick : ἐνοεῖ.

and include the notion of time. For falsehood always lies in the process of combination, for if a man calls white not-white, he has combined the notion not-white. It is equally possible to say that all these cases involve division. At any rate it is not merely true or false to say that Cleon is white, but also that he was or will be. The principle which unifies is in every case the mind.

Since the term indivisible has two senses—potential or actual—there is nothing to prevent the mind from thinking of the indivisible when it thinks of length (which is in actuality undivided), and that in indivisible time. Time is also both divisible and indivisible in the same sense as length. So it is impossible to say what it was thinking in each half of the time; for the half has no existence, except potentially, unless the whole is divided. But by thinking each half separately, mind divides the time as well; in which case the halves are treated as separate units of length. But if the line is thought of as the sum of two halves, it is also thought of in a time which covers both half periods.

But when the object of thought is not quantitatively but qualitatively indivisible, the mind thinks of it in indivisible time, and by an indivisible activity of the soul; but incidentally this whole is divisible, not in the sense in which the activity and the time are divisible, but in the sense in which they are indivisible; for there is an indivisible element even in these, though perhaps incapable of separate existence, which makes the time and the length one. And this is equally true of every continuous thing whether time or length. Points and all divisions and everything indivisible in this sense are apprehended in the same

430 b

στέρησις. καὶ ὁμοίως ὁ λόγος ἐπὶ τῶν ἄλλων, οἷον πῶς τὸ κακὸν γνωρίζει ἢ τὸ μέλαν· τῷ ἐναντίῳ γὰρ πως γνωρίζει. δεῖ δὲ δυνάμει εἶναι τὸ γνωρίζον καὶ ἐνεῖναι ἐν αὐτῷ. εἰ δὲ τι μὴ
 25 ἔστιν ἐναντίον,¹ αὐτὸ ἑαυτὸ γινώσκει καὶ ἐνεργεῖα ἔστι καὶ χωριστόν. ἔστι δ' ἢ μὲν φάσις τι κατὰ τινος, ὡσπερ ἢ κατάφασις, καὶ ἀληθῆς ἢ ψευδῆς πᾶσα· ὁ δὲ νοῦς οὐ πᾶς, ἀλλ' ὁ τοῦ τί ἐστι κατὰ τὸ τί ἦν εἶναι ἀληθῆς, καὶ οὐ τί κατὰ τινος· ἀλλ'
 30 ὡσπερ τὸ ὄραν τοῦ ἰδίου ἀληθές, εἰ δ' ἄνθρωπος τὸ λευκὸν ἢ μὴ, οὐκ ἀληθές ἀεὶ, οὕτως ἔχει ὅσα ἀνευ ὕλης.

431 a VII. Τὸ δ' αὐτὸ ἐστὶν ἢ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι. ἢ δὲ κατὰ δυνάμιν χρόνῳ προτέρα ἐν τῷ ἐνί, ὅλως δὲ οὐδὲ χρόνῳ· ἔστι γὰρ ἐξ ἐντελεχείᾳ ὄντος πάντα τὰ γιγνόμενα. φαίνεται δὲ
 5 τὸ μὲν αἰσθητὸν ἐκ δυνάμει ὄντος τοῦ αἰσθητικοῦ ἐνεργεῖα ποιοῦν· οὐ γὰρ πάσχει οὐδ' ἀλλοιοῦται. διὸ ἄλλο εἶδος τοῦτο κινήσεως· ἢ γὰρ κίνησις τοῦ ἀτελοῦς ἐνέργεια ἦν, ἢ δ' ἀπλῶς ἐνέργεια ἑτέρα ἢ τοῦ τετελεσμένου. τὸ μὲν οὖν αἰσθάνεσθαι ὁμοίον τῷ φάναι μόνον καὶ νοεῖν· ὅταν δὲ ἡδὺ
 10 ἢ λυπηρόν, οἷον καταφᾶσα ἢ ἀποφᾶσα, διώκει ἢ φεύγει· καὶ ἔστι τὸ ἡδεσθαι καὶ λυπεῖσθαι τὸ ἐνεργεῖν τῇ αἰσθητικῇ μεσότητι πρὸς τὸ ἀγαθὸν ἢ κακόν, ἢ τοιαῦτα. καὶ ἢ φυγῆ δὲ καὶ ἢ ὀρεξίς τοῦτο ἢ κατ' ἐνέργειαν, καὶ οὐχ ἕτερον τὸ

¹ ἐναντίον τῶν αἰτίων Bekker.

way as privations. And the same explanation applies in all other cases; e.g., how the mind cognizes evil or black; for it recognizes them, in a sense, by their contraries. The cognizing agent must be potentially one contrary, and contain the other. But if there is anything which has no contrary, it is self-cognizant, actual and separately existent. Assertion, like affirmation, states an attribute of a subject, and is always either true or false; but this is not always so with the mind: the thinking of the definition in the sense of the essence is always true and is not an instance of predication; but just as while the seeing of a proper object is always true, the judgement whether the white object is a man or not is not always true, so it is with every object abstracted from its matter.

VII. Knowledge when actively operative is identical with its object. In the individual potential knowledge has priority in time, but generally it is not prior even in time; for everything comes out of that which actually is. And clearly the sensible object makes the sense-faculty actually operative from being only potential; it is not acted upon, nor does it undergo change of state; and so, if it is motion, it is motion of a distinct kind; for motion, as we saw,^a is an activity of the imperfect, but activity in the absolute sense, that is activity of the perfected, is different. Sensation, then, is like mere assertion and thinking; when an object is pleasant or unpleasant, the soul pursues or avoids it, thereby making a sort of assertion or negation. To feel pleasure or pain is to adopt an attitude with the sensitive mean towards good or bad as such. This is what avoidance or appetite, when actual, really means, and the faculties

The
cal in
in or
tion.

481^a ὀρεκτικὸν καὶ φευκτικόν, οὐτ' ἀλλήλων οὔτε τοῦ
αἰσθητικοῦ· ἀλλὰ τὸ εἶναι ἄλλο. τῇ δὲ διανοητικῇ
15 ψυχῇ τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει.
ὅταν δὲ ἀγαθὸν ἢ κακὸν φήσῃ ἢ ἀποφήσῃ, φεύγει
ἢ διώκει. διὸ οὐδέποτε νοεῖ ἄνευ φαντάσματος ἢ
ψυχῆ, ὥσπερ δὲ ὁ ἀὴρ τὴν κόρην τοιανδί ἐποίησεν,
αὐτὴ δ' ἕτερον, καὶ ἡ ἀκοὴ ὡσαύτως· τὸ δὲ
ἕσχατον ἔν, καὶ μία μεσότης· τὸ δ' εἶναι αὐτῇ
20 πλείω.

Τίνι δ' ἐπικρίνει τί διαφέρει γλυκὺ καὶ θερμόν,
εἴρηται μὲν καὶ πρότερον, λεκτέον δὲ καὶ ὧδε.
ἔστι γὰρ ἔν τι, οὕτω δὲ καὶ ὡς ὄρος. καὶ ταῦτα
ἐν τῷ ἀνάλογον καὶ τῷ ἀριθμῷ ὄν¹ ἔχει πρὸς
ἐκάτερον ὡς ἐκεῖνα πρὸς ἄλληλα· τί γὰρ διαφέρει
25 τὸ ἀπορεῖν πῶς τὰ μὴ² ὁμογενῆ κρίνει ἢ τάναντία,
οἷον λευκὸν καὶ μέλαν; ἔστω δὴ ὡς τὸ Α τὸ
λευκὸν πρὸς τὸ Β τὸ μέλαν, τὸ Γ πρὸς τὸ Δ [ὡς
ἐκεῖνα πρὸς ἄλληλα]³. ὥστε καὶ ἐναλλάξ. εἰ δὴ
τὰ ΓΔ ἐνὶ εἴῃ ὑπάρχοντα, οὕτως ἔξει ὥσπερ καὶ
τὰ ΑΒ τὸ αὐτὸ μὲν καὶ ἐν τὸ δ' εἶναι οὐ τὸ
481^b αὐτό, κακέῖνα⁴ ὁμοίως. ὁ δ' αὐτὸς λόγος καὶ εἰ
τὸ μὲν Α τὸ γλυκὺ εἴῃ, τὸ δὲ Β τὸ λευκόν.

Τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι
νοεῖ, καὶ ὡς ἐν ἐκείνοις ὄρισται αὐτῷ τὸ διωκτὸν
καὶ φευκτόν, καὶ ἐκτὸς τῆς αἰσθήσεως, ὅταν ἐπὶ
5 τῶν φαντασμάτων ἦ, κινεῖται, οἷον αἰσθανόμενος

¹ ὄν Freudenthal: ὄν.

³ secl. Biehl.

² μὴ om. TVW, Bekker.

⁴ κακέῖνα Pacius: κακέῖνο.

^a 426 b 12 sqq.

^b Sc., to pursuit or avoidance.

of appetite or avoidance are not really different from each other, or from the sensitive faculty, though their actual essence is different. Now for the thinking soul images take the place of direct perceptions; and when it asserts or denies that they are good or bad, it avoids or pursues them. Hence the soul never thinks without a mental image. The process is just like that in which air affects the eye in a particular way, and the eye again affects something else; and similarly with hearing. The last thing to be affected is a single entity and a single mean, although it has more than one aspect.

We have explained before^a what part of the soul distinguishes between sweet and hot, but some farther details must now be added. It is a unity, but in the sense just described, *i.e.*, as a point of connexion. The faculties which it connects, being analogically and numerically one, are related to one another just as their sensible objects are. It makes no difference whether we ask how the soul distinguishes things which are not of the same class, or contraries like white and black. Suppose that as A (white) is to B (black), so is C to D. Then *alternandò* C is to A as D is to B. If then C and D belong to one subject, they will stand in the same relation as A and B; A and B are one and the same, though their being has different aspects, and so it is with C and D. The same also holds good if we take A as sweet and B as white.

So the thinking faculty thinks the forms in mental images, and just as in the sphere of sense what is to be pursued and avoided is defined for it, so also outside sensation, when it is occupied with mental images, is moved.^b For instance in perceiving a beacon

τὸν φρυκτὸν ὅτι πῦρ, τῇ κοινῇ γνωρίζει, ὁρῶν κινού-
 μενον, ὅτι πολέμιος. ὅτε δὲ τοῖς ἐν τῇ ψυχῇ φαν-
 τάσμασιν ἢ νοήμασιν ὡσπερ ὁρῶν λογίζεται καὶ
 βουλευεται τὰ μέλλοντα πρὸς τὰ παρόντα· καὶ ὅταν
 εἴπῃ ὡς ἐκεῖ τὸ ἥδὺ ἢ λυπηρόν, ἐνταῦθα φεύγει ἢ
 10 διώκει, καὶ ὅλως ἐν πράξει. καὶ τὸ ἄνευ δὲ πρά-
 ξεως, τὸ ἀληθὲς καὶ τὸ ψεῦδος ἐν τῷ αὐτῷ γένει
 ἐστὶ τῷ ἀγαθῷ καὶ κακῷ· ἀλλὰ τῷ γε ἀπλῶς δια-
 φέρει καὶ τινί. τὰ δὲ ἐν ἀφαιρέσει λεγόμενα νοεῖ
 ὡσπερ ἂν εἰ τὸ σιμόν, ἢ μὲν σιμόν, οὐ κεχωρισ-
 15 μένως, ἢ δὲ κοῖλον, εἴ τις ἐνόει ἐνεργεία, ἄνευ τῆς
 σαρκὸς ἂν ἐνόει ἐν ἢ τὸ κοῖλον. οὕτω τὰ μαθη-
 ματικὰ οὐ κεχωρισμένα ὡς κεχωρισμένα νοεῖ, ὅταν
 νοῦν ἐκεῖνα. ὅλως δὲ ὁ νοῦς ἐστὶν ὁ κατ' ἐνεργείαν
 τὰ πράγματα νοῶν. ἄρα δ' ἐνδέχεται τῶν κεχω-
 ρισμένων τι νοεῖν ὄντα αὐτὸν μὴ κεχωρισμένον
 μεγέθους, ἢ οὐ, σκεπτέον ὑστερον.

20 VIII. Nūn δὲ περὶ ψυχῆς τὰ λεχθέντα συγκεφα-
 λαιώσαντες, εἴπωμεν πάλιν ὅτι ἡ ψυχὴ τὰ ὄντα πῶς
 ἐστὶ πάντα. ἢ γὰρ αἰσθητὰ τὰ ὄντα ἢ νοητά, ἔστι
 δ' ἢ ἐπιστήμη μὲν τὰ ἐπιστητά πως, ἢ δ' αἴσθησις
 τὰ αἰσθητά· πῶς δὲ τοῦτο, δεῖ ζητεῖν. πέμνεται
 25 οὖν ἢ ἐπιστήμη καὶ ἢ αἴσθησις εἰς τὰ πράγματα,
 ἢ μὲν δυνάμει εἰς τὰ δυνάμει, ἢ δ' ἐντελεχείᾳ εἰς
 τὰ ἐντελεχεία. τῆς δὲ ψυχῆς τὸ αἰσθητικὸν καὶ
 τὸ ἐπιστημονικὸν δυνάμει ταῦτά ἐστι, τὸ μὲν
 ἐπιστητὸν τὸ δὲ αἰσθητόν. ἀνάγκη δ' ἢ αὐτὰ ἢ

¹ ταῦτά E², Sophonias et vetus translatio: ταῦτόν.

a man recognizes that it is fire; then seeing it moving
 he knows that it signifies an enemy. But sometimes
 by means of the images or thoughts in the soul, just
 as if it were seeing, it calculates and plans for the
 future in view of the present; and when it makes a
 statement, as in sensation it asserts that an object
 is pleasant or unpleasant, in this case it avoids or
 pursues; and so generally in action. What does not
 involve action, *i.e.*, the true or false, belongs to the
 same sphere as what is good or evil; but they differ
 in having respectively a universal and a particular
 reference. Abstract objects, as they are called, the
 mind thinks as if it were thinking the snub-nosed;
qua snub-nosed, it would not be thought of apart from
 flesh, but *qua* hollow, if it were actually so conceived,
 it would be thought of apart from the flesh in which
 the hollowness resides. So when mind thinks the
 objects of mathematics, it thinks them as separable
 though actually they are not. In general, the mind
 when actively thinking is identical with its objects.
 Whether it is possible for the mind to think of un-
 extended objects when it is not itself unextended,
 must be considered later.

VIII. Now summing up what we have said about Summary.
 the soul, let us assert once more that in a sense the
 soul is all existing things. What exists is either
 sensible or intelligible; and in a sense knowledge is
 the knowable and sensation the sensible. We must
 consider in what sense this is so. Both knowledge
 and sensation are divided to correspond to their
 objects, the potential to the potential, and the actual
 to the actual. The sensitive and cognitive faculties
 of the soul are potentially these objects, *viz.*, the
 sensible and the knowable. These faculties, then,
 must be identical either with the objects themselves

431 b τὰ εἶδη εἶναι. αὐτὰ μὲν γὰρ δὴ οὐ· οὐ γὰρ ὁ
 432 a λίθος ἐν τῇ ψυχῇ, ἀλλὰ τὸ εἶδος· ὥστε ἡ ψυχὴ
 ὡσπερ ἡ χεὶρ ἐστίν· καὶ γὰρ ἡ χεὶρ ὄργανόν ἐστιν
 ὀργάνων, καὶ ὁ νοῦς εἶδος εἰδῶν καὶ ἡ αἴσθησις
 εἶδος αἰσθητῶν. ἐπεὶ δὲ οὐδὲ πρᾶγμα οὐθέν ἐστι
 παρὰ τὰ μεγέθη, ὡς δοκεῖ, τὰ αἰσθητὰ κευχρισ-
 5 μένον, ἐν τοῖς εἶδεσι τοῖς αἰσθητοῖς τὰ νοητά ἐστι,
 τὰ τε ἐν ἀφαιρέσει λεγόμενα, καὶ ὅσα τῶν αἰσθητῶν
 ἕξεις καὶ πάθη. καὶ διὰ τοῦτο οὔτε μὴ αἰσθανό-
 μενος μηθὲν οὐθέν ἂν μάθοι οὐδὲ ξυνείη· ὅταν τε
 θεωρῇ, ἀνάγκη ἅμα φάντασμά τι θεωρεῖν· τὰ γὰρ
 10 φαντάσματα ὡσπερ αἰσθημάτα ἐστι, πλὴν ἄνευ
 ὕλης. ἔστι δ' ἡ φαντασία ἕτερον φάσεως καὶ
 ἀποφάσεως· συμπλοκὴ γὰρ νοημάτων ἐστὶ τὸ
 ἀληθές ἢ ψεῦδος. τὰ δὲ πρῶτα νοήματα τίνι
 διοίσει/τοῦ μὴ φαντάσματα εἶναι; ἢ οὐδὲ τᾶλλα
 φαντάσματα, ἀλλ' οὐκ ἄνευ φαντασμάτων.
 15 IX. Ἐπεὶ δὲ ἡ ψυχὴ κατὰ δύο ὄρισται δυνάμεις
 ἡ τῶν ζώων, τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστὶ
 καὶ αἰσθήσεως, καὶ ἔτι τῷ κινεῖν τὴν κατὰ τόπον
 κίνησιν, περὶ μὲν αἰσθήσεως καὶ νοῦ διωρίσθω
 τσσαῦτα, περὶ δὲ τοῦ κινούντος, τί ποτέ ἐστι τῆς
 20 ψυχῆς, σκεπτέον, πότερον ἐν τι μόνιον αὐτῆς
 χωριστὸν ὄν ἢ μεγέθει ἢ λόγῳ, ἢ πᾶσα ἡ ψυχὴ,
 180

or with their forms. Now they are not identical with the objects; for the stone does not exist in the soul, but only the form of the stone. The soul, then, acts like a hand; for the hand is an instrument which employs instruments, and in the same way the mind is a form which employs forms, and sense is a form which employs the forms of sensible objects. But since apparently nothing has a separate existence, except sensible magnitudes, the objects of thought—both the so-called abstractions of mathematics and all states and affections of sensible things—reside in the sensible forms. And for this reason as no one could ever learn or understand anything without the exercise of perception, so even when we think speculatively, we must have some mental picture of which to think; for mental images are similar to objects perceived except that they are without matter. But imagination is not the same thing as assertion and denial; for truth and falsehood involve a combination of notions. How then will the simplest notions differ from mental pictures? Surely neither these simple notions nor any others are mental pictures, but they cannot occur without such mental pictures.

Thought
and feeling
are not
identical
but inter-
dependent.

IX. The soul in living creatures is distinguished by two functions, the judging capacity which is a function of the intellect and of sensation combined, and the capacity for exciting movement in space. We have completed our account of sense and mind, and must now consider what it is in the soul that excites movement; whether it is a part separable from the soul itself, either in extension or only in defini-

The relation
of the soul
to move-
ment.

482^a *κᾶν εἰ μόριόν τι, πότερον ἴδιόν τι παρὰ τὰ εἰωθότα λέγεσθαι καὶ τὰ εἰρημένα, ἢ τούτων ἓν τι. ἔχει δὲ ἀπορίαν εὐθὺς πῶς τε δεῖ μόρια λέγειν τῆς ψυχῆς καὶ πόσα. τρόπον γάρ τινα ἄπειρα φαίνεται,*
 25 *καὶ οὐ μόνον ἄ τινες λέγουσι διορίζοντες, λογιστικὸν καὶ θυμικὸν καὶ ἐπιθυμητικόν, οἱ δὲ τὸ λόγον ἔχον καὶ τὸ ἄλογον· κατὰ γὰρ τὰς διαφορὰς δι' ἃς ταῦτα χωρίζουσι, καὶ ἄλλα φανεῖται μόρια μείζω διάστασιν ἔχοντα τούτων, περὶ ὧν καὶ νῦν εἴρηται, τό τε θρεπτικόν, ὃ καὶ τοῖς φυτοῖς*
 30 *ὑπάρχει καὶ πᾶσι τοῖς ζώοις, καὶ τὸ αἰσθητικόν, ὃ οὔτε ὡς ἄλογον οὔτε ὡς λόγον ἔχον θεῖη ἂν τις*
 432^b *ῥαδίως. ἔτι δὲ τὸ φανταστικόν, ὃ τῷ μὲν εἶναι πάντων ἕτερον, τινὲ δὲ τούτων ταῦτὸν ἢ ἕτερον, ἔχει πολλήν ἀπορίαν, εἴ τις θήσει κεχωρισμένα μόρια τῆς ψυχῆς. πρὸς δὲ τούτοις τὸ ὀρεκτικόν, ὃ καὶ λόγῳ καὶ δυνάμει ἕτερον ἂν δόξειεν εἶναι*
 5 *πάντων. καὶ ἄτοπον δὴ τοῦτο διασπᾶν· ἓν τε τῷ λογιστικῷ γὰρ ἢ βούλησις γίνεται, καὶ ἓν τῷ ἀλόγῳ ἢ ἐπιθυμία καὶ ὁ θυμός· εἰ δὲ τρία ἢ ψυχῆ, ἓν ἐκάστῳ ἔσται ὄρεξις.*

Καὶ δὴ καὶ περὶ οὗ νῦν ὁ λόγος ἐνέστηκε, τί τὸ κινεῖν κατὰ τόπον τὸ ζῶόν ἐστιν; τὴν μὲν γὰρ κατ' αὔξησιν καὶ φθίσειν κίνησιν, ἅπασιν ὑπ-

10 *άρχουσιν, τὸ πᾶσιν ὑπάρχον δόξειεν ἂν κινεῖν τὸ*

tion, or whether it is the whole soul; and if it is a part, whether it is a special part beyond those usually described, and of which we have given an account, or whether it is one of them. A problem at once arises: in what sense should we speak of parts of the soul, and how many are there? For in one sense they seem to be infinite, and not confined to those which some thinkers describe, when they attempt analysis, as calculative, emotional, and desiderative, or, as others have it, rational and irrational. When we consider the distinctions according to which they classify, we shall find other parts exhibiting greater differences than those of which we have already spoken; for instance the nutritive part, which belongs both to plants and to all living creatures, and the sensitive part, which one could not easily assign either to the rational or irrational part; and also the imaginative part, which appears to be different in essence from them all, but which is extremely difficult to identify with, or to distinguish from any one of them, if we are to suppose that the parts of the soul are separate. Beyond these again is the appetitive part, which in both definition and capacity would seem to be different from them all. And it is surely unreasonable to split this up; for there is will in the calculative, and desire and passion in the irrational part; and if the soul is divided into three, appetite will be found in each.

Moreover, to come to the point with which our inquiry is now concerned, what is it that makes the living creature move in space? The generative and nutritive faculties, which all share, would seem responsible for movement in the sense of growth and

Part
the sMov
cann
assoc
with
one l
the s

432 b

γεννητικὸν καὶ θρεπτικόν· περὶ δὲ ἀναπνοῆς καὶ ἐκπνοῆς καὶ ὕπνου καὶ ἐγρηγόρσεως ὕστερον ἐπισκεπτέον· ἔχει γὰρ καὶ ταῦτα πολλήν ἀπορίαν. ἀλλὰ περὶ τῆς κατὰ τόπον κινήσεως, τί τὸ κινουὺν τὸ ζῶον τὴν πορευτικὴν κίνησιν, σκεπτέον. ὅτι
 15 μὲν οὖν οὐχ ἡ θρεπτικὴ δύναμις, δῆλον· αἰεὶ τε γὰρ ἕνεκά του ἡ κίνησις αὕτη, καὶ ἡ μετὰ φαντασίας ἢ ὀρέξεώς ἐστιν· οὐθὲν γὰρ μὴ ὀρεγόμενον ἢ φεύγον κινεῖται ἀλλ' ἡ βία. ἔτι κἂν τὰ φυτὰ κινήτικα ἦν, κἂν εἶχέ τι μόριον ὀργανικὸν πρὸς τὴν κίνησιν ταύτην. ὁμοίως δὲ οὐδὲ τὸ αἰσθη-
 20 τικόν· πολλὰ γὰρ ἐστὶ τῶν ζῶων ἃ αἰσθησιν μὲν ἔχει, μόνιμα δ' ἐστὶ καὶ ἀκίνητα διὰ τέλους. εἰ οὖν ἡ φύσις μήτε ποιεῖ μάτην μηθὲν μήτε ἀπολείπει τι τῶν ἀναγκαίων, πλὴν ἐν τοῖς πηρώμασι καὶ ἐν τοῖς ἀτελεσίω (τὰ δὲ τοιαῦτα τῶν ζῶων τέλεια καὶ οὐ πηρώματά ἐστιν· σημεῖον δ' ὅτι
 25 ἐστὶ γεννητικὰ καὶ ἀκμὴν ἔχει καὶ φθίσιν)—ᾧσ' εἶχεν ἂν καὶ τὰ ὀργανικὰ μέρη τῆς πορείας. ἀλλὰ μὴν οὐδὲ τὸ λογιστικὸν καὶ ὁ καλούμενος νοῦς ἐστὶν ὁ κινῶν· ὁ μὲν γὰρ θεωρητικὸς οὐθὲν νοεῖ πρακτόν, οὐδὲ λέγει περὶ φευκτοῦ καὶ διωκτοῦ οὐθὲν, ἢ δὲ κίνησις ἢ φεύγοντός τι ἢ διώκοντός
 30 τί ἐστίν. ἀλλ' οὐδ' ὅταν θεωρῇ τι τοιοῦτον, ἥδη κελεύει φεύγειν ἢ διώκειν, ὅλον πολλάκις διανοεῖται φοβερόν τι ἢ ἡδύ, οὐ κελεύει δὲ φοβεῖσθαι, ἢ δὲ
 433 a καρδιά κινεῖται, ἂν δ' ἡδύ, ἕτερόν τι μόριον. ἔτι

^a i.e. if movement in space were due to the sensitive faculty.

decay, as this movement belongs to them all; later on we shall have to consider inspiration and expiration, and sleep and waking; for these also present considerable difficulty. But now, about movement in space, we must consider what it is that causes the living animal to exhibit a travelling movement. Obviously it is not the nutritive faculty; for this movement always has an object in view, and is combined with imagination or appetite; for nothing moves except under compulsion, unless it is seeking or avoiding something. Besides, plants would be capable of locomotion, and would have some part instrumental towards this movement. Nor is it the sensitive faculty; for there are many living creatures which have feeling, but are stationary, and do not move throughout their existence. Then seeing that nature does nothing in vain, and omits nothing essential, except in maimed or imperfect animals (and the sort of animal under consideration is perfect and not maimed; this is proved by the fact that they propagate their species and have a prime and decline), they would also have parts instrumental to progression.^a Nor is the calculative faculty, which is called mind, the motive principle, for the speculative mind thinks of nothing practical, and tells us nothing about what is to be avoided or pursued; but movement is characteristic of one who is either avoiding or pursuing something. Even when the mind contemplates such an object, it does not directly suggest avoidance or pursuit; e.g., it often thinks of something fearful or pleasant without suggesting fear. It is the heart which is moved,—or if the object is pleasant, some other part. Further, even when the mind orders and

483 a

καὶ ἐπιτάττοντος τοῦ νοῦ καὶ λεγούσης τῆς διανοίας
 φεύγειν τι ἢ διώκειν οὐ κινεῖται, ἀλλὰ κατὰ τὴν
 ἐπιθυμίαν πράττει, οἷον ὁ ἀκρατής. καὶ ὅλως δὲ
 ὁρώμεν ὅτι ὁ ἔχων τὴν ἰατρικὴν οὐκ ἰάται, ὡς
 5 ἐτέρου τινὸς κυρίου ὄντος τοῦ ποιεῖν κατὰ τὴν
 ἐπιστήμην, ἀλλ' οὐ τῆς ἐπιστήμης. ἀλλὰ μὴν
 οὐδ' ἡ ὄρεξις ταύτης κυρία τῆς κινήσεως· οἱ γὰρ
 ἐγκρατεῖς ὀρεγόμενοι καὶ ἐπιθυμοῦντες οὐ πράτ-
 τουσιν ὧν ἔχουσι τὴν ὄρεξιν, ἀλλ' ἀκολουθοῦσι
 τῷ νῷ.

- 10 X. Φαίνεται δὲ γε δύο ταῦτα κινῶντα, ἡ ὄρεξις
 ἡ νοῦς, εἴ τις τὴν φαντασίαν τιθεῖ ὡς νόησιν τινα·
 πολλὰ γὰρ παρὰ τὴν ἐπιστήμην ἀκολουθοῦσι ταῖς
 φαντασίαις, καὶ ἐν τοῖς ἄλλοις ζώοις οὐ νόησις
 οὐδὲ λογισμὸς ἐστίν, ἀλλὰ φαντασία. ἄμφω ἄρα
 ταῦτα κινητικὰ κατὰ τόπον, νοῦς καὶ ὄρεξις.
 νοῦς δὲ ὁ ἕνεκά του λογιζόμενος καὶ ὁ πρακτικός·
 15 διαφέρει δὲ τοῦ θεωρητικοῦ τῷ τέλει. καὶ ἡ
 ὄρεξις ἕνεκά του πᾶσα· οὐ γὰρ ἡ ὄρεξις, αὐτὴ
 ἀρχὴ τοῦ πρακτικοῦ νοῦ· τὸ δ' ἔσχατον ἀρχὴ τῆς
 πράξεως. ὥστε εὐλόγως ταῦτα δύο φαίνεται τὰ
 κινῶντα, ὄρεξις καὶ διάνοια πρακτικὴ· τὸ ὀρεκτὸν
 γὰρ κινεῖ, καὶ διὰ τοῦτο ἡ διάνοια κινεῖ, ὅτι ἀρχὴ
 20 αὐτῆς ἐστὶ τὸ ὀρεκτόν. καὶ ἡ φαντασία δὲ ὅταν
 κινῆ, οὐ κινεῖ ἄνευ ὀρέξεως. ἐν δὴ τι τὸ κινῶν
 τὸ ὀρεκτόν. εἰ γὰρ δύο, νοῦς καὶ ὄρεξις, ἐκίνουν,

thought urges avoidance or pursuit, there is no movement, but action is prompted by desire, e.g., in the absence of self-control. Speaking generally, we see that the man possessing knowledge of the healing art is not always healing, so that there is some other factor which causes action in accordance with knowledge, and not knowledge itself. Finally, it is not appetite which is responsible for movement; for the self-controlled, though they may crave and desire, do not do these things for which they have an appetite, but follow their reason.

X. These two then, appetite and mind, are clearly Cause
move capable of causing movement if, that is, one regards imagination as some sort of thinking process; for men often follow their imaginations contrary to knowledge, and in living creatures other than man there is neither thinking nor calculation, but only imagination. Both of these, then, mind and appetite, are productive of movement in space. But the mind in question is that which makes its calculations with an end in view, that is, the practical mind: it differs from the speculative mind in the end that it pursues. And every appetite is directed towards an end; for the thing at which appetite aims is the starting-point of the practical mind, and the last step of the practical mind is the beginning of the action. So these two, appetite and practical thought, seem reasonably considered as the producers of movement; for the object of appetite produces movement, and therefore thought produces movement, because the object of appetite is its beginning. Imagination, too, when it starts movement, never does so without appetite. That which moves, then, is a single faculty, that of appetite. If there were two movers, mind as

433 a

κατὰ κοινὸν ἂν τι ἐκίνουν εἶδος. νῦν δὲ ὁ μὲν
νοῦς οὐ φαίνεται κινῶν ἄνευ ὀρέξεως (ἢ γὰρ
βούλησις ὄρεξις· ὅταν δὲ κατὰ τὸν λογισμὸν
25 κινήται, καὶ κατὰ βούλησιν κινεῖται) ἢ δ' ὄρεξις
κινεῖ παρὰ τὸν λογισμὸν· ἢ γὰρ ἐπιθυμία ὄρεξις
τις ἐστίν. νοῦς μὲν οὖν πᾶς ὀρθός· ὄρεξις δὲ καὶ
φαντασία καὶ ὀρθή καὶ οὐκ ὀρθή. διὸ ἀεὶ κινεῖ
μὲν τὸ ὀρεκτόν, ἀλλὰ τοῦτ' ἐστὶν ἢ τὸ ἀγαθὸν ἢ
τὸ φαινόμενον ἀγαθόν. οὐ πᾶν δέ, ἀλλὰ τὸ
30 πρακτόν ἀγαθόν. πρακτόν δ' ἐστὶ τὸ ἐνδεχόμενον
καὶ ἄλλως ἔχειν.

Ἵτι μὲν οὖν ἡ τοιαύτη δύναμις κινεῖ τῆς ψυχῆς
ἢ καλουμένη ὄρεξις, φανερόν. τοῖς δὲ διαιροῦσι τὰ
433 b μέρη τῆς ψυχῆς ἐὰν κατὰ τὰς δυνάμεις διαιρῶσι
καὶ χωρίζωσι, πάμπολλα γίνεται, θρεπτικόν, αἰ-
σθητικόν, νοητικόν, βουλευτικόν, ἔτι ὀρεκτικόν·
ταῦτα γὰρ πλέον διαφέρει ἀλλήλων ἢ τὸ ἐπιθυμη-
5 τικόν καὶ θυμικόν. ἐπεὶ δ' ὀρέξεις γίνονται ἐναν-
τίαι ἀλλήλαις, τοῦτο δὲ συμβαίνει ὅταν ὁ λόγος
καὶ ἡ ἐπιθυμία ἐναντίαι ὦσι, γίνεται δ' ἐν τοῖς
χρόνου αἰσθησιν ἔχουσιν (ὁ μὲν γὰρ νοῦς διὰ τὸ
μέλλον ἀνθέλκειν κελεύει, ἢ δ' ἐπιθυμία διὰ τὸ
ἤδη· φαίνεται γὰρ τὸ ἤδη ἡδὺ καὶ ἀπλῶς ἡδὺ καὶ
10 ἀγαθὸν ἀπλῶς, διὰ τὸ μὴ ὁρᾶν τὸ μέλλον), εἶδει
μὲν ἐν ἂν εἶη τὸ κινῶν τὸ ὀρεκτικόν, ἢ ὀρεκτικόν,
πρῶτον δὲ πάντων τὸ ὀρεκτόν (τοῦτο γὰρ κινεῖ οὐ

well as appetite, they would produce movement in virtue of a common characteristic. But, as things are, mind is never seen to produce movement without appetite (for will is a form of appetite, and when movement accords with calculation, it accords also with choice), but appetite produces movement contrary to calculation; for desire is a form of appetite. Now mind is always right; but appetite and imagination may be right or wrong. Thus the object of appetite always produces movement, but this may be either the real or the apparent good; and not every good can excite movement, but only practical good. Practical good is that which is capable of being other-
wise.

It is clear, then, that movement is caused by such a faculty of the soul as we have described, *viz.*, that which is called appetite. But those who divide up the parts of the soul, if they divide and distinguish them by their functions, get a great many parts: nutritive, sensitive, intelligent, deliberate and appetitive as well; for these differ from one another more than the desiderative does from the emotional. Now appetites may conflict, and this happens wherever reason and desire are opposed, and this occurs in creatures which have a sense of time (for the mind advises us to resist with a view to the future, while desire only looks to the present; for what is momentarily pleasant seems to be absolutely pleasant and absolutely good, because desire cannot look to the future). Thus while that which causes movement is specifically one, *viz.*, the faculty of appetite *qua* appetitive, or ultimately the object of appetite (for this, though unmoved, causes

Appetit
produce
movem

488 b

κινούμενον τῷ νοηθῆναι ἢ φαντασθῆναι), ἀριθμῶ δὲ πλείω τὰ κινούμενα.

Ἐπειδὴ δ' ἐστὶ τρία, ἐν μὲν τὸ κινεῖν, δεύτερον δ' ᾧ κινεῖ, τρίτον τὸ κινούμενον· τὸ δὲ κινεῖν 15 διττόν, τὸ μὲν ἀκίνητον, τὸ δὲ κινεῖν καὶ κινούμενον· ἔστι δὲ τὸ μὲν ἀκίνητον τὸ πρακτὸν ἀγαθόν, τὸ δὲ κινεῖν καὶ κινούμενον τὸ ὀρεκτικόν (κινεῖται γὰρ τὸ κινούμενον ἢ ὀρέγεται, καὶ ἢ ὄρεξις κινήσις¹ τίς ἐστὶν ἢ ἐνέργεια), τὸ δὲ κινούμενον τὸ ζῶον· ᾧ δὲ κινεῖ ὄργανον ἢ ὄρεξις, ἤδη τοῦτο σωματικόν 20 ἐστὶν διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτοῦ. νῦν δὲ ὡς ἐν κεφαλαίῳ εἰπεῖν τὸ κινεῖν ὀργανικῶς ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτό, οἷον ὁ γυγλυμός· ἐνταῦθα γὰρ τὸ κυρτόν καὶ κοῖλον τὸ μὲν τελευτὴ τὸ δ' ἀρχή· διὸ τὸ μὲν 25 ἡρεμεῖ τὸ δὲ κινεῖται, λόγῳ μὲν ἕτερα ὄντα, μεγέθει δ' ἀχώριστα· πάντα γὰρ ὥσει καὶ ἔλξει κινεῖται. διὸ δεῖ ὥσπερ ἐν κύκλῳ μένειν τι, καὶ ἐντεῦθεν ἄρχεσθαι τὴν κίνησιν. ὅλως μὲν οὖν, ὥσπερ εἴρηται, ἢ ὀρεκτικόν τὸ ζῶον, ταύτῃ αὐτοῦ κινήτικόν· ὀρεκτικόν δὲ οὐκ ἄνευ φαντασίας· φαντασία 30 δὲ πᾶσα ἢ λογιστικὴ ἢ αἰσθητικὴ. ταύτης μὲν οὖν καὶ τὰ ἄλλα ζῶα μετέχει.

XI. Σκεπτέον δὲ καὶ περὶ τῶν ἀτελῶν, τί τὸ 434 a κινεῖν ἐστίν, οἷς ἀφή μόνον ὑπάρχει αἴσθησις,

¹ ὄρεξις κινήσις] κινήσις ὄρεξις EL, Bekker.

movement by being thought of or imagined), the things which cause movement are numerically many.

But movement involves three factors: first the moving cause, secondly the means by which it produces movement, and thirdly the thing moved. The moving cause is of two kinds; one is unmoved and the other both moves and is moved. The former is the practical good, while that which both moves and is moved is the appetite (for that which is moved is moved *qua* influenced by appetite, and appetite *qua* actual is a kind of movement), and the thing moved is the animal. The instrument by which appetite causes movement belongs already to the physical sphere; so it must be considered among the functions common to body and soul. But for the present we may say briefly that the motive instrument is found where a beginning and end coincide, as in a ball-and-socket joint. For there the convex surface (the ball) and the concave surface (the socket) are respectively the end and the beginning of the movement; consequently the latter is at rest while the former moves. They are distinct in definition, but spatially inseparable; for all movement consists of pushing and pulling; so that, as in a wheel, one point must remain fixed, and from it the movement must be initiated. Speaking generally then, as has been said, in so far as the living creature is capable of appetite, it is also capable of self-movement; but it is not capable of appetite without imagination, and all imagination involves either calculation or sensation. This latter all other living creatures share besides man.

XI. We must now consider what the moving principle is in the case of those imperfect animals, whose only sensation is that of touch, and whether it is or

How movement takes place.

How is movement possible if the lower

424 a

πότερον ἐνδέχεται φαντασίαν ὑπάρχειν τούτοις, ἢ
 οὐ, καὶ ἐπιθυμίαν. φαίνεται γὰρ λύπη καὶ ἡδονὴ
 ἐνοῦσα. εἰ δὲ ταῦτα, καὶ ἐπιθυμίαν ἀνάγκη.
 φαντασία δὲ πῶς ἂν ἐνείη; ἢ ὡσπερ καὶ κινεῖται
 5 ἀορίστως, καὶ ταῦτ' ἔνεστι μὲν, ἀορίστως δ'
 ἔνεστιν. ἢ μὲν οὖν αἰσθητικὴ φαντασία, ὡσπερ
 εἴρηται, καὶ ἐν τοῖς ἄλλοις ζώοις ὑπάρχει, ἢ δὲ
 βουλευτικὴ ἐν τοῖς λογιστικοῖς πότερον γὰρ πρά-
 ξει τόδε ἢ τόδε, λογισμοῦ ἤδη ἐστὶν ἔργον· καὶ
 ἀνάγκη ἐνὶ μετρεῖν· τὸ μείζον γὰρ διώκει. ὥστε
 10 δύναται ἐν ἐκ πλειόνων φαντασμάτων ποιεῖν. καὶ
 αἴτιον τοῦτο τοῦ δόξαν μὴ δοκεῖν ἔχειν, ὅτι τὴν
 ἐκ συλλογισμοῦ οὐκ ἔχει, αὕτη δὲ ἐκείνην. διὸ
 τὸ βουλευτικὸν οὐκ ἔχει ἢ ὄρεξις. νικᾷ δ' ἐνίοτε
 καὶ κινεῖ τὴν βούλησιν· ὅτε δ' ἐκείνη ταύτην,
 ὡσπερ σφαῖρα, ἢ ὄρεξις τὴν ὄρεξιν, ὅταν ἀκρασία
 15 γένηται. φύσει δὲ αἰεὶ ἢ ἄνω ἀρχικωτέρα καὶ
 κινεῖ, ὥστε τρεῖς φοράς ἤδη κινεῖσθαι. τὸ δ'
 ἐπιστημονικὸν οὐ κινεῖται, ἀλλὰ μένει. ἐπεὶ δ' ἢ
 μὲν καθόλου ὑπόληψις καὶ λόγος, ἢ δὲ τοῦ καθ'
 ἕκαστα (ἢ μὲν γὰρ λέγει ὅτι δεῖ τὸν τοιοῦτον τὸ
 τοιόνδε πράττειν, ἢ δὲ ὅτι τόδε τὸ νῦν τοιόνδε,

is not possible for them to have imagination and desire. For it is evident that they are liable to pain and pleasure. If they have these they must also have desire. But in what sense could they have imagination? Perhaps, just as their movements are indeterminate, so they also have imagination and desire, but only indeterminately. Imagination in the form of sense is found, as we have said, in all animals, but deliberative imagination only in the calculative; for to decide whether one shall do this or that calls at once for calculation, and one must measure by a single standard; for one pursues the greater good. This implies the ability to combine several images into one. This is why imagination is thought not to involve opinion, because it does not involve opinion which is based on inference, whereas opinion involves imagination. Hence appetite does not imply capacity for deliberation. Sometimes it overcomes the will and sways it, as one sphere moves another; or appetite influences appetite, when the subject lacks self-control (but in nature the upper sphere always controls and moves the lower); thus we now have three modes of movement. The cognitive faculty is not moved but remains still. Since one premiss or statement is universal and the other particular (for the one asserts that a man in such a position should do such a thing, but the other asserts that this present act is such a thing and that I am a

forms of animal li

Movement may be complicated by a conflict of impulses

^{434 a} 20 καὶ γὰρ δὲ τοιούσδε) ἤδη αὐτὴ κινεῖ ἢ δόξα, οὐχ ἢ καθόλου. ἢ ἄμφω, ἀλλ' ἢ μὲν ἡρεμοῦσα μᾶλλον, ἢ δ' οὐ.

XII. Τὴν μὲν οὖν θρεπτικὴν ψυχὴν ἀνάγκη πᾶν ἔχειν ὅτι περ ἂν ζῆ καὶ ψυχὴν ἔχη ἀπὸ γενέσεως μέχρι φθορᾶς· ἀνάγκη γὰρ τὸ γενόμενον αὐξήσῃ
²⁵ ἔχειν καὶ ἀκμὴν καὶ φθίσιν, ταῦτα δ' ἄνευ τροφῆς ἀδύνατον· ἀνάγκη ἄρα εἶναι τὴν θρεπτικὴν δύναμιν ἐν πᾶσι τοῖς φυομένοις καὶ φθίνουσιν. αἴσθησιν δ' οὐκ ἀναγκαῖον ἐν ἅπασιν τοῖς ζῶσιν· οὔτε γὰρ ὄσων τὸ σῶμα ἀπλοῦν, ἐνδέχεται ἀφήν ἔχειν, [οὔτε ἄνευ ταύτης οἶόν τε οὐθὲν εἶναι ζῶον]¹
³⁰ οὔτε ὅσα μὴ δεκτικὰ τῶν εἰδῶν ἄνευ τῆς ὕλης. τὸ δὲ ζῶον ἀναγκαῖον αἴσθησιν ἔχειν, εἰ μὴθὲν μάτην ποιεῖ ἢ φύσις. ἕνεκά του γὰρ πάντα ὑπάρχει τὰ φύσει, ἢ συμπτώματα ἔσται τῶν ἕνεκά του. εἰ οὖν πᾶν σῶμα πορευτικὸν μὴ ἔχον
^{434 b} αἴσθησιν, φθείροιτο ἂν καὶ εἰς τέλος οὐκ ἂν ἔλθοι, ὃ ἔστι φύσεως ἔργον· πῶς γὰρ θρέψεται; τοῖς μὲν γὰρ μονίμοις ὑπάρχει τὸ ὄθεν πεφύκασιν· οὐχ οἶόν τε δὲ σῶμα ἔχειν μὲν ψυχὴν καὶ νοῦν κριτικόν, αἴσθησιν δὲ μὴ ἔχειν, μὴ μόνιμον ὄν, γεννητὸν δέ·
⁵ ἀλλὰ μὴν οὐδὲ ἀγέννητον· διὰ τί γὰρ οὐχ² ἔξει; ἢ γὰρ τῇ ψυχῇ βέλτιον ἢ τῷ σώματι. νῦν δ' οὐδέτερον· ἢ μὲν γὰρ οὐ μᾶλλον νοήσει, τὸ δ' οὐθὲν ἔσται
 194

man in such a position), it is surely this latter opinion which causes movement, not the universal. Or perhaps it is both, but the universal tends to remain at rest, and the other does not.

XII. Every living thing, then, must have the nutritive soul, and in fact has a soul from its birth until its death; for what has been born must have growth, a highest point of development, and decay, and these things are impossible without food. The nutritive faculty must then exist in all things which grow and decay. But sensation is not necessarily present in all living things. Those whose bodies are uncompounded cannot have a sense of touch, nor can those which are incapable of receiving forms without their matter. But an animal must have sensation, if it is a fact that nature does nothing in vain. For all provisions of nature are means to an end, or must be regarded as coincidental to such means. Any body capable of moving from place to place, if it had no sensation, would be destroyed, and would not reach the end which is its natural function; for how could it be nourished? Stationary living things can draw their food from the source from which they were born, but it is not possible for a body to possess a soul and a mind capable of judgement without also having sensation, if that body is not stationary but produced by generation; nor even if it is ungenerated. For why should it not have sensation? Either for the good of the soul or for that of the body, but in fact neither alternative is true; for the soul will not think any better, and the body will be no

¹ οὔτε . . . ζῶον secl. Torstrick.

² οὐχ om. LSX, Bekker.

μᾶλλον δι' ἐκεῖνο. οὐθὲν ἄρα ἔχει ψυχὴν σῶμα μὴ μόνιμον ἄνευ αἰσθήσεως.

- Ἄλλὰ μὴν εἶγε αἰσθησὶν ἔχει, ἀνάγκη τὸ σῶμα
- 10 εἶναι ἢ ἀπλοῦν ἢ μικτόν. οὐχ οἶόν τε δὲ ἀπλοῦν· ἀφήν γὰρ οὐχ ἔξει, ἔστι δὲ ἀνάγκη ταύτην ἔχειν. τοῦτο δὲ ἐκ τῶνδε δῆλον. ἐπεὶ γὰρ τὸ ζῶον σῶμα ἔμφυχόν ἐστι, σῶμα δὲ ἅπαν ἀπτόν, ἀπτὸν δὲ τὸ αἰσθητὸν ἀφή, ἀνάγκη καὶ τὸ τοῦ ζῶου σῶμα ἀπτικὸν εἶναι, εἰ μέλλει σώζεσθαι τὸ ζῶον.
- 15 αἱ γὰρ ἄλλαι αἰσθήσεις δι' ἐτέρων αἰσθάνονται, οἶον ὄσφρησις ὄψις ἀκοή· ἀπτόμενον δέ, εἰ μὴ ἔξει αἰσθησὶν, οὐ δυνήσεται τὰ μὲν φεύγειν τὰ δὲ λαβεῖν. εἰ δὲ τοῦτο, ἀδύνατον ἔσται σώζεσθαι τὸ ζῶον. διὸ καὶ ἡ γεῦσις ἐστὶν ὡσπερ ἀφή τις· τροφῆς γάρ ἐστὶν, ἢ δὲ τροφή τὸ σῶμα τὸ ἀπτόν.
- 20 ψόφος δὲ καὶ χρῶμα καὶ ὄσμη οὐ τρέφει, οὐδὲ ποιεῖ οὔτ' αὐξήσιν οὔτε φθίσιν. ὥστε καὶ τὴν γεῦσιν ἀνάγκη ἀφήν εἶναι τινα, διὰ τὸ τοῦ ἀπτοῦ καὶ θρεπτικοῦ αἰσθησὶν εἶναι. αὗται μὲν οὖν ἀναγκαῖαι τῷ ζῳῳ, καὶ φανερόν ὅτι οὐχ οἶόν τε ἄνευ ἀφῆς εἶναι ζῶον.
- 25 Αἱ δὲ ἄλλαι τοῦ τε εὖ ἔνεκα καὶ γένοι ζῶων ἤδη οὐ τῷ τυχόντι, ἀλλὰ τισίν, οἶον τῷ πορευτικῷ ἀνάγκη ὑπάρχειν· εἰ γὰρ μέλλει σώζεσθαι, οὐ μόνον δεῖ ἀπτόμενον αἰσθάνεσθαι ἀλλὰ καὶ ἀποθεῖν. τοῦτο δ' ἂν εἴη, εἰ διὰ τοῦ μεταξὺ αἰσθητικὸν εἶη

better, for not having sensation. No, body, then, which is not stationary possesses a soul without sensation.

Further, if it does possess sensation, the body must be either simple or compound. But it cannot be simple; for in that case it will have no sense of touch, and this is indispensable to it. This is obvious from the following considerations. For since the living animal is a body possessing soul, and every body is tangible, and tangible means perceptible by touch, it follows that the body of the animal must have the faculty of touch if the animal is to survive. For the other senses, such as smell, vision and hearing, perceive through the medium of something else; but the animal when it touches, if it has no sensation, will not be able to avoid some things and seize others. In that case it will be impossible for the animal to survive. This is why taste is a kind of touch; for it relates to food, and food is a tangible body. Sound, colour and smell supply no food, nor do they produce growth and decay. Hence taste must be some kind of touch, because it is the perception of what is tangible and nutritive. These two senses then, are essential to the animal, and it is obvious that an animal cannot exist without a sense of touch.

The other senses are means to well-being; they do not belong to any class of living creatures taken at random, but only to certain ones, e.g., they are essential to the animal which is capable of locomotion; for if it is to survive, not only must it perceive when in contact, but also from a distance. And this will occur only if it can perceive through a medium, the

434 b

τῷ ἐκείνο μὲν ὑπὸ τοῦ αἰσθητοῦ πάσχειν καὶ
 30 κινεῖσθαι, αὐτὸ δ' ὑπ' ἐκείνου. ὥσπερ γὰρ τὸ
 κινουὲν κατὰ τόπον μέχρι του μεταβάλλειν ποιεῖ,
 καὶ τὸ ὡσαν ἕτερον ποιεῖ ὥστε ὠθεῖν, καὶ ἔστι
 διὰ μέσου ἢ κίνησις, καὶ δὴ τὸ μὲν πρῶτον κινουὲν
 ὠθεῖ οὐχ ὠθούμενον, τὸ δ' ἔσχατον μόνον ὠθεῖται

435 a οὐκ ὡσαν, τὸ δὲ μέσον ἀμφω, πολλὰ δὲ μέσα,
 οὕτως ἐπ' ἀλλοιώσεως, πλὴν ὅτι μένοντος ἐν τῷ
 αὐτῷ τόπῳ ἀλλοιοῖ, οἶον εἰ εἰς κηρὸν βάψειέ τις,
 μέχρι τούτου ἐκινήθη, ἕως ἔβαψεν· λίθος δὲ οὐδέν,
 ἀλλ' ὕδωρ μέχρι πόρρω. ὁ δ' ἀήρ ἐπὶ πλείστον
 5 κινεῖται καὶ ποιεῖ καὶ πάσχει, εἴαν μὲνη καὶ εἰς
 ἦ. διὸ καὶ περὶ ἀνακλάσεως βέλτιον ἢ τὴν ὄψιν
 ἐξιοῦσαν κλάσθαι, τὸν ἀέρα πάσχειν ὑπὸ τοῦ
 σχήματος καὶ χρώματος, μέχρι περ οὗ ἂν εἰς ἦ.
 ἐπὶ δὲ τοῦ λείου ἐστὶν εἰς· διὸ πάλιν οὗτος τὴν
 ὄψιν κινεῖ, ὥσπερ ἂν εἰ τὸ ἐν τῷ κηρῷ σημεῖον
 10 διεδίδοτο μέχρι τοῦ πέρατος.

XIII. Ὅτι δ' οὐχ οἶόν τε ἀπλοῦν εἶναι τὸ τοῦ
 ζῶου σῶμα, φανερόν, λέγω δ' οἶον πύρινον ἢ
 αἰρινον. ἄνευ μὲν γὰρ ἀφῆς οὐδεμίαν ἐνδέχεται
 ἀλλην αἰσθησιμὴν ἔχειν· τὸ γὰρ σῶμα ἀπτικὸν τὸ
 15 ἔμφυχον πᾶν, ὥσπερ εἴρηται. τὰ δὲ ἄλλα ἕξω
 γῆς αἰσθητήρια μὲν ἂν γένοιτο, πάντα δὲ τῷ δι'
 ἐτέρου αἰσθάνεσθαι ποιεῖ τὴν αἰσθησιμὴν καὶ διὰ τῶν
 198

medium being affected and set in motion by the sensible object, and the animal itself by the medium. For just as that which produces movement in space causes change up to a certain point, and that which has given an impulse causes something else to give one also, and the movement takes place through a medium; and as the first mover impels without being impelled, while the last in the series is impelled without impelling, but the medium both impels and is impelled, and there may be many media: so it is in the case of alteration, except that the subject suffers alteration without changing place. If one were to dip something into wax, the movement would occur in the wax just so far as one dipped it; stone would not be moved at all, but water would be to a great distance. But it is air that is moved, acting and being acted upon to the greatest extent, so long as it remains a constant unity. This is why in the case of reflection it is better to suppose, not that sight proceeds from the eye and is reflected, but rather that the air, so long as it remains a unity, is affected by the shape and colour. Now on a smooth surface it is a unity; and so it in its turn sets the sight in motion, just as if the impression on the wax extended right through to the other side.

XIII. It is obvious that the body of an animal cannot consist of a single element such as fire or air. For without a sense of touch it is impossible to have any other sensation; for every body possessing soul has the faculty of touch, as has been said.^a Now except for earth, all the other elements would be come sense organs, but they all produce sensation by means of something else, that is through media.

Touch is most element and indispensable soul faculty.

^a 434 b 10 sqq.

435 a

μεταξύ· ἢ δ' ἀφή τῷ αὐτῶν ἀπτεσθαι ἔστιν, διό
καὶ τοῦνομα τοῦτο ἔχει. καίτοι καὶ τὰ ἄλλα
αἰσθητήρια ἀφή αἰσθάνεται, ἀλλὰ δι' ἑτέρου αὐτῆ
20 δὲ δοκεῖ μόνῃ δι' αὐτῆς, ὥστε τῶν μὲν τοιούτων
στοιχείων οὐθὲν ἂν εἴη σῶμα τοῦ ζῶου. οὐδὲ δὴ
γῆινον. πάντων γὰρ ἡ ἀφή τῶν ἀπτῶν ἔστιν
ὡσπερ μεσότης, καὶ δεκτικὸν τὸ αἰσθητήριον οὐ
μόνον ὅσαι διαφοραὶ γῆς εἰσίν, ἀλλὰ καὶ θερμοῦ
καὶ ψυχροῦ καὶ τῶν ἄλλων ἀπτῶν ἀπάντων. καὶ
25 διὰ τοῦτο τοῖς ὄστοις καὶ ταῖς θριξὶ καὶ τοῖς
435 b τοιούτοις μορίοις οὐκ αἰσθανόμεθα, ὅτι γῆς ἔστιν.
καὶ τὰ φυτὰ διὰ τοῦτο οὐδεμίαν ἔχει αἰσθησιν, ὅτι
γῆς ἔστιν· ἄνευ δὲ ἀφῆς οὐδεμίαν οἶόν τε ἄλλην
ὑπάρχειν, τοῦτο δὲ τὸ αἰσθητήριον οὐκ ἔστιν οὔτε
γῆς οὔτε ἄλλου τῶν στοιχείων οὐδενός. φανερόν
5 τοίνυν ὅτι ἀνάγκη μόνῃς ταύτης στερισκόμενα τῆς
αἰσθήσεως τὰ ζῶα ἀποθνήσκουσιν· οὔτε γὰρ ταύτην
ἔχειν οἶόν τε μὴ ζῶον, οὔτε ζῶον ὃν ἄλλην ἔχειν
ἀνάγκη πλὴν ταύτης. καὶ διὰ τοῦτο τὰ μὲν ἄλλα
αἰσθητὰ ταῖς ὑπερβολαῖς οὐ διαφθείρει τὸ ζῶον,
οἶον χρῶμα καὶ ψόφος καὶ ὄσμη, ἀλλὰ μόνον τὰ
10 αἰσθητήρια, ἂν μὴ κατὰ συμβεβηκός, οἶον ἂν ἅμα
τῷ ψόφῳ ὡσιν γέννηται καὶ πληγῇ, καὶ ὑπὸ ὄρα-
μάτων καὶ ὄσμῆς ἕτερα κινεῖται, ἢ τῇ ἀφῆ φθείρει.
καὶ ὁ χυμὸς δὲ ἢ ἅμα συμβαίνει ἀπτικὸν εἶναι,
ταύτη φθείρει. ἢ δὲ τῶν ἀπτῶν ὑπερβολή, οἶον
θερμῶν καὶ ψυχρῶν καὶ σκληρῶν, ἀναιρεῖ τὸ ζῶον·
15 παντὸς μὲν γὰρ αἰσθητοῦ ὑπερβολή ἀναιρεῖ τὸ
αἰσθητήριον, ὥστε καὶ τὸ ἀπτὸν τὴν ἀφήν, ταύτη
δὲ ὠρισται τὸ ζῆν· ἄνευ γὰρ ἀφῆς δέδεικται ὅτι

But touch occurs by direct contact with its objects, and that is why it has its name. The other sense organs perceive by contact too, but through a medium; touch alone seems to perceive immediately. Thus no one of these elements could compose the animal body. Nor could earth. For touch is a kind of mean between all tangible qualities, and its organ is receptive not only of all the different qualities of earth, but also of hot, cold, and all other tangible qualities. This is why we do not perceive by our bones and hair, and such parts of the body, because they are composed of earth. And for this reason plants have no sensation, because they are composed of earth. Without touch there can be no other sense, and the organ of touch is composed neither of earth nor of any other single element. It is obvious, then, that deprived of this one sense alone, animals must die; for it is impossible for anything but an animal to possess this, nor need an animal possess any sense but this. And this explains another fact. Other sensibles, such as colour, sound and smell, do not destroy the animal by excess, but only the sense organs; except incidentally, as for instance when a thrust or blow is delivered at the same time as the sound, or when by the objects of sight or smell other things are set in motion, which destroy by contact. Flavour, again, destroys only in so far as it is at the same time tactile. But the excess of tangible qualities, such as heat, cold, and hardness, destroys the animal. For excess in any sensible quality destroys the organ; and so the tangible also destroys touch. But this is the distinguishing characteristic of life, for it has been shown

435 b

ἀδύνατον εἶναι ζῶον. διὸ ἢ τῶν ἀπτῶν ὑπερβολὴ
 οὐ μόνον τὸ αἰσθητήριον φθείρει, ἀλλὰ καὶ τὸ
 ζῶον, ὅτι ἀνάγκη μόνην ἔχειν ταύτην. τὰς δ'
 20 ἄλλας αἰσθήσεις ἔχει τὸ ζῶον, ὡσπερ εἴρηται, οὐ
 τοῦ εἶναι ἕνεκα ἀλλὰ τοῦ εἶναι, ὡς οἶον ὄψιν, ἐπεὶ ἐν
 ἀέρι καὶ ὕδατι, ὅπως ὄρα, ὅλως δ' ἐπεὶ ἐν διαφανεί,
 γεῦσιν τε διὰ τὸ ἡδὺ καὶ λυπηρόν, ἵνα αἰσθάνηται
 τὸ ἐν τροφῇ καὶ ἐπιθυμῇ καὶ κινήται, ἀκοήν
 25 δὲ ὅπως σημαίνει τι αὐτῷ,¹ γλώτταν δὲ ὅπως
 σημαίνει τι ἑτέρῳ.

¹ αὐτῷ Torstrik : αὐτῷ.

that without touch an animal cannot exist. Hence excess in tangible qualities destroys not only the sense organ, but also the animal, because touch is the one sense which the animal must possess. The animal possesses the other senses, as has been said,^a not for mere existence but for well-being; for instance the animal has sight in order that it may see, because it lives in air or water, or generally in a transparent medium; and it has taste because of what is sweet and bitter, in order that it may perceive these qualities in food, and may feel desire and be set in motion; and hearing that it may have significant sounds made to it, and a tongue that it may make significant sounds to another animal.

^a 434 b 24.