Ancient Commentators on Aristotle

GENERAL EDITOR: RICHARD SORABJI

PHILOPONUS: On Aristotle On the Soul 2.1–6

Translated by William Charlton

BLOOMSBUR

PHILOPONUS

On Aristotle On the Soul 2.1-6 This page intentionally left blank

PHILOPONUS On Aristotle On the Soul 2.1-6

Translated by William Charlton

B L O O M S B U R Y London • New Delhi • New York • Sydney

Bloomsbury Academic An imprint of Bloomsbury Publishing Plc

50 Bedford Square London WC1B 3DP UK 1385 Broadway New York NY 10018 USA

www.bloomsbury.com

Bloomsbury is a registered trade mark of Bloomsbury Publishing Plc

First published in 2005 by Gerald Duckworth & Co. Ltd. Paperback edition first published 2014

 $\label{eq:preface} \begin{array}{c} {\rm Preface} @ 2005 \mbox{ by Richard Sorabji} \\ {\rm Translation \ and \ Notes} @ 2005 \mbox{ by William \ Charlton} \end{array}$

Richard Sorabji and William Charlton have asserted their rights under the Copyright, Designs and Patents Act, 1988, to be identified as the Authors of this work.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage or retrieval system, without prior permission in writing from the publishers.

No responsibility for loss caused to any individual or organization acting on or refraining from action as a result of the material in this publication can be accepted by Bloomsbury Academic or the author.

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

ISBN HB:	$978 ext{-}0 ext{-}7156 ext{-} 3235 ext{-}2$
PB:	$978 ext{-} 1 ext{-} 4725 ext{-} 5772 ext{-} 8$
ePDF:	$978 ext{-} 1 ext{-} 4725 ext{-} 0117 ext{-} 2$

Library of Congress Cataloging-in-Publication Data

A catalog record for this book is available from the Library of Congress.

Acknowledgements

The present translations have been made possible by generous and imaginative funding from the following sources: The National Endowment for the Humanities. Division of Research Programs, an

independent federal agency of the USA; the Leverhulme Trust; the British Academy; the Jowett Copyright Trustees; the Royal Society (UK); Centro Internazionale A. Beltrame di Storia dello Spazio e del Tempo (Padua); Mario Mignucci; Liverpool University; the Leventis Foundation; the Arts and Humanities Research Board of the British Academy; the Esmée Fairbairn Charitable Trust; the Henry Brown Trust; Mr and Mrs Egon; the Netherlands Organisation for Scientific

Research (NOW/GW); the Cultural Attaché of the Greek Embassy in London. The editor wishes to thank Sarah Broadie, Pamela Huby, Philip van der Eijk, Donald Russell, and David Sider for their comments, and Inna Kupreeva for preparing this volume for press.

Contents

Preface	vii
Translation	1
Notes	129
English-Greek Glossary	149
Greek-English Index	162
Subject Index	183

This page intentionally left blank

Preface

Richard Sorabji

Philoponus in the sixth century AD is writing a commentary on On the Soul 2.1-6, where Aristotle gives a very different account of the soul from Plato's. Aristotle talks of the soul in a sense that we all recognise as something we possess. The soul is the life-manifesting capacities that distinguish living things, and explain their behaviour. This clarifies his initial definition, which ties soul closely to body as its form. He defines soul and life by reference to the capacities for using food to maintain structure and reproduce, for perceiving and desiring, and for rational thought, the first available even to plants, the second distinguishing animals and the last available only to humans. Capacities have to be defined by their active operation, and their active operation by reference to the objects to which it is directed. The five senses are defined by reference to their objects, as perception of colour, sound, etc., but it is by perceiving these objects that one also perceives other objects by more than one sense – size, shape, etc. Thirdly, we perceive physical objects. Later he will speak of facts too as being perceived.

In perceiving, Aristotle says, we receive perceptible forms, e.g. colours, without matter. On one interpretation, the eve jelly takes on patches of colour, but not material particles, from the scene perceived. But Philoponus interprets otherwise. The reception of perceptible form, he says, is not a physiological change, e.g. in the eye jelly, but only a cognitive reception (gnôstikôs), 303,5-6; 309,15-29. Moreover, 'without matter' is not designed to exclude reception of particles, but rather to say that sense does not act like wax receiving an imprint, because it does not act as matter to the sensible qualities that it receives, but receives them non-physically. Franz Brentano understood Aristotle in a similarly nonphysiological spirit, as anticipating here the seminal idea that things perceived are only, in the medieval terminology which he has made familiar, intentional objects. They do not have to exist in reality in order to serve as objects. Some scholars agree in endorsing a non-physiological interpretation and take Philoponus as their patron. Myles Burnyeat has the most powerful arguments for a version of it. But Sorabji has argued that the commentators were slowly forced to reinterpret Aristotle's mean-

Preface

ing, as they found that his physiological story ran into difficulties over the collision of different perceptible forms as they were received.¹

Given that Aristotle ties the soul so closely to the body, it comes as a surprise when he says at On the Soul 2.1, 413a8-9, that it is not yet clear whether the way in which the soul is the actuality (entelekheia) of the body is like the way in which the sailor actualises the defining functions of the ship. Surely, we think, the sailor, unlike Aristotle's soul, can exist quite independently of what he is in. Perhaps that is why the last great commentator of the Aristotelian school, Alexander, who wrote around AD 200, substitutes 'art of navigation' for 'sailor' at DA 15.10. when he denies the possibility of such independent existence for the soul. But other commentators. Themistius in DA 43.30-5. 'Simplicius' in DA 96,3-10 and Philoponus in DA 224,28-37 (cf. 241,27-8; 242,18-19) allow independent existence and think that Aristotle's concession concerns the intellectual part of the human soul as surviving bodily death. Nonetheless. Philoponus must allow that there is for Aristotle some unclarity about the independence of the intellect. Philoponus explains that the intellect is like the navigator. As one who is exercising the activities of navigator, he cannot exercise those in separation from the ship, but at the same time as a human, he is something separate from the ship and can separate himself from it. Similarly with the human intellect.

I mentioned that Aristotle allows perception to grasp facts and physical objects. At *Nicomachean Ethics* 3.10, 1118a20-3, the lion perceives that the ox is near. But Aristotle wants animals to be able to do this without possessing a faculty of reason. He is opposed to the view of Plato, *Theaetetus* 186B-187A that being (*ousia*) has to be grasped not by perception, but by reason and belief.² That is why Philoponus, faithful to Aristotle at 317,25-32, says that the dog recognises its master by perception, not reason, because it knows its master not as a being (*ousia*, line 30, Plato's word in the *Theaetetus*), but as such and such a friendly shape. He adds to Aristotle not only the reference to friendliness and hostility as what is stored, but also to the imagination (*phantasia*) as the place where the imprints are stored.

Philoponus knew Alexander's work very well. One sign of this is his allowing into the interpretation of Aristotle Alexander's anti-Platonic account of universals as constructs of the mind, 307,35, reflecting Alexander DA 90,2-11; *Quaestio* 2.28 (78,18-20; 79,16-18). These are just a few of the highlights of this part of Philoponus' commentary.

Notes

1. Richard Sorabji, 'From Aristotle to Brentano: The development of the concept of intentionality', *Oxford Studies in Ancient Philosophy* suppl. vol. 1991, 227-59.

2. Richard Sorabji, Animal Minds and Human Morals, London & Ithaca, N.Y. 1983, ch. 2.

PHILOPONUS On Aristotle On the Soul 2.1-6

Translation

This page intentionally left blank

Exegesis

Of the Second Book Concerning Soul

[Chapter 1]

412a3-4 Let that¹ be our statement of what our predecessors have handed down about soul

203.4He has set out in the preceding book, as he promised, the opinions of men of the past, and refuted anything that was ill said, in accordance with the promises of the Introduction [403b20-4]. Here, next, he sets out what he himself thinks about soul. And in this second book he discusses the non-rational powers of the soul, in the third the rational. But he also makes mention in this book of the rational and in that of the non-rational.

He sets out at the beginning the common definition, as it were, of 10 the soul, saving that it is actuality of a natural organised body that has life in potentiality. Fastening on this definition, as many people as want the Philosopher to say that the rational soul is immortal, say that it is the definition not of all soul, but of the vegetative [soul]: for it is that alone that it fits. For if actuality is the perfection and form 15of a thing, and he says that the soul is actuality of a body, and the form of a body is inseparable from it, clearly he is talking now of that [kind of soul] which is inseparable from bodies; and that is the vegetative [soul] alone.

But these people have understood ill. In reality this definition is given by him for all soul. For in saving that the soul is actuality he added 'the first'. For of actualities, one [sort] is first and another 20second; the first, he says, is as knowledge, the other as contemplating.² He is saving, then, that it is actuality as knowledge, not as contemplating. For he says that 'it is because soul belongs [to an animal] that there are both sleep and waking' [412a23-4]; and sleep is analogous to knowledge, waking to contemplating. So if he means the soul is actuality in this way, as is the disposition of knowledge, on 25account of [204] the animal's always having soul so long as it lives, 204.1but not always acting by virtue of it, for instance in sleep,³ it follows that he clearly is not speaking about the vegetative soul only. For the vegetative is to be seen [as actuality] not in the manner of knowledge, but in the manner of contemplation. For the vegetative soul is always acting in the second way of 'in act', which is as contemplating, and especially in sleep, when the remaining powers of the soul are at rest. That, at least,⁴ is when there is most digestion, and often unwished

sexual impulses. So this account would be more about the rational and the non-rational [soull than about the vegetative. For we are animate with these souls even when we are asleep. For we have the

soul in potentiality in the second way,⁵ which is in act in the first way, 10 that is, as knowledge. For the sleeping geometer has the disposition of geometry, but not the contemplation also.

Besides, he himself, having defined and said that the soul is actuality of a natural organised body that has life in potentiality. adds that, so far as that definition goes, it is necessary that the soul.

- or some parts of it, if it is by nature such as to have parts, should be 15inseparable from the body – speaking, clearly, of the vegetative [soul]. For how will the nourishing [soul] nourish when separated from the body, or the augmenting augment? 'For the actuality of some [parts of the soull,' he says, 'is [the actuality] of the [bodily] parts themselves' [413a5-6]. Then he adds 'though nothing prevents some [parts of the soul from being separablel, on account of their not being actuality of any body' [413a6-7]. So he has also included the intellect too. For this does not have its activities to do with the body, neither does it use the 20
- body along with it in order to act, but on the contrary, as I have said [5.2; 155.25-6] is impeded by it, so it need not be inseparable.

Then again he adds. 'But it is still unclear if the soul is actuality of the body in this way, as^6 a sailor is of a ship' [413a8-9]. Clearly he would not have said this if he was making his discourse about the vegetative [soul] alone.

- 25But someone might raise the contrary difficulty out of what has been said: perhaps the vegetative soul is not even included in this definition. For if he says that the soul is actuality not as contemplation but as knowledge, and the vegetative soul is actuality not as knowledge but as contemplation (for it is always in act according to the second meaning of 'act'), clearly this definition does not fit this sort of soul.
- 30 To this, then, we say that the vegetative soul too is embraced no less [than the others] in this definition. For when he says 'actuality, that is, as knowledge' he embraces all soul. He says what attends all [soul] always. For even when the rational soul or the non-rational
- acts, it could be said to be actuality as knowledge (that is, as the 35 disposition, which is what is in potentiality in the second way, and in act in the first), since every activity proceeds from the power that is
- 205.1dispositional. [205] For clearly the acting geometer has the disposition of geometry also in the very act of geometrising. For if he did not have it, how is he acting by virtue of what he does not have? So where there is the activity, necessarily there is also the disposition, but it is not the case also that where there is the disposition there is also the
 - activity. For the sleeping geometer, as I have often said, has the $\mathbf{5}$ disposition of geometry, but does not have the activity. If, then, the disposition extends further than the activity, since it attends always upon all who have it, and he wishes to give the definition of all soul.

in whatever state it may be, whether acting, I mean, or not acting, so long as the disposition has not been removed, it is reasonable for him to use what attends always and upon all,⁷ I mean the actuality that is as knowledge. Just, then, as he embraces the acting soul, I mean the rational and the non-rational, so also [he embraces] the vegetative. For what belongs to the vegetative always, acting, I mean, belongs to the others sometimes. But the second [sort of] potentiality, the dispositional one, is present always and in all.

Besides, he himself in the text wants the account given to apply to all soul. He says, 'If we are to say something that is common for all soul it would be the first [sort of] actuality,' – at once extending the account to all [soul] and indicating that it is not a definition.⁸ That is why he says 'if we are to'. Let that do for an arbitration on that.

But it is worth enquiring, in this connection, how it is that in the former book [402b5-7] he says 'We must take care that it does not escape us whether there is one account for it [sc. for soull, as there is for animal, or a different one for each, for horse, dog, man ...'9 whereas 20here he gives one definition for all soul. To this, then, we say that certainly what is given is not a definition. For if soul as soul has no common genus – for as substance clearly it does have this very thing. substance, as a common genus – just as individuals as individuals do not [have a common genus] either – if, to resume, there is no common 25genus for the particular souls of different species, and neither do they have any common species so as to differ only in number (in the way in which there is a common genus for animals of different species. [viz.] animal simply, and men have a single species, man simply), and if every definition has a genus, it follows, it is not possible to give a definition of all soul simply, but [only] a description.¹⁰ So the account 30 given here of all soul is a description [206] and not a definition. 206.1

And then this description is not genuinely one. For the things, the souls, are equivocal,¹¹ and the description is given in equivocal spoken words. And equivocal things are one in spoken word, but more than one in meaning. And he himself says in the *Topics*¹² that it is possible to give one definition or description of equivocal things by using $\mathbf{5}$ equivocal spoken words. For we say that food and medicine are healthy, and likewise bleeding, and we also say that exercise is healthy, and that urine is healthy and a pulse. These are equivocal, but we can, he says, give one definition of them by means of equivocal spoken words, saying that healthy is what is appropriately related to 10 health. But this 'appropriately related to health' is equivocal. For it is [appropriately related] either as productive or as indicative or as preservative. And if we add to what is common what belongs privately to each, then there arises what is the private definition of each, for instance, 'what is appropriately related to health, so as to preserve it', like exercise, or 'so as to indicate it', like urine or pulse, or 'so as to 15produce it', like food. So this definition saying 'what is appropriately

 $\mathbf{5}$

related to health' is one in spoken words, but many in meaning. And in this way the description given of [all] the souls too is equivocal and not one either, but several.

For 'actuality' is said both of the [kind of] form that is inseparable from the body and of that which is separable. For the steersman is
the perfection¹³ of the ship, and the form of flesh is [the perfection] of the body of flesh. But the former, being separable from the ship, has only his own activity to be perfective of the ship, whereas the form of flesh and forms in matter universally are by their own substance perfective of their subjects. So too with souls. The non-rational soul

- 25 and the vegetative, having their substance inseparable from the subject and not being able to act separately from the subject, have their substance itself perfective of it. The rational soul, on the other hand, perfects the animal not by its substance, but by its activity alone. For by its own wish it moves it in this way or that, using the non-rational soul as an instrument.
- Besides, in souls there is what is prior and what is posterior. For 30 where there is the rational soul, there too must be the rest, but the reverse does not also follow. And if things have what is prior and what is posterior, what is predicated of these things in common is not a genus. It follows that there is not any common genus of souls, but they are equivocal like things that are from one origin or in relation to one thing.¹⁴

When I said that there is not the rational [soul] without the others, I was looking, of course, at mortal animals, since so far as belongs to

35 its private nature, the soul can be by itself both before non-rational souls¹⁵ and after them; but the discourse is about those souls that are in these mortal animals.

So if souls are equivocal, the definition given of them is equivocal too, and on that account it is not one. Hence because he himself knows

207,1 that it is impossible [207] to give a definition of the soul that is genuinely one, when he gives this definition here he says '*if* we are to say something that is common for all soul.'

From what has been said, someone might enquire also why on earth, if it is not possible to give one definition of all soul, he censured those who went before him for not discussing all soul.¹⁶ I say, first,

- 5 that they were able to do what he himself did, give what was, even if not a definition, at least some common descriptive account for all. And then what he says in censure is not this, 'why did they not give one account of all soul?' but 'why did they not discuss all, taking each on its own?', as he himself does. For after giving this common account he
- 10 will speak privately about each and set out his teaching about them in the way he prescribed when raising problems.¹⁷ For when he wishes to discuss the non-rational [soul], he first discusses the things that lie opposite it, for instance, when intending to teach about perception, he gives first the discussion of sense-objects, when about

sight, that of things seen, when about nourishment, that of foods, and similarly with the others. Then, after that, he goes back to the activities and from there to the powers that introduce them.

412a3-4 Let that then¹⁸ be our statement of what our predecessors have handed down about soul.

Here, as I said [202,6], he sets out his own opinion about soul; and he wishes first to give some common account of all soul. He first puts 20forward in advance the things that help towards obtaining the definition of them.¹⁹ Wishing to obtain the genus of soul in order to give the definition, or rather [to obtain] what is analogous to genus, since the definition is [only] analogous to a definition for the reasons stated. he first reasonably makes a division of the things that are into the ten categories: for since the soul too is among things that are, it is necessary that it should fall under one of these. That the soul is not 25incidental, is clear. For it is neither a quantity – for he showed this in his remarks against the *Timaeus*, in which he showed that altogether it is impossible that the soul should even be a magnitude, and in the remarks against Xenocrates, in which he showed that it cannot be a number: so it can neither be a continuous quantity nor a discrete one: so it follows that it is not a quantity at all – and that it is not a quality 30 either he showed when he showed that it is not an attunement; for by the same proofs you will show that it is not a quality at all.²⁰ And if it is neither a quantity nor a quality, it will be hard for it to be anything else that is incidental; for the rest are composed out of these. It follows that the soul is a substance.

Since, then, the soul is a substance, again he subdivides substance into composite and simple, and simple into the matter and the form. 35 Substance being threefold, bodies are most of all thought to be substance [208] (or rather are so thought by most men, since they 208.1have most cognition of bodies.) and of bodies, those most thought to be substances are natural bodies;²¹ [he says this] contra-distinguishing them against artifacts or, perhaps, against objects of mathematics too. He calls 'artifacts' those bodies which come to have certain forms from artistry, such as a chair, a reckoning-board;²² for $\mathbf{5}$ no body is an artifact insofar as it is a body. Natural bodies are composite and consist of matter and form; and in them it is rather the form that is substance; for it is by virtue of the form that composites both are and are called [what they are called]. For since the matter is common and one.²³ the discernment and substantiation of each comes from their forms. From this division, then, we have found both that 10 natural bodies are more substance [than artifacts] and in these the form is more [substance] than the matter.

From here, then, we must enquire: in which of these should we place the soul as its genus? Is it a kind of composite substance, that

is to say, a natural body, or a simple, and if simple, is it matter or form? In order to discover this, he starts his enquiry from what is

- 15 clearer and posterior. The animate thing is clearer than the soul, and the animate thing is so called from being alive. Of natural bodies, then, he says, some have life, and we call them 'animate', and some do not. So the soul is to be seen in those natural bodies that have life. And we call this life 'soul'. For we do not call the body 'soul'. For when
- 20 life has departed the body is no less a body, but it neither still lives nor is said to be animate. So in things that have life, the soul is not the body but the life in it. It follows that those bodies that are living are composed of both the body and the life in them, which we call 'soul'.

The animate thing, therefore, is a composite of soul and body. But every composite substance is of matter and form. It follows that the animate thing, being of soul and body, will have the one as matter and the other as form. If the form is the cause of holding together and of boundary for the matter, and the soul is this for the body (for when it goes out, he says, the body is dissipated into the air and putrefies,) the form of the body should be the soul and the matter the body itself.

- 30 For that the soul is the cause of being to the body is clear because it is by this that animate things both are characterised and have their being. Hence also the custom of saying that bodies that are deprived of the soul, even though they are no less bodies even after the separation of this, nevertheless *are not*: 'The wife of Admetus is gone; she is no more'.²⁴ So if animate things are composites of soul and body,
- 35 and every composite is of matter and form, and in these the cause of their holding together and their being is the form, and such the soul too is in animate things, the soul must be a form. That, then, is how he finds that the soul is a substance in the way of form, which form
- 209,1 he calls [**209**] 'actuality' [*entelekheia*], taking the word from 'one' [*hen*], 'perfect' [*teleion*] and 'holding together' [*sunekhein*]; for the form is the cause of being one for the matter, and of being perfect, since it both is the perfection of the subject and holds it together.²⁵ So here he gives the definition of soul, saying it is 'actuality', that is, form and perfection.
 - 5 [Form and perfection] of what? 'Of a natural body' to contra-distinguish it from artifacts and incidentals. Then, since a stone is a natural body, and of this too the form is actuality, and [the same goes for] all inanimate things generally, he puts in 'having life in potentiality' to contra-distinguish inanimate things and dead bodies and semen. For
 - 10 no inanimate thing has life in potentiality, nor has a dead body or semen or an embryo that does not yet have organs. But he goes on to bring together having organs and having life in potentiality so as to use them interchangeably,²⁶ having life in potentiality and having organs. Neither, then does a corpse have life in potentiality (for even
 - 15 though it seems to have organs, still, as he himself says, its parts are

equivocal; for the hand of a corpse is called [a hand] in the same way as a stone one, since it does not act with the actions of a hand)²⁷ nor does the semen have life in potentiality, since it has not yet, having organs, become ready to receive life from the soul.

But the semen or the embryo that does not have organs might be said to have life in potentiality: for they are capable of becoming things that have life in potentiality. But what is perfect and has already received life is what he says has life in potentiality. How in 20 potentiality, then, and not in act? Because so far as pertains to its own nature it is non-living and only suitable for the receiving of life. But what has the disposition is in potentiality in the second way. For of itself it has the disposition of being able to be made alive, even if it always is made alive by the soul as long as it is. For as we have said already, those things which are in act in the second way, that is, as 25 contemplating, also have the disposition. So even if the body is always made alive, still, so far as its own nature goes, it is not absurd to say that it has life in potentiality. For it is clear that, having [first] the power of being able to be made alive, only then is it made alive, since if it did not have that power from within it would not be made alive.

He states this meaning of 'in potentiality' also in the *de Interpreta*-30 *tione* [23a7] where he divides the possible. "Possible",' he says, 'is not said just in a single way, but one thing [is called "possible"] as being in act,²⁸ for instance it is "possible" that something should walk because it is walking, and in general it is "possible" to be because it already in act *is*.' It is in this way too that he says 'of what has life in potentiality'.

Someone might perhaps raise the problem: if the soul is substance in the way of form, how can we say that there is no common genus of soul? For substance is the common genus of souls. And how, altogether, is actuality equivocal? And how, further, can that rule be sound which says that in the case of things in which there is prior and posterior, what is predicated in common of them is not a genus?²⁹ See, for instance, in souls there is [**210**] prior and posterior, but nevertheless what is predicated of them in common is a genus. For every soul is a substance in the way of form, which he calls 'actuality'.

We have already given [206,18-28] the solution: every soul is not the actuality in the same way of the body which is its subject. Even if the rational soul is said to be actuality of body, nevertheless it is actuality of the body only by its activity, not by its substance, as the others are.

But how, if substance, and substance in the way of form, is the genus of them, does the universal rule not seem to be relaxed? I reply [as follows]. When we say that in the case of things in which there is prior and posterior, what is predicated of them in common is not a genus, we understand by 'predicated in common' not any chance thing but what proximately embraces them, since both the genuine animal, 210,1

 $\mathbf{5}$

a horse, say, and the brazen and wooden ones are, as animals, equivocal (for in these there is prior and posterior: the brazen or wooden one derives from the genuine) and on this account when animal or horse is predicated of them it is not predicated as a genus, but nothing prevents these same things from having as common genera things predicated more remotely. Body, at least, and substance are predicated as the same genus both of the genuine horse and of the wooden one and of all. In this way, then, in the case of the soul too, nothing prevents substance from being their genus, but proximately they do not have any common genus embracing them. For neither is soul predicated of them as their genus, nor is actuality.

20 For neither is soul predicated of them as their genus, nor is actuality. For as I said, some [souls] are actualities of the body by their very substance, some by their activity alone. It follows that they are not all actualities in the same way, because there is prior and posterior in them.

412a4-6 Let us go back again as from the beginning [and try to determine what soul is and what would be the most general account of it.]

He makes a fresh beginning of the discussion and sets out what is thought by himself; for formerly he was going through the opinions of people of the past.

412a6-9 [We call one kind of thing that is 'substance',] and of this one thing is matter,³⁰ which of itself is not a this something, [another is shape and form, by virtue of which 'this something' is then said, and third, that which consists of these.]

'A this something' here for Aristotle signifies the form. (In the *Categories* it means the individual. 'It seems,' he says [*Cat.* 3b10] 'that every substance signifies a this something.') Since then each thing,

30 every substance signifies a this something.') Since then each thing, for instance, man, horse, is and is called according to its form (for the matter is spread in a common way under all), on this account he says that substance in the way of matter of itself is no form, since it does not even subsist of itself, but is always to be seen with some form, by virtue of which then each thing also has its appellation; for that by

211,1 which it differs from each of the other things [211] it has from the form. And matter is in potentiality; for of itself, matter is none of the forms, but all in potentiality. For neither is that which is not receptive of something at all the matter of that thing, as can be seen from the more proximate kinds of matter (for example, stones could never be the matter of ceramic utensils since they are not by nature such as to receive the form of these), nor is that which is no longer capable [of receiving it] because it already has it: clay cannot become the matter either of itself or of things of the same form, for it already has the form

in actuality. Therefore the primary [matter] can be seen only in potentiality, and each of the more proximate is in potentiality only that of which it is the matter.

412a9-10 [Matter is potentiality.] form actuality.

He has not said 'in actuality', using the dative case, but uses the nominative. For it is the matter that has taken the form, that is, the combination of both, that is said to be *in* actuality. But the form is of itself actuality. He opposes 'actuality' to 'potentiality' because potentiality is imperfect, whereas actuality is perfection. For it signifies 15'being in a final state' [en telei einai]. And whatever it is in which each thing has its being, in that it has its own perfection. But each thing has being according to its form. It follows that the form of each thing is its perfection. So if the form is perfection, and perfection actuality. it is reasonable for him to change the name 'form' to 'actuality'. And if in general form is actuality, and soul is form, it follows that soul is 20actuality.

And it is not only form in the way of account that he calls 'actuality', but also form in the way of shape.³¹ For indeed in the *Physics* both are discussed.³² For the shape of the statue is its actuality.

And perhaps he has taken the name 'actuality' in exchange for 'form' because the name 'form' is applied also to incidental things, as 25when I say: 'Socrates is in form snubnosed and potbellied', though this is not the perfection of Socrates, but incidental to him.

412a10-11 And this in two ways, as knowledge and as contemplating.

He divides actuality into two, into that which is dispositional and the activity that comes from the disposition. The division of actuality too 30 will be useful to him in giving the definition. For actuality being twofold, that which is dispositional, which is also first both in time³³ and by nature, and that which is the activity from this, he will find the soul, as [212] we have already said, to be the first [sort of] 212.1actuality. And in fact it is from the first that the second. [actuality] in the way of contemplating, has its [status of] being substance; for contemplating itself is not of itself substance.

412a11-12 The things that are most thought to be substances are bodies, and of these, the natural ones; [for these are the sources of the others.]

Having divided substance into three, into matter, form, and the composite of both (and this last is natural body), he starts his teaching from this [sc. the composite], it being what is clearer, as I have

10

already said. For from this in turn he will find both that the soul is a substance and what sort of substance it is.

- These things, then, he says, are most thought to be substance. For 10 most people have no knowledge at all of matter and form, but they know only what is composed of both. Taking bodies, then, to be substance, and of these more especially natural bodies (in contradistinction to objects of mathematics and artifacts), he gives the reason for this: 'Because', he says, 'natural bodies are the sources of the others': of objects of mathematics, [because they are taken from
- 15 them]³⁴ by conception; of artifacts, because each has some natural body as subject.³⁵ For to a reckoning board, which is an artificial body, there stands as subject wood, which is a natural body.

412a13 Of natural bodies some have life and some not.

Taking natural body to be what is most of all substance, he divides this into animate and inanimate and shows that the soul is sub-20 stance. For since a natural body is the kind of substance that is composed of both, being of matter and form, and an animate object is natural, it follows that this too is of matter and form. But the so called simple bodies are of primary matter <and> form,³⁶ whereas these [animate bodies] are of the body as more proximate matter and the soul as form. If the form is substance, it follows that the soul is too; 25 and if the form is a kind of simple substance, so is the soul. It follows

25 and if the form is a kind of simple substance, so is the soul. It follows that the soul is a kind of simple substance, that in the way of form.

412a14-15 By 'life' we mean nourishment through a thing's self and augmentation and decay.

Having divided natural bodies into those that have and those that do not have life, he next defines what life is. His intention is that from 30 this the things that have life will become known too. He says 'nour-ishment³⁷ through a thing's self and augmentation', because people think addition to be augmentation, for instance if I were to add in water to water.³⁸ But the augmentation [in this case] is not through the thing's self but through something else that does the adding. It might be thought [213] that fire also is nourished and augmented

- 213,1 might be thought [213] that fire also is nourished and augmented though it does not have life; but that is not true. For those things are nourished through themselves which have organs through which they receive food and in which both the addition from the food and the augmentation occur in all parts; but fire, water and such things do
 - 5 not receive through organs, nor do they make augmentation in all parts. Besides in the case of fire, coming to be and passing away are more to be seen,³⁹ whereas what is augmented ought to remain. But he has spoken with accuracy about these things in the *de Generatione et Corruptione* [1.5].

People conclude from this that what is in the womb is not an animal. For if life is nourishment and augmentation and decay through a thing's own self, and that is through its own organs, and 10 the embryo is not nourished through its own organs. I mean the mouth, it follows that it is neither an animal nor alive. For it is nourished by its navel, receiving that from the mother through the umbilical cord. But it is possible to object against this that the embryo too is nourished through itself. For if it is augmented, clearly it is also nourished. And that this sort of thing is not addition is plain. For bone is not added to bone or flesh to flesh. But the nature of the mother 15prepares food in advance, as also do bakers for us. And indeed mothers provide food in advance for infants by chewing it in advance. In this way, then, for the embryo too there is a sort of second provision of food which comes from the nature of the mother. But it is also nourished through its own organs. Even if it is not through the 20mouth, still, in the embryo too first the stomach digests, and this sends it on to the liver, and that through the veins to each part, and after that in each [part] the food is made completely like the existing substance. And these things also happen with perfect animals. And besides, in the most perfect animals there is present change in respect of place.⁴⁰ and it is manifest that embryos too undergo change 25in respect of place. It follows that they too are animals.

But people construct counter-arguments to all this and say that if nothing comes to be by the agency of nature to no purpose, nor anything imperfect and unable to be self-sufficing, then why on earth. if it is a perfect animal, does nature still detain it in the womb? Is it not clear that it is still imperfect and on the way to being an animal. but is not one vet? How is it, if it were an animal, that nature should 30 not have provided perfect organs for it through which it might live. like a mouth? But to this it is possible to say that just as even when it is already born, though it is an animal, still, since it needs a hardening together of the organs, it cannot carry out the perfect activities of the animal, in the same way also. I say, when it is in the womb, since every body takes time to obtain its own perfection, it still 35needs a lot of help, and on that account it is protected inside the womb, having acquired the form of an animal, but with its organs still needing a lot of protection and care. For if one were to look for the most perfect activities, one would not say that even a youth was an animal, unless he had reached [214] puberty and was already, then, acting in generative activities. But that would be unreasonable, to say that only someone in this state was an animal.

But perhaps what has been said is not necessary. For even if something is nourished through itself, it is not therefore an animal. A living thing and an animal are not the same thing.⁴¹ We will say it is alive and a life, but not also an animal, since plants also are nourished through themselves, but are not animals. Indeed, even the

13

214.1

 $\mathbf{5}$

very sharing in sense does not thereupon make an animal. Things, at least, that share only in the sense of touch are not animals, for zoophytes share in touch.⁴² Besides, what is most proper to animals is that they change their places as wholes, something that does not belong to embryos. For they are attached to the mother and bound

- 10 with her like a part belonging to her, and they are changed⁴³ [in respect of place] like zoophytes. And why in reality has nature detained them in the womb, if it has brought an animal perfectly to completion? Besides, if creation advances step by step from the less perfect to the more perfect, and the superior souls do not otherwise come along unless the more deficient have been present in advance, and the order is first the inanimate, then the vegetative life, then that
- 15 of zoophytes, then that of the non-rational, and lastly that of the rational, one ought to see that nature uses this order of creation [in gestation]. After the hardening together of the semen that which is constituted is a kind of inanimate thing; then when it has organs at the beginning it is like a plant so long as it is without sense; advancing and taking on a sense of touch and change [of place] at that stage
- 20 it is like zoophytes being attached to the womb, its own source, as they are to stones or to the shells lying around them, and that till delivery; then at that stage they become perfect animals, and undergo locomotive changes, and are nourished through their own organs, I mean the mouth and the like, and act with all the senses. And at the
- 25 end in the case of men they take on rational life, having lived a non-rational one at the start. And if they do not generate from the start, it is not the case that because of that they are not animals. For neither does every animal generate. For many come to be from putrefaction, because they do not have the power to generate, and yet they are animals nevertheless. And mules and any animals that come to be from the coupling of different species are animals but do not have the generative power. For to generate is not proper to animals, 30 but to use sense and change [of place is].

And that what is in the womb is not an animal is clear also from this. If an animal is an animate substance with sense, that is, by nature such as to perceive, then if it were an animal, it ought, before it reaches full term, if it is born prematurely, to act with its senses; but in fact it does not. Therefore it is not an animal.

- 215,1 [215] 412a16-19 But since it is a body and of this sort,⁴⁴ having life, the soul would not be the body;⁴⁵ for the body is not one of things that are *of* a subject, but more like a subject and matter.
 - 5 What he is saying here is this. Since a body that has life is both a body and a body of this sort – ['of this sort'] in place of 'composed of body and life', which life is soul – it is necessary that of these one should be matter and the other form. He shows this as follows. Since, he says,

an animate body is a body of this sort – [this is] as if he had said it has on the one hand something that is subject and on the other something that is in a subject. (for 'body' is subject, 'of this sort' is in a subject) – the soul would not be the subject, that is to say, the 10 matter. For he indicated this when he said 'the soul would not be the body', taking 'body' in place of 'subject and matter'. For this [sc. body] has the position of subject and matter.

Then he also brings on the reason why the soul is not subject. For the body,' he says, 'is not one of the things that are of a subject' – saving 'of a subject' in place of 'in a subject' – that is, it is not a form. 15For that which is in a subject is the form not the subject, and the body is subject. For we say that it [sc. the composite substance] is a 'body of this sort', so 'body' has the position of subject. From this it is clear that when he says 'the soul would not be the body' he takes 'body' in place of 'subject'. That is why he adds 'for the body is not one of the things that are of a subject.' For if the soul were 20the body, that is, if the soul were a subject, then the body would be in a subject: and if the body is not in a subject, the soul would not be a subject, which is what he himself says: 'the soul would not be the body'. For it is necessary that of these two, one should be subject and one form.

But some people have suspected that he is saving that the soul is not *a* body.⁴⁶ Among these is Alexander too. For by having shown that 25it is not a body, he [Alexander] says, he also demonstrates that it is not a subject at all. But that is not how it is. For it is not his present project to show that the soul is not a body but incorporeal. He shows that in what comes next, and indeed he has already also demonstrated it where he shows [DA 1.3] that it is not a magnitude. For if it is not a magnitude, neither is it a body. For magnitude extends more widely than body. But what is being shown here is that it is a 30 form and not matter, and the body is subject and matter.

And then it is clear from the addition of the article.⁴⁷ He says, not, 'the soul would not be a body', but 'the body'. For the article is indicative of some determinate thing, and the soul is not corporeal at all.⁴⁸ But as we have said, 'the body' for him indicates the subject and matter.

It is clear also from this that the soul is a form. That by which 35 things of the same genus differ is their form. [216] But bodies are of 216.1the same genus and differ in being animate. It follows that the soul is the form of animate things.⁴⁹

412a23-4 It is because soul belongs that there are both sleep and waking.50

Having divided actuality into first and second, into the disposition, I mean, and the activity that comes from the disposition, and having

- 5 said that the soul is actuality as knowledge is, he adds very manifest demonstrations of this, I mean those from sleep and waking, which are equivalent to the soul's acting and not acting. For waking is activity and sleep inactivity; but still we have soul none the less in each.
- Alexander does very well to call attention to the reason for the change of expression from 'form' to 'actuality'. Since, he says, it was necessary to determine whether one ought to say that an animate thing is animate from the activities by virtue of soul or from its being able to act, of which the being able is prior and the acting posterior, and since, he [Alexander] says, he [Aristotle] intends to use prior and posterior for the determination, then since it would be absurd to
- 15 speak of prior and posterior in connection with form (for the form of each thing is one), he has changed 'form' to 'actuality' and 'perfection'. For it is no longer absurd to speak of one perfection as first and another second. That, he says, is the reason for the change of expression. But, he says, there would be this difference between form and actuality, that every form is actuality, but not every actuality is form.
- 20 For the activity that comes from the disposition is an actuality, not also a form. So actuality extends more widely than form. Clearly form here must be understood as substantial [form], not as incidental, for that, as I have already said [211,26], is not the perfection of the subject. These things being thus, if someone defined the soul by saying it is 'form' of a body of this sort, it would no longer be reasonable to add 'first', but if [someone defined it by] 'actuality' [it
- 25 would be reasonable], since actuality extends more widely than form, and it would need this addition.

412a26-7 And knowledge is prior in its coming to be in the same [individual].

It is taking a very safe precaution to use the addition and say 'in the same [individual]'. For in the case of two different individuals, the 30 activity can be prior to the the disposition. For the teacher⁵¹ has the activity before the pupil has the disposition. But in the case of one and the same [individual] the disposition precedes the activity.

This is true in the case of things that come to be and pass away; in their case the activity is also by nature such as to be separated from the disposition. For divine things⁵² have the activity concurrent with the disposition; they are always acting while they have the disposi-

- 35 tion. For there are activities without potentiality, as he said in the *de Interpretatione* [23a23]. So with mortals the disposition precedes the activity, and among them, [it precedes] in one and the same [individ-
- 217,1 ual]; but with the whole universe [217] they are concurrent with one another; for in the whole universe there are always both disposition and activity. For neither $\langle if \rangle^{53}$ we should look at divine things, are

these non-concurrent, nor⁵⁴ if at all mortals generally, for indeed in the totality of these there are always both, and in general neither should be put before the other. But in the whole universe the perfect might be put before the imperfect: for as I said, the introducing causes which are in perfect activity precede, and in general the creation of the whole universe ought to begin from what is perfect not from what is imperfect.

412a28-b1 [Therefore the soul is actuality, in the first way, of a natural body that has life in potentiality. And this sort of body is one that is organised.

Having said 'that has life in potentiality' he gives an explanation of this. That [body], he says, which has life in potentiality, is that which 10 is organised. For the first actuality of fire is not a soul. I mean the power to heat: though this too [sc. fire] is a natural body: but since it is not organised, its first actuality. I mean the power to heat and dry, is not a soul.⁵⁵ Organised is having organs, through which the activities of living come about; such are the [parts] without similar parts, 15each of which serves different activities

412b1-4 Even the parts of plants are organs, though they are altogether simple. [for instance the leaf is protection for the pod, and the pod for the fruit; and the roots are analogous to the mouth. for both draw food.1

Since plants too are animate, and the soul is actuality of an organised body, for this reason he says that the parts of plants too are organs. For each has its proper activity. But the organs of plants are simple. 20he says, simple as compared with those of animals. For indeed those of plants are simpler both in subject⁵⁶ and in their activities. For each of the organised [parts] in animals consists of several parts with similar parts, whereas those of plants, for example the stem,⁵⁷ are of bark and wood or something else. And then as regards activities, each 25part of a plant acts with one simple activity, whereas in the case of animals each acts with many variegated ones, and that is reasonable. For since the organs have come into being to be in service to the impulses⁵⁸ of the soul, it is reasonable that the organs should be established analogously to the changes of which the soul is source. But the souls of animals are variegated in their impulses, while that of plants is simple. For the nourishing power only nourishes, and the 30 augmenting augments and acts in no further way.

And having shown how the body of plants is organised, at the same time he explains also what is organised:59 'For example the leaf is protection for the pod, and the pod for the fruit' [412b2-3]. By 'fruit' is meant the generative product itself, for instance, in the fig the

35 seeds, in olives the stones, and by 'pod' the moist surrounding of these

218,1 things with its enclosing skin. [218] The leaves, at least, he says, are produced to protect the pod, so that it is not harmed by the environment, and the pod to guard the fruit. For it is for the sake of this that nature has contrived everything, for the sake of permanence through succession.

412b4 If then we are to say something that is common for all soul [it would be actuality, the first one, of a natural body].

5 You see how he does not wish to say that souls have a common genus or a common definition. For as has been said already, in the case of those things in which there is prior and posterior, what is predicated of them in common is not a genus. And from the definition that is now given it is plainly clear that it is the same to have life in potentiality and to be organised. For having said higher up that it is [actuality] of [body] that has life in potentiality, he now says it is of natural organised [body], using one name in place of the other.

412b6-9 Which is why, also, we should not enquire if the soul and the body are one, any more than if the wax and the shape are [or in general the matter of each thing and that of which it is the matter. For 'one' and 'to be' are said in many ways, but what is genuinely [one and genuinely is] is the actuality].

He himself in the book before this [411b6-7] had raised the problem for those who divide the soul into parts, what it is that unites these,

- 15 since the soul is one and the animal is one too. For the souls are not many, since [if they were] each would be many animals, each part being an animal. It is reasonable that it should be a difficulty for these people and for all those who talk about soul, but without making any further differentiations about the suitability of the body that will receive it, what on earth it is that unites the soul to the body and
- 20 makes the animal one. But this enquiry will no longer be appropriate for those for whom the soul is actuality and the body matter and subject. Just as in the case of a ball of wax no one would enquire what it is that unites the wax and the shape (for the shape is an affection of the wax, and these things are in need of nothing to unite them; for these things' own nature itself and the suitability of the wax are
- 25 causes of the union), so also in the case of the body and the soul, since the soul is actuality and perfection of the body (as too the shape is actuality of the ball of wax) they have unity from within. For as we have said, when one thing is matter and the other form, the very suitability of the matter straightaway receives the perfection of the form without needing any intermediate in addition. For as he says,

30 'one' and 'is' are said in many ways (for things can be called one either

in genus or in species or in number or by being bound or by being glued – or as many other meanings of 'one' as are enumerated in the *Physics*,⁶⁰ and also of 'is') and some things *are* in potentiality, some in actuality, but it belongs to things to be genuinely one, and genuinely to be, by virtue each of its own actuality, by virtue of which it both in general is and is said to be a 'this something'. So if composite things have both unity and in general [the property of] being a this something from the form, we should not [**219**] enquire what it is that unites the soul to the body, I mean as one thing present in them and holding them together. For this is the very nature of form and matter, to be this in this.⁶¹

412b10-25 What the soul is, has now been said in a general way: it is substance, substance in the way of the account. [This is 'what it would be to be' for this sort of body, just as if some instrument were a natural body, for example an axe. To be an axe would be its substance, and the soul would be that. And if this were separated [from it], it would no longer be an axe, except equivocally; but as it is, it is an axe. For the soul is not 'what it would be to be' and the account of this sort of body, but of a particular sort of natural body that has a source of changing and staying unchanged in itself.

And we should also look at what has been said in the case of parts. For if the eye were an animal its soul would be sight. For this is the substance of the eye, the substance in the way of the account. And the eye is the matter of sight, and if that departs it is no longer an eye, except equivocally, like a stone [eye] or one that is drawn. But we should apply what is [said] of the part to the whole animal. For as the part is to the part, so, analogously, the whole of sense is to the whole body that perceives, as such.]

Having given rather a packaged⁶² definition of the soul, in these words he proceeds to go into its parts, and shows by means of models that each has been given well. And at the same time he shows through this that the soul is inseparable from the body insofar as it is actuality; for the perfection [of a thing] is inseparable [from it], that is, insofar as it is perfection. And in what way even the rational [soul] can be said to be inseparable we shall say as we proceed to go into the text.

We have given it out, then, he says, that the soul is substance, substance in the way of account,⁶³ that is, in the way of the form, the form of a natural organised body. That it is well given out to be substance in the way of the account he shows by means of models from both artistry and nature. For the instrument made by artistry, he says, the axe, if indeed it were a natural body, would have as soul, being organised,⁶⁴ the very form of an axe, that is, the power to cut generated in it by its particular sort of shape, and [it would have] as

35

5

10

matter and, as it were, body, the iron; and if the soul were removed from this, that is, if the shape and the power to cut were removed, it would no longer be an axe, since it no longer had its own form, the

- 20 power to cut. If, now, the form of the axe is the shape and the power to cut that comes from this, and when this is separated it is no longer an axe, and if as the soul is to the body so the shape of the axe is to the iron, and if the form of the axe is that very thing by virtue of which it has its being and is called an axe, and this is the shape that has the
- 25 power to cut, then it follows that the soul will also be the form of the organised natural body, since it is by virtue of this [the soul] that it [the natural body] has its being. For when the soul is separated the body is no longer organised, unless equivocally. For a dead hand is called [a hand] in the same way as a wooden or stone one. For the form of each thing is characterised according to its substantial activities. Just, then, as the axe that could no longer do the actions of an axe
- 30 would have lost its own form, so also when an animate being has lost the activities it has as animate, the animate being will have lost its own form. And each loses its own activities if it casts off, the one its shape, the other its soul. The form of an axe is a certain sort of shape, I mean one that has the power to cut; the soul too, therefore, is the
- 35 form of the animate being. For as the shape of the axe is to the iron, so the soul is to the animate being. The shape and the power to cut
- 220,1 are the perfection and form of the axe; it follows that [**220**] the soul also is [perfection and form] of the body. So that the soul is form and perfection of the body is well said.

At the same time it is clear also that 'natural' is well added. For the axe is both a body and an organised body, but still its actuality is not a soul, since the body is an artifact and not natural.⁶⁵

- 5 Having tried out the account with an artifact as a model, he comes nearer to his intended target and uses a model with more affinity to it and tries out the account with the parts of animate beings. 'For if,' he says, 'the eye were an animal, sight would be its soul' and its body would be the membranes and the underlying liquid. For the nature of the eye is made to have its form by sight. For if it did not see, it would
- 10 not be an eye. So its soul would be its substance, substance according to the form. The relationship which sight has to the eye, he says, the whole soul has to the whole body. If, then, the power to see, being part of soul's power to perceive, is the form of the eye, the whole soul too, it follows, will be the form of the whole animal. And as the power to
- 15 cut, even if it is not cutting, is with the axe, and as also the power to see, even if the eye is shut, is with the eye, so too the first actuality, which is present even if the animal sleeps, is with the whole soul: for [the animal] is no less animate even when asleep. As cutting is with the axe and seeing with the eye, so waking is with the animal.

412b10 What the soul is, has now been said in a general way.⁶⁶

[He uses 'in a general way'] in place of 'in rather a common and 20 packaged way'. For as he proceeds he will articulate distinctions about each power of the soul on its own.

412b10-11 It is substance, substance in the way of the account.⁶⁷

That is, in the way of the form. He applies 'account' [logos] both to the definition, and to the cause and, as he does here, to the form. And in the *Physics* when discussing the principles of things that are,⁶⁸ matter and form, having discussed matter he says [191a12-13] 'this is one principle', meaning, clearly, the one as matter, 'the other is the one that is the account'⁶⁹ that is, the form.

412b11 This is the 'what it would be to be' for this sort of a body.⁷⁰

Since he has said that soul is substance, substance in the way of the form, but not every form is a soul, for this reason he adds 'this is what it would be to be for this sort of body', that is, 'I mean the soul is that form by virtue of which this sort of body, a natural organised one, has 30 being and definition.' For this is the meaning of 'what it would be to be', that, namely, by virtue of which a thing has being and by virtue of which it is said to be something.⁷¹ For the definitions of things are by their forms. In this way, therefore, the being and the definition of animate beings too is by the soul. For animate beings are made to have their form by the soul.

412b11-17 For the being an axe would be its substance, and its 35 soul would be this.⁷²

If an axe, he says, which is an instrument, were also a natural body (he means natural like an animate being).⁷³ its substance in the way of the form, that is to say, its soul, would be this very thing, [221] being an axe, that is, that by virtue of which the axe has this thing, being an axe, would be its soul. And if its soul were separated from it and it became inanimate, it would no longer be an axe at all, except as an axe in a drawing is. But as things are, he says, even while being inanimate the axe is an axe, since the soul is not actuality of a body 5 that is artificial, but of one that is natural and organised. He says this wishing to show that 'organised' is well added to the definition.⁷⁴

Then, wishing to set before us what sort of body he calls natural and organised, he adds 'having a source of change and staving unchanged in itself.' For indeed in the Physics [2 192b20-2] he said that nature is a source of change and staying at rest. What is genuinely change in the case of animate beings is change of place and augmen-

25

21

221.1

tation and diminution; for change in respect of alteration is seen in inanimate things as well.⁷⁵ For stone and many other inanimate things have from within a cause that alters. By 'natural' things, then, I mean those that have a source of change and staying at rest from themselves. For the axe has the change it has as an axe not from

15 within but from without, from the user, and artifacts all have their source of change and staying still not in themselves but from without in those who manufactured them or those who move them.

412b17-18 And we should also look at what has been said in the case of parts.

He transfers the model from what is an artifact to what is natural and animate. For he is speaking of parts of animate beings.

412b18-22 For if the eye were an animal.⁷⁶

- 20 [The eye,] that is, all by itself apart from the whole of the body. It should be noted that he sometimes takes 'eye' for the combination of both, as here and a little further on [213a2-3] where he says: 'But as the eye is the pupil and sight', but he also uses the name 'eye' for the body alone which is the subject of the power to see, for he straight-
- 25 away [212b20] says 'the eye is the matter of sight.' Here, taking 'eye' for the combination of both when he says 'for if the eye were an animal', he is plainly showing that the form is the form of the combination of both and not of the body. It comes to be and is in the body, but it is not also the form of the body but of the combination of both. For it is the form of that to which it is the cause of being, and
- 30 the form is the cause of the combination of both. He himself, at least, having spoken of the eye as the combination of both in 'For if the eye were an animal' goes on: 'its soul would be sight' [the soul], that is, of the eye, which was the combination of both.

 $412b22\text{-}5~\text{But}^{77}$ we should apply what is [said] of the part to the whole animal. 78

For each of the sense-organs is characterised by a certain power of the soul to perceive, except for touch; for this is diffused through the whole body. The relationship each sense has to the sense-organ that is subject to it the whole soul has also to the whole body that perceives. The part is form of the part. It follows that the whole too 222,1 must be [**222**] form of the whole body that perceives.

'As such' [412b25] is in place of 'as that which perceives'. For it is not insofar as the body is heavy or white or anything like this that it is made to have form by the soul, but insofar as it is a thing that perceives.

Taking hold of this text. I mean that we ought to apply what holds 5 for the part to the whole animal, those who want to make all soul immortal try to show that Aristotle too is saving this. For if, they say, as the part is, so is the whole, and he said in the first book concerning the power to see, when showing that it is not at all harmed when the sense-organ is affected since it does not have its being in the organ. that if an old man were to acquire that sort of eve, he would see as well as a young [408b21-2], then it is clear, they say, that all soul is 10 separable. To this I say that even if we should concede that this soul is separable. I mean the perceiving, (yet what sense-object will it apprehend when it has been already separated⁷⁹ from the body?) still, we shall not concede that the vegetative is as well. For about that he has nowhere given even a hint. And then even if the non-rational [soul] is separable, it is separable only from this body⁸⁰ and not also 15from the pneuma, as has been shown by us already and will be shown further in what follows.

412b25-6 But it is not that which has lost its soul that is in potentiality so as to live, but that which has it.

What he means by that which 'has life in potentiality' he explains here. It is what already has life, and neither what has lost it nor what 20 is capable of having it. We set out above [209,29-33] the uses from the *de Interpretatione* [showing] that he also knew this meaning of 'in potentiality', [that it can mean] that which is already in act.

412b26-7 The semen and the fruit is what is in potentiality such a body.⁸¹

By 'fruit' he means the seed of trees and plants, such as the seeds of figs. For the rind together with the rest of the edible moisture he calls 25the 'pod' [perikarpion], as in the Meteorology [4 380a11-16]. What he is saving is this. The body which is already perfect and organised is what has life in potentiality, whereas semen⁸² does not have life in potentiality, but is capable of having life, that is, it is organised in potentiality. So 'in potentiality' as applied to semen is [in potentiality] by virtue of suitability. For it has the suitability for being able to 30 become organised and animate. It is not that already. That which is already perfected and has organs, such as are our bodies, these things already have life in potentiality. And if anyone says 'Do they not have life in act?' we reply again what I have just about said already, that just as the eve is of its own self in potentiality a thing that sees, but does not see without the [223] shining of light, for it is this that 223,1bestows on it seeing in act, and just as if when the eye is seeing in act anyone were to say that the eye is in potentiality a thing that sees, he speaks truly, (for by virtue of its own substance it has the suitability

for seeing only, and the activity comes to it from something else, 5 light,) so too with the whole body and the whole soul we say that the body itself, insofar as rests with itself, has only the suitability for life, and life itself in act comes to it from the soul. 'Having life in potentiality', then, is well said.

412b27-413a1 As cutting, then, and seeing [are actuality] so too waking is actuality [and as sight and the power of the instrument, the soul.]⁸³

10 He is showing the analogy of the images to the original. And we have already stated the analogy. Cutting and seeing he calls the second actuality⁸⁴ of the eye and the axe, which is like contemplating, whereas sight and the instrument's power to cut are the first, which is like knowledge, and it is that [actuality] by which he characterised also the soul.

413a2-3 Whereas the body is that which is in potentiality. [But as the eye is the pupil and sight, so here the soul and the body are an animal.]⁸⁵

- 15 That is, the body is that which is capable of receiving these activities, as with the eye the pupil is subject. The combination of both for the whole is the animal, which is of soul and body, while for the part it is the eye which is of the pupil and sight. 'Pupil' is what he calls the whole eye, membranes along with liquids.
- 20 **413a3-7** That the soul then is not separable from the body, or parts of it, if it is by nature such as to have parts, is not unclear. [For of some, the actuality is [the actuality] of the parts themselves. But nothing prevents some [from being separable], on account of their not being actualities of any body].

Having given the definition of the soul, he deduces, as a conclusion following necessarily upon the definition, the inseparability of the soul from the body. For if the soul is form and perfection of the animate body, and it is impossible that the perfection of anything should be separate from that thing, it follows clearly that the soul too

- 25 is inseparable from the body. For these, form and perfection, are relatives (for the form is form and perfection *of* matter), and relatives either are or are not at the same time.⁸⁶ So far, then, as the given definition of soul goes, all soul will be inseparable from the body of which it is actuality, if, indeed, the definition fits all soul. And even if
- 30 not all soul should be inseparable, at any rate some parts of the soul are manifestly inseparable from the body, and these the definition does fit, since they are actualities of parts of the animate being. For

the power to nourish is a perfection of the body itself that is nourished, and similarly the augmenting and generative powers, and further, that [part] of the soul which is appetitive makes to have form the part [of the body] in which it is. If these, then, are perfections of bodies and to do with bodies, it is impossible that these parts of the soul should be separable from body. For of what will they be perfections? Concerning what will they act when separated from bodies? What will nourishment nourish or augmentation augment when separated from bodies?

But even if these parts of the soul, he says, are necessarily inseparable from the body, [224] 'nothing prevents some' from being 224,1 separable 'because of their not being actualities of any body.' Manifestly, therefore, he does not wish the rational soul to be actuality of the body, and for this reason he declares it to be separable from the body.

Then, since here he has seemed to make the given definition of the 5 soul one that partitions it, when he says that some parts of the soul are separable because of their not being actualities of any body, even though he had said 'if [we are to say] something common to all soul', attending to this and showing that even so the definition can no less be common to all soul, even the rational itself, he adds:

413a8-9 Also it is unclear whether the soul is actuality of the 10 body in this way as⁸⁷ a sailor of a ship.⁸⁸

Why, he says, are we afraid to extend the account even to the whole soul: why do we say that some parts of the soul, being separable, are actuality of no body, and therefore the definition does not fit every 15psychic power? For from what has been said it will not vet be clear to us in what way we say the soul is actuality, whether as inseparable. which is how the form of the axe stands to the axe, or as separable. which is how the steersman stands to the ship. For the steersman perfects the form of the ship while being separable. If it is possible, then, for the same thing to be actuality in one respect and in another 20to be separable, in that it is not actuality in that respect.⁸⁹ it follows that it is possible to fit the definition to every power of soul. So that when we said some parts of the soul are inseparable because of being actualities of the parts themselves, we spoke thus because the actuality is inseparable (for of what will the nourishing power be perfection if it is separated from the body?) and again when I said that 25nothing prevents some parts of the soul from being separable because of their being actualities of no body, I meant that they are not actualities in this way, that their substance does not have its being in the body; since they too are actuality of the animal, [but] as the steersman is of the ship. For as I have already said, it is also possible in a way for the rational soul too to be called inseparable from the 30

35

body, insofar as it is actuality. For the activities by which it perfects the animal, changing it in this way or that, [these activities] it has inseparable from the body. For when it has gone out it will no longer be active in them, for it has them from its relation to the body. So in this way, insofar as it is actuality, I mean in respect of these activi-

- 35 ties, it would be inseparable from the body, just as also the activities of the steersman as steersman are inseparable from the ship, and he is separated as a man, but as a steersman in act, at the same time as he has been separated from the ship these activities have perished for
- 225,1 him. [225] In this way, then, the rational soul too, inasmuch as it has a separable substance is not actuality of a body, but inasmuch as it has acquired this relation to the body, by virtue of which also it can be called 'soul' (for it is called 'soul' relative to the body), it is both actuality of the body and inseparable from it. For when it is separated
 - 5 it loses all those activities which it acquired from its relation to it, such as to make alive, to change it with all the natural changes, and anything else like that. For what will it change naturally or make alive if it is outside of any body?

'If it is by nature such as to have parts' [413a5]⁹⁰ must be understood not as [being divisible] into parts in a bodily way or in place, but

10 in substance, that is, if it is divided in substance and different powers of the soul are [powers] of different substances, and all the parts of the soul are not of the same substance.⁹¹

'Of some, the actuality is of the parts themselves.' [413a5-6]. Here he seems to be dividing the soul according to the parts of the body. Of some of the parts of the body, he says, [the] actuality is the parts of the soul, so that they [the parts of the soul] are inseparable from them [the parts of the body], sight, for instance, from eyes, [the sense of]

- 15 smell from smell, and others from the others. And [division is also implied by] the text 'for of some of the parts of the soul⁹² the actuality': that is, some of the parts of the soul, each of which we have defined as actuality, are actualities of the parts themselves of the body, that is, they are perfective forms of the parts of the body, being inseparable from them, clearly, on this account. Why then does he reproach the
- 20 *Timaeus* for dividing [the soul] into parts? We have spoken about this earlier [194,29ff.; 196,19ff.]

Alexander, however, when Aristotle manifestly says here that nothing prevents some from being separable because of their being actualities of no body, first of all says that Aristotle seems to be in two minds whether all the soul is inseparable, though he has declared this very thing through [his saying that] it has not yet been demonstrated

25 that it is inseparable. And further on he is constrained by the text and says that it looks as if he is saying of the intellect that it is separable. But 'nothing prevents' are not [the words] of one in two minds. Rather since he has declared that all soul is actuality, it is for this reason he says that even so nothing prevents some parts of the soul from being

separable (for they can be actualities like the steersman of the ship) – and perhaps also because he has not yet demonstrated this. For he 30 has not given any discussion of the rational powers.

[Chapter 2]

413a9-16 [So much by way of drawing distinctions in outline and giving a description concerning soul.] But since from things that are unclear but more evident there arises what is clear and more knowable rationally, [let us try to go at it again like this; for a definitory account should not make clear only the *that*, which is what most definitions say, but the reason too should be present and apparent.]

Having given out in a common way what the soul is – that it is actuality of a natural organised body – here he next wants to teach 35 why this is said and how the soul is actuality, how the vegetative is, how sense, and each of the others. For in all teaching [**226**] the 'that' 226,1 should precede the 'why'. For there are four problems,⁹³ 'is it?' 'what is it?', 'what sort of thing is it?' and 'why is it?', but the first position of all is held by 'is it?' It is reasonable, then, since he is enquiring if there is a common definition,⁹⁴ having given rather what is analogous to a definition in the account that has been stated, so that in this we also have 'what it is', that he should next enquire into the two 5 remaining problems, *how* each of the powers of soul is called actuality and *why*.

And since he says that from things that are unclear but more evident to us there arises what is rationally⁹⁵ clear and knowable, but has not put in what things are more evident to us, it is necessary to enquire first after precisely that. For a great deal of uncertainty among interpreters has arisen about this, one thinking he is saying one thing is evident, and another another.

We say, then, that there are three ways in which what is clearer to us can be seen. The 'that' is clearer to us than the 'why' and prior in cognition. For indeed *that* we have a soul and *that* it is immortal, is more accessible to the thought of most people than following and grasping intuitively the argument that establishes these things. Secondly, as is said in the *Physics* [1 184a21-5], what is universal and confused is clearer to us than what is particular and more distinctly articulated, for instance knowing simply that a thing is a body [is easier than] knowing that it is this sort of body, say, heavenly or of earth compounded in this or that way. A third thing clearer to us is what is prior to us, but posterior in nature. For things that are more composite are more knowable to us than things which are more simple, which are prior in nature.

What is clearer, then, and more evident to us is threefold; and we 20
shall find Aristotle here using all these ways. For he has taught the 'that' before the 'why'. He has taught *that* it [the soul] is actuality of a natural organised body, and *that* it can be the actuality both as separable and as inseparable, and proceeding he will teach *how* it is

- 25 actuality, by doing what and by perfecting the body in what way. But whereas he taught the 'that' of the soul in a single account, he will not also in the same way teach how it is actuality in a single account. For all [soul] is actuality, but not in the same way, but the vegetative is in one way, the perceiving in another, the rational in another, and the parts of these each in a different way.
- 30 Also, starting from things that are confused and more common he proceeds to things that are more limpid and particular. For first he gave us the idea of the soul in a confused way in the account he gave, and next he will articulate distinctions about each part of the soul, [saying] how and of what each is actuality.

And thirdly, starting from things that are last by nature and more knowable to us, he will advance to things that are primary in nature and more estimable, which is in fact the way he speaks above all of

- pursuing here. For there is also what is prior in nature⁹⁶ and what is posterior in the 'that' and the 'why', but related in a converse way to us and to nature. The 'why' is prior by nature [**227**] to the 'that'. For
- 227,1 us and to nature. The 'why' is prior by nature [227] to the 'that'. For nature has the accounts of all the things it makes laid up in advance in itself; for it makes nothing either to no purpose or by chance, but it trues each of its works to the line of some aim. If, then, it is because it has pre-existing in itself the accounts of the things produced by it
 - 5 that it then makes natural things, it is clear that the 'why' is prior in the order of nature to the 'that'. And this 'that', as I said, is also confused. For in learning that the soul is actuality we have understood nothing limpid or distinctly articulated. For not all soul is actuality in the same way. And neither have we got to know *how* it is this very thing, actuality, by doing *what on earth* and by perfecting *in*
 - 10 *what way.* So in the 'that' and the 'why' the remaining two ways of teaching also come together.

It was for this reason, then, that he had begun his teaching from the 'that', because our nature proceeds from imperfect things to perfect and from evident things to things that are unobvious. The 'why' is more perfect than the 'that' and the things that are in nature posterior and confused are more evident to us. For just as it is not

15 possible for someone to know the demonstrative syllogism who does not know what a syllogism is simply, or for someone to do oxyrhynchic⁹⁷ script who does not know how to write simply (for this thing, syllogism without further specification, is something confused, since there are several different kinds of it; and similarly writing without further specification, for each species of writing is distinctly articulated), so, therefore, someone who does not know what a body is

20 simply cannot know what the body is of fire or air or the heavens, and

the person who does not know what soul is simply cannot know what the rational [soul] is, or the non-rational or the vegetative. Body without further specification is confused, and soul without further specification, whereas each of their species is distinctly articulated. But also starting from imperfect things, for instance those in coming to be,⁹⁸ we go on to the cognition of heavenly things and to the order that is in them, and from there to the one who has ordered them.⁹⁹ As I said, then, the three modes of teaching¹⁰⁰ are included in the advance from the 'that' to the 'why'.

Similarly too in the setting forth of the powers of the soul he uses the same order, starting from the things that are more imperfect and last, going on to things that are prior and more perfect. For he first discusses the vegetative [soull, then the perceiving, and thirdly the imagining: after these he goes on to the rational powers of the soul. 30 and starts again from those that are posterior and more imperfect. discussing first the power of opining, then that of thinking, and lastly the intellect. For even if in relation to the animal the vegetative is prior by nature (for it destroys the others along with itself and is not destroyed along with them) and the perceiving is second and the rest in turn as we enumerated them, still in relation to the whole universe it is the reverse; in the whole universe the more perfect and esteemed are prior by nature, and the more imperfect posterior; for [228] the 228.1more perfect hold the less perfect together and effect them. Therefore in relation to the whole universe intellect is prior by nature, and the others come in turn, travelling in the same order in the opposite direction. But in the animal and in relation to our cognition, the vegetative [soul] is first; which is why he started from that in his teaching.

For the powers of soul, then, he used this order of teaching. But 5 when he goes on to each part of the powers of the soul. I mean, the vegetative and the perceiving, he no longer uses the same way of teaching. He does not start from what is last but from what is first and most estimable. For in discussing the vegetative [soul] he first discusses the power to generate, then the power to augment and 10 thirdly the power to nourish. Yet the generative is better and more estimable than all [the others] and the augmenting is better than the nourishing. For the function of the nourishing [power] is to preserve the form (for we are preserved for just so long as we are nourished). that of the augmenting is to bring [the organism] to the perfect and natural measure, and when they get to that, animals and plants 15arrive at the end of nature that is most aimed at, the power to generate. For this is the most final aim of nature because of the yearning for eternity, since immortality comes to be restored¹⁰¹ in mortal animals by succession, as he himself says elsewhere [GA 2]731b24-732a1]. So the augmenting [power] stands in the relationship of matter to the generative, and the nourishing to the augmenting.

- 20 In the case, then, of the parts of the vegetative soul he started from the more perfect, and again with the parts of the perceiving. For he will speak first of sight, secondly of hearing, thirdly of smell, fourthly of taste, and finally of touch; and sight is more estimable than all, and those in succession than those after them in the same order. That is, in the first place, because taste, touch and smell help towards being,
- 25 whereas hearing and sight help towards well being¹⁰² and it is through them that we have furnished ourselves with philosophy, as Plato says.¹⁰³ That is why, also, the poet has allotted these alone to the Sun, and of these, put sight first.¹⁰⁴ And sight both apprehends what is furthest away and has its activity timeless, while hearing, it
- 30 too is of what is far, but not so [sc. far], and smell is of things that are nearer still, and taste and touch [apprehend only] in contact with the sense-objects themselves. Then as many things as have any of the more estimable senses necessarily also have all the rest, but what has the less estimable does not necessarily also have the more estimable. For some things share only in touch, like zoophytes; for they contract and stretch out, being hurt or spreading out towards things that come
- 35 near. Others in addition to this share only in taste, like shellfish. For they manifestly feed. Others besides these [have] only smell. They say, at least, that certain molluscs, such as clams, go after bait,
- 229,1 following by smell. Others have hearing without sight, [**229**] such as so called blind rats.¹⁰⁵ But if anything shares in sight it necessarily also shares in the rest.

Why is it, then, that when talking about whole powers¹⁰⁶ he starts from what is last and less estimable, whereas with parts he travels in the opposite direction, and makes his start from what is first and

- 5 more estimable? To this some people say that in his teaching he has mixed both routes, in the case of whole powers having started from what is last and more imperfect, in the case of parts, from what is primary and more perfect. But those who speak more accurately say that in the case of the perceiving and vegetative [souls] the final products of the first and more perfect powers of the soul are clearer
- 10 to us. The final product of the generative [power], at least, is clearer than that of the augmenting, and [the final product] of this more than that of the nourishing. It is similar too with the parts of the perceiving soul. Sight is more limpid than hearing, this than smell, this than taste, and this than touch. So one ought not to begin from touch. For
- 15 as he himself says in what follows, it is doubtful altogether if touch is a sense. For it does not seem to be a sense at all. For each of the other senses is active concerning one opposition of sense-objects and its intermediates, for instance sight concerning black and white and the colours intermediate between these, hearing concerning low and high sound and the intermediates, smell concerning fragrant and malodor-
- 20 ous, taste concerning sweet and sour and their intermediates. For Aristotle brings all under one of these opposites, I mean the sweet and

the sour. But touch is concerned with a plurality of oppositions that are not subordinated one to another. It is concerned with hot and cold, moist and dry, hard and soft, heavy and light, rare and thick, which cannot be subordinated one to another. So because the account of touch is problematic, and one should not start from things that are doubtful, he did not start from that. Since, then, it happens that with the parts of the vegetative and perceiving soul what is more perfect and primary by nature is also clearer to us, it is reasonable for him to start his teaching from that. It is no matter that in the case of the rational soul he made his start from what is posterior. For imagination is more knowable to most people than opinion, and this than thought,¹⁰⁷ and intellect is much more unclear than this, inasmuch as its activities are extended both rarely and to few people.

And last of all he enquires about that which changes in respect of place:¹⁰⁸ what on earth is it, and is it other than the parts of the soul 35 that have been enumerated, or is one of these or are all of them responsible for change in respect of place? And it seems that all are responsible for change in respect of place. For in men who live in accordance with intellect the intellect is responsible for this – it is it that changes the animal. But in the non-rational it is sense. But in reality [**230**] that which changes in respect of place is other than all these. For that which is appetitive is responsible for change in respect of place. But there is a difference here. For there is appetition both in the rational powers, and also in the non-rational, as we said at the beginning [104,9-12].

413a11-13 But since from things that are unclear but more evident there arises what is clear and more knowable rationally, let us try to go back over it again¹⁰⁹ like this.¹¹⁰

By succinctness he has made the text unclear. In order to make clear the thought of the texts, we must add to 'unclear' 'by nature' and to 'more evident' 'to us', so that the text is as follows: 'But since from things that are unclear by nature but more evident to us'.

'There arises what is clear and knowable rationally' is equivalent 10 to 'there arises what is by nature clear and more knowable by teaching', so that the whole thing being said is like this: 'But since from things that are unclear by nature but more evident to us there arises what is clear and primary by nature and more knowable to us rationally, we must try to go back [and start] as it were from the beginning and put our hands to the account about the soul starting from things that are clear to us, but more unclear by nature. For then we shall find what on earth the soul is, which is something clear by nature but unclear to us. Starting again, then, for this reason, he begins his account of soul from the animate, which is clear to us, and enquires how it differs from the inanimate, and he says this is a

- 20 peculiarity of the soul. What things are unclear by nature? Those that it [nature] makes second. The things it makes first are clear, for instance, nature first makes the elements; then, from these, the humours, then, from these, the [parts] with similar parts,¹¹¹ then, from these, the organised parts,¹¹² and at the end, from these, the animal. But we first get to know the animal, then that it is composed
- 25 of parts with dissimilar parts, and thus travelling backwards come to know at a later time the elements of which the animal consists.

413a13-16 For a definitory account should not teach¹¹³ only the *that*, which is what most definitions say, but the cause too should be present and apparent.

It is for this reason, he says, that we make our account about the soul as it were from the beginning, that in the foregoing we did not give a sufficient discussion of it, but gave only the 'that'. For someone who wants to set before [us] the substance of something, ought not in the definition of it to give only the 'that', but also the cause on account of which this is. In the account given concerning soul it has been said

- 35 *that* it is actuality of a natural organised body, but not also in what way it is actuality or why. Nor is it possible for someone giving a universal account concerning soul to say why, because souls are not
- 231,1 all either of the same species [231] or of the same genus. That is why here, having started from things that can be seen manifestly in the case of each power of soul, he will then give us an account of why each is actuality and in what way.

5 **413a16** But as it is, accounts of terms are like conclusions.¹¹⁴

In the first book too it was said that of definitions, some are taken from the matter, some from the form and some from the combination of both. For instance, from the matter is 'Anger is boiling of the blood in the vicinity of the heart',¹¹⁵ and 'A house is a composition of stones and beams.' From the form are 'appetition for making to suffer in

- 10 return', 'a covering that keeps off rain and heat'. And from the two together are 'boiling of blood in the vicinity of the heart on account of appetition for making to suffer in return', 'a covering that keeps off rain and heat consisting of this sort of composition of stones and beams'. Of these definitions (and every definition is universal, as he himself says in the treatise *On Demonstration*)¹¹⁶ that which is from
- 15 the form is a starting point for a demonstration, that which is from the matter is a conclusion, and that which is from the combination of the two is a demonstration, but differing in how it is set out. For instance, suppose someone wishes to define anger. He uses a syllogism like this: One who is angry has an appetition to make the person with whom he is angry suffer in return; of one who has appetition to

make suffer in return, the blood in the vicinity of the heart boils'. Then the conclusion: 'It follows that of one who is angry, the blood in the vicinity of the heart boils'. Of this syllogism and demonstration. 20 then, the definition of anger from the matter is conclusion, and the definition from the form is starting point. For the first premiss is the one saving. 'One who is angry has an appetition for making to suffer in return'. But the definition from the combination of both is a syllogism or demonstration differing only in how it is set out, since in the syllogism the first premiss is the one saving: 'One who is angry has an appetition for making to suffer in return', and the second is: 25'Of one who has an appetition for making suffer in return, the blood in the vicinity of the heart boils', whereas in the definition from the combination of both we start the other way round: 'It is boiling of the blood in the vicinity of the heart', we say, and then: 'on account of the appetition for making to suffer in return'.

What, then, is he saving? That we ought to give definitions like this, which contain also the cause on account of which there is a thing like this. For most definitions that are given as things are, he says. 30 resemble the conclusions of syllogisms and do not have in them the cause on account of which they are so, which cause is analogous to the middle term in the syllogism: that is, they are given from the matter alone.

That is the idea behind what is said is that. But Alexander construes the text as follows. 'But as it is, accounts – ['accounts'] in place of 'definitions' - are like conclusions of terms' [232] - ['terms'] in place of 'syllogisms'.¹¹⁷ He called syllogisms 'terms' [Alexander thinks] because syllogisms are [constructed] out of terms.

And another alternative: 'Terms' – [using 'terms'] in place of 'definitions' – 'are like conclusions of accounts' – that is, of syllogisms – so that we change around the cases, and give the genitive to 'accounts' [logoi] and the nominative to 'terms' [horoi].¹¹⁸

But the Attic interpreters say, more simply and naturally, that 'accounts of terms' is in place of 'statements of definitions', that is to say, statements in spoken words, by which we give the definitions of things. 'Are [like] conclusions', [conclusions], clearly, of syllogisms. For the conclusions are conclusions of syllogisms.

413a17-20 For instance, that squaring¹¹⁹ is an [equilateral] 10 rectangle's being equal to an oblong. [Such a definition is a statement of the conclusion. But a person who says that squaring is finding the mean, states the cause of the thing.]

Having said that the perfect definition should teach not only the 'that', but the cause, and that the majority of definitions teach only the 'that' (for this is [the meaning of] 'they are like conclusions'), he here gives an example of the things he has said, of what sort of

5

15

33

35 232.1 definition is a starting point of a demonstration and what sort a conclusion. If, he says, <someone>¹²⁰ were to define squaring thus: 'making an equilateral rectangle equal to an oblong', such a definition, he says, is a statement of the conclusion – ['is a statement of the conclusion'] in place of 'is a conclusion of a demonstration'. For it is

20 taken from the matter. If one were to define thus: 'squaring is a finding of the mean', such a definition is a starting point of a demonstration. For it tells the form and the cause. And if someone should say this: 'Squaring is making a rectangle equal to an oblong by finding the mean', he would define from the combination of both, and such a definition is a demonstration differing in how it is set out. For someone might syllogise as follows: 'One who wishes to square seeks a mean proportional. The mean when it is found makes an equilateral rectangle equal to the oblong.'

It is clear that he is speaking of squaring an oblong. A square is both equilateral and a rectangle, that is, an area that has both the four sides equal and the angles right angles; an oblong is rectangular,

- 30 indeed, but not equilateral. Those, then, who wish to square the oblong seek a mean proportional. What sort of thing do I mean? Let there be an oblong area having one side of eight cubits and the other of two. Clearly the whole is of 16 [square] cubits. For every quadrilateral is measured by multiplying side by side. If, therefore, we wish to
- 35 make a square equal to this oblong area, so as to be 16 cubits, the size the oblong was, we must find the mean proportional of the two sides of the oblong, so that it may have that ratio to the greater side, which
- 233,1 was of 8 cubits, which [233] the side of the oblong which was of 2 cubits has to it, the mean. Such [a mean] would be of 4 cubits. For that same ratio which 4 has to 8, 2 has to 4: each is half the greater. This is the mean proportional. On this, therefore, will be inscribed a
 - 5 square area of 16 cubits equal to the oblong. And thus should we do with every oblong when we want to inscribe a square equal to it. For again, if there should be an oblong having one side of 16 cubits and the other of 4, it inscribes an area, clearly, of 64. If you should want to make a square equal to this, seek a mean proportional. That is of
 - 10 8 cubits. For 8 times 8 is 64. For just as the 16 cubit side of the oblong is the double of the 8 cubit [side] that has been found, so too this is the double of the remaining side of the oblong, which was of 4 cubits. 'Finding the mean', Alexander says, 'is shown in the second book
 - 15 of Euclid'. But it is not. Nothing of this sort is shown there, but in the sixth. There it is shown: 'Given two straight lines, to find the mean proportional' [*Elements* 6.13], and 'If three straight lines are proportional, the [rectangle] contained by the extremes is equal to the [square] on the middle' [*Elements* 6.17].

413a20-1 Making a beginning, then, of the investigation, we say that the animate is to be distinguished from the inanimate by living 121

As has been said many times, [starting] from things posterior in nature and clearer to us he teaches about things that are primary and 20 more unclear. For wanting to obtain the peculiar characteristic of the soul, he enquires what is the characteristic of the animate being. something posterior to the soul by nature. For a thing is called animate because it shares in soul, and it obtains the appellation from it. And that which is from something is secondary to that from which it is and is called [what it is called]. If the animate, then, differs from the inanimate by sharing in soul, and again it also differs by being alive, it follows that life is likely to be characteristic of soul.

413a22-31 A thing may be said to be alive in many ways, but if even only one of these is present in it, we say it is alive: [such as intellect, sense, change and staving unchanged in respect of place, also change in respect of nourishment and decay and augmentation. That is why all growing things are thought to be alive too: they plainly have in themselves this sort of power and source, through which they obtain augmentation and decay in respect of contrary places. For it is not the case that they are augmented upwards, indeed, but not downwards; but [they are augmentedl similarly in both ways and all, as many of them as keep being nourished and live through to the end, so long as they can take in nourishment.]

Having characterised the soul by life he divides life into different things signified [by 'be alive']: for 'a thing may be said to be alive in 30 many ways', he says, that is, [234] there are many powers of the soul by virtue of which being alive arises in those that share in them. And since he is saying this he adds, 'such as intellect, sense,' and the rest. Then, confirming that there is a kind of life corresponding to each of these. he says that even if one of these belongs to something, what shares in it is said to live. Whence also plants, since they have the $\mathbf{5}$ nourishing power, are alive, though they have none of the others, neither the perceiving nor the changing in respect of place nor any of those mentioned earlier. Upon the nourishing power follows the augmenting; for nourishment is for the sake of arrival at the perfect form. Things that are nourished, at least, are augmented, so long as decay is not more powerful: for then nourishment protects them only so far as the form.¹²²

'In respect of contrary places' is in place of 'everywhere'.¹²³ For as 10 he says in the de Generatione et Corruptione [1 321a2-322a28], those things are said both to be nourished and to be augmented which are

234.1

nourished and augmented in respect of every part of themselves. For those things which seem to be augmented by addition are not augmented in respect of every part of themselves, which is why we do not speak of augmentation in their case but of addition. For if to a heap

- 15 of corn I add another [ear of] corn the addition does not occur throughout the whole of the parts of the heap, but in the one part where also the addition occurred. But the body [of an organism] is augmented the whole throughout the whole. In this way, then, plants too are augmented in respect of the whole of themselves. For indeed [they are augmented] upwards and downwards (for the roots too are augmented in the direction of depth) and right and left (for they progress in width on either side) and also front and back. For they
- make an even and equal augmentation in depth¹²⁴ also. So if these too are said to live because they have the one power of nourishing, it follows that it looks as if each of the powers of soul is a [kind of] life.

413a31-b1 And this can be separated from the others but the others cannot, in the case of mortals, be [separated] from this. [That is evident with things that grow. No other power of soul belongs to them.]

- 25 He has already said that each of the powers of soul is a life and makes things that share in it live. For it is clear that things that share in sense by that very fact are alive, or rather have a very limpid life, and similarly also things sharing in intellect live by that very fact. But even if each of these powers is a life, still, he says, the nourishing,
- 30 being the last of all, can also be separate from these, whereas they are not apart from it. And he does well to add 'in the case of mortals'. For in the case of divine beings, since augmentation and diminution are not there, the nourishing power is useless; but in the case of mortals,
- 235,1 [235] for this very reason that they are mortal, it is impossible that the better power of soul should come to be unless there are the more defective – and also for the reasons that have often been stated. For since it is mortal and needs an inflow, since there is also outflow, there must be a necessity for the nutritive power, weaving on addi-
 - 5 tions in the body to replace what flows out, in order to protect the form. Because of this, apart from the nutritive power there is no animate being. But rational beings share also in spirit and desire, in order that they may go after what is preservative of the animal and shake off what is injurious. But it is evident in the case of things that grow that the power to nourish is separated from the others. For
 - 10 plants have this, but none of the others; neither the perceiving, nor the appetitive, still less any of those that are superior.

413b1-2 Being alive, then, through this source belongs to all living things

Having said above that even if one of these things belongs [to something it is said to be alive, he now says that it is from the power to 15 nourish that being alive belongs. If he says this, then, because where there is any other [power] there must be this, and if there is it alone things that share in it are straightaway said to be alive, and in addition, if being alive is, as he himself defined it a little before, being nourished and augmented through a thing's self, and being nourished and augmented come from the nourishing [power], it follows that it is reasonable that being alive comes from this too, since even if each of 20 the powers of the soul is a kind of life, nevertheless mortals cannot be without the nutritive [power], but their life is most of all characterised by this, because their nature is in flux, and without what filtres in to replace what flows out they cannot be. This is what the nourishing [power] does. With reason, therefore, he said that animate 25things have being alive because of this.

413b2-5 But animal [belongs] in the first instance because of sense. [For indeed things which are not changed and do not shift their place, but which have sense, are said by us to be animals and not just alive. Of sense, what belongs first to all is touch.]

Just as living things are characterised by the nutritive power, so also animals are by the perceiving, so that those which share only in this. even if they share in none of those that are superior, are called animals. And he says that those things first share in the senses that share in touch. That is why if something shares only in it, it is said 30 not only to live but to be an animal, because animal is characterised by sense; the so-called zoophytes are like this, such as sponges, for these share in touch alone. And they are called 'zoophytes' because they are animals [zôia] through sharing in sense, but they have [the feature] of plants [*phuta*] that they do not change from place to place. 35 Or rather even in this respect they have something of animals, and not even this [236] do they have altogether like plants. For they 236.1change their places in parts, contracting and stretching out.

But if animals are characterised from sense, and sense is not present in divine beings, I mean sense like these five we have, it therefore looks as if they, that is, the heavenly bodies, are not to be called animals.¹²⁵ But I say that the discussion is about mortals. In those [divine] things, even if there are not these senses, clearly there are others better and more divine.

But someone might raise the problem: if animals get their appellation from being alive, and plants too are alive, why do we not call

them 'animals' too?¹²⁶ He himself, resolving this very [problem] in what comes next, says that just as we call 'runners' not those who share in running just anyhow, but those who share vehemently and

10 share in running just anyhow, but those who share vehemently and more limpidly in running,¹²⁷ so too it is not those that share just anyhow in being alive and in life that are called 'animals', but those in which the form of life is more limpid. And the life of the senses is more limpid than the nourishing.

413b5-9 But just as that which nourishes can be separated from touch and from all sense, so touch can from the other senses. [By 'nourishing' we mean that sort of part of the soul in which things that grow also share; and animals all plainly have the sense of touch.]

'But just' is in place of 'for just'. For it [the remark] is explanatory. Having said that touch is first of the other senses, he here establishes this. For just as things that share in the other powers of the soul long before that share in the nourishing, but it is not also necessary that

- 20 those which share in the nourishing should share in any of the others too, but the nourishing power is also to be seen by itself, as in plants, so also it is wholly necessary that those that share in any of the other senses should share in touch too, but the reverse is not also necessary. For many things that share in touch share in none of the others, such as sponges, shellfish¹²⁸ and what are called 'cockles'¹²⁹ and molluscs
- 25 generally. So if that is prior [to something] by nature which is brought in with it and which destroys it along with itself when it is destroyed, it follows that touch is prior to the [other] senses. But it is possible too that 'but just' is said as a fresh beginning.¹³⁰

413b9-10 But for what reason each of these things has come about we shall say later.

- 30 'Each of these', [that is,] why the nourishing can be separated from the other powers of the soul, and why that which touches¹³¹ from the other senses. For he will state in what comes next the reason I have already said, that the body being in flux, it is wholly necessary for
- 237,1 those sharing in life [237] to share in the nourishing power for the preservation of the form. And this too is why touch is separable from the other [senses] and accompanies all the others, because sense belongs for the discernment of what is preservative of the animal and its own from what is alien and destructive, and of sense-objects, those
 - 5 most our own are those of which we consist. These are dry, moist, hot and cold, and touch has the same grasp of these. It is reasonable, therefore that of the senses the very first and most universal is touch, and that without this none of the others can be.

413b11-13 For the present let it suffice to say only that the soul is the source of all¹³² these things that have been said and is defined by them, that which nourishes, that which perceives. that which thinks.¹³³ change.

Those who want to make all soul immortal say that that which nourishes, that which augments and the like are activities of soul which, they say. Aristotle too says are inseparable, but the soul and the powers from which these activities proceed, these are separable. They claim, then, that he says, that the soul is cause and source of 15these activities,¹³⁴ the nourishing, the perceiving and the rest. But that Aristotle does not think this has been stated many times. Alexander interprets in a more natural and true way [when he says] that the soul is source and cause of nourishing, augmenting and perceiving, which are in reality activities of soul. But that he [Aristotle] does not say the soul is the source of that which nourishes and perceives 20he has made clear by his adding that it 'is defined by these, that which nourishes, that which perceives' and the rest – ['defined by these'] in place of 'the soul is given its boundaries in these, and has its being in these'. He brings in that which changes in addition to all and later. because change is seen in all those mentioned, even in that which thinks because of the change from enquiry to discovery and from 25premisses to conclusions.¹³⁵

413b13-24 But whether each of these is a soul or part of soul. and if a part, whether so as to be separable in account only or also in place - [concerning some of these it is not hard to see [the answer], but some contain difficulty. For just as in the case of plants some, when divided, are plainly alive even when divided from one another, the soul in them being one in actuality in each plant, but several in potentiality, so also we see happening with other differentiations of the soul in the case of insects when they are cut up. For each of the parts has sense and change in respect of place, and if sense, also imagination and appetition. For where there is sense there is also both distress and pleasure, and where these, of necessity also desire]¹³⁶

A problem which he also raised in the first book¹³⁷ he also raises now: are the powers of the soul divided in place according to bodily parts, 30 as Timaeus also seems to say [Plato, Timaeus 69D - 72D] when he says that the spirited [part] is in the heart, the desiring in the liver and the perceiving in the brain? Or are they other than one another not in place or according to parts of the body but only in account, that is in substance? For the definition of each power is different, quite clearly.

[238] He resolves this, then, in the same way as at the beginning 238.1

[411b19-22], by means of plants and insects. It is not hard, he says, in the case of some powers of the soul, to see that they are not separated in place. With plants when they are divided you will find in each of the cuttings both the nourishing [power] and the augment-

- 5 in each of the cuttings both the nourishing [power] and the augmenting and the generative, so the soul in plants is one in act but many in potentiality, since when the plant is divided in each of the divisions the form of the vegetative soul can be seen perfect. So earlier it was one in number, before the division, but after the division there are produced several in number, though [they are] one in form. For in
- 10 plants throughout the whole and in each of the cuttings there is sap, analogous to semen, in which the soul has its being in a partless way. Which is why on account of its partlessness even in the severed cutting all its powers are found. And it is similar with insects. If these are divided, each of the divisions is seen to have both the power to
- 15 perceive and that to change [in respect of place]. But if the powers of the soul were divided in place, the power to perceive ought to be in one part and the power to change in another. And [this] is taken as an example¹³⁸ in preference to what is the case with plants. For his project is to show that certain powers of the soul are impartible in place,¹³⁹ and plants have [just] one power of soul. For it is on account
- 20 of the generative that the augmenting is needed, and on the account of the latter, the nourishing.

He says, then, that just as with plants that are divided in each of the parts the whole power of soul is seen, so with insects, which have more powers of soul than one, all are found in each of the divided parts. With the power of touch and the power to change in respect of

- 25 place his argument will work for him. But with the rest, with the powers to see, hear, taste and smell and perhaps also with the desiring power and the spirited, he is not also able to show that they too are not separable in place. For they are manifestly divided from one another in accordance with parts of the body, unless someone should say this, that they too are impartible from one another, since all proceed from the brain, which is why if the brain is affected, the
- 30 animal becomes completely unperceiving and unchanging. For if a sliver of wood is inserted into the brain all sense and change remains inactive.

This is shown even more clearly from this. If a stoppage occurs in a nerve, or it is cut or bound up, the upper part of the body perceives and is changed [in respect of place] and the part below is unperceiving

35 and unchanging. So all the powers to perceive proceed from the brain. But since they need organs, and organs that are not the same, since the powers too are different, each makes its appearance in its own organ.

Perhaps, then, someone might charm away the difficulty like this. But Aristotle clearly does not want them to be partless in this way, all being in one place and roving out to the rest [239] of the body from

239.1

that. He wants them to be in the whole of the body in an impartible way; that is what his examples from plants and insects are like.

But people say that he wants to settle them in the pneuma. For the whole of that through the whole of itself sees and hears and acts with the rest of the senses, and all the senses are in it in the way in which 5 the vegetative powers are in plants and touch and change in respect of place are in insects. For the pneuma is not organised, but just as water or anything else like that when thickened¹⁴⁰ in a pot becomes shaped along with the container, so also the pneuma, as a result of a vicious mode of life in this body¹⁴¹ is thickened by its vapours, which is why phantasms are seen in tombs shaped like the body here. 10 because it is easily moulded and is changed to other shapes when it is moulded along with imagination. That, they say, is why the more upright people use purgatives to thin the vapours that arise in it and cultivate a delicate mode of life, and abstain from many foods that make it thicker: for it too is nourished by vapours. 15

But to this I should say that if the pneuma were not organised, the soul in it would not fall under the definition. For he said the soul is actuality of an organised body. That is how it is differentiated from the forms of inanimate things: for their form [too] is actuality, but a stone or the like is not an organised body. If, then, the soul in the 20pneuma too falls under the definition, the pneuma must be organised. And if it is organised, it is necessary that the parts of the soul should be divided along with the organs. For it is clear that it is because each power is settled in each of the organs that it then acts. For it is not, surely, settled in anything else; it is in the pneuma first. If sight, then, as it might be, has its private organ but acts not only in the organ 25itself, but also in the remaining parts of the pneuma, the organ is superfluous and to no purpose. But if it acts in it alone and is settled in it alone, why does sight have its being in one part of the pneuma and act in another, unless someone suggests in a fanciful way that in that too, all are in one part, and from that rove out to the rest.¹⁴² How 30 could it be shown that it is like this? And what has been said of sight clearly can be said also of the rest of the senses. But if this is true, it is necessary that the soul should be divided according to the parts of the body. If the pneuma is organised, then, there follows what I have said, that the soul is divided according to the parts. If it is not organised, the definition will not include the non-rational soul, but 35 only the vegetative and the rational, for it is in the pneuma that the non-rational has its being. Unless someone should say this, that he has defined the soul insofar as it is living as a citizen in the body here, since the definition does not embrace the souls of the heavenly bodies either; for neither are they organised.

240,1 [240] 413b16 But some contain difficulty.

[Difficulty about] whether they are also separable in place. He is speaking of the intellect, as he will say next.

413b22-4 And if sense, also imagination and appetition; for 5 where there is sense, there is also pleasure and distress;¹⁴³ and where these, necessarily also desire.

Having shown that that which perceives and that which changes in respect of place are inseparable from one another in place, from these [premisses] he wants to argue that also that which is appetitive and that which imagines are inseparable, they also. And he argues about

- 10 that which is appetitive, but not also about that which imagines; for he does not think that what has sense straightaway has imagination. For ants and winged insects and many things like that quite clearly have imagination; for they know their own underground habitations. But grubs, as he will say in what comes next,¹⁴⁴ do not clearly have imagination; for they are seen making wandering changes [of place],
- 15 so that either they do not have that which imagines or, if they do indeed have it, it is very dim and such as to seem not to be there at all. But that a thing which has sense straightaway has appetition too, he shows here. What has sense has apprehension of the pleasant and the distressing. Sense is discerning of this, and touch more than the other [senses]. A thing that apprehends these shuns what distresses
- 20 and makes for the pleasant. Cockles are seen [acting] thus, although they share only in the [sense] of touch: when water is brought to them they issue out from their own shells and bring it in, and if something hard or rough is apprehended by touch they contract. And sponges similarly contract when they touch something painful. Making for the pleasant and shunning the unpleasant are [the work] of desire and
- 25 appetition. But that these things [zoophytes and shells] have imagination is not plausible.

413b24-5 But concerning the intellect and the power to contemplate nothing is yet evident.

He has said that with some parts of the soul it is not hard to see that they are inseparable from one another in place, and shown that that which perceives and that which changes in respect of place are

manifestly inseparable from one another in place; and he has then argued from this also about that which is appetitive. Now, since the 241,1 intellect too is <thought to be>¹⁴⁵ a part of [241] what is more commonly called 'the soul', on this account he says that what has been said gives us nothing evident to say about the intellect to the effect that it too is inseparable in place from the other powers. For it is not

42

possible for us to reason also about the intellect from what has been said as we reasoned about appetition. Then, since he thinks that the 5 intellect is separable, he adds this very thing; he says intellect is the same as the power to contemplate.¹⁴⁶ For in the intellect there is that which contemplates and that which is practical. That which is practical comes to it from its relation to the body; therefore after the release from the body it is only contemplative and no longer practical as well. He himself in what comes next [433a14-15] says that the 10 contemplative intellect differs from the practical only in its end, that they do not differ in subject, any more than the seed¹⁴⁷ and the fruit. For the contemplative intellect has as its end the grasp of truth, the practical that of the good. Because, then, only the contemplative intellect is separable, for this reason he added 'and the power to contemplate'.

413b25-7 But it looks as if it is a different kind of soul, and this 15 alone is capable of being separated as the eternal from that which passes away.

Manifestly again he has declared here that the intellect is both of a different substance and separable from the body and immortal. In saving that intellect is a different kind of soul he has shown that the name 'soul' is equivocal. Then because the intellect alone has its 20 substance separable, and the rest of the soul is inseparable he added 'and this alone is capable of being separated'. Then since 'to be separated' is equivocal (for certain things also that are incidental are said to be separable, and these pass away simultaneously with being separated from the subject) for this reason he also added the species of the separation: 'as the eternal', he says, 'from that which passes 25away'. For the intellect, he says, is separable from bodies and the other powers of the soul as the eternal is separable from that which passes away. So the other parts of the soul pass away, and this alone is eternal, the intellect.

'It looks', he says not because he is in doubt, as Alexander thinks, but either because it is not yet his purpose to teach about the intellect or, what is preferable, in place of 'appears'. For 'It looks' does not 30 necessarily signify uncertainty. For indeed Porphyry when he says 'It looks as if neither "genus" nor "species" is said in just one way'148 does not, surely, say this because he is in doubt. At any rate he at once adds the different things signified by them. One might set out many uses excerpted from this [sc. from the *de Anima*], and also¹⁴⁹ the things that have already been said about the intellect are sufficient to show 35his opinion. What sort of part', he says 'the intellect will hold together or how, it is hard even to fancy'.¹⁵⁰ Sufficient also are those we have set out in the Introduction [10,9ff.]. And how in general could anyone even suspect he is [242] talking not about our intellect but about the 242.1

Divine? He would not have said about the Divine Intellect 'nothing is yet evident' or 'is capable of being separated'.¹⁵¹ And how on earth could he call the Divine Intellect a 'part' of the soul commonly so called. And besides, his purpose is concerned with our soul and generally with [soul] in mortal animals. It is clear then that the intellect too of which he speaks is not other than ours.

But there is another reading reported and it is this that Alexander uses: 'But it looks as if it is another kind of soul [and] as if this alone is capable of being separated'.¹⁵² But even if that is so, it no less signifies separability. For if, when the other parts of the soul are

- 10 inseparable, this kind of soul is 'other' than they, it must be separable, and 'is capable of being separated' must be understood as in place of 'is of necessity'. And that he is saying this, I mean that the intellect is separable, he shows in what comes next: 'But the other parts of the soul, it is clear from this, are not separable as some people say,' – clearly, as though the intellect *is* separable.
- 15 And see what I said, that the discussion is not about the Divine, but about our [intellect], I mean about the rational soul. He adds, at least: 'But the other parts of the soul'. The Divine Intellect could not, surely, be part of the soul. So, taking the soul that is composed of reason and non-rationality, and also of the vegetative [soul], he says that one part of this, the intellect, is both separable and eternal, and that the rest both are inseparable and pass away.
- 20 **413b27** But it is evident from these things that the remaining parts of the soul are not separable, as some people say.

It is evident, he says, from what has been said that all the remaining parts of the soul apart from the intellect are not separable either from each other or from the body; not from each other, as has been shown

- 25 from the divided insects, not from the body, because they are actualities of this. For neither is there perceiving power without the body, nor nourishing, nor changing [in place], nor appetitive, for they are powers of what can be nourished and perceive and be changed. He himself, then, says just now that it is evident from what has been shown that they are not separable from each other in respect of
- 30 place; and he says 'some people say' hinting at Plato, who differentiates them not only in account but in place, as has been said [237,31-2].

413b29-32 But that they are different in account is evident. [For being a thing that perceives and being a thing that opines are different, since also perceiving and opining are, and similarly with each of the others than have been mentioned.]

For even if they are not separated in place, still in definition they are

not the same. There is one account of that which perceives and another of that which changes in respect of place, and similarly with the others.

[243] 413b32-414a1 Further, to some animals all these belong, 243,1 to some some [of these and to others only one (and this is the one that differentiates animals).]

That the powers of the soul are different from each other in account he establishes also here. For the differences among animals arise from the difference in form of their souls. And animals differ one from 5 another through having some of them more powers of soul, some fewer. But if all the powers of soul were the same in account, animals would not differ among themselves. For they do not differ by difference of matter, as the Pythagoreans¹⁵³ say when they embark souls in different bodies, and [say] that the different activities of soul arise 10 from the difference of bodies. But if this is unreasonable, (for each thing is characterised from its form, and the relationship of form is held by the soul) it is necessary that the powers of the soul should be different in definition, and the differences between animals should arise from this, since not all have all [powers] but some have all, some some and some one.

In 'some animals' and 'this is the one that differentiates animals' 15 ['animals'] is in place of 'living things'; for those that have [only] one power of soul, namely the vegetative, are not animals.¹⁵⁴

414a1 But the reason why this happens must be investigated later. 155

Why it is,¹⁵⁶ he says, that more powers are joined together in the same 20 thing in some cases, in others fewer and in others one alone, we shall say later, and also why some are prior and some secondary. For he discusses this in what comes next.

414a2-3 Something comparable happens also with the senses: [some have all, some some, and some one, the most necessary, touch.]

That same thing which happens universally with the powers of the soul, he says, happens also with the [power] to perceive alone. For 25 some animals have all the senses, some several, and some one. And the reason for this also (which we have already said in advance¹⁵⁷) he will state in what follows.

244,1 [244] 414a4-10 But since 'with which¹⁵⁸ we live and perceive' is said in two ways, like 'with which we know' [(for we say this of knowledge and of the soul, for with each of these we say we know), and similarly we are healthy with health and with some part of the body or indeed the whole, and since of these both knowledge and health are shape and a kind of form and account and as it were activity of what receives them, the one of that which knows, the other of that which is made healthy]

It is his purpose here to interpret the definition [at 212a27-8, b5-6] and pass from the 'that' to the 'why'; for by nature the 'why' is first,

- 5 but to us the 'that' is clearer first. Having said, then, *that* the soul is actuality, he wants now to show that he did well to define it as actuality, that is, substance in the way of form,¹⁵⁹ and that is the '*why*'. Having taken, then, [the premise] that animate beings differ from inanimate by being alive, from this he shows here that he did well to define soul as actuality of a natural organised body. For it is
- 10 by virtue of this, he says, that the animal lives and perceives; genuinely and primarily with the soul, secondarily, and through it, with the body. So if animate beings are made to have form by being alive and perceiving, and what is primarily the cause of this is the soul, it follows that this is form and actuality of animate beings. The establishing proceeds here in this way. All composite things.
- 15 he says, are spoken of as being in two ways, by virtue of their matter and of their form. For indeed each thing is said to be what it is, primarily by virtue of its form and secondarily by virtue of its matter, since that by virtue of which it is said to be, that is, its form, is in matter. Confirmation comes from induction. For we are said to know, he says, in two ways, with knowledge and with the soul. For we are
- 20 said to be knowers with the soul (not, surely, with the body), and again [we are said] to be knowers with knowledge; but genuinely and primarily with knowledge, and through that with the soul too (for the knowledge is in the latter); and on this account the soul is subject and as it were matter, and knowledge is form. Again we are said to be healthy with health or with the body or [for example] with the eyes.
- 25 But again here in this combination of both, of the body, I mean, and health, we have being healthy primarily through health, and secondarily and through it with the body; and on this account the one, health, holds the relationship of form, the other, the body, that of matter. For knowledge perfects the soul as health the body. Primarily, then, being healthy and being knowers belong through knowledge
- 30 and health; for it is through health that the body too is said to be healthy, and through knowledge that the soul [is said] to know. Similarly we are called white or black¹⁶⁰ or red, primarily on account of that sort of colour, and secondarily on account of the surface, and the latter is the subject, the former the form. Likewise [we are said]

to be hot or cold primarily on account of heat or coldness, and secondarily on account of the body, and the latter is the subject, the quality of that sort a form. As it is, then, with these things and with all, so too it must be with animate things. For 'to live' is said in two ways.¹⁶¹ We are said to live either with the body or with the soul, but primarily with the soul [245], [and only] according to a second account, and through the soul, with the body. For if animate bodies differed from inanimate by living that is because life comes to them from the soul. Of these, then, the soul must be form, just as also with all the others (which is why primarily each is said to be by virtue of the form that is in itself), and the body must be matter and subject.

'As it were activity of what receives them'. ['activity'] in place of 'perfection'. For of that which knows, I mean the soul, perfection is knowledge, and of that which is made healthy, I mean the body, perfection is health. For that which is made healthy and that which knows are in potentiality and imperfect, and they are perfected by knowledge and health. So that if the body is matter and the soul form, 10 and if the matter is potentiality and the form actuality because the form is perfective of that which is in potentiality in the matter, it follows that he did well to define the soul as actuality.

414a11-12 For the activity of things that make seems to be in that which is affected and disposed.¹⁶²

Since he has said that knowledge and health are activity¹⁶³ of that 15which is made healthy and that which knows, since knowledge and health do not seem to be the activity of any chance thing, but of that which acts upon what is made healthy and upon a thing that knows. [the activity.] that is, of the doctor or of the knower, for this reason he further differentiates [saving] that the activity of the agent is in that which is affected and disposed. He showed this also in the *Physics* [3. 203], that the activity of both, of the agent and that which is affected, is one, and that it is in that which is affected, not in the agent: for the former¹⁶⁴ is unchanged and has its proper perfection, whereas that which is affected is the one changed and brought from potentiality to activity. He says this reminding us of what is said there. That is why he said not simply 'activity' but 'as it were activity'. 25

414a12-14 And [since] the soul is that with which in the first way¹⁶⁵ we live and perceive and think, [so that it would be a kind of account and form, and not matter or the subject.]¹⁶⁶

Having shown by induction that that according to which primarily each thing is called is form, and that according to which secondarily is matter and subject, he transfers the discussion to what is being 30 enquired into, that is, the animate being; for it is with the soul

245.1

35

primarily that we are said to live and perceive and think. Therefore the soul is form, and the body matter and subject. In saying 'live' and 'perceive' and 'think' he indicates the vegetative, the non-rational and the rational souls, in order that he may fit his account to all soul.

246,1 [246] 414a14-19 For 'substance' is said in three ways, as we said, [of which one is form, one matter, and one that which consists of both, and of these, matter is potentiality and form actuality, so since that which consists of both is the animate being, the body is not actuality of soul, but the latter is [actual-ity] of a certain sort of body.]

That substance is [said] in three ways, he showed a little way back. And since the third thing signified by 'substance' is that which consists of both, and the animate being too is substance that consists of both, of soul and body, of which one must be form and one matter (for that is what 'that which consists of both' is, that which consists of form and matter), and [since] it has been shown that the soul is substance in the way of form, the soul should be form of the natural organised body, and not the body form of the soul. And if the soul is form, it follows that the body is matter. But the matter is potentiality.

he says, that is, it has its being in being in potentiality. It follows thatthe body is in potentiality. And the form is actuality of that which isin potentiality, and the soul is form. It follows that the soul isactuality. The definition, then, that says that the soul is actuality ofa natural organised body is well given.

414a19-22 And for this reason they understand well who think that the soul is neither a kind of body nor without a body; [for it is not a body, but something *of* a body, and on this account it belongs *in* a body, and a body of this sort].

- 15 Having shown that the soul is well said to be actuality of a body, which it had been his purpose to show (for it was because this had not been sufficiently shown in what was said first, and the reason had not been given why the soul is actuality, that he went back to show this), on the basis of what has been shown he praises those who say that the soul is neither a body nor without a body. For if it is actuality of
- 20 a body, this would not be a body; for the perfection of a thing is not the same as that of which it is a perfection. But nor is the soul <without> a body (for of what would it then be actuality?) or without a body of this sort, that is, natural and organised.

From this he might be thought to say that all soul is inseparable from the body. But we ought to look to the whole idea of the Philosopher and recall the things said about the intellect before. So if he

everywhere declares the intellect separable and immortal, we should

5

understand the soul here to be both the vegetative and the nonrational. And besides, the intellect, insofar as it is actuality of the body, is to that extent inseparable. But it is actuality of the body neither in substance nor in all its activities, but in those which it has 30 from its relation to the body, of which the chief are practical – these activities are inseparable from the body. And just as the steersman who is actuality of the ship, insofar as he is steersman, is inseparable from the ship, but since he is not only a steersman but also a man, as a man¹⁶⁷ [247] not being actuality of the ship he is in this way also 247.1separable, so too our soul, as a soul being actuality of the body in this way would not be without a body, but since it has some activities which are also separable from the body. I mean those concerned with objects of intellect, which the body not only does not help but actually 5 hinders, it is quite clear that it will also have its substance separable. and it then is and is called intellect, and no longer soul except in potentiality, just as it also, when it is in a body, is in potentiality intellect, as he too says. And if in general it is by nature such as to have in an imaginative way the altogether non-imaginative activities concerning the objects of intellect,¹⁶⁸ and it does not have this from nature to no purpose, it must also sometimes act in this way [sc. free of imagination]. And it follows upon this that its substance is also 10 separable: but we have spoken about these things more accurately earlier

414a22-5 And not the way people in the past fitted it into the body, without any further differentiation of what body and of what sort, [though it does not even appear as if any chance thing would receive any chance thing.]

Earlier too he censured those who discussed the soul, but made no 15discussion about the body that was going to receive it, it being possible according to the stories of the Pythagoreans¹⁶⁹ for any chance soul to clothe itself in any chance body. Yet, he says, it does not even appear that any chance form arises in any chance subject. For the tongue would not become the subject¹⁷⁰ for sounds, or hearing for objects of smell, or the nose for flavours. Neither would wax ever receive the form of a shell or bronze. Therefore if it is not the case that 20any chance form comes to any chance subject, and the soul is form of the body, it will not come to any chance body. This further differentiation men of the past did not make, but he made it when he said '[actuality] of a natural organised body'. For of soul without further specification, which is what he has now defined, the subject is organised body without further specification, and of a particular sort of soul 25[the subject is] a particular sort of organised body, for instance of the rational soul, as it might be, [the subject is a body] erect and using hands, for the service of reason, of another [soul it would be] one with

crooked talons for snatching, and generally for the activity of each soul the shape of the body too is established.

And Plato too declared this before him, as we said earlier [141,10].
30 For speaking of the shape of the human body he says: 'For that [soul] which has never seen that which is, will not come to this shape' [*Phaedrus* 249B]. By 'that which is' he means the object of intellect. Only the rational soul gets to know objects of intellect. Only the rational soul, therefore, has the human body as its own.

414a25-8 And it is reasonable¹⁷¹ that it should happen thus. For the actuality of each thing belongs in that which is in potentiality,¹⁷² and is by nature such as to arise in its own matter. [That it is a kind of actuality and account, then, of that which has the potentiality of being such, is evident from this.]¹⁷³

- 35 The way in which they spoke about the soul, he says, making no 248,1 further differentiation about [248] the body that receives it, is neither reasonable nor in line with the evidence.¹⁷⁴ But the way in which we spoke, saying that the soul is actuality of this sort of body, is attested both by how the evidence is and by reason. For the actuality of a thing, he says, is by nature such as to arise in that thing which by nature
 - 5 has the power to be of that sort; and such is the proximate matter of each thing. For it is not the case that any chance matter can receive any chance form. Wax would not receive the form of a house nor papyrus that of a ship; nor, therefore, would any chance body be receptive of any chance soul. It follows that it is necessary to bring together with the account concerning the soul that also concerning
 - 10 the receptive body, since indeed these things are relatives, I mean the matter and the form, and it is impossible that relatives, as such, should either be or be cognised apart from one another.

[Chapter 3]

414a29-31 Of the powers of the soul, those that have been mentioned belong, all of them to some [living things], several of them to some and only one to some.

- 15 A little way back [413b32-414a1] he undertook to say, concerning the powers of the soul, which and how many belong to which [living things], and which sorts for what reason are inseparable from some, and which are separated from which. This he now says: that the inferior follow upon the better and [the better]¹⁷⁵ are inseparable from them, while they can exist apart from the better. For to some things
- 20 only the vegetative [power] belongs, to some, in addition to this, the perceiving too; upon these there must follow also the appetitive; for

everything that shares in sense necessarily shares also in appetition, as he both showed earlier a little way back and will show now. And to some, besides those mentioned [belongs] thought too, such as men or any other similar or even superior powers. At the same time through this it is shown that there is in souls that which is prior and that which is posterior.

414a31-2 We call 'powers' that which nourishes, [that which perceives, the appetitive, that which changes in respect of place, that which thinks.]

It should be noted that in the enumeration of the psychic powers earlier, where he said that the soul is 'defined by these things, that which nourishes, that which perceives, that which thinks, change' [413b12-13] he did not put in the appetitive by itself, it being always conjoined with that which perceives, but now he lists it too with the other powers.

414a32-414b2 [To plants belongs that which nourishes alone;] to others this and also that which perceives and the appetitive.¹⁷⁶ [For appetition is desire, spirit and wish, and animals all have at least one of the senses, touch; and to things to which sense belongs, so do pleasure and distress and the pleasant and the distressing, and to things to which these belong, so too does desire, for that is appetition for the pleasant.]

'To others' is in place of 'to animals'. For he adds 'Animals all have one¹⁷⁷ of the senses, touch' [414b3]. Animals, then, he says, share in the nourishing [power] and sense and appetition.

Then he establishes this very plainly, that [249] always where 249,1 there is even one sense, there must necessarily be desire and appetition. That, at least, is why all animals have sense. For in all there must be touch, even if there is no other of the senses. The sense apprehends the pleasant and the distressing.¹⁷⁸ And where there is the pleasant, there must also be desire and appetition. For desire is 5 yearning for the pleasant. Hence even things that share in touch alone are seen spreading out when pleasant things come along, and contracting when something distressing comes close.

Having said that 'if sense belongs to anything, so also does pleasure and distress', he adds 'and the pleasant and the distressing.' The passage he employs [to the cognate expression] is good and useful. For appetition is not for pleasure but for the pleasant.

He defines appetition by desire, spirit and wish. For each of these is a kind of appetition. But it is clear that appetition without further specification is what belongs to that which perceives, not all appetition. To those that have touch alone there belongs appetition in the 10

30

way of desire, to those that have all the senses [there belongs] also

- 15 that in the way of spirit. For such things are seen to be things that defend themselves. But wish belongs to reason alone. So appetition is equivocal, and desire likewise, and just as 'state' is predicated in a common way also of a disposition, but again it is also contradistinguished in a more particular way from a disposition,¹⁷⁹ so too appetition is said both in a common way of spirit and desire and
- 20 reason (for indeed we speak of having appetition for divine things and appetition for knowledge), and there is also appetition said in a more particular way of natural changes in contradistinction to reason. And desire likewise: there is that which is common, and that which is contradistinguished against spirit and reason.
- 25 **414b6-14** They also have sense of food.¹⁸⁰ (For touch is a sense for food. [For all animals are nourished by things dry and moist and hot and cold, and the sense of these is touch.) But they have sense of the other sense-objects incidentally. For sound and colour and odour contribute nothing to food, and flavour is one of the objects of touch. Hunger and thirst are desire, hunger for dry and hot, thirst for moist and cold; and flavour is a sort of thing to make these things pleasant.]

That things which share in sense share also in appetition, even if they have only one of the senses, touch, he has already shown in a more general and packaged way by their being conscious of the pleasant and the distressing. Anything that is conscious¹⁸¹ of these makes for

- 30 the pleasant and turns away from the distressing; and what anything makes for, that it also desires; and desire is a kind of appetition (for that is why he also made the division of appetition); it follows that what shares in sense on that very account also shares in appetition. But now he shows this same thing in a closer and more particular way, that things that have touch must also have appetition. For touch, he says, perceives those things by which the animal is nourished, and it is nourished by those things of which also it consists, and
- 250,1 it consists of the four qualities, dry, moist, [250] hot, cold, as he showed in the *de Generatione*.¹⁸² It follows that it is also nourished by these; for each thing is nourished by what is its own.

He also shows how it is nourished by these. Food, he says, comes through things hot and dry, and drink through moist and cold. Of these qualities touch is discerning. If anything has sense of things that nourish, it has hunger and thirst. Each is desire on account of deficiency of things that nourish, and desire is appetition. For it is by things dry and hot and cold and moist that living things are nourished primarily. Yearning for other sorts of flavours comes incidentally. For flavours are so to speak things to make foods pleasant, as he himself says.

And that drink comes into being through cold and moist, the 10 doctors say too. For thirst comes not only through dryness but also through heat, so that such thirst is charmed away also by cold air alone. So if drink is medicine for thirst ('They drink,' says Homer [*Iliad* 22.2] 'and cure their thirst'), and thirst comes through dryness and heat (in fever-cases it is obvious that heat is the cause of thirst: 15 often, therefore, even when the belly is filled with moisture yearning for drink comes into being: and that it also comes through dryness <is plain > 183) – therefore if contraries are cures for contraries, and thirst comes through dryness or heat, it follows that drink comes into being by cold and moist. Even if we often also take in hot in drink we do that incidentally, through weakness, perhaps, of stomach or through cus-20tom, just as we also take in pleasant wines and aperitifs for the pleasure, not for the thirst. If drink, then comes into being by cold and moist, food will necessarily come into being by dry and hot. For the things by which we are nourished are the things of which we consist. We consist of things dry and moist and hot and cold. Hunger and 25thirst are vearning for replenishment of what is carried away from our substance. We have things carried away in respect of all the qualities of which we are composed. Drink comes into being by cold and moist. So it follows that food will necessarily come into being by dry and hot. If there is no other species of food besides drink and what is called food in the particular sense (for drink too is a kind of food). and it is necessary that food should come into being out of the same 30 things of which also we consist, it is absolutely necessary, drink coming into being by cold and moist, that food should come into being by dry and hot. And if dung is food for plants, and dung is hot, food comes not only by dry but also by hot. And if wine when taken in has often stopped hunger, and not, clearly, by being moist (for then water 35 would do this even more: but in fact it does not). clearly it was by being hot that it nourished. It follows that food comes into being by hot too.

It is possible also to prove this in a more logical way.¹⁸⁴ A division from what is more general to what is more particular [251] proceeds 251.1by some opposition of opposites. For example substance is divided into body and the incorporeal, and again body into the animate and the inanimate, and animal into rational and non-rational, and the rational into the mortal and the immortal. It is clear that the opposition in these cases is by lack and having. For since we did not have 5 anything [positive] to predicate of incorporeal substance, we denied body of it, and similarly in the other cases. The division of animate is into animal and zoophyte and plant, and this too is taken by means of some such opposition. For what belongs to animal as a peculiarity is lacked by the zoophyte, and what belongs to that is lacked by the plant. Furthermore, the division of colour proceeds first into white and 10 black¹⁸⁵ (and the others are from these¹⁸⁶), and these are contraries,

and [the division] of number into odd and even. And as state is divided into disposition and state in the particular sense, so food [is divided] into food in the particular sense and drink. So the division of these

- 15 things too from what is more general must be taken by some opposite. But it is not possible to take the division either by means of lack and having or by assertion and denial, and still less in the way of relatives. It remains only that we must take them to be divided one from another as contraries.¹⁸⁷ If, then, drink consists of things cold and moist, it will be agreed that food consists of things dry and hot.
- 20 And it is not surprising if we often yearn for contraries at the same time, I mean for drink and food, that is to say, for dry and moist, hot and cold. For indeed it is from these that we have our constitution, and when they are carried away it is reasonable that appetition should be moved to replenishment of them. For like yearns for like. When each of the elements, then, is missing it is reasonable that yearning should arise for all. From which it is particularly clear that
- 25 food is of things dry and hot, and drink of things cold and moist. For if we consist of the four, and all get carried away, and hunger and thirst are yearning for replenishment of the things carried away, it follows that hunger and thirst are yearning for hot and dry, cold and moist; for these are the only appetitions for what are carried away. And that hunger is for dry and thirst for moist is obvious. But how
- 30 are hot and cold to be apportioned?¹⁸⁸ If we allocate hot to thirst, it is absurd; for in fever-cases, as I said, the yearning is obviously for cold, for heat is what is causing the trouble. It will result, then, [if thirst is for the hot] that one and the same yearning is for contraries, and out of the two contrarieties we shall be giving three parts to the one appetition. Both are absurd, and it is plausible, the appetitions being
- 35 two and the oppositions for which there arise appetitions being two, that nature should allocate one part of each opposition to each appetition.

When I speak of yearning for the cold I do not mean always the cold to touch, but always the cold in power. And often there arises appeti-

- 252,1 tion for one of these, that is, for food or drink, when [**252**] there is deficiency of the other, that is, of the dry and hot or the moist and cold. And that food consists not only of dry things but of hot, and drink not only of moist but of cold, the Philosopher also establishes as follows. The dry, he says, is of earth. Smoky exhalation¹⁸⁹ comes from
 - 5 this, and that is hot. Similarly, he says, there also comes from moist things vaporous [exhalation], and this is cold. It follows that the hot follows along with the dry, and the cold with the moist. But this is not sound.¹⁹⁰ For everything changes to everything, and especially contraries to contraries. In this way, then, things yearning for moist and hot are also yearning for the contraries, which is absurd.
 - 10 From what has been said you have the reason why touch is valued above all the senses, and why when this is not present no other

[sense] can be, though this can be present without the others; it is because it is the apprehension of those things from which we have our being. The touching sense not being present, then, we should not have any apprehension of the substance of us that was carried away, and then nor would we reach out for what is leaving. And if that is so, nor shall we have vearning for the filling up by which the animal is preserved and without which it will necessarily pass away.

414b9-10 [But they have sensel of the other sense-objects incidentally.

People give a twofold interpretation of this. He is saving either that touch apprehends the other sense-objects incidentally or that appetition does.¹⁹¹ For touch primarily and of itself apprehends hot, dry, moist and cold: of qualities, these are the ones that are objects of 20touch, and if the others are said to be apprehended, clearly, it is incidentally. And it will fit to say this not only of touch but of the other senses. For the sense that sees primarily apprehends colours, but incidentally the sweet or the bitter¹⁹² or the tart:¹⁹³ for instance if it sees honey, of itself it apprehends it as yellow, and incidentally as 25sweet. For since at some time the two senses, that which sees, I mean, and that which tastes, have acted together, it knows that such a species is sweet or bitter or something like that, nice-tasting as it might be or nasty-tasting.¹⁹⁴ Thus also touch primarily apprehends the things mentioned, and incidentally also the others. For if with my eves shut I should touch bread, say, I know that it has such and such 30 a quality and colour: and if I should touch honey. I know that it is sweet and vellow: and the same with the remaining senses. And we have given the cause: it is because the senses have once acted together, since if I should see something in connection with which the senses have never acted together, I know what sort of colour it has, but I cannot also discern the quality of the flavour; similarly both 35 with touch and with the rest. If, therefore, we understand 'of the other sense-objects incidentally' to refer to touch, [253] this is what he will 253.1have said, as Alexander says.

Alternatively, since some people have thought that all the senses are senses of touch and all sense-objects objects of touch, since it is thought that it is by touching them too that apprehension comes (for indeed sight is in contact with the transparent, and smell with what serves to carry odour, which they call the 'smell-vehicle',195 and hearing likewise). [they think that] drawing a distinction here he is saving that we apprehend the other sense-objects incidentally through touch. For it is not insofar as it is in contact with the transparent that sight apprehends the things seen or smell the things smelt or hearing the things heard, but it is incidental to them to be in contact with those things through which they apprehend their own

5

15

10 sense-objects. For it is not in the way touch by being in contact with its own sense objects apprehends them that the others too have their apprehension by touch. For sight does not apprehend colours by being in contact with them, but with the transparent through which it sees the colours.

Or: he is saying, says Alexander¹⁹⁶ that touch apprehends 'the other sense-objects incidentally' in that it apprehends those things to which the others are incidental? For the simple and primary bodies, of which the other things too consist, are defined by those things of which touch is apprehending. For hot and cold and dry and moist are the form-making and simple differentiae of the primary bodies.¹⁹⁷ Since, then, the other things which the other senses apprehend of themselves are incidental to bodies, and these touch genuinely apprehends, it is incidentally that touch apprehends them.

But it is better to construe 'of the other sense-objects incidentally' with 'desire', so that the whole construction is this: 'To things to which these [sc. pleasure and distress] belong, so too does desire, for that is appetition for the pleasant, and for the other sense-objects inciden-

- 25 tally.' For desire reaches out primarily for the moist and dry, hot and cold things by which it is nourished, and incidentally for flavours and colours and the other sense-objects. For a person who desires, say, white wine or sweet wine, reaches out for these incidentally through a kind of habituation, since primarily he yearns for things moist.
- And that we ought rather to understand 'of the others incidentally' 30 in relation to this is shown by what follows: 'For sound and colour contribute nothing to food'. So the main clause relates to appetition. The things by which it is nourished, he says, are the things for which it reaches out, and for others [it reaches out only] incidentally. For as he will say as he proceeds, flavour is, as it were, a sort of thing to make pleasant the things that nourish, meaning by flavour this sort of tasted quality that comes to be in things that nourish. And he calls

35 drink 'cold',¹⁹⁸ because even if hot water is drunk, it is hot to touch, but cold in power, which is why it quenches the dryness arising from being thirsty. And those who are acutely thirsty reach out for cold, so that they would not, except from necessity, make even for wine.

What? Do not also some sorts of flavour help towards the preser-254,1 vation of the animal, and are not others [254] injurious to it? I say that insofar as animals are simply bodies they are nourished by things dry and moist and hot and cold, but insofar as they are also qualified in a special way they also need a special sort of quality in their foods. Besides, on account of this the same qualities of foods are

5 not also taken in¹⁹⁹ in all cases because of incommensurability in relation to them of a particular sort of mixture of elements. For since also such and such qualities [arising] from such and such a mixture of elements supervene on composite things by virtue of a certain dominance of one of the simple [bodies], it is reasonable that to those

in whom, say, the hot is dominant we should administer such flavours as arise when the cold is dominant. For contraries are cures for 10 contraries. So it is not because it is such and such a flavour that we administer it to those in want of it, but because it arises by virtue of a dominance of cold, as it might be, or hot or dry or moist. So again primarily these are what nourish, and incidentally flavours.

414b11-12 Hunger and thirst are desire.²⁰⁰

Having said that things which have touch perceive food, and that things which perceive food hunger and thirst, and that hunger and 15thirst are desire, and desire is appetition, he concludes and shows that upon things that have the sense of touch there always follows appetition.

414b14-16 We must make clarifications about these things later. [but for the present let this much be said, that of living things, to those that have touch appetition also belongs.]

He will speak next about each psychic power on its own, and he will speak also about the objects proper to each sense when he discusses 20the senses themselves.

414b16 About imagination it is unclear, and we must investigate later.

Earlier, when he spoke of insects, he said that as appetition follows upon things that share in sense, so too does imagination [423b21-3]. But now he says it is unclear whether imagination must also follow 25on things that have sense. For sponges are conscious of the pleasant and the distressing, but it is not likely that anyone will suspect they have imagination, seeing that imagination is better than the senses, and they have no other sense except touch, so with the inferior not being present the better should not be. But he will speak about it both 30 in this book a little way on and more completely in the third book [433b31-434a11] saving to which animals it belongs and to which not.

414b16-19 And to some in addition to these there belongs also that which changes in respect of place. [and to others also that which thinks and intellect, for instance to men and anything else there may be similar and²⁰¹ superior.]

He gives the order of the psychic powers and at the same time shows that there is [255] in them that which is prior and that which is posterior. For in some there is only that which nourishes, in some also that which perceives, and on this that which reaches out follows too;

besides these in some there is also imagination, in others also that which changes in respect of place.

To others also that which thinks', which is potential intellect,²⁰² for instance in men. And in things in which there are the better there are always also the inferior, but the reverse does not hold too.

They say, he says 'Anything else there may be similar and superior' with reference to certain supernatural beings that are ranged along in a way with human nature. For the descent and the journey down, they say, from those that are always above to us ought not to be

- 10 immediate, nor should the fall of rational substance come straight to the last things, but there should be a sort of mean, which is neither as involved in non-rationality as we nor yet unrelated to it. And they say that the soul does not fall straight to this, but first becomes airy and lives for a certain time a life less affected than this one, yet not totally unrelated to the non-rational powers; which perhaps he hints
- 15 at in these [words].

414b20-1 It is clear then that a unitary account is possible of soul in the same way as of shape.

Having shown that in the psychic powers there is that which is prior and that which is posterior, he next wants here to show that he does

20 well to pass from the confused to the distinctly articulated and from the definition which is given more in common to that which is of each power on its own. For even if what is predicated in common of souls were indeed the genus, even so the student of nature ought not to stay in definitions of genera, but should pass to the most specific species.

- 25 For the cognition of each thing comes to be grasped from the things that belong to each on its own. But since what is predicated in common of souls is not a genus, but the word is equivocal, being applied to things because they are from one origin and related to one thing, it is ridiculous to remain in accounts that are common. For just as shape is an equivocal word, and if in defining this someone says that shape is what is enclosed by some boundary or boundaries, and
- 30 does not proceed to go into the particular shapes, triangle, square and the rest, he will have taught us nothing about shapes (for there is no nature of shape, all by itself apart from the particular [shapes] as there is the nature of animal, which is peculiar²⁰³ and fits all the particulars, so that even if they should not exist, animal can no less
- 35 be animate perceiving substance); so too the person who has given the common account of soul, if he did not proceed to go into the particulars would have taught nothing, since there is not even a genus of souls.
- 256,1 For soul is nothing else over and above each [**256**] of the particular [souls], just as neither is shape anything else over and above each of the shapes, that is, triangle, quadrilateral and the rest. But just as with shapes the triangle is first²⁰⁴ (I am speaking of rectilinear

[shapes], since the circle holds the very first position because it is enclosed by one line, and the semicircle or simply the segment the 5 second, because it is enclosed by two lines, and the triangle the third. being enclosed by three), but in rectilineals the triangle is first, and the square second, for it is composed of two triangles. For if you join up the diagonal of the square you make two right angled triangles. And three triangles put together make the pentagon. I mean ACB and 10 ABE and EDB. And four make the hexagon. AFE and AEC²⁰⁵ and five the heptagon, and adding each triangle in turn you will add an angle. For every polygon has its genesis from triangles, and in every polygon if you join up the line subtending two sides, you will make a triangle, and every [polygon] is divided into triangles. And for that 15reason if the triangle is removed there will be none of those that come next. but if they are removed the triangle remains. So there is what is prior and what is posterior among them, and for that reason what is predicated of them in common, shape, is not a genus, but is a kind of summary embracing of those things of which it is predicated. So too, then, with souls: if the nourishing [soul] is removed there will be 20none of the others in mortal animals; we have stated the reason for that many times: but if the others are removed it [sc. the nourishing soull can exist alone, as with plants. If what is predicated of them in common, then, is not a sort of substance, it is ridiculous to remain with the common account. We shall know nothing from it concerning the substance of souls. So it is necessary to proceed to go into the account of each on its own. 25

414b21-5 For neither is there any shape over and above triangle and those that come next, nor here is there any soul over and above those mentioned. [For with shapes too there could be given a common account which fits all but is peculiar to no shape; and likewise with the souls that have been mentioned.]

For the genus is a certain nature that is present, indeed, in the species, but has a peculiar definition apart from each of the species, and this definition does indeed fit each of the species, but is not 30 peculiar to any of them, but it is peculiar to the substance of the genus. The account of shape is not indicative of anything else besides the particular shapes of which it is predicated. Hence it is not merely present in these as the genus in the species, but also something of these.²⁰⁶ For 'what is enclosed by one or more boundaries'²⁰⁷ is an enumeration of shapes, not some nature of its own that is revealed. 35 [since] a circle is [enclosed] by one and a triangle by several. Just, then, as the common account in the case of shapes is not indicative of any nature over and above the particular shapes, so neither is the [257] common account of soul. It is an indication [of this] that when 257.1

one is removed the rest also are removed, when the triangle, the [other] shapes, when the nourishing power, the other [psychic powers]. In cases where if one species is removed the rest are removed, what is predicated in common of these things is not a genus but an equivocal word.

5 **414b25-33** Hence it is ridiculous to seek the common account both in these cases and in others, [which will not be the peculiar account of anything that is, and not, leaving such an account aside, the account of the thing's own indivisible species. (And it is similar with souls to how it is with shapes. For always what goes before is present potentially in what is next both with shapes and with souls, for instance triangle in quadrilateral, and that which nourishes in that which perceives.) So we should enquire one by one, what is the soul of each, for instance what is that of plant, and what that of man or beast.]

Why, then, has he himself given a common account applicable to every soul, which is not peculiar to any soul? But he is not saying this, that one ought not to give the common account [at all], but that one

- 10 ought not to seek this alone, or think that giving the common account is sufficient for showing us the substance of the intended target, but we ought also to give the definitions of the most specific species, seeing that each thing's substance is in accordance with what belongs to it peculiarly. He is saying, then, the whole of this, that it is ridiculous to be satisfied by the common account alone, and let go of
- 15 what is peculiar to each. For even if the soul were indeed some abstracted common substance, the student of nature ought not to remain with the definition of this, but should seek the most specific [definition] of each soul together with the matter that underlies it, just as one ought not to remain with the idea of the common animal, but should also investigate what is most specific. And all the more as things are, when the soul without further specification is not even a
- 20 genus. And if it is not a genus, neither is the account expounding it a definition; but we give the substances of things through definitions. It follows that it is ridiculous for the student of nature to stop no further than the common account; but just as the geometer, having defined shape in common, adds the most specific definitions of each of the shapes that are in existence, so too we, having given the activity of the soul in a common way, should also provide the
- 25 activity of the soul in a common way, should also provide the account of each of the psychic substances on its own.

414b29-30 For always what goes before is present potentially in what is next. $^{\rm 208}$

In the square there is present potentially the triangle (for if you join

up the diagonal, as I said, you will make two right-angled triangles) and in the cases of souls, where there is that which changes in respect of place there too must be that which perceives, and where that, there also that which nourishes. But it is not also the case that where there are the prior, there too are the posterior. For that which nourishes exists apart from the others in plants, and the triangle exists apart from the shapes that come next. So there is in them what is prior and posterior. Therefore the common account will not suffice, but we must seek the account of each on its own.

[258] 414b33-415a6 But the reason why they are thus in succession must be investigated. [Without that which nourishes there is not that which perceives. But that which nourishes is separated from that which perceives in plants. Again without that which touches none of the other senses belongs, but touch belongs without the others. For many animals do not have either sight or hearing or sense of odour.]

He wishes here to give the reason for the order of the psychic powers. [and say] why it is that the posterior do not exist without the prior. but the prior exist separately from the posterior. But before he gives the reason he first goes through the order they have. [saving] that the 5 perceiving [power] is not present without the nourishing, but the nourishing is without the perceiving. Again in the case of the perceiving [power], the others cannot be present separately from that which touches, but that is present separately from them, and in general the more estimable are not without the more deficient, but the latter can be separately from them. For instance sponges and sea anemones. they say, and anything similar there may be share only in that 10 [power] which touches: and clams and shell fish, they say, also have that which tastes in addition to this. For indeed they feed, and there is seen in them what is analogous to mouth and stomach. And if there is a mouth, there must also be a sense of taste. But they have no share of smell. For they are not found grasping at bait.²⁰⁹ Purple fish and trumpet shells also have in addition to these the smelling [sense]; for 15they are said to follow bait. But they do not have the hearing [sense] too. For they are not found to be affected at all by sounds. But other things besides these three have also the hearing [sense], for instance blind rats: for these lack eves.

Or rather Aristotle says [425a10-11] that they have eyes; for they are found to have eyes under their skin, nature itself having contrived this, since this animal spends its life under the ground digging through the ground with its mouth and spending its life in this. In order, then, that its eyes may not be harmed when it digs through the ground, nature has covered them with skin. For to all animals that change in respect of place nature has necessarily supplied eyes, in

25 order that they may not have change in respect of place to their detriment, being carried over precipices. But in aquatic animals it is possible to find some deprived of sight, because there is not the same sort of harm to them since they pass their lives in water.

So where there is sight, there also there are the rest, similarly where hearing, those next in order too, and the same with the others. But it is not also the case that the first follow the last. Ordered proximately above the senses is that which is appetitive, which always follows upon the senses, even if there is there is [only] one [sense present], and above this that which changes in respect of place, <and above this that which imagines>,²¹⁰ which does not follow upon things that change in respect of place; for ants and bees and the like are agreed to have a share of imagination, but grubs and in general things that make movement that is disorderly²¹¹ do not share in

- 35 imagination, and if anyone also gives [them] this, clearly it is dim and cannot be known to be present. There is the same order too with the rational powers. For it is plausible that the heavenly bodies should
- 259,1 use thought in a way consonant **[259]** with their life, since in general they have bodies around them and use opinion, not that which is without reason, but the conclusion of thought. The vegetative powers, the nourishing and the augmenting, must follow together, even if not always. For with time the augmenting ceases, but the nourishing
 - 5 remains. The generative does not belong to everything to which nourishment and augmentation belong. Many animals lack this, for example grubs and all that arise from putrefaction; and many spontaneously generated²¹² herbs do not bear seed, though they are nourished and augmented. Always the inferior follow upon the better
 - 10 in mortal animals, as he himself says. But with eternal, on this very account that they are eternal, the vegetative [powers] are missing, those that knit up what runs away in mortals, and spirit and desire because there is nothing injurious that needs to be warded off. Hence neither are they organised with such parts as serve such powers of the soul. But proportionately to their psychic life the bodies also of
 - 15 non-rational animals are horizontal and inclined downwards on account of the temporal [character] of their life, and those of men are erect and spherical on top, as was said before, in the one case because of the non-rational life, in the other because of the rational, the erect [part] showing that the non-rational too should depend on the rational and incline towards it; but only the heavenly bodies have their bodies spherical, representations of their intellectual life by which they are characterised. He will state the reasons for these things next.
 - 415a6-7 And of those that perceive, some have that which changes in respect of place and some do not.

Just as things that share in sense must share also in the nutritive

[power], but the reverse does not hold too, so also those that share in what changes in respect of place must share also in sense, since this 25is better than sense, but it is not the case too that those that share in sense also share in what changes in respect of place. Zoophytes are all like that. These are rooted in rocks and do not change their place as wholes. If, then, we take change that is in respect of the whole thing, it is possible to have sense of a sort, without having change. But if we take simply all change in respect of place, where there is 30 sense, even touch alone, there also there must be change in respect of place, either as a whole or in part. For it is for the sake of this that nature gives this sense, that what shares in it should go for things pleasant and helpful and avert itself from things harmful when it obtains consciousness of them. Sponges, at least, and cockles and a 35 great many other things are found to contract at the touch of something resistant. [260] and to spread out at that of something moist. 260.1Thus it follows that the sense is given for the sake of this, that they may go for what is congenial and pleasant, and avert themselves from the harmful: and going for and averting are changes in respect of place.

415a7-8 And finally and least [they have] reasoning and thought.

For instance man, and any other such species there may be. He says 5 things share in reasoning and thought 'least', and that is reasonable. For insofar as things get nearer to the one source of all things, they are less in quantity but go further in power, because that source is outside of all number²¹³ and all-powerful. That also is why those things which are closest to it contract in quantity, but increase in power. It is for this reason, then, that among mortals those that share 10 in reasoning and thought are least in number: because they are greatest in power.

415b8-10 For among things that pass away, all the rest also belong to those to which reasoning belongs, [whereas reasoning does not belong to all those to which each of the latter belongs].

He has to add 'things that pass away'. For in things that pass away all the psychic powers already mentioned belong, and their order is 15 what has been said. But things that are divine and immortal have reasoning, he will think, but none of the other powers. For the latter are all produced with an eye to the need and preservation of mortals. By 'reasoning' he means thought. And it is not surprising that the more divine animals, such as the heavenly bodies, because of their involvement with the body, use thought, though [it is thought] analogous to their life, not like ours proceeding from difficulty to solution
and from enquiry to discovery, but deducing without effort of enquiry secondary things from certain primary ones.²¹⁴ Such thought differs from intellect in that the latter embraces the thing known with one intuition, while this needs a certain passage from one thing to another; but it is without trouble, and difficulty and enquiry do not come first

415a10-11 But to some not even imagination [belongs], while others live by that alone.

Of things that do not share in reason the most perfect live by imagination. He says 'live by this *alone*' in contradistinction to reasoning, since they also live by sense, but each thing is characterised

- by what is most estimable of the things in itself. And some things even that share in sense do not have imagination. He seems to say
- 261,1 this, but the statement is problematic. For if [261] things that share in sense also have appetition, and appetition is of things that are absent (for there is no appetition for what is present), and reaching out for what is not present comes about as if through an imprinting of it, how is it possible for things that share in appetition, which is the same as to say in sense, not to have imagination too? We shall
 - 5 make a more accurate enquiry about these things when the Philosopher brings out his account concerning imagination. For he will discuss it here too, but chiefly in the third book. But it is possible to say simply that some things do not share in imagination, [namely] as many as do not share in sense either, such as plants.

415a11-12 But concerning the contemplative intellect there is another account.

- 10 Here again he is clearly to be seen separating the intellect and not reckoning it with the other powers of the soul. And here again Alexander says, he is speaking about the divine intellect which is in eternal things.²¹⁵ Yet not far off is what he said about it when he said 'But concerning the intellect and the power to contemplate nothing is
- 15 yet evident. But it looks as if it is a different kind of soul, and this alone is capable of being separated [as the eternal from the destructible]' [413b24-7]. He says very nearly the same thing here too. For there he said 'nothing is yet evident', and here 'another account.' But nevertheless no one would say that those [earlier] things were said about the divine intellect. For it is not separated from those bodies,²¹⁶ since they *are* eternal. And then he adds 'the other parts of the soul'
- 20 [413b27-8], contradistinguishing from these. But if they [sc. the divine things] do not share in these powers [sc. those of terrestrial living things], as has just been said, but clearly it is our [intellect] which is both separable from the body in which it is, and a part of the

64

25

whole soul that is in the animal: and besides he himself in the next book [and] in the *Ethics*²¹⁷ says that practical intellect belongs to us and not to the divine (for actions in accordance with intellect belong to us), and this is the same as contemplative intellect in subject. 25 differing only in end; [then it follows that] when he says 'concerning the contemplative intellect' he should be speaking not of the divine [intellect] but of ours. He does well, then, to say that there is another account concerning that. For as I have said many times, he himself says in the *de Partibus* [1 641a33ff.] and in *Metaphysics Epsilon* [Metaph, 6 1026a5-6] that it belongs to the student of nature to speak not about all soul but about such as is not without matter. Since, then, 30 the contemplative intellect is separable, it is reasonable that he should say there is another account concerning it. For it belongs to the theologian to speak about separate forms. But still, as is his custom, just as in the *Physics* he brings himself at the end [*Phys.*] 8.1-61 to the separate cause of natural things and discusses the unchanged cause, so too here after discussing the other things he will 35 bring himself to intellect too.

He had to add 'contemplative'. For even if it [the contemplative intellect] is the same as the practical [262] in subject, still, insofar as 262.1it is practical it has activities inseparable from the body. For all action is to do with that. So since the intellect which is separated is separated not as practical – for in that it is inseparable – but as contemplative, on that account he says 'contemplative'.

415a12-13 That the account, then, concerning each of these things is also the most appropriate account of soul, is clear.

He has shown that in cases where the common account is not [an account of any special nature over and above the things of which it is predicated, it is ridiculous to remain in the common account, but one ought to bring out the teaching concerning each of the things 10 signified by the common account. Since, then, the common account also concerning the soul is like this, it is necessary for anyone discussing soul to produce an account of each of the psychic powers.

[Chapter 4]

415a14-16 It is necessary for anyone who is going to make an investigation concerning these things, to lay down what each of them is, [and then after that enquire about the things that come next and about the rest.]²¹⁸

He has given the common account of soul, and then shown next that one ought not to come to a halt just with the common account, but 15should discuss each of the psychic powers on its own, since what is

 $\mathbf{5}$

predicated in common is not a genus. ['but an equivocal spoken word. like things that derive from one thing and are related to one thing.²¹⁹ That is why also the common account does not contribute to [sc. the definition of leach of the powers' [.²²⁰ (For there is in them what is prior and what is posterior. For in those things in which there are the better such as the rational [power], there are also the rest, but the reverse does not hold also. Similarly with the parts, for instance with power to perceive, things which share in the other perceiving powers must also share in touch, but things which share in touch do not have to share also in the others. Sponges, at least, and sea anemones and anything else like that share in touch alone. For they are found contracting when in contact with something and spreading out.) Since, then, the account is needed of each of the psychic powers, the person, he says, who is going to deal with these separately ought to enquire what is the substance of each of them, and then, he says, [enquire] concerning the 'things that come next', that is, the things that are incidental to them peculiarly and of themselves.²²¹ By 'things that are of themselves incidental he means the things which are

agreed to belong to these powers. For these help towards obtaining the definition and the substance, for instance that living [comes] to the body from the vegetative [power], that there is in them that which is prior and that which is posterior, that senses when they apprehend

263,1 greater sense-objects can no longer after them [**263**] apprehend less (for one who has tasted more violent flavours will not perceive milder, and one who has heard great noises is unperceiving of less, like whispers; similarly one who has directed his gaze at the sun cannot

5 read or apprehend accurately the other objects of sight; similarly too with touch, one who has touched what is extremely hot or cold will not perceive the tepid), whereas it is the contrary with intellect; for the more it apprehends greater objects of intellect, the more accurate it is in the apprehension of less. And the excesses of sense-objects destroy the senses, (for an excess of light or darkness has destroyed

10 sight, and similarly with the others), whereas apprehension of the greater objects of intellect makes the intellect more sharp-sighted. These things then that are of themselves incidental to the psychic powers and things like these, being agreed, help towards the obtaining of the substance and the definition. And he himself says [415a15-16] that after the account of the substance one ought to speak

15 concerning 'the things that come next' to the substance, referring to those things of themselves incidental that are unclear, which come to light from the discovery of the substance, for instance whether the substance they have is separable or inseparable (for we shall find from the definition given that it is inseparable), and whether it is mortal or immortal.

'And about the rest': this refers either to the things that belong incidentally, for instance whether it [sc. the soul] is changed inciden-

20

tally, and whether it is in a place. Or else by 'things that come next' 20 he means the things that are peculiarly incidental in a closer way, like being separable or inseparable, and by 'the rest' those that are more remote, like mortal and immortal. Or, perhaps, that they apprehend some things of themselves, others incidentally, for instance sight of itself [apprehends] colours, but incidentally, if it so chance, shapes.

415a14-15 It is necessary for anyone who is going to make an 25 investigation concerning these things, to lay down what each of them is.

Here he wishes to set out the manner of teaching he intends to use for each of the psychic powers. For though the power is first and the activity second, he first discusses the psychic activities, and then the powers, because the activities are clearer than the powers, and again before them the things that lie opposite the powers, opposite as relatives. To nourishment food lies opposite, for nourishment nourishes by food and is nourishment with food, similarly sight is sight of thing seen, and the same with the others. [**264**] In these [remarks], then, he wishes to establish this very thing, that teaching should begin from the things that lie opposite, since they are clearer.

415a16-22 And if we are to say what each of them is, for instance what that which thinks is, or that which perceives, or that which nourishes, still prior to that we should say what thinking is and what perceiving; [for the activities and the actions are prior to the powers in respect of account. And if that is so, and still prior to that we should contemplate the things that lie opposite, then we ought first to draw distinctions about them for the same reason, for instance about food and sense-object and object of intellect.]

If, he says, we are to deal with the psychic powers, which is the same as to say, with the substances (for someone who has got to know the power has got to know the substance, for he knows that it is an incorporeal substance having such a power in a body as subject), since, then, he says, <we are> to deal with the powers, and the activities are prior to the powers, we ought first, necessarily, to discuss the activities. And he adds how the activities are prior to the powers, [saying] that it is in account. For the powers are prior to the activities in time, whereas the activities are secondary in time, but prior in account, ['in account'] in place of 'in teaching'. For the activities are clearer to us than the powers, and one ought everywhere to make one's start from what is clearer.

Or, as Alexander says, 'in account' is instead of 'in perfection'. For

the activity is the perfection of what is in potentiality. For the power is for the sake of this, and that for the sake of which is prior to that which is for something's sake. For in every case the end is later in time, but prior in account. For we propose the end first in our reasoning, and then enquire after what is conducive to this and make it ready. And nature does everything for the sake of something. For even if it does not know the things it does and does not propose concerning them, still by nature its activity has an eve to some end.

It is reasonable, then, that before the powers he will set forth the account of the activities, since they are prior both for our cognition, on account of their clarity, and by being the end.

25 'And if that is so', he says, that is, if the account of what is clearer and primary should be given before, and the things that lie opposite the activities are clearer than the activities, it follows that the account concerning the things lying opposite should be given first. They lie opposite as relatives. For sense is sense of a sense-object, and thought is thought of an object of intellect, and nourishment is

- 30 nourishment with food. That the activity is primary in account relative to the power, and the things that lie opposite relative to the activity, and what things generally are primary in account, he says in *Metaphysics Thêta* [9 1049b4-27]. For when we take certain things in the definition of others, we define the former as first relative to the latter in account. When we define the power, then, we have need of the activity, for instance defining sight we say it is the power by which
- 35 there is seeing, which is an activity. But we do not also, when defining the activity, make use in addition of the power. For seeing is appre-
- 265,1 hension of things seen, that is, of colours. Again, [**265**] by the same account the things lying opposite, with which the activities are concerned, are prior to the activity. For in defining the activity of seeing we use in addition the thing seen (for we say that seeing is apprehension of colours) but seeing is not also embraced in the account of
 - 5 colour. Colour, as thing seen, is a relative, and relatives are those things for which to be is the same as to be related in a certain way. In these cases it is necessary that each should be embraced in the account of the other. But [colour] as colour is not a relative; hence it is not necessary that in the definition of it seeing also should be taken in. When certain things, then are taken in also in the definition of others, the former are primary in account in relation to the latter.
 - 10 And still prior to these we should contemplate the things that lie opposite. At the beginning of the book $[DA \ 1 \ 402b15]$ he said 'We ought to enquire if one ought first to treat of the things lying opposite to the activities', and now he says that one ought to start the teaching from them because they are clearer and primary by nature. For, as he showed in the *Categories* [7b35-8a12], if there is sense it is wholly necessary that there should be a sense-object, and if there is nourish-

15 ment it is wholly necessary there should be food, and if the latter are

removed there will be neither sense nor nourishment. But if nourishment and sense are removed, nothing prevents there being the things which sense apprehends and the things by which nourished things are nourished. For even if as sense-objects they are not primary in relation to sense, still as these particular things they pre-exist it.

And he adds what things they are that lie opposite the activities of the psychic powers, nourishing, perceiving, thinking; 'about food', he 20 says, 'and sense-object and object of intellect'. And in the case of the nourishing power he first discusses food. In the case of the generative and augmenting [powers] he does not find anything lying opposite analogous to food (for in the way in which there is something, the food, outside the nourishing, there is nothing like that with these; for the augmenting power is in the augmented thing itself: similarly the 25 thing generated is similar to that which generates, so that as much as is said about that which generates can be said also about the thing generated, and nothing has to be said about it on its own, and it is manifest to everyone that what is born is like the generator, whereas the account of food is problematic, as we shall learn).²²² So for this reason he makes his teaching [start] from the ends of these things of the augmenting [power], I mean, and the generative. The end of the 30 generative power is the imitation of the divine. For all things yearn for that which is primary and the eternity that is in it. But things that pass away cannot imitate the eternity of the divine by remaining the same in number. So they imitate eternity by generating other things such as themselves. And the end of the augmenting [power] is to bring what is augmented to the perfect and natural form having come to 35 which it acts with the most perfect activities of nature. I mean the generative activities. [Starting] from the ends, then, he makes his teaching about these. And if anyone were to examine accurately, he teaches [about] the nourishing [power] from the end too, as its definition shows. For he defines it thus: it is a power, he says, capable [266] of preserving what has it as it has its being, man as a man, et cetera.²²³

415a22 For instance about food and sense-object and object of intellect.

Before [dealing with] the nourishing power he will teach what food is, and before the perceiving power, what a sense-object. But it is not the 5 case that he will also, when intending to teach concerning the intellect, first discuss the object of intellect. For here what lies opposite the intellect, I mean the object of intellect, is less clear. But because he has not yet said these things fully, I mean, concerning the teaching of all the psychic powers, for that reason he adds 'and object of intellect', in order not to disturb the teaching, since, as I said, he will 10 not use the same order in this case.

69

266,1

415a22-3 So first let us speak of food and generation.

Since by nature the nourishing power is first, as I have often said, and he has said that we ought to speak of the activities before the powers, and before the activities, of the things lying opposite, in relation to

- 15 which <the> activities have their being, and since food lies opposite to being nourished (for what is nourished is nourished by food), for this reason, beginning once more the account concerning soul he says we ought to speak first about food. And he attaches generation to food because food is the cause also of generating. For semen is a secretion from food.²²⁴ By 'generation' he means the thing generated, for that is
- 20 what lies opposite to generating. For that which generates, generates a thing generated. Those too, then, who intend to speak about the generating [power] should speak first about what lies opposite to it. But, as I said, the thing generated is not so much a thing that lies opposite as an end. For it is at this that nature aims because of its yearning for permanence, to make another such as itself. But perhaps nothing hinders viewing it also as a thing lying opposite when it is
- 25 viewed only as thing generated. For there can be neither generation without the thing generated nor a thing generated without generation. Just, then, as building is building of that which is built and sense is sense of sense-object, so too, surely, generation is generation of that which is generated. And as the end of building is the bringing to completion of the thing built, that is, the making of a house, so too
- 30 that of generation is making another such as that which generates. Just, then, as nothing prevents the house from being viewed both as what lies opposite and as an end of building – as this very thing, a house, that is, a shelter protective from rain and heat, it is an end, but as a thing built, so long as it is being built, it is a thing that lies opposite – so too the thing generated as something still being gener-
- 267,1 ated lies opposite to generation (for as [267] building is to the thing built, so generation is to the thing generated), but as having already been generated it is an end. And the same with augmentation and what augments and what has been augmented.

415a23-5 For the nourishing soul both belongs $first^{225}$ to the others [and is the most common power of soul, by virtue of which living belongs to all.]

- 5 From here, next, he starts to make his teaching concerning the vegetative soul. He here calls the vegetative the 'nourishing soul'. Since before the powers one ought to deal with the activities, and before the activities the things that lie opposite, and since the vegetative [power] is prior to the [other] psychic powers, because those things that have the other psychic powers have this too, but those
- 10 that have this do not always have the others too, for this reason it is

necessary to speak first about food and generation. For these are the functions of the vegetative soul, which ought to be treated first because it is the most common. For it is by virtue of this that living belongs to all living things, just as being animals [belongs] by virtue of sense. And before that, as I have already said, he gives an account of the generating [power].

415a25-6 Its functions are both²²⁶ to generate and to use food.²²⁷ 15

You see that he says 'nourishing soul' in place of 'vegetative'. It is to this, he says, that belong the functions of the nourishing [power], to generate and to use food – [saving 'to use food'] in place of 'to nourish'.

415a26-415b2 For it is the most natural thing²²⁸ for animals, if they are perfect and not deformed and do not have their generation spontaneous, to make another such as themselves, [an animal [to make] an animal, a plant a plant, so that they may share in the 'always' and the divine so far as they can. For all things reach out for this, and it is for the sake of this that they do whatever they do naturally.]

See how he has made a beginning [of his account] of the generative power from its end, teaching what indeed its end is. This is the most natural (in place of 'the most aimed at') end of nature, to make another such as itself. All things, then, that share in life, if they are not deformed, like eunuchs, or not perfect, like the new-born, <or> if 25 they do not have spontaneous generation. like the things that arise from putrefaction, such as grubs and fleas and mosquitoes and the like, have from nature as their most aimed at end generating another such as themselves. Mules and anything there may be like them, they too are, so to speak, deformed. For they do not preserve either species. That is why they do not have generation from one another. They report that mules have become pregnant sometimes and then miscar-30 ried, nature being unable to bring what is conceived to full term because neither nature is pure, neither that of horse nor that of donkey, but each is deformed. But it is not the case that all things which [268] arise out of putrefaction do not conceive. Aristotle in the Historia Animalium [6 569a10-13] reports certain fish that arise out of putrefaction and conceive. And bees which arise from the putrefaction of bodies of bulls likewise generate depositing seed in combs. Then he adds the reason, [saying] for the sake of what it is that the most natural end for living things is to make another such as them- $\mathbf{5}$ selves. It is 'in order that they may share in the "always" and the divine so far as they can.' For he thinks that all things constituted naturally have a yearning for the best and the first of things that are,

20

268.1

I mean for the divine, a yearning that is natural. Hence each, so far as it can, imitates the eternity that is in what is first.

- 10 But someone might raise the problem, if it is most natural for all living things to make what is such as themselves, and each generates what is like, then it will happen either that there is a generating power also in the non-rational soul, and sense will generate sense, spirit spirit, and the same with the rest, or that the vegetative [soul] will generate also the non-rational, so that the better will be from the inferior, which is absurd. Perhaps, then we should say that just as the
- 15 cutting which has been cut off has in itself in a partless way²²⁹ all the psychic powers, and as the parts of insects even when cut off from the wholes have in them the perceiving power and change in respect of place, so too the accounts²³⁰ of the psychic powers are present in a partless way in the semen that comes from animals. For it is not emitted as something non-living.
- 20 But if this is granted, that the accounts of the non-rational soul too are in the semen, and through their being augmented or brought to full term the non-rational soul is produced in the body without any substance of the non-rational soul being produced in the body from outside, then we shall overturn many things that are agreed. Consider the account in relation to man. It is said that when the human
- 25 soul is descending into [the world of] coming to be, before it falls into this body there are woven onto it the pneuma and the non-rational powers. If that is true, the non-rational soul must pre-exist the semen. For if it has its genesis in the semen, what has been said is false; and if it has its being in the pneuma and remains after the dissolution of the animal, it is impossible that its accounts should be
- 30 in the semen. For it will [in that case] have its being too in that. But both its remaining after <the dissolution> 231 of the body and its pre-existing it are plausible.

Perhaps, then, just as the genesis of spontaneous animals and plants does not arise by succession from a soul that is present before, but the matter having become suitable, there are sent into it by the whole of creation the forms of herbs and animals and the psychical

- 35 powers in them, so too it happens with the non-rational soul in all animals from the whole of creation when they subsist. If a power to generate, then, belongs to the non-rational soul there is no problem. For there is no need for a power to generate in it since it has eternity as an individual.²³²
- 269,1 But if all things yearn for the 'always', and [269] that is why the generative power is sown in animate things, how will the account go forward with inanimate things? For they do not have the generative power at all. I say that even with them, each in its own measure, it is possible to see such an activity. For just as with animate things the
 - 5 yearning for this sort of thing is not [everywhere] alike, but with animals they have change that is chosen and appetition is implanted

by the nature of the generative power which goads animals on and drives them to this activity, and in these too there is the greatest difference (for man gives attention also to what is generated, but I say that we have activities like this for the sake of succession.) whereas in plants the change is unchosen and the progress of the generating 10 activity is spontaneous; so it is not surprising if with inanimate things also this power should be found flexible. The elements, at least, act upon one another, and the dominant changes that which is dominated to its own form. For when the hot dominates the cold it changes it to itself, similarly if the cold dominates the hot, and the same with dry 15and moist. For since the elements are not indestructible, because of that, if the cold is destroyed by the hot, elsewhere there occurs an exchange with the cold dominating, in order that the species may be preserved. And minerals being destroyed are again given in exchange. For even if this stone does not generate another such as itself, at least the totality, so to speak, of minerals has the generative power. 20This stone is like a particular part of an animal, and the totality of minerals is like the whole animal. For indeed, with animals the generating power is in the whole, not in the parts, and just as with animals if some flesh is removed nature generates other flesh in place of it, so too minerals are given in place of what is removed.

415b2-7 But that for the sake of which is twofold, the benefit 25 and the beneficiary. [Since, then, they cannot participate in the 'always' and the divine by continuity [of existence] because nothing that passes away remains the same and one in number, in whatever way each is able to share, it participates in that way, some more and some less, and there remains not the same but one such as it, not one in number but one in form.]

Since he said that it was most natural for living things to generate what is such as they, <and> that is because all reach out for what is first and its eternity, since he has in general mentioned the final cause, for this reason he says that that for the sake of which. that is. the end, is twofold, the benefit for which and the beneficiary,²³³ as he says also in the Poetics and the de Generatione.²³⁴ What do I mean? 30 The builder has as end making a shelter protective from rain and heat. This is the end for the sake [of obtaining] which; for he makes the house for the sake of [obtaining] a shelter. But he also has as another end us. For he makes this shelter for us. We too, then, [270] 270.1are an end of the builder as that for [the benefit of] which. As in this case, then, so too in the case of all things constituted by nature the end is twofold. The yearning for the divine, because of which each animate thing makes another such as itself, is the end as [benefit] for which. The genesis is for this. But since bodies arise as instruments of souls, the souls are ends as [beneficiaries] for which. Nature, then $\mathbf{5}$

is analogous to the artisan, the builder, the soul to the man who orders the shelter to be made, and the house to the body. And not only is the end twofold in the case of animals, the benefit and the beneficiary, but also in that of plants. For with these too nature makes the body organised with reference to the need of the soul in them. For the

10 parts of plants too are organised,²³⁵ root and bark and sap and leaf and the like.

In the case of animate things, then, the end is twofold, as has been said. But it is not also possible to find the end twofold with other things. For minerals and stones and inanimate things generally, which arise proximately from cooling and heating, but in a remote

15 way from the whole of creation, have one end, that [benefit] for the sake of which, (for they are for the sake of making good order),²³⁶ but it is not the case also that there is in them the end as beneficiary. For they are not instruments of anything, neither are they provided for the need of any souls.

This twofold end is to be seen more with all things generally.²³⁷ The end as 'that benefit for which' of all things natural and artificial

20 generally is yearning for the good (for both nature and artistry do all things for the sake of the good), and that [which is end] as beneficiary is for the fair ordering of matter.²³⁸ For the form, simply, of the reckoning board or the animal, which is the fair ordering of the matter, is an end, and so also is the yearning for the good, through which these things arise, [human] need, as it may be, or the imitation of the divine.

People add the remark here that Aristotle calls the thing aimed at the end, for that thing for which there is yearning is the thing aimed at, and that is why he says the end is twofold.

And he speaks of appetition²³⁹ in the more general way. For in a genuine way there is appetition only with things that have sense, as he said above, and plants do not have appetition, since nor do they have sense. So by 'appetition' he means the natural establishment towards something, as for instance we say also that fire yearns for the upward region, and therefore goes towards it. All things, then, that

30 have even that natural impulse and appetition yearn for the eternity of that which is first. And since things that pass away, he says, cannot remain the same in number, they pursue eternity by succession, making other things such as themselves in form.

[He says] 'some more, some less' either because some are longer lasting and some shorter lasting, or because of those things that give

35 out and are not there continuously, but come to be at certain times, like the races of locusts, and wasps and gnats and anything there may be similar. But it would be better to understand this as referring not to temporal extension but to the quality of the sharing, since in the former way what is better among mortal animals, man, will share in

271,1 the divine less than many inferior [animals], [271] for many animals

are longer lasting than man, crows, elephants, snakes and a great many others. So we should not understand 'some more and some less' in this way, but according to the quality of the sharing. <For> just as also all animals do not receive in the same way the shining of the sun (for the eagle shares in the light of the sun^{240} in one way, man in another and the bat in another, according to the measure of their power of seeing), so too the shining of God is received by some in one way and by others in another, according to the measure of their own substances.

415b8-14 The soul is the cause and source of the living body. These things are said in many ways, and likewise the soul is cause in the three ways that have been distinguished. For this [the soul] is that from which change arises, and that for the sake of which, and the soul is cause as substance of animate bodies. That it is [cause] as substance is clear. For to all things substance is the cause of being: to living things being is living; and the cause and source of this is the soul. Further, the actuality is the account of what is in potentiality. And it is plain that the soul is cause as that for the sake of which. For just as intellect produces for the sake of something, in the same way too does nature, and this is its end. That, according to nature, in the case of animals, is the soul. For natural bodies are all instruments of the soul, those of plants just as those of animals, and are for the sake of the soul. But that for the sake of which is twofold, the benefit and the beneficiary. And also the soul is that from which primarily there is change in respect of place. But this power does not belong to all living things. But both alteration and augmentation are by virtue of soul. For perception is thought to be a kind of alteration, and nothing perceives that does not share in soul, and it is similar too with both augmentation and decay. Nothing decays or is augmented naturally unless it is nourished, and nothing is nourished unless it participates in life.]

He has spoken about the end of the generative power, and he intends 10 to treat of food and sense-object and, in a word, the things that lie opposite the psychic activities. But before that he here teaches that the account concerning the things that lie opposite is necessary for the account concerning the soul. For an animate thing is nourished as an animate thing, so that the soul is the cause of its being nourished. Similarly the soul is responsible for an animal's perceiving. What is nourished is nourished by food, and what perceives perceives a sense-object. So anyone who intends to treat of both the nourishing and perceiving soul ought before that to know what nourishing and perceiving are. And one who wants to know these things must know what food is and what the sense-object. For sense

20 is sense of a sense-object, and what is nourished is nourished by food. And these are relatives, and when things are relatives, anyone who wants to know either must know also the other. So the account concerning the things that lie opposite is necessary for the account concerning the soul. For corn as corn is not relative, but as food it is

25 relative. Similarly too a stone as a substance is not a relative, but as thing seen it is relative. For a thing seen is seen by sight.

Whence, then, [do we know] that the soul is cause to bodies of nourishment and sense, in order that the account concerning these things may then be shown necessary? He shows this from things that have been said before. Causes, he says, are so called in many ways. A cause may be either material, or formal, or final, or productive.

30 Causes, then, being so called in four ways, he shows that the soul is cause to living things in three ways, as form and as end and as productive. For that the soul is not material cause is obvious. That the soul is cause to living things as form he shows by two

proofs. For 'as substance' signifies for him the form. The soul, he says, is for living things the cause of living. Living things, by virtue of

- 35 is for living things the cause of living. Living things, by virtue of living, have being. In every case that by virtue of which a thing has being is the form of that thing. It follows that the soul is the form of
- 272,1 the things that live. Or rather thus. The soul is cause of living to things that live, and to things that live, living is their being. [272] It follows that the soul is the being of living things. And in every case the being of a thing is its substance.²⁴¹ It follows that the soul is substance of all living things. And to all things, substance is cause of being. It follows that to all living things the soul is cause of being. Therefore the soul is cause of being as substance. That is one proof
 - 5 that the soul is cause as form.

The other is one he has already stated in the foregoing. For of everything which is in potentiality, he says, the actuality is form. The soul is actuality of the body that has life in potentiality. It follows that the soul is form of the body that has life in potentiality. In this way, then, the soul is cause of the animate body as its form.

- 10 But the soul is also cause and source as productive cause and as final. And that it is cause as end, he shows as follows, taking it first that nature makes all things for the sake of something, for he showed that in the *Physics* [2.8]. Organised bodies are for the sake of soul. That for the sake of which anything comes to be is the end of that
- 15 thing. It follows that the soul is final cause of organised bodies. And that it is source as productive cause, he shows clearly. The productive cause is that from which there is the source of change. There are four kinds of change. The first and most genuine change is in respect of place, then that in respect of alteration, then that in respect of decay. And that the soul is cause to animals of change in respect of place is obvious. But

20 he does not embrace all souls by this, but [only] that which in animals

changes in respect of place. Hence he shows that it is also cause of alteration. For the soul is cause of the senses, and the senses are altered in a way when affected by the sense-objects. For the expansion and contraction of sight²⁴² is a kind of alteration. But he does not yet through this embrace also plants. Hence he adds that the soul is cause also of augmentation and decay, in order to embrace all animate things.

But it is not productive source and formal source in the same way. For it is formal source in being cause of the very substance of the animate body, seeing that each thing's form is its substance, and similarly final cause. But it is not also productive of the substance, but is source and cause [only] of certain activities and affections.

But how can we say that the soul is cause also of decay? For 30 nothing is cause of destruction either to itself or to what is the subject to itself. For all things yearn not only for being but also for eternity. as has already been said [269.3], according to their own measure. We say, then, that just as what is not and lack are said to be cause of the genesis of things that are, not because they have a productive cause. but because what comes to be changes from them and because these 35 give place to the form that comes to be, (for everything that comes to be, comes to be from what is not and from its own lack, as was said in the *Physics* [1.7]: so too the soul is said to be cause of decay, not because it makes [273] decay in the way in which it makes augmentation, but because it later gives in through weakness and retires. Besides, to show that the soul is productive cause it is sufficient to know that it is cause of growth.

If, then, in all these ways of cause the soul is cause of being to the 5 animate body insofar as it is animate, and it is insofar as it is animate that it both is nourished and is augmented and generates, it follows that the soul is cause also of these things, which it was his purpose to show.

415b8-9 These things are said in many ways.²⁴³

He means, cause and source are said in many ways. For they are said in four, as form, as matter, as productive, as final.

415b9-10 And likewise the soul is cause in the three ways that 10 have been distinguished²⁴⁴

Of the four ways²⁴⁵ of being a cause distinguished in the *Physics* [2.3], the soul likewise is cause in three to the body.

415b10 For this is that from which change arises.²⁴⁶

That is, as productive cause (for that is how he calls it).²⁴⁷

25

273,1

415b10-11 And that for the sake of which.²⁴⁸

That is, as end.

415b11-12 And the soul is cause as substance of animate bodies. $^{\rm 249}$

15 ['As substance'] in place of 'as form'. For the substance of each thing is characterised in its own form. For the matter is common to all. And animate things have their being by virtue of their soul. So the soul is form of animate bodies.

415b12 That it is as substance is clear. For to all things substance is the cause of being²⁵⁰

- That the soul is cause as form, he shows here. And this is the first 20 proof: the soul, he says, is source and cause to living things of living. Living, to living things, is being. The being of each thing is its form and substance. It follows that the soul is form and substance of living things. Each thing's substance is the cause of its being. It follows that to living things the soul is the cause of being. But he does not bring forward the premisses in this order but starts with the later: 'To all
- 25 things,' he says, 'substance is the cause of being'. So the argument is as follows: 'The substance, (that is the same as to say, the form,) is to all things the cause of being (for it is by this that each both is and is called what it is called). So to living things too the substance and form is cause of being. But living things have being by virtue of life (for it is by this that they differ from other things), and the soul is cause of
- 30 life. So if to all things the cause of being is the substance of each and the form, and to living things the soul is cause of life, by virtue of which they also have being, it follows that the soul is form and substance of living things. But Aristotle, having stated the premisses, does not add the conclusion because it is clear. By 'substance', as I said, he means 'form'.

415b14-15. Further, the actuality is the account of what is in potentiality.

- 35 The second proof. He says 'account' in place of 'substance and form'.
- 274,1 [274] 415b15. And it is plain that the soul is cause also as that for the sake of which.

Having shown that the soul is source and cause of the body as form, he now shows that it is also [source and cause] as end.

415b16-17 For just as intellect produces for the sake of something, in the same way too does nature²⁵¹

By 'intellect' he means the practical [intellect]. For instance the intellect that builds takes along nothing to no purpose but all things 5 that look to one end, the establishment of the house. So also then nature too produces nothing to no purpose, but each of its works is for the sake of something. He showed this clearly in the *Physics* [2.8]. And the treatises of doctors on the use of parts show that even the least of the works of nature is not to no purpose, but for the sake of 10 something. And that for the sake of which it produces, he says, is its end. For the sake of what, then, does it produce? For the sake of the soul, he says. For all the bodies, he says, of animate things, both animals and plants, are instruments of their souls, and an instrument is for the sake of what uses it and has that as its end. So the bodies, too, that arise by the agency of nature. I mean animate bodies. have as end the soul that uses them 15

10

25

30

415b20-1 But that for the sake of which is twofold, the benefit and the beneficiary. $^{\rm 252}$

Here we should understand either as follows: the soul is end as benefit,²⁵³ and the animal as beneficiary. For nature produces the organised body for the sake of the soul, in order that the soul may use it as end in the sense of benefit, and the end as beneficiary is the animate thing. For nature produces all things so that the activities of the animal may be unimpeded. Either, then, benefit and beneficiary are like this; or, as we said a little before [270,15-20], the benefit is making good order and eternity, for all things yearn for that, and the beneficiary is the soul. For it [sc. nature] provides the instrument for the use of this – and that is rather the truer [interpretation].

415b21-2 And also the soul is that from which primarily there is change in respect of place.

Then he passes to the productive [cause]. For this is how he always speaks of the productive cause, that from which change originates.²⁵⁴ Change is spoken of in many ways, as has been said [272,16-18], but that the soul is cause of change in respect of place is extremely clear. But 'this power', he says, 'does not belong to all living things', that is, [the power] that changes in respect of place, so not all soul will seem to be a productive cause by this. Therefore he shows that it is also cause of the other changes, I mean augmentation and diminution, and thus he makes his account universal for every soul.

- 275,1 That the soul, then, is cause [275] of alteration, he shows as follows. The soul is the source for animals of sense; and everything that perceives is altered; it follows that the soul is cause of alteration. In what way he says sense is alteration he does not add here, but in what comes next he will add that alteration is twofold and in general
 - 5 being affected is twofold, one [sort] leading to destruction and one to perfection. For the pupil is affected by the teacher and altered, but is led not towards destruction but towards perfection; for what was in potentiality in him is brought to act. And that is how sense too is altered and affected by the sense-objects; it is led towards perfection and brought from potentiality to act.
 - 10 That the soul is also cause of augmentation and diminution, he shows as follows. What is augmented and diminished is nourished (for nothing is augmented which is not nourished). Everything that is nourished shares in life, and it is impossible for what does not share in life to be nourished, so that living is the cause of being nourished. Soul is the cause of all life. It follows that for things that are aug-
 - 15 mented and diminished the cause of this same thing, augmentation and diminution, is the soul. And if some stones too seem to be augmented, that is not genuinely augmentation but rather addition. For by 'augmentation' he means that which comes through natural organs, and there are no organs in inanimate things; neither, therefore, are they augmented. Besides, what is augmented is augmented in every part, as was shown in the *de Generatione et Corruptione* [1.5], whereas in the case of stones, when dust, perhaps, is added from
 - 20 outside,²⁵⁵ there occurs a kind of change, and thus the whole becomes greater through the occurrence not of augmentation but of addition, just as if, too, fire were said to be augmented when more logs are added. And minerals too are augmented in that way when moist substance from outside congeals around [the substance] of which they are constituted, and this changes into their substance by the agency
 - 25 of the natural power in the earth from the universe. For if the soul is cause of holding together, and both animals and plants are held together and are in being so long as they are nourished, and nourishment is the cause of augmentation, it follows that the soul is the cause of augmentation.

One does ill, then, if one^{256} sets down to material principles, to earth and fire, the cause of augmentation. But perhaps Empedocles would reply to this that just as you [Aristotle] give both material and

30 productive causes of natural things, so I too have here given not the productive but the material. But the defence will not stand. For the roots are not of earth more than the branches, but the earthen abounds everywhere. So far, then, as depends on the substance of earth, nothing ought to be augmented upwards. [276] 415b28-416a9 Empedocles did not speak well in adding this, that augmentation comes to plants in a downward direction because they are rooted,²⁵⁷ because earth is naturally carried thus, and in an upward because of fire in the same way. [For he does not understand upwards and downwards well. For upwards and downwards are not the same to all things as they are to the whole universe, but as is the head of animals, so are the roots of plants, if we are to call organs other and the same by their functions. And in addition, what is it that holds together the fire and the earth when they are carried in contrary directions? They will be torn apart, if there is not something that prevents. But if there is, that is the soul, and the cause of being augmented and nourished.]

Having shown that the soul is cause of augmentation, he blames 5 Empedocles for not saving well how augmentation comes about in animate things. He [Empedocles] says that a plant is augmented because the fire in it augments the branches upwards, and the earth in it augments the roots downwards. He sets down the cause of the augmentation to fire and earth, for the one augments the branches 10 upwards, being upward-moving, and earth [augments] the roots downwards, being downward-moving. He [Aristotle] blames him [Empedocles] first because he does not speak well in saving the roots of plants are downward. For upwards and downwards, he says, are not the same for all things. And then he adds the reason. Organs, he says, are discerned by their functions. For if organs are for the sake of their activities. those that act with the same activities should be 15the same. Just, then, as in all other animate things that through which they are nourished is the mouth, so, it follows, in plants too that through which they are nourished should be the mouth. But they are nourished through the roots. It follows that this is the mouth of plants. But with all other animate things, the mouth through which they are nourished is upwards. For with all the head, in which the mouth is, holds the upward place. It follows that with plants too the mouth and head should be analogous to upwards. So the roots of 20plants are more upwards and the branches downwards. As regards the whole universe, if we ought to speak at all of upwards and downwards in connection with the whole universe, all that surrounds will be upwards, I mean the heavens, and the middle, the Earth, will be downwards. Animate things are said to have the head upwards not always as being towards that which surrounds, but as being that from which change has its source, since indeed the source of change of 25things here²⁵⁸ is from the heavens. And though by far the greatest number of non-rational animals, nearly all, have their heads to the ground, so that they do not have their head higher than their hindquarters in relation to that which surrounds, still the upward parts

276.1

of the animals are said to be head and the parts around the head. So

30 we say the head is upwards. And the roots are analogous to the head. For the source of change for plants is from there. So the roots should be upwards and not downwards.

This, then, is one absurdity with which he [Aristotle] charges him [Empedocles]. But to this someone defending him will say that he was speaking of upwards and downwards as in relation to the whole universe. For the roots are augmented towards the centre, and the rest towards the heavens. But he draws out another absurdity from the account which is very much to the point.²⁵⁹ If, he says, augmentation occurs by the agency of fire and earth, and fire augments upwards and earth [**277**] downwards, plants will be torn apart if there is nothing to hold them together. But if there is something that holds them together, this should be the soul and the cause of nourishment and augmentation.

416a9-18 Some people think that the nature of fire is the cause without qualification of nourishment and growth. [For of bodies²⁶⁰ this alone is seen being nourished and augmented; therefore someone might suppose that in plants too and in animals this is doing the work. It is a contributory cause in a way, but it is not the cause without qualification; rather the soul is that. For the augmentation of fire is without limit, so long as there is present what can be burnt. But for all things constituted naturally there is a limit and a proportionate amount of magnitude and augmentation. These things belong to soul, not to fire, and to account rather than matter.]

Having shown that the soul is the cause of augmentation he does away with the other things that are thought by some to be causes of augmentation. Empedocles held earth and fire responsible in the case of plants, because these have contrary changes upwards and down-

- 10 wards, and plants too are seen making their augmentation in contrary directions in their roots and in their branches. But others suspected that fire alone is cause of augmentation, and it is them that he attacks here. He does well add 'without qualification'. For this is how those who set down the augmenting power to fire went wrong: they said it was the cause of augmentation without qualification. For
- 15 he too thinks fire is a contributory cause of augmentation as the instrument through which; but not that it is the cause without qualification of augmentation. But it is so far, he says, from being the cause of augmentation without qualification, that he says in the *de Generatione et Corruptione* [2 336a12] that it is a contributory cause worse than as an instrument. For it is by being regulated by the account of the end that instruments reach the end, and when they are left alone by the artisan they are not cause of detriment since they

82

35

277.1

cannot act at all without the artisan, whereas fire acting by itself 20 becomes cause of destruction. For in the cooking of food and medicine, if the cooking fire is not governed by the account of a doctor or caterer, it rather destroys and displaces [them] from the form that is their own.

Having said that some people think that fire is the cause of nourishment and growth, he adds the reason by which they are led to this idea. It [fire] alone, he says, of the simple bodies is seen being nourished and augmented. For it is in connection with this alone that customary speaking uses the vocabulary of food, and therefore also that of augmentation. For this when nourished is also augmented. We have a good deal of this usage in the customary speaking even among the ancients. 'All those', says the poet, 'fire will eat together in your honour' [*Iliad* 23.182], and again 'with all-devouring fire'.²⁶¹ If this alone, then, of the simple bodies is nourished and augmented, this [it is thought] should be the cause of nourishment and augmentation in composite things too, I mean in animate things.

When he has shown, then, that animate things are not nourished and augmented in the same way as fire, the Philosopher will have also demonstrated through this that neither is fire the cause in 35 animate things of nourishment and augmentation. The proof is like this. All the things that are nourished and augmented by nature, that is, that have in themselves the nourishing and augmenting power (for things which are not nourished and augmented in this way [278] are 278.1not said properly to be these things they are said to be)²⁶²-things that are nourished by nature and augmented because of this have a boundary to their augmentation and their augmentation is bounded to that measure: whereas the nourishment and augmentation of fire is not bounded. It will increase without limit if matter²⁶³ is supplied. It follows that fire is not nourished and augmented in the same way 5 as animate things. And if not in the same way, then neither should it be the cause of augmentation to animate things. For there is no limit or proportionate amount for the augmentation of fire; but the things which are augmented by nature have a limit and a determinate proportionate amount for their augmentation. And to augment according to a proportionate amount and in a determinate way should belong to soul, not to fire. That is how he showed that fire is not the cause to animate things of augmentation. 10

And that nourishment and augmentation are not properly said in relation to fire, but [only] coming to be, he showed in the *de Generatione et Corruptione*.²⁶⁴ This one alone of the simple bodies was suspected of being nourished and augmented because in the case of the others the becoming more is manifestly addition, for it is by the adding of water to water and of earth to earth that their becoming 15 more occurs, and <th to this is not nourishment or augmentation is obvious, but fire becomes more because there is added not fire but

matter of another kind, for instance logs or the like, and these are turned by the power of fire into its substance, and then the becoming more of fire occurs. And what is genuinely augmentation seems to be something like this. For when food changes to the nature of the body.

20 then the augmentation of animate things occurs. But he shows, as I said, that what happens in the case of fire is coming to be, not augmentation.

> **416a19-20** Since the same power of the soul is both nourishing and generative, we must draw distinctions about nourishment first

He spoke about the end of the generative power: and then he showed 25next that anyone who intends to speak about the soul needs an account of the things that lie opposite to the psychic activities: [he showed this by showing that the soul is in animate things the cause of nourishment and augmentation and alteration both in respect of the senses and in other respects: and in between²⁶⁵ he recalled the opinion of Empedocles who sets down augmentation not to the soul

- 30 but to material causes, and in general he refuted those who think that fiery substance is cause of augmentation in animate things. Here, then, he provides an account of the things that come next. I mean of food, in order that after that he may then treat also of the powers themselves. For above he provided his account of the vegetative power as though it were [just] one, where he said: 'For the nourishing soul both belongs first²⁶⁶ to the others and is the most common power 35
- 279.1of soul, by virtue of which living belongs to all. Its functions are [279] both to generate and to use food'. And here too again, since the same power is both that which nourishes and that which generates, it is necessary to draw distinctions about food first.

What he says is like this. Since the vegetative power is one and the same, the functions of which are both to generate and to use food (through the extremes he also embraces the intermediate, augment-5 ing, and bringing the things augmented to their perfect measure). and we have spoken, he says, about the end of the generative activity. it is necessary also to speak about what lies opposite to the nourishing activity. I mean about food, in order that after that we may then provide the account of the power itself too. He calls the nourishing

- and augmenting and generating power one not in a simple way, 10 because vegetative is predicated in common of these, but because there is one end for all these activities, that is, generating another such as itself because of the vearning for eternity, and it is right, he says, to give everything its appellation from its most aimed at end. So since the end of the whole vegetative power is generating another
- such as itself, it is right to call the whole 'generative'. For the 15nourishing and augmenting [powers] have come into being for the

service of this. For since it is impossible for animate things to generate if they have not come to their determinate and natural measure. for that reason there is need both of the augmenting activity and of the augmenting power. But since again it is impossible for them to be augmented if they are not nourished, for that reason there is need of nourishment. So augmentation is because of generation, and nourish-20 ment because of augmentation. It follows that nourishment is because of generation. Since, then, it is right to call everything from its end, all this power should be called the generative. He makes the nourishing [power] the same as the augmenting for the reason we shall state when we get to the detailed commentary. Hence he does not provide an account of augmentation on its own, but interwoven with his account of nourishment, nor does he define the augmenting 25 power on its own.

416a19 Since the same power of the soul²⁶⁷

The same power of the vegetative soul is that which nourishes and that which generates. The thought is expressed elliptically in the phrasing. For he should have spoken thus: 'Since the same power of the soul is that which nourishes and that which generates, and we have spoken about the end of the generative power, it is necessary also to speak of what lies opposite to that which nourishes. What lies opposite to the nourishing power is food. [So] we ought first to speak about food.'

416a20 For it is marked off from the other powers by this function.

The nourishing soul, he says, is separated from the other psychic powers by nourishing (for that is peculiar to it), and it nourishes with 35 food.²⁶⁸ Hence we must speak first concerning food.

[280] 416a21-5 It seems that contrary is food to contrary, not all 280,1 to all, however, but as many among contraries as have not only genesis from one another but also augmentation. [For many things come to be out of one another, but not all are quantities, for instance healthy [comes to be] out of sick.]

The account of food has been a subject of disagreement. Some say that food is like the thing nourished; for like is nourished by like. For if 5 food when added to the thing nourished augments it, and it is like that augments like, not what is contrary (for this is actually destructive of its contrary), what is nourished cannot be nourished by what is contrary, but [only] by what is like. But others say that what is nourished is nourished by its contrary. For if food is affected by the 10

thing nourished and changes to it, and like is not affected by like, but contrary is affected by contrary and contrary changes to contrary, it follows that food is what is contrary to the thing nourished. These then are the accounts current concerning food; they seem to be contrary, but each has a plausible case. Arbitrating on these accounts

- 15 Aristotle says that though they seem contrary, in truth they are not. Each of them looks at one part [of the matter] and speaks truly in relation to that. For food is in potentiality like the thing nourished, but in act contrary. For bread and cooked dishes when they are unprocessed and undigested are contrary in a way to the thing
- 20 nourished, but when they are changed and altered, then they come to be like. And like does not change to like, nor does any chance thing to any chance thing, but contrary to contrary. For white does not change to hot but cold [changes] to hot. And even if grey, at least, changes to white, it changes not in that it shares in white but in that it shares
- 25 in black. So if food changes, clearly it changes to what is contrary. But food is twofold, undigested and digested; and the undigested is contrary to the thing nourished, while that which has been digested and is changing is already like.

Having said that contrary seems to be food to contrary, he adds that not every contrary is food to every contrary, but [only] as many as, besides changing into the contrary, augment the thing changed.²⁶⁹

30 For many things, he says, that are contraries change into one another, for instance health and disease, white and black, but these do not in changing add anything to the quantity. Hence they are not food for each other. Neither is white nourished by black when black changes to white, or health by disease.

He does not, however, say simply this, that those contraries which 281,1 change into one another and [281] add to the quantity are nourished by one another (for this is not true, as he himself will say), but that those contraries which nourish add to the quantity.²⁷⁰ For when by the agency of the soul such contraries change. I mean such as also add

5 to the quantity of that to which they change, then there is food. The simple bodies, at least, are augmented when they change into each other, but they are not nourished by each other, but rather in these cases it is not proper to speak of augmentation but of addition, as he showed in the *de Generatione*.

That the first, undigested food is contrary to the thing nourished is clear from this. If it is affected by the thing nourished and changes

10 to that thing's substance, and if it is not the case that any chance thing is affected by any chance thing or that any chance thing changes into any chance thing, but [only] that contrary [changes into] contrary, it is clear that when food is being affected by the thing nourished, in order that it may turn into that thing's substance, it will be contrary to the thing nourished.

Besides, since we are constituted of cold and hot and dry and moist,

it is clear that food also will be changed to the qualities ranged along 15with the thing nourished. The hotter, then, will be changed to the colder through digestion, or the colder to the hotter or the drier to the more moist, or the moister to the more dry. That too is why we bring the contrary food to the quality that is running to excess in the body; if the body is too dry we provide what is more moist, if too hot, what 20 is colder, and similarly with the rest. For it is clear that the nourishing power has need of suitable matter, which is by nature such as to change easily into the substance of the thing nourished. But when the food has already been affected and made completely like the thing nourished, it is no longer contrary but like. This is the last [food] and has then been made completely like in every part, and is about to be 25passed in.

416a25-9 But even those things do not appear to be food for each other in the same way, [but water is food for fire, but fire does not nourish water. In the case of the other²⁷¹ bodies, then, these things most seem to be, the one, food, the other, thing nourished.]

Since he has said that among contraries, those are food for one another which not only come to be out of one another but also augment one another, for that reason he has added that not all things 30 like this are said to be food for one another, and he shows this through an example, that not everything which augments in quantity is food for its contrary, but the more formal of contraries when it is augmented by the change to it of what is both more material and contrary to it, is said to be nourished, but not also the more material [when it is augmentedl from the more formal. Fire and water are so related to 25one another. When these, at least, change into one another, water, he says, is food for fire, but fire is not also food for water. [282] For no 282.1one would say that water is nourished by fire, but fire is said to be nourished. 'All those,' says the poet [Iliad 23.182]. 'fire will eat together in your honour.'

From this someone might enquire: if just as [the] change of water to fire is coming to be only and not augmentation, so too is the²⁷² change of fire to water, as was shown in the *de Generatione et* 5 *Corruptione* [1.5], why is water not said to be nourished by fire, but fire by water?²⁷³ For that fire is nourished by water is clear; for it is nourished by moist. For olive oil is water affected in a certain way, and so is wax and such things; and it is because logs and the like share in moistness that they then come to be material of fire, which is why logs that are completely dried out, like those that have rotted and 10 ashes, cannot be burnt, because they are completely without share in moistness.

We reply in the first place that the Philosopher has followed

customary speaking. For we say that olive oil is food for fire, and this is nothing else but to say that water is food for fire. For olive oil, as is shown in the fourth book of the *Meteorologica* [383b21ff.], is of water

- 15 and air, which are both moist in nature. Then it has been shown in the *de Generatione* that the thing augmented is the form, not the matter; for the thing augmented ought to be one in number; and the matter, because it runs out and runs in, is not the same in the thing augmented, whereas the form is the same. And, so far as the elements go, fire is more formal and water more material, as he showed in that
- 20 work [GC 2 335a19]. For the form is more of a doer and incorporeal and embracing, seeing that the matter is affected and the form affects, and the one [sc. matter] tends to scatter, but is embraced and defined by the form. And these things can be seen in the case of fire. For indeed it is more of a doer than the other elements and is finer grained and more embracing. For the sphere of fire embraces the
- 25 other elements. And generally in contraries the contrary which is better holds the account of form, as he says, (whence also he says the change to it is coming to be), and the inferior that of matter, which is why he calls the change to this 'passing away'. Besides, the thing nourished changes the food to itself by working upon it through itself; and fire seems to do this when olive oil is poured on it and logs are
- 30 put under it. The change of fire to water, however, does not come about in that way.

In saying 'In the case of the other bodies, then,' he has shown how it seems to most people; for what is genuinely food is [found only] in the case of animate bodies, and these are composite, and it is these also that are nourished.

283,1 [283] 416a29-34 But there is a difficulty. For people say that like is nourished by like, as also it is augmented, [but some, as we have said, think the reverse, that contrary is nourished by contrary, because like is unaffected by like, but food changes and is digested; and in all cases change is to what lies opposite and²⁷⁴ to what is intermediate.]

> Having said, 'It seems that contrary is food to contrary', he now says that the account concerning food contains a difficulty. For some

- 5 people say that like is nourished by like, others that contrary [is nourished] by contrary. He spoke about these things in the *de Generatione*, and he also speaks [about them] now; [for] an account concerning food is necessary for anyone discussing the nourishing power. Having said that there is a difficulty, because some say that things nourished are nourished by what is like, others by what is
- 10 contrary, he briefly adds the things that establish each opinion, the one which thinks that nourishing is by what is like when he says 'as also it is augmented'; for if we are nourished and augmented by the

same thing, and we are augmented by what is like (for it is by addition of flesh that flesh is augmented), then we are also nourished by what is like. And [he adds the things that establish] the opinion which thinks that nourishing is by what is contrary when he says that like is unaffected by like. For what is affected is affected by its contrary, and for food to change and be digested is for it to be affected in a way. 15 For all change, even that from what is intermediate, insofar as it comes about in a way from what is contrary, shares in what is contrary, and there is no change from and to the same thing.

He uses 'opposite' here for contrary and not for everything that is opposite without qualification. And that is clear from what he adds, 'and what is intermediate'; for there is something intermediate between contraries, but not between all things that are opposite without qualification.

416a34-b3 Further, food is affected by what is nourished, but the latter is not affected by food, [just as neither is the carpenter by the material, but it is by him. But the carpenter changes only from inactivity to activity.]

Having said that nourishing and being nourished occur because something is affected and something affects ('because like', he says, 'is unaffected by like', showing by this that that which nourishes and 25 that which is nourished must both affect and be affected), and then having said that food changes, he now shows that food is what is affected and altered, and that what affects and is unaffected is the thing nourished. For if the thing nourished is nourished while remaining the same in form, whereas the food does not remain the same, it follows that this latter is what changes. And he uses as an example the carpenter and shows that the matter is affected by the 30 artisan and the form, but the artisan is not in turn [affected by] the matter. And since the artisan seems to change in working the matter, he says what his change is. He changes, he says, to activity from inactivity, but not by an [284] affection (for he is not affected in any 284.1way or altered), showing that the change too of the nourishing power in nourishing is like this, not an alteration but a perfection. For the activity is the perfection of the power. Such a mutation is not a change,²⁷⁵ but rather a coming to be of perfection, as he showed in the $\mathbf{5}$ Physics.276

416b3-9 But it makes a difference whether the food is what comes along into being at the end or the first. [If it is both, but the one is undigested and the other digested, it would be possible to speak of food in both ways: insofar as it is undigested, contrary is nourished with contrary, but insofar as it is digested,

89

like with like. So it is plain that in a way both [parties] speak both rightly and not rightly.]

He enquires what sort of thing it is that we should call 'food': is it what we provide to begin with, I mean bread and the rest, or the last thing

- 10 that is passed into the body, such as the blood that changes out of the food and comes to be in the parts and is now made like them – for this is the last? For food, the doctors say, is that in food which nourishes. From this what is being enquired after will be discovered: whether we are nourished by what is like or by what is contrary. For if what is provided first is food, we are nourished by what is contrary, but if it is the last thing that passes into the body. [we are nourished] by what
- 15 is like. And if both are food, both the first and the last, which is what he thinks, [then we are nourished] both by what is like and by what is contrary. The [food] that is first and undigested is contrary, while that which is second and digested is like. So each of the [parties] speaking about food is looking at a part, and speaks soundly, but not completely.
- 20 Someone might raise the problem what the last thing is that passes in. For if it is not the case that it first becomes flesh and then passes into flesh (for that would be addition, not augmentation) everything that is last before the change, whatever it may be, must be contrary. For if it changes ...;²⁷⁷ so only what is contrary is food. And if by 'the last thing' he means what is already made completely like, such a
- 25 thing is no longer food but a part. The Philosopher gives the solution that the flesh which arises is in a certain respect food and in a certain respect a part; for it would be food of the body that has come into being before the passing in, but if [the body] is viewed as a whole, I mean [the body] after the passing in, it is a part. But a more complete account concerning these things is given in the *de Generatione et Corruptione*.
- 30 **416b9-11** And since nothing is nourished that does not share in life, [the thing nourished should be the animate body as animated; so that food too is relative to animated, and not incidentally.]

So food is not properly spoken of in connection with fire.

- 285,1 And he passes [**285**] from food to the activity, which is nourishing. For nourishing belongs to the thing nourished. And being nourished is preserving the substance of the thing nourished through the activity concerning food of that which has the nourishing power, while nourishing is acting with the nourishing power in connection with
 - 5 nourishing is acting with the nourishing power in connection with food.

Next, from the activity he will discover and define what the nourishing power is. If, he says, nothing is nourished that does not share

in life, and life comes to living things from soul, it is necessary that what is nourished should be the animate body insofar as it is this very thing, animate, and not incidentally. For it is not incidental to the body that is nourished that it is animate but because it is animate, on 10 that account it is nourished. And if the thing nourished is animate, food too of itself belongs to the animate. So that fire is not properly said to be nourished. Of things that are relative some are properly and of themselves relative to that in relation to which they are given. and some are incidental, as a slave is said to be the slave of a man and of a master, but he is [slave] of a master of himself, and of a man 15incidentally; for it is incidental to the master to be a man. One might also speak of a slave of a grammarian or a rhetorician, but incidentally, of course. But food is of itself spoken of as relative to what is animate

416b11-15 It is one thing to be food and another to be a thing that augments. Insofar as the animate thing is a certain quantity, it [food] augments, insofar as it it is a 'this particular thing' and a substance, it is food. For it preserves the substance [of the animate thingl, and it [the animate thing] is in being just as long as it is nourished.]

This too belongs properly to the account of food. He said this also in 20 the *de Generatione* [1 322a20ff.], that we are not in the same respect both nourished and augmented. For since the thing nourished is both a form and a certain quantity, and likewise food too ...,²⁷⁸ it nourishes the thing nourished (for it is peculiar to food to preserve the form. <and> things nourished are in being just as long as they are nourished even if they are not augmented), whereas insofar as it is a 25quantity, the food, added to what is nourished, augments. And the thing nourished is not always augmented, when the passing out is equal to or more than the passing in that arises from the food, as he said in the *de Generatione* [1 322a20ff.], but even so the food, so far as rests with itself, adds to the quantity. Since, then, the same food both nourishes and augments (for insofar as it is potentially what the thing nourished is, it nourishes and preserves the form of the thing 30 nourished, but insofar as it is quantitative²⁷⁹ it thereby augments), it is clear that the power which acts concerning food and digests it and changes it and passes it into the body, should be one and the same, both nourishing and augmenting. But when the thing nourished is in such a condition that there can be also addition to its quantity, it not only nourishes but also augments. But when this is impossible for the 35 thing nourished because it is worn out by time, it nourishes, but it no longer also augments. For when its own parts become rather dry, [286] they are no longer by nature such as to be extended and have 286,1an addition to the quantity.

That, too, is why the augmentation of quite young children occurs quickly and often at one time in two or three years they take an addition of two cubits, while at another time in very many years they take a very small addition, because then already their parts are

5

- changing to the drier and cannot be extended and have an addition to the quantity, since as far as rests with the nourishing power there would always be addition to the quantity. And besides, because more outflow is then occurring, because the animal is on its way to decay. the nourishing power is not sufficient to knit up what is flowing out and restore it by addition to its original state.
- 10 Since, then, the nourishing power is the same as the augmenting. it is reasonable for him to mention only the nourishing and the generative, because he thinks, as I said, the augmenting to be the same as the nourishing.

416b15-17 And it is productive of genesis, not of what is nourished, but of what is such as the thing nourished. [For its substance [that of the thing nourished] is already in being, and nothing generates itself but [only] preserves [itself]]²⁸⁰

Having said that food both augments and nourishes but by virtue of different things, he says that food is productive also of generation.

15 since semen is a secretion from the last food, as he will show in the de Generatione Animalium [1 724b21ff.]. And indeed the change involved in sex comes about to a greater or lesser extent according to the quality and quantity of food. But food is productive not of the genesis of what is nourished (for nothing generates itself, for its substance is already in being), but of 'what is such as the thing nourished'. For all things that generate for the most part²⁸¹ and in accordance with nature generate things like themselves: for they 20yearn for eternity, and achieve it in this way, as he said above, by generating others such as themselves.

> 416b17-20 So that this sort of principle of the soul is a power such as to preserve what has it as such. [and food makes it ready to act: hence if it is deprived of food it cannot exist.]

Having said that food insofar as it is food is preservative of the thing nourished, from this he discovers the nourishing soul too and defines 25it as being a power 'such as to preserve what has it as such'. 'As such' is in place of 'according to that very form', that is, it preserves the thing nourished in the same form.

And he himself gives the definition only of the nourishing power; but it is possible from this to give the definitions of the augmenting

and the generative. The augmenting [power] is a power of the soul leading what has it to its perfect form, having come to which it is able

to accomplish all its natural activities. And the generative [power] is a power of the soul capable of making ready what has it to produce another such as itself in accordance with a yearning for the eternity that is in what is first. Such, then, is the nourishing power: and food. he says, makes ready this sort of activity for the nourishing power. For if food is not present the nourishing power does not act. [287] Food, then, is preparative of the activity of the nourishing power, by virtue of which what has it is preserved. That is why if it is deprived of food the animate thing cannot exist, for this is the thing nourished.

416b20-3 But since there are three things, the thing which is nourished, the thing with which it is nourished, and the thing which nourishes. [the thing which nourishes is the first soul, the thing which is nourished is the body that has this, and the thing with which it is nourished is food.¹²⁸²

Since he has spoken about food he wishes to draw distinctions about 5 the things that take their appellation from this²⁸³ and say what each is. For there are the thing which nourishes, and the thing which is nourished, and that with which it is nourished. The thing which nourishes is the primary power of the soul: this is the nourishing [power], (and why it is first, has been said many times), the thing which is nourished is the animate body, insofar as it has this power. and the thing with which it is nourished is food.

416b23 But as it is right to give everything its appellation from 10 its end, [and the end is to generate [another] such as itself, the first soul should be that which generates [another] such as itself.1

Since the intellect gets its appellation from thinking, and sense from perceiving.²⁸⁴ and since the end of the nourishing power, which he calls 'first' because it is the first from below,²⁸⁵ is to generate [another] such as itself (for of things nourished those that are perfect and not 15deformed all generate) it is right to give this too its appellation from its end. I mean [to call it] the generative [power], since its end is to generate.

416b25-7 That with which a thing nourishes is twofold, as also is that with which a person steers, [which is] both the hand and the tiller: [that which changes and is changed, and that which is changed only.]

Having said what it is that is the thing with which a thing is 20nourished - that it is food - he now adds here also the other thing with which it is nourished.²⁸⁶ For it is nourished by food as material

93

287.1

[cause], whereas what is now added is the instrumental [cause] with which it is nourished as through an instrument. This instrument, he says, is twofold: there is that which changes and is changed and that which is changed only without also changing [something else]. For

- 25 the innate hot,²⁸⁷ with which the soul nourishes as with an instrument, both changes and is changed. It is changed by the nourishing power and changes the other parts, such as teeth, veins, stomach and the other things through which the food [is assimilated], and these are changed only and do not also change something else as an instrument, but [only] the food. He shows the twofold [character] of that with which a thing nourishes as through an instrument by the
- 30 parallel of the steersman. For the hand is both a thing that changes and a thing changed; for it is changed by the soul, and changes the tiller, whereas the tiller is a thing changed only. For it does not, it too, change another instrument, but [it changes only] the sea or the ship,
- 288,1 as those things [sc. teeth etc., change] the [**288**] food. But some people say that the food is [both] thing that changes and thing changed, being changed by the hot, and changing insofar as it nourishes. But it is better to take the hot as thing that changes and is changed; it is changed by the soul, and changes the food; and [to take] the food as thing changed only. For it does not change that which nourishes in 5 its nourishing.²⁸⁸ as has been shown.

But Alexander gives another interpretation. The 'twofold' in the *thing with which* it nourishes is not to be taken now [he says] as referring to food but the 'twofold' means the nourishing soul and the innate hot, of which the one, the nourishing power, is not changed (for this changes without being changed), and the innate hot is what changes and is changed. For it changes the food, and is changed by

- 10 the power. But this interpretation would fit the reading which is reported thus: 'that which changes and is changed and that which *changes* only' – that is to say without itself being changed. And you might fit the model of the steersman to this reading as follows: the tiller is a thing that changes and is changed, changing the sea or the ship and being changed by the hand; whereas the hand changes only,
- 15 for it changes the tiller but it is not also changed by something else. For the parts of continua are not changed of themselves, since neither are they in a place of themselves, as was shown in the *Physics*,²⁸⁹ and the hand is continuous with the steersman. And also because the tiller is changed by something external, [namely] by the hand, whereas the hand has nothing changing it from
- 20 outside. If, then, the reading 'that which changes only' holds, the last interpretation will fit, if [the reading] 'that which is changed only', the others.

416b28-9 All food has to be able to be digested, [and the digestion is worked by the hot; hence every animate thing has heat.]

Having said that that with which the soul nourishes is twofold, he now says what other thing there is besides the already mentioned food through which *that with which* it nourishes becomes twofold. [It is], he says, the innate hot. And then he also adds how it nourishes. 25 The food, he says, must be digested, and what works the digestion is the hot; so it is with this that it nourishes. And if every animate thing is nourished, and food is digested by the agency of the hot, it follows that every animate thing must have heat.

416b30-1 What food is, then, has been said in outline. Further clarification concerning it must come later in an account of it on its own.²⁹⁰

That there are two ways of being food (for there is what is contrary and what is like), and that the things capable of augmenting are contrary, and that it is digested and changes, and that it nourishes in one respect and augments in another, and that insofar as it nourishes it preserves the thing nourished, and that it is the same source also of genesis not of the [**289**] thing nourished but of what is such as the thing nourished – these and other things have been said.

416b30-1 Further clarification concerning it must come later in an account of its own.²⁹¹

He has spoken in a way about food also in the *de Generatione [et Corruptione]*, and he will speak again in the treatise *de Generatione Animalium* too, and it is to that [work] that he defers [the further clarification]. In it he will also speak of semen, which itself too belongs to food. For semen, he says, is a secretion from food [GA 1 725a3-726a27]. That is why, also, some foods are suitably disposed for the genesis of semen, and some in a contrary way.

[Chapter 5]

416b32-3 These distinctions having been drawn, let us speak in general terms about all sense.

Having spoken about the first soul, I mean, the vegetative soul, [and 10 said] that it is a power of the soul preservative of what has it through its own activity, which occurs in the presence of food, and having shown through this that it is actuality of the body that has it and is inseparable from it, he has passed to the discussion of the perceiving soul. And just as in connection with the soul generally he first gave a

30

289,1

- 15 common account of all soul, and then afterwards produced an account concerning the particular souls [each] on its own, so too here he first discusses all sense in a common way, and then each [sense] on its own. And he gives a common account of the perceiving soul. For he will say that sense is a power of the soul through alteration to be made like the sense-objects, and by this the soul is also something
- 20 that perceives. He draws as many preliminary distinctions, therefore, as will be useful to him in defining sense universally. First he will use sense's being affected and altered. And he will also discuss that which is in potentiality and that which is in act, and will raise certain difficulties both concerning that which affects and that which is affected and concerning sense, and give the solution.
- 25 **416b32-5** Perception comes about in being changed and affected, as has been said; for it seems to be a kind of alteration.

[He says] first that sense, being disposed in this way or that in the apprehension of the sense-objects, seems to be altered; and if it is altered, it is also affected, for alteration is an affection;²⁹² and if it is

- 30 affected, it is also changed. But he does not say these things, that sense is altered and affected, as things thought by himself; that is why he adds 'seems'.²⁹³ For he will show as he proceeds how each of these things is said in connection with soul that sense is not properly said either to be altered or to be affected.
- He says 'as has been said' because a little before [415b23-4], 290,1 showing that the soul [**290**] is also a cause to living things as that from which change originates, he showed that it is cause not only of augmentation and change in respect of place, but also of alteration, setting it forth that perception²⁹⁴ is alteration.²⁹⁵ Perception, then, is alteration, and alteration change; it follows that perception consists 5 in being both altered and changed.
 - **416b35-417a2** Some people say also that like is affected by like. [In what way this is possible or impossible has been said also²⁹⁶ in our general discussion concerning affecting and being affected.]

Having said that perception comes about in being changed and affected, he here sets it out as a general problem in what way the thing affected is affected by the thing that affects, whether like is

10 affected by like or contrary by contrary. Each seems to have some reason. For neither should what is altogether other be affected by that with which it has nothing in common (for whiteness would not be affected by sweetness; there is nothing common to them; nor heat by whiteness), nor indeed would like be affected by like. For whiteness would do nothing to a like whiteness. It is not the case that any

chance thing does something to any chance thing, but contrary to contrary. For whiteness will be affected by blackness and coldness by heat and the reverse. It will seem plausible, then, both that contrary should be affected by contrary, and that like should be affected by like. When he has given the solution to this problem, then, he will thereby discover also how sense is affected by the sense-objects; it is in a way like, in a way unlike, in that it is in potentiality like the actual sense-objects, since indeed it is affected by them, and what is affected is affected by what is like in this way, I mean in potentiality like,²⁹⁷ but in act unlike and contrary, as he will show.

He has given the solution to this problem also in the *de Generatione et Corruptione* [1.7]. He indicated this treatise when he said 'has been said in our general discussion', but he did not add the converse, that 'it will also be said now'. Alexander, however, does say that there is also reported a reading like this: 'and must also be said now.' And even if this is not added in writing, none the less this same thing should be understood as added. He omitted it as something agreed, but will speak about this very thing in what comes next.

417a2-4 There is a problem why there does not also occur 30 perception of the senses themselves, [and why they do not produce perception without things outside.]

Having raised the general problem whether that which is affected is affected by what is like or what is unlike, before giving the solution to this problem he joins on another [291] problem and through the solution to the second he gives the solution also to the first; for that is Aristotle's custom. What, then, is the problem? If sense, he says, apprehends sense-objects, and the sense-organs through which we perceive are sense-objects, why does sense not apprehend these too, even when nothing is present from outside? For instance why does not the eye see itself, since it is composed of those things which are objects of sight, I mean the elements? He raises this problem, and it belongs properly in any case to the discussion of sense, but [he raises it] now because the solution of it also establishes that perception comes about through being both affected and changed.

What, then, is the solution to the problem? He says that sense is 10 only in potentiality that which it is, and everything which is in potentiality is advanced to act by something that is in act. Therefore sense too, being in potentiality, is advanced to act by the sense-object, and a sense object that is from outside. And everything in potentiality that is advanced to act is advanced by what is already like in act. For the hard comes into being by the agency of the cold [only] incidentally. 15 Its becoming cold is accompanied by [becoming] hard, as with ice. It follows that sense too, being in potentiality, is advanced to act by something that is already like in actuality. So the sense is in potentiality

what the sense-object is. But as to how this is said,²⁹⁸ he will articulate distinctions as he proceeds.

- 20 But if it is advanced to act by the sense-object, and the sense-organ too in which the sense is present is a sense-object, why is it not advanced to act by this too? Besides, if sense is not able to apprehend its own sense-organ although it is a sense-object, how on earth does it apprehend its excesses? For the sense of touch does not apprehend
- 25 the natural warmth of the whole body; but when the heat in us falls out beyond measure, as in fevers, then it perceives this. And sight likewise does not apprehend the eye is in its natural state; [it does not apprehend,] for instance, what the colour is of the liquids or the membranes; but when there is any affection contrary to nature, as happens with sufferers from jaundice, it has perception of the yellow-
- 30 ing in the eye; hence they [sc. the jaundiced] think all things are yellow. Similarly if any other humour too falls on the lens,²⁹⁹ it [sc. sight] apprehends both its colour and its shape. That is why at the onset of cataracts before the pupil is covered and its activity completely prevented, people seem to see little insects and the like in everything.

We say, then, to this problem – I mean why sense does not perceive 35 its own sense-organ, although it itself is also a sense-object – we say that sense does not apprehend the sense-object in the same way as intellect the objects of intellect. For intellect, since it embraces within

- 292,1 itself the object of cognition, is in control of its own activity, and [292] is impeded by nothing when it wants to put forth its own activity, because it has, as I say, the objects of intellect in itself. For it sees all things by reflecting³⁰⁰ on itself, whereas sense has its object of cognition outside. Hence it does not cognise except by being drawn away towards what is outside, and that is because it does not have separ-
 - 5 able activities. It cannot reflect on itself, since it has its being in a subject, in its proper sense-organ, and makes its apprehension of the sense-objects in conjunction with this. It is reasonable, then, that sense is not capable of apprehending its proper sense-organ. For it is in conjunction with this that it makes contact with the sense-objects because it has its being in this, and it is by making contact with this
 - 10 that it then apprehends them; and if it were to make apprehension of its own sense-organ, it would be by making contact with it that it apprehended it; and it cannot make contact without [using] this; so it follows that it would be necessary for its sense-organ to make contact with itself, and reflect itself on itself. But it is not possible for that which is a body to make contact with itself. It follows that the
 - 15 sense-organ, being a body, will not touch itself. And if it does not touch [itself], neither will the power to perceive in it apprehend it. For that is how apprehension of the sense-objects occurs, by virtue of the sense-organ's contact with the sense-object, and by virtue of the discernment and apprehension of the perceiving power in it.

That, then, is one cause. A second is that there is need for air in between. That is why we do not apprehend the rheum that is in the eye. And [there is need] for air in between not just in any state, but lit.

So if sense is in potentiality what the sense-object is, and the sense-object by affecting the sense in some way brings it to its own activity, and that which affects, affects something that is affected, and everything that is affected is changed, it follows that sense is both affected and changed by the sense-objects. And if the sense is in potentiality and the sense-object is in act,³⁰¹ and of these one affects and the other is affected, it follows that the thing affected is in potentiality like that which affects, but in act unlike. The solution, therefore, to the first problem is given through the second.

And if that which perceives, being in potentiality, is affected by the sense-object and becomes in act a thing which perceives, and what is affected is affected by what is unlike, and nothing is unlike itself, it 30 follows that nothing is affected by itself. It is reasonable, then, that that which perceives should not apprehend itself, since nor is it affected by itself – I mean the combination of both, the power to perceive together with the sense-organ. And that is the third and most genuine reason why the senses do not apprehend their proper sense-organs. Apprehension is by the combination of both, and this is 35 what is affected by the sense-objects. Of necessity, then, that which affects should be something other.

What? Are we not conscious of ourselves when we are in too hot [293] or too cold a state or the like because of the bad mixture in us 293.1of elements? And when the lens is coloured by some affection, we think that the air and the other things seen are stained with the same colour. The doctors too say well in reply to this that when we are suffering from fever or from chill in disease we perceive ourselves. 5 not [through perceiving] the perceiving nerves themselves or the warmed flesh, but the liquids, blood and pneuma. Since, then, the power to perceive is primarily in flesh and nerves, it is reasonable that when the liquids, I mean pneuma and blood, are in a badly mixed state, since they lie near in the perceiving parts, we should apprehend them by contact, just as too we apprehend warmed or chilled air by 10 contact because of its being near. Even if the fever touches the solid [parts] themselves, since the warming is not even but uneven, there must be some parts that are in their natural state and some in a state that is contrary to nature. It happens, then, that the parts which are still in their natural state apprehend those that are in a state contrary to nature. For it is impossible that the bad mixture should 15occur evenly, for then the rest of the animal would be on the way to destruction.

That, then, is the cause of the consciousness [of our being hot or cold]. And that this is true [is clear from the fact that] those who are

99
then seized by a hectic fever, that is, those who suffer from fever in the solid parts themselves, with the bad mixture occurring in them evenly throughout the solid parts, take no consciousness of the warmth in them, because the warmth is even throughout all their parts, and there is not on the one hand what affects and on the other what is affected; just as neither are those who are by nature mixed rather on the warmer side conscious of this same thing, because the heat is even throughout the whole [body], and especially because of habituation:

[The following long passage is inserted here in A, printed by Hayduck in the apparatus:]

[293A] since the apprehension of sense-objects is nothing other than discernment of the affection produced in the sense-organ by the sense-objects. For when the sense-organ is put into this or that state by the sense-object the power in it apprehends the affection which occurs in its own subject. And this is what it is to perceive: the discernment, by the power to perceive, of the affection which occurs in that which perceives (loco in the sense-organ) by the agency of the sense-objects. Since, then, sense does not apprehend the sense-objects except with the sense-organ, and apprehension is nothing other than discernment of the affection occurring in the sense-organ, and nothing is affected by itself, but [only] by what is other and unlike, it is reasonable that when the sense-organs are in their natural state we do not perceive them, since there is no affection occurring in them. But when the sense-organ is affected in some way by some humour that is contrary to nature, it is reasonable that sense apprehends the affection occurring in it. For just as the senseobject outside put the sense-organ in a certain sort of state, and sense apprehended this sort of state, so also when the humour that is contrary to nature occurs within, it puts the sense-organ into a state.

And if the affection, he says, occurred within and not through the agency of things from outside, why is it that we do not also, when we have our eyes shut, perceive the affection occurring in the sense-organ?³⁰² I reply that for the apprehension of the sense-objects there is need, not only of the sense and the senseobjects, but also of a medium, and this must be transparent, and [294A] [there is need] in addition of light. Indeed, we see neither the rheum lying on the eye, even if there is light, because there is no medium between the eye and the rheum or it is very small in extent, nor at night do we see the colours that are nearby, I mean those from outside, although there is something in between, because there is no light. That, then, is why when our eyes are shut we do not see.

20

5

10

But when the optic pneuma has gone out to the outside, to air that is lit up, since it goes out, clearly, because it has been affected in some way or is in a state contrary to nature, then the perceiving power in it, using the lit up air as an instrument, perceives the affection that has occurred in its proper subject; and since when the optic pneuma has gone outside, the power in it apprehends it [sc. the affection] outside the eye, for that reason it [sc. the power] attaches the affection in its own senseorgan around the things outside,³⁰³ just as taste puts the quality proper to the humour³⁰⁴ to the food. And also people suffering from dizziness assign their own affection to things outside.³⁰⁵

Those, then, who suppose there is optic pneuma³⁰⁶ give this solution to the problem: a solution persuasive. I think, and not forced. What would those say who suppose activities? What else but what they say over reflection, that the activities are by nature such as to be bent. Here too, then, when colour occurs in the eye its activity going out is reflected from the air because of the weakness of the power arising from the state contrary to nature of the sense-organ, and then travels back to the eve and provides us with apprehension of itself. But the account will not fare equally well for these. For why do we not also see the colour of the cornea, and of the other things in the eve? What prevents the activity of this too from going out and being reflected back? For the colours, whether the subjects [which have them] are in a state contrary to nature or not, themselves act as colours, and the purer they are the more they act, even if they are ten thousand times contrary to nature in the subject. The white leprosy in the body, then, and the vellowness in the jaundicesufferers act on sense no less than in other subjects where they are natural. For it is the colour that acts, not the subject.

And the little insects that seem to be seen outside befall those starting to have cataracts from the same cause. Interception occurs by the agency of thick humour, or an accretion occurs in the optic nerve around the pupil at that part at which the humour falls, and not through the whole of the sight-organs that make apprehension, and because of the inability to see there seems to be something, because the sense apprehends from all the parts, and the accretion is only at that part. And according as is the shape of the humour which it has from that state, and also its size, the things that are imagined outside also appear.³⁰⁷

since also when the liquids in the stomach and the other cavities are 293,25 in a state of proportion according to nature we do not perceive [them], but when they [**294**] go to excess or defect contrary to nature, then we acquire consciousness of them. For when the animal is in its natural state it is removed from pleasure and distress, but when it is brought

40

25

30

20

101

to its natural state, being conscious of this very thing it experiences pleasure, and when it is brought to a state contrary to nature, it experiences distress. 308

But [the problems] concerning the humour that gathers in the eye, 5 how we see it, and how when the sense-organ is in its natural state we do not apprehend it, but when it is in a state contrary to nature we apprehend it, are not yet resolved through what has been said. For the account given fits only the sense of touch. But taste too when the sense-organ of taste is in its natural state does not apprehend the

- 10 flavour that is present in the moistness in the sense-organ, but when it is in a state contrary to nature it apprehends; as in diseases [it apprehends] sourness, perhaps, or saltiness or the like.
- 295,1 [295] 417a4-6 Although there are present in them fire and earth and the other elements, and sense is of these in themselves or of things incidental to them.
 - The elements have qualities of which some are substantial and 5 essential,³⁰⁹ and some incidental. Touch apprehends of the substantial qualities, namely heat, coldness, moistness, dryness; for these qualities are form-making for them. Those that belong to them incidentally, such as colours, sounds, odours and the others, the other senses apprehend.
 - [The words] 'in themselves or of things incidental to them' [nominative] are in place of 'in themselves or of things incidental to them' [genitive]; he has used the nominative in place of the genitive. Such a usage is frequent. 'The two rocks, one approaches broad heaven' [Homer, *Odyssey* 12.73], in place of '*Of* the two rocks'.

417a6-9 It is clear, then, that that which perceives is not in act but only in potentiality, [and that is why it does not perceive, just as that which is burnt is not burnt all by itself without that which burns; for [if it were] it would burn itself, and there would be no need of what is fire in act.]

- 15 Here is the solution to the problem. Since, he says, the sense is in potentiality and not in act, it will not apprehend if there is not present what affects it and advances it to act, just as neither does that which is burnt, such as wood or olive oil, burn itself if fire is not present. The sense-object, then, is analogous to fire and the perceiving power to that which is burnt.
- 20 **417a9-14** But since we say 'to perceive' [*aisthanesthai*] in two ways, for we say that that which hears and sees in potentiality hears and sees, [even if it chances to be asleep, and also that that

which is already acting, sense [*aisthêsis*]³¹⁰ too should be said in two ways, as being in potentiality and as being in act, and likewise too 'to perceive',³¹¹ that which is in potentiality and that which is in act.]

Since he has said the sense is in potentiality when the sense-objects are not present, and that it comes to be in actuality when they are present, he wants to confirm this very thing. Just, he says, as 'a perceiving thing'³¹² is twofold. [that which is a perceiving thing] by virtue of the disposition, as we say that a man who is asleep is one 25 that perceives, and [that which is a perceiving thing] by virtue of the activity, as is the man who is awake and already acting with his senses, so too, he says, the perceiving power and its activity – I mean perceiving itself – are said in two ways, of what is in potentiality. I mean that which has the disposition but is not, however, acting, and of what is already acting. He uses the first 'to perceive' in place of 30 'perceiving thing' [aisthanomenon], that is, for the actual composite thing [sc. the perceiving animal]. 'Sense too should be said in two ways': that is, the perceiving power; and 'likewise too the [act of] perceiving', that is the activity. From which it is clear that 'since "to perceive"' is in place of '[since] the perceiving thing'.

[**296**] **417a14-20** First, then, we speak³¹³ as though to be affected, to be changed and to act were the same. [For in fact change is a kind of activity, but imperfect,³¹⁴ as was said elsewhere. Everything is affected and changed by the agency of that which affects and is in act. Hence there is a way in which it is affected by what is like and a way in which [it is affected] by what is unlike, as we said; it is the unlike that is affected, and when it has been affected it is like.]

Having spoken and raised the problem in the middle why the senses do not also perceive themselves, and given the reason for this, that that which affects is not present, he passes to showing how when it 5 is affected it [sc. that which perceives] is affected in a way by what is of the same substance, and in a way by what is unlike. The solution of the second problem has in potentiality resolved this too, as we showed. But here he shows this same thing on its own. Since, then, what is said here follows the text 'They³¹⁵ say also that like is affected by like. In what way this is possible or impossible has been said indeed also in our general discussion concerning affecting and being affected' [416b35-417a2], if to this we add 'and must be said now',³¹⁶ what is said now, 'First, then, we speak as though to be affected and to be changed and to act were the same', would come next.

But since he has said that sense comes about in being changed or affected, and because of this raised the general problem concerning

296.1

- 15 being affected: by the agency of what does it occur and how? Is it by the agency of what is like, as some people think, or by what is unlike, as others [think]? And since this very thing does not seem sound, that sense should, without qualification, be affected and altered (for the activity, perceiving, is not being both changed and affected by something else, as he will show next) he now says that we are speaking as
- 20 though it were the same to say that the senses are affected and changed and [to say that] they act; [we are speaking thus] until we draw the distinction, [and say] that for the senses to act is not the same as for them to be changed and affected. For even if change is a kind of activity, activity is more universal than change, and change than being affected. For everything that is affected is also changed, and everything that is changed acts, but it is not also the case that
- 25 what acts is also changed. For activity, as he himself draws the distinction in the *Physics* [3.2], is the putting forth of the disposition all at once, whereas change is an incomplete activity. For the journey from being in potentiality in the first way to the disposition is a change. Inasmuch, then, as change is a kind of incomplete activity, to that extent activity and change seem to be the same. But in that activity is not the advance from the incomplete to the perfect, in that
- 30 respect change is not the same as activity. And just as 'state' is said in a more common way that applies also to a disposition, and also in a more particular way in contradistinction from a disposition, so too 'activity' is said both in a more common way of every change, and also it is said in contradistinction from change; because a change is the advance from what is in potentiality in the first way to [what is in
- 297,1 potentiality] in the second of one of the things concerning³¹⁷ [**297**] the substance, the substance being preserved, while an activity is the perfect putting forth of a disposition, the disposition becoming in no way more altered. And activity which is in reality perfect is the putting forth of the disposition all at once, which does not progress along with the process of time, but is alike in every part of it, as is the
 - 5 putting forth of light; for simultaneously with the appearance of that which lights, all that is suitable is illuminated all at once; the activity of light does not progress along with the process of time, but is alike in every part of it. Such is the activity of sense also. Simultaneously with looking we apprehend the sense-objects in a non-temporal way.³¹⁸ Hence he does not say that the senses are changed but that
 - 10 they act.

That, then, is genuinely activity. Hence also he says concerning the divine things³¹⁹ that they are activities without potentiality. But a change like learning is the change of the disposition part by part to the perfect from the imperfect. In between these³²⁰ are the thinking changes or activities, and anything similar there may be; these are neither genuinely changes (for there is no change of the disposition) nor altogether activities; for neither are they the same in every part

of time, nor does their putting forth from the disposition occur all at once, but one premise is before another, and the conclusion is last. So this sort of thing is neither change without qualification nor activity without qualification, unless one were to divide what is genuinely activity into what is all at once and partless and what has parts. That is why also in what went before he said that even thought is a change 20 of the combination of both [408b14-15]. But thought too has an intuition of each of the terms all at once, and it is possible to take each as an object of cognition, which does not happen with change - I mean natural³²¹ change. For even if a thing is changed all at once in each of the successive completed changes,³²² still the natural end certainly cannot occur like this, as, in the case of things that change in place. 25what is between. For this is not the natural limit either for heavy things or for light. In this, therefore, thought too is an activity in a wav.

And as activity extends more widely than change, so too does change than affection. For that which is affected is changed in a way; there is no affection without change. But what is changed does not have to be affected also. For it is not the case that change in respect 30 of place too is an affection. For being affected is spoken of relatively to affecting, and to affect is to change in respect of quality; for 'affect' is from 'quality'.³²³ It follows that to be affected too is to be changed and mutated in respect of quality. So if change is in the three categories of quantity, quality and place where, and to be affected is only in quality, it follows that change extends more widely than affection. And activity than change. But in a way they are the same, 35 since change is a kind of activity, and affection a kind of change. But activity is not predicated of change as genus, nor is change of affection, but it is an equivocal word.

In a little while he will show the difference between them, as I said. But now [**298**] he speaks as though they were the same, saying how 298,1 what is affected is both affected and changed by something. Altogether he uses these as the same, because in a way they are the same, as we said, and he, following customary speaking, uses them as the same. And above, indeed, where he said that the soul is cause as that from which change has its source, he said it is cause also of alteration, 5 for it is cause of perceiving, and this is alteration. Alteration is an affection. As though acting, being changed and being affected were the same³²⁴ in the case of sense, he takes being affected and says how it comes about.

What is affected, he says, is affected by something that affects. For affecting and being affected are relative to one another. In the *Phys-* 10 ics^{325} it was shown that that which affects something is in act when it affects the thing affected, which is in potentiality like what affects it. If the thing affected, which is not yet this in act but [only] in potentiality, becomes this by the agency of that which affects it and

is such in act, in one respect it will be affected by what is like (for the thing affected is in potentiality like that which affects it), but in another [it will be affected] by what is unlike (for in act it is unlike;

- 15 for to be something in potentiality and in act are unlike). When, however, it has been affected, it is like. For the end of the one thing's affecting and the other's being affected is when the thing affected has been made like the thing that affects. For that which warms, warms that which is in potentiality hot but in act cold just up to that point at which it makes it similarly warm to itself, and when it has become
- 20 similar it is no longer affected by it. For nothing is affected by what is like. For even if the light of a lamp is affected by a flash, (for it is quenched by it) even so it is affected by what is unlike; for it is affected as deficiency by excess. Two flashes of equal strength will not be at all affected by one another.

 ${\bf 417a21}$ We must draw distinctions about potentiality and actuality.

- 25 Intending to make a division³²⁶ of being affected and acting, and show the difference between them (for he said that up to now we are speaking as if being affected and being changed and acting were the same thing), he says we ought to make a division both of potentiality and of actuality. For he used the name 'potentiality' in connection with sense [417a7],³²⁷ and thereby solved the problem he raised about
- 30 why sense does not perceive itself. But he also [417a10-13] divided sense into that which is in potentiality and the activity in the same way as to perceive. For he showed that this³²⁸ is said in two ways. Since, then, the name 'potentiality' is not simple, he chooses to draw distinctions generally concerning potentiality and actuality, [saying] in what they differ from one another, and what each of them is, and
- 35 in how many ways 'in potentiality' is said. At the same time he will show through this that sense in act is not an alteration or a change.
- 299,1 For it is not the case that what is in just any way in potentiality [**299**] is altered when it changes to activity, as up to now he has taken as being the case, because he has not made the division and said in how many ways a thing can be 'in potentiality'.

417a21-2 For now we are speaking³²⁹ of them in a simple way.

5 'In a simple way', that is, we are speaking without drawing distinctions concerning both potentiality and actuality, not knowing what the difference is between them and what each signifies and in how many ways it is said. And he says 'now' because a little while ago he used 'in potentiality' in connection with sense, and 'being in act' and 'activity' in connection with affecting and being affected. For he said that all things are affected by that which affects and is in act. Or³³⁰

by 'now' he means down to the division that is being made by him of what is in potentiality and what is in act.

417a22-5 For a thing can be a thing that knows in the way in which we should say a man is a thing that knows, in that a man is one of the things that know and have knowledge, [and a thing can be [a thing that knows] as we say that what has knowledge of writing is a thing that knows.]

He draws a distinction over that which is in potentiality and shows it is twofold. For we say that that which is by nature such as to receive 15the disposition and is able to receive it is in potentiality of a certain sort, as we say that man is in potentiality a knower, because his nature is receptive of knowledge, and according to this meaning we say that matter too is in potentiality: and we also say that that is in potentiality which already has the disposition but is not acting in accordance with it. For indeed the musician when he is not acting is said to be in potentiality a musician. This is the potentiality which he 20earlier said was the first [sort of] actuality, in which he showed that the soul too is placed. For it is on the borderline between the first [sort of potentiality and the second [sort of] act. Hence it is called in both ways. And what is the difference between each 'in potentiality'? He draws the distinction clearly saving:

417a26-9 Each of these is able, [but] not in the same way, but 25 the one because its genus is such and its matter, the other because if it wishes it is able to contemplate, so long as nothing from outside impedes. [And there is the man who is already contemplating, who is in act and genuinely knows this [letter] A.]

A man is said in a common way to be a knower, because the nature of man is receptive of knowledge. For this is what 'genus' and 'matter' mean for him, [they are used] in place of 'the very nature of man' and 'the very subject'. For he calls the subject too 'genus'. In accordance with this meaning we said too that the matter is in potentiality; for all matter is in potentiality that of which it is the matter, by virtue of being able to receive it. The other meaning of 'in potentiality' applies to that which already has the disposition and is not acting, in that if it wanted to act [**300**] it would act, if nothing impedes. So this too is in potentiality. But that which, in addition to having the power, is also acting according to it, is said to be already in act. He indicated knowledge in act by adding 'this [letter] A'; for this is the man who is acting according to knowledge of writing, the man who is saying or writing 'A'.

30

300.1

 $\mathbf{5}$

417a30-b2 [Both the first then, being in potentiality things that know. [come to be things that know in act].] but the one when it has been altered by learning and changed many times from the contrary disposition. [whereas the other from having knowledge of arithmetic or writing but not acting [passes] to acting in another way.]

- He shows by examples how the two ways mentioned of being in potentiality differ: that which is in potentiality a knower according to 10 the first meaning of 'potentiality' is altered by learning to having that of which it is capable, and this, by changing many times from the contrary disposition.³³¹ becomes a knower [sc. in potentiality in the second sensel. For it changes either from ignorance to cognition or at least from false opinion to true, of which the first is a change from a lack to a form, and that is genesis and not alteration, while
- 15the second is a change from contrary disposition to contrary, and that is properly [called] alteration. For alteration is change from what has been made to have form to what has been made to have form, the same subject remaining. Alteration is [strictly speaking] this: but he having now in rather a blanket fashion spoken of the change from being in potentiality to being in act as alteration, will shortly correct this too, and draw a distinction as to what it is which is properly called 'alteration'. But that which advances from
- having a sense or knowledge but not acting to acting to which the 20second meaning of 'in potentiality' applied – does not come to be,³³² he says, through alteration, nor through change, but it is in another way that what is in act arises out of this sort of thing in potentiality, and it is similar both with what has knowledge but is
- 25not acting and with sense. [He says] 'in another way' meaning that such a thing does not become altered somewhat, but only sets forth the activity.

What is in potentiality, then, and what is in act being twofold, what is in potentiality is always said to be in potentiality relative to the absence of something, and what is in act [is so called] relative to the presence of the activity.³³³ What is in potentiality in the first way is so called relative to the absence both of the disposition and of the activity, what is [in potentiality] in the second [is so called] relative to the absence of the activity.³³⁴

- 30
- 301,1 [301] 417b2-7 Even being affected is not just one thing, but one [sort of being affected] is a kind of destruction by what is contrary, the other is rather a preservation [by that which is in actuality of that which is in potentiality and like in the way in which potentiality is [like] to actuality. For that which has knowledge comes to be contemplating, which is either not being

altered (for the progress is to the thing [itself]³³⁵ and to actuality) or another genus of alteration.]

Having done a division of the different things signified by 'in potentiality' and 'in act' he now wants to show that even being affected is not just one thing – taking being affected and being altered as the same, as he makes clear a little further on. For having said [417b12-15] 'But that which, [starting] from being in potentiality, learns and takes knowledge from that which is in actuality and is teaching, is either not to be said to be affected [at all]', having said this he adds 'or [we should say that] there are two modes of alteration' – speaking of being affected and being altered as the same.

He says, then, that being affected is twofold, the one leading to 10 destruction, which is also genuinely both affection and alteration, the other to perfection, which is not properly called affection or alteration but rather genesis. And if I may put it briefly, what is in potentiality being twofold, if there is change from what is in potentiality in the second way (that is, through having the dispositions) to activity, it is not alteration or affection at all, seeing that 'being altered' is said, for instance, of something that is whitened or blackened, which while 15remaining in substance and subject the same, has a change in respect of a quality that is affected, <and>³³⁶ changes from contrary quality to contrary and in changing has its disposition destroyed. But that which changes from having the disposition but not acting to acting does not have its change in respect of any quality. It is not because one quality is destroyed that it changes to another, but with the 20disposition remaining it sets forth the activity alone. For we should not say that the builder is altered when he changes from not building to building, or the geometer when he sets forth his theorems.

In the case, then, of the change from what is in potentiality in the second way to what is in actuality in the second way it is obvious that no one would suspect it was alteration; or if someone felt a need to 25call this too 'alteration' he [sc. Aristotle] says it would be a different genus of alteration, and not what is so called in customary speaking; that is change in respect of qualities that are affected, when what is changing changes from contrary quality to contrary, with the subject remaining the same. But the change from what is in potentiality in the first way to what is in potentiality in the second, but in actuality 30 in the first, if it changes from contrary to contrary, is alteration, as when something from hot becomes cold and from white black. For contrary is in potentiality what its contrary is. But when the change is from lack to form, that is genesis and not alteration, as when from what is not a man a man arises, or from what is not fire, fire, and in like cases. Either not even this, then, is properly alteration, but 35simply genesis, or there must be two modes of alteration, the change from lack to form and that from contrary to [302] contrary. 302.1

And the change from contrary to contrary is a kind of coming to be and a kind of passing away, and not coming to be without qualification, as is said in the *de Generatione* [1.317b1-18], a passing away of that from which there is change, and a coming to be of that to which there is change.

417b2-4 Even being affected is not just one thing, but one sort of being affected is a kind of destruction by what is contrary, the other is rather a preservation by what is in actuality of what is in potentiality and like [in the way in which potentiality is [like] to actuality. For that which has the knowledge comes to be contemplating]³³⁷

It seems that everything that changes from being in potentiality to actuality is affected and altered, but it is not so. That is why he, having applied to everything that changes from being in potentiality to actuality the name 'affection', which is the same as to say 'altera-

- 10 tion' (for he said: 'The one [kind of being affected] is destruction by what is contrary', for black is destroyed when white comes along; this is what is in potentiality in the first way; for contrary is in potentiality what its contrary is, since it is by nature such as to change to it; [and:] 'And the other [kind of being affected] is perfection';³³⁸ for acting in accordance with the disposition is the perfection of the builder and of
- 15 the others who know), [that is why] here, having predicated 'to be affected' (that is, 'to be altered') in a common way of all that is in potentiality, because the customary speaking pays no attention to the difference between these names, he will next give an account with articulate distinctions and say what is genuinely alteration and what is either not alteration at all or this whole thing, equivocal alteration. And he will say the things we have already said in the continuous exposition.³³⁹

20 And having said that one of the changes occurs with contrary being destroyed by contrary, and the other [occurs] by the agency of what is like, he shows the way in which that which affects and that which is affected are alike, adding 'like in the way in which potentiality is [like] to actuality', which is equivalent to 'as disposition is to its own activity'. For the activity that comes from a disposition is like to it as

- 25 its own function and its own activity is to each thing of which it is the function. As building activity, then, and geometrical activity are both like to the disposition of [knowledge of] building or geometry, so that which has a disposition is like to that which has the activity, by which it [sc. what has the disposition] is advanced to activity, the one affecting, the other being affected. For since thinking and perceiving
- 30 occur by virtue of taking the forms that are objects of intellect and sense-objects respectively, that which is in act thinking and that which is in act perceiving are both in a way the same as the objects

of intellect and as the sense-objects. Sense, then, is in potentiality what the sense-object is, and intellect what the object of intellect is, in the way in which a disposition is like its own activity. Just, then, as the disposition when the activity is present acquires its own perfection without being destroyed or altered, so too the sense, being in potentiality what the sense-object is (in potentiality in the dispositional way) is advanced to activity by the sense-object which is in act and is made like it in the way in which it is by nature such as to be made like it. For just as we say that the wax is in potentiality what the ring is. [303] and when it is imprinted by it becomes in act what it is, not because the wax becomes what the ring is in matter, but because it receives its imprint in its surface, so also in the case of the senses, when we say that they become what the sense-object is, we should think not that sight becomes white or black, but that the 5 senses receive in themselves the forms of the sense-objects without the matter in a cognitive way.

Having said that this sort of undergoing and change is a preservation of what is said in this way to be in potentiality, he shows how it is a preservation by adding for that which has the knowledge comes to be contemplating'. For its own activity is the preservation of a disposition; those, at least, who act in accordance with their dispositions preserve them more.

Through this [addition] he at the same time explains what he meant by 'in the way in which potentiality is to actuality' [at 417b4-5]. and shows what sort of potentiality and actuality he is speaking of, that it is the second sort of potentiality, the dispositional, and the second sort of act. For this is the perfection and preservation of its own power, just as the perfection and preservation of the contempla-15tive disposition and knowledge is contemplation itself.

417b6-7 Which is either not being altered (for the progress is to the thing [itself] and to actuality) or another genus of alteration ³⁴⁰

One who has knowledge and then sets forth its activities³⁴¹ would not be said properly to be affected and altered by virtue of the very setting forth of the activities; for no change occurs in this case but only perfection and manifestation of the disposition. Either, then, this is not genuinely alteration, or if anyone feels a need to call this too alteration, it must be another genus of alteration and equivocal, and not the one spoken of in ordinary speech and said in connection with change [metabolê] of quality, which we also call change [kinêsis].

'For the progress is to the thing' is strongly indicative that this sort 25of thing is not alteration, since it is alteration when the subject remains the same in respect of substance, but in respect of affection there is change from one thing to another, and what was present

303.1

35

111

before passes away, whereas that which is proceeding to its own perfection makes its progress to itself; it remains the same and does not change from one form, which is destroyed, to another.

30 **417b8-9** Therefore it is not well to say that what thinks, when it thinks, is altered, just as neither is the builder when he builds.

Just as the builder when he has got so far as to act does not sustain any alteration in respect of his skill, so neither does one who knows when he acts according to his knowledge, nor that which perceives when it perceives. The change is from inactivity to functioning, not from form to form, which is what alteration does

- 304,1 [**304**] **417b9-12** Bringing to actuality from being in potentiality according to³⁴² what thinks and judges should rightly have not 'teaching' but some other appellation.
 - That is, what is viewed according to the second [sort of] potential-5 ity,³⁴³ as is that which judges,³⁴⁴ when it is brought to the second [sort of] act, would not be said to be taught by that which brings it to the activity. For it does not learn from what changes it, that is, from the object of knowledge or the sense-object; for it is not affected in any way by it, so that neither does the latter [the object] affect [it].

417b12-16 But that which, from being in potentiality, learns
and takes knowledge from that which is in act and is teaching, etc. [either should not be said to be affected [at all], as has been said; or else [we should say] there are two modes of alteration, the change to the states of privation and the change to the dispositions and nature.]

That is, what is in potentiality in the former way, such as what is receptive of knowledge, for instance a child, when it is advanced to the disposition by something that is in act a knower. Having said how it is with the change from what is in potentiality in the second way to activity, he now speaks also about the change from what is in poten-

- 15 tiality in the former way to what is in act in the former way, as is the child that is being brought to knowledge. What is changing in this way, he says, we shall say is not affected at all. For being affected is properly said, according to the usage of customary speech, of things that are destroyed. Or, if this too is to be called 'being affected', he says, there should be said to be two ways both of being affected and
- 20 of being altered. One is when something changes to a lack, being made to pass from knowing to not knowing, and it is this that is genuinely affection, since affection is a kind of destruction and change to what is worse (for things are genuinely affected if they become

worse) – and also when something changes from contrary form to contrary (for here too there occurs a kind of destruction of that from which the change [occurs], and for that reason this is affection). The other is when [something changes] to perfection and to its nature, that is, to that to which it is by nature such [as to change] and at which its nature aims, like what is receptive of knowledge when it gets so far as to receive knowledge. For when it changes to that to which it is by nature such [as to change], the change in these cases too is to perfection in a way, and the progress is to itself, though not in the same way as with what has the disposition; for in these cases the change is from lack to disposition,³⁴⁵ not from disposition to activity.

Earlier [417b2-7], then, when dividing affection he said that one 30 [sort] is when things change from contrary disposition to contrary and are said to be in potentiality in this way, while the other is when things go forward from the disposition to the activity. But now [417b8-16] it is not like that, but [he says] the second is not an affection at all nor an alteration (and therefore the change [metabolê] in this respect is neither a change [kinêsis] nor teaching), and divides 35 the case of what is in potentiality in the former way into two, into what changes to a lack, which he says [**305**] is genuinely being affected and altered, and what changes to the disposition from a lack, which is neither an affection nor an alteration except equivocally.

417b16-19 For that which perceives, the first change occurs by the agency of that which generates; [and when it has been generated it then also has perceiving as [one with the disposition has] knowledge. [Perceiving] in act is spoken of in the same sort of way as contemplating.]³⁴⁶

Having made a beginning of his discussion of the senses and proposed 5 to treat in a common way of every sense, and having then said that perception comes about in being changed in some way and affected (for it seems to be a kind of alteration), having said these things [he raised the problem]³⁴⁷ generally about that which affects and that which is affected, whether like is affected by like or contrary by contrary. And to this problem he joined another problem, why sense 10 does not apprehend its own sense-organs, since they are senseobjects. Giving a solution to this problem he said that sense is a power,³⁴⁸ not an activity; therefore just as that which is burnt is not burnt by its own agency without something that burns, so too sense does not apprehend its own sense-organ, since indeed it cannot act 15outside of it. Since, then, nothing itself affects itself or is affected by itself, and sense perceives by being affected, it is clear that it could not apprehend itself, that is, its own sense-organ, with which it produces its activities, since neither can it affect itself.

Sense, then, is twofold, he says, that which is in potentiality and that which is in act, and similarly perceiving. And that which is
affected, he says, is affected by that which affects and is in act. For wood, which is in potentiality what fire is, is affected by what is in act fire, and the pupil, who is in potentiality what the teacher is, is affected by the teacher who is in act. Before being affected, then, what is affected is unlike what affects, but having been affected it is like it.
So there is a way in which like is affected by like, and a way in which

it is affected by unlike. If we contemplate what is in potentiality a thing affected, it is unlike that which affects and often, he says, even contrary; but if [we contemplate] what is already affected, it is like.

Then, since in general he had recalled being in potentiality and being in act and affecting and being affected, he here made a division of both and said that what is in potentiality is twofold and what is in act is twofold, and that to be affected too is twofold, the one destruc-

tion by what is contrary, the other rather preservation. Then he said how it is with sense as regards being affected, that it is affected by the sense-object not in being brought to destruction, but to perfection. Having said these things he now says how it is, also, as regards being in potentiality and in act. For since that which is in

- 35 potentiality is twofold, one first and one second, one by virtue of the suitability only without the disposition, and one by virtue of the disposition without the activity, he says that semen and in general the matter of the animal is in potentiality a thing that perceives by virtue of suitability. [306] For as the child that is just born stands to
- 306,1 virtue of suitability. [**306**] For as the child that is just born stands to being one who knows how to write, so too the matter of the animal stands to being a thing that perceives. What is it, then, that brings what is in potentiality in the first way to the disposition, that is, to what is in potentiality in the second way but in act in the first? It is that, he says, which generates. For it is in gestation that the suitabil-

5 ity is brought to the disposition. Just, then, as one who is literate in act brings the child to the disposition [of knowing how to write], so too nature in the mother brings the semen and in general the matter of the animal to sense as a disposition. Gestation, then, is an alteration and a change of that which is by nature such as to perceive to sense as a disposition. And when it is delivered, it already has the

10 disposition. For when there has arisen in it the perfect disposition to perceive by every sense, straightaway it comes to be delivered; for that is how the animal is generated with the perceiving disposition.

The change, then, from what is in potentiality in the first way to the disposition occurs in gestation by the agency of the nature in that which generates; but [the change] from the disposition to the activity [occurs] by the agency of the sense-objects. Hence simultaneously with being generated, if the sense-object is present, the thing generated apprehends. That is why it immediately raises a wail when it

15 falls into unfamiliar and cold air, and has commerce not only by touch

with the surrounding air but also by sight with light. It is clear that just as it perceives these things, so too if the sense-objects of the other senses should be present it will necessarily be affected, by sounds, I mean, and tastes and odours.

So it is for the perceiving soul with both being in potentiality and being in act and the change in respect of them. From the suitability 20 to the disposition that which generates lis responsible for the changel.³⁴⁹ and from the disposition to the activity the sense-objects. when they are present together with whatever other things are needed for their apprehension, such as, in the case of things seen. light and the transparent, and that pure and unmuddied, and for sounds, the sound-vehicle.³⁵⁰ and for objects of smell, the smellvehicle

But since in the rational soul too what is in potentiality and what 25 is in act are twofold, what in the case of this is responsible for the change? When it is outside bodies it is separated altogether from what is in potentiality in the first way; it is intellect that is pure and has all the objects of intellect dispositionally; but when it falls into [the world of] coming to be, like one who knows under the influence of disease or time or a bath,³⁵¹ it changes from knowledge to ignorance and becomes a thing that knows in potentiality in the first way. 30 having the suitability only, not the disposition. It is brought to the disposition by the teacher, or also by sense-objects, when it itself enquires and discovers and through particulars ascends to universals. But when it has acquired the disposition, then it has wish as the productive cause of changing from the disposition to the activity. For 35 whenever it chooses it sets forth to activity the accounts within it [For this reason sense needs something from outside to advance it to activity,]³⁵² I mean the sense-object, but intellect needs nothing from outside, but [307] itself advances itself.

He gives, then, the explanation of this, that sense has apprehension of something particular, and what is particular is a kind of body; it is reasonable, therefore, that it is from outside. But intellect apprehends universals, and universals are accounts.³⁵³ and these are not from outside but within the soul itself. Hence intellect does not need anything from outside to perfect it.

He says [417b18] [that what is generated] straightaway 'has perceiving as knowledge' not because animals have knowledge straightaway on being generated, but because he wants to show how sense is twofold, that which is dispositional and that which is in act, and he says the dispositional sense is like the presence of knowledge; so he adduces knowledge as a model. For sense has the perceiving 10power as a sort of knowledge. For as one who learns changes through learning and has knowledge, so also that which is generated straightaway has dispositional sense; what for the former is learning, for the latter is generation.

307.1

 $\mathbf{5}$

And if, straightaway from generation, it has dispositional sense, it follows that it is not through alteration that perceiving in act arises. 15just as neither does acting in knowledge³⁵⁴ arise by alteration. And perceiving 'in act is spoken of in the same sort of way as contemplating' [417b19]: <for> just as perceiving in potentiality is similar to having knowledge, so perceiving in act is similar to contemplation in knowledge.

20 417b19-26 But there is the difference that for the one, the things productive of the activity are from outside. [the thing seen and the thing heard and similarly too the rest of the sense-objects. The reason is that sense in act is of particulars. whereas knowledge is of universals, and these in a way are in the soul itself. That is why thinking rests with the person himself, whenever he wishes, but perceiving does not rest with him: for it is necessary that the sense-object be present.]

Having said that perceiving in act is like contemplating, he also says how they differ: that the things which are productive of sense in act are outside (for we perceive when sense-objects fall upon us from outside). but the things contemplated are not from outside.

Then he adds the reason why some things fall upon us from outside and others not: that sense is of particulars, and these are leachlin its private existence.³⁵⁵ and the animal has need of these for its being (for it is with an eve to the need for these that sense is given to the animal), but knowledge apprehends universals, and universals, he

30 says 'in a way are in the soul itself'. He is accurate in adding 'in a way'. either because 'in it' is like 'in a certain place' (as he himself also says in what follows [429a27-8], 'and they say well who say that the soul is the place of forms'), but they are not, of course, genuinely in [it as a] place, but by analogy; or else because the existence of universals too is in particulars, but when they are taken as universals and common they come to be in the soul. For their existing as common 35 consists in this, that their commonness is thought of,³⁵⁶ [308] and thoughts are in the soul.

308.1

25

He says 'That is why thinking rests with the person himself', not 'with it' [sc. the soul], that is, [it rests] with the person who has the soul.

417b26-8 And it is like this also with those kinds of knowledge that are of sense-objects, and for the same reason, [that senseobjects are things that are particular and outside.]

5 Not only, he says, does sense, being concerned with particulars and sense-objects, need things from outside to be present in order to act, but also those kinds of knowledge³⁵⁷ that are concerned with sense-

objects do not have it within their power to act whenever they wish. but with them too as with sense there is need of the presence from outside of that concerning which their activity occurs. For indeed they 10 too are occupied with things that are particular and from outside and in private existence, like the man of politics, the engineer, and in general the men of particular skills, for the knowledge of these people is concerned with particulars. For instance, the man of politics considers if one ought to choose this general,³⁵⁸ and the builder, if one should use this stone; but the consideration of these things, though they are particular, belongs to knowledge, clearly, not to sense. 15Contemplation in the arts that is universal rests with them [sc. the skilled menl, but the contemplation concerning the particulars that comes from the arts is not also in their power: for there is need also of matter and organs.

417b28-418a1 But concerning these things there should be an opportunity to make clarifications later too. [For the present, let the following distinction suffice: what is said to be in potentiality is not just one thing, but there is that which is [in potentiality] as we should say the boy is able to be a general, and that which is as the man of the right age, and it is thus with that which perceives.]

[Clarifications about] how the contemplating of universals is in our 20 power, and how practical intellect apprehends particulars. The consideration of these things is now deferred; for he will speak of them in the third book. But he recalls to us the thing for the sake of which he made the division of what is in potentiality and what is in act. For it was to show in what way animals, when they are not perceiving, are said to have sense in potentiality. It is according to the second sort of potentiality, which is already predicated in connection with those that have the dispositions, and in their case neither being affected nor being altered is properly spoken of. The progress is to the thing itself, and the change is not to what is contrary, as he said.

418a1-3 But since there is no name for the difference, but the distinction has been drawn about them [showing] that they are other and how they are other, we must use 'to be affected' and 'to be altered' as proper names.

Since he has used 'to be affected' and 'to be altered' of [**309**] perception 309,1 in act, and he has said that to perceive is neither to be affected nor to be altered, he tells us the reason for using these names in connection with perceiving and says that since 'there is no name for the difference' between these potentialities (for we do not have each of the potentialities discerned by a name of its own), but we have learned by 5

an account what the difference between these potentialities is, it is necessary for us to apply to them 'to be affected' and 'to be altered' as if they were the proper names, because, as he says, names for them do not lie in customary speaking.

418a3-5 That which perceives is in potentiality as the senseobject already is in actuality, as has been said.

Since he intends to say that that which perceives is affected by the sense-object, he plausibly assumes this in advance, that what perceives is in potentiality as the sense-object is in actuality. And he has already said this in advance also when he enquired whether like is affected by like or by unlike. That which perceives is in potentiality

- 15 as the sense-object according to the second sort of potentiality. For it is not by being affected in any way or by changing from the contrary state that it is made like it, but by receiving its form, not by coming to be as matter to it. For the sense does not become white when it has received the form of the sense-object (which is why it is not properly said either to be affected or to be altered) but it receives the account
- 20 of the form in a cognitive way in itself. For just as we say that the wax is in potentiality what the ring is, because when it is affected by it it becomes what the latter is in act, not having received its matter but only the form, so too sense, when it is affected by the sense-objects, takes the impress of³⁵⁹ their forms in a non-corporeal way. But there is the difference that the wax itself becomes the matter of the form that is in the ring, whereas the sense does not become the matter of
- 25 the sense-object, but takes the impress of the form of it in a cognitive way. And sense has something more beyond the wax. For the wax, even if it becomes the matter of the form in the ring, still does not receive the form through the whole of itself, but on the surface, whereas the perceiving power, the whole of it through the whole of itself, takes the impress of the forms of the sense-objects in a vital fashion.
- 30 **418a5-6** It is affected, then, being not like, but having been affected it is made like and is as the latter is.

Having said above how that which is affected is said to be affected both by what is like and by what is contrary, he fits this also to sense, [saying] that before being affected by the sense-object it is not like it

- 35 in act, [but having been affected]³⁶⁰ it becomes like it in the way that has been said many times.
- 310,1 Having proposed [**310**] to speak in a common way about all sense, he has given an account of the perceiving soul [to the effect that] it is in potentiality such as the sense-objects are in actuality – the perceiving soul in act, of course, being in act such as the sense-objects are.

And if it is like that, the perceiving soul must necessarily be inseparable, seeing that it is a power by virtue of which that which has it, when it is made like the sense-objects through being affected in a way by them and altered, apprehends them.

[Chapter 6]

418a7-11 Let us speak first concerning the sense-objects of each sense. ['Sense-object' is said of three things, of which we perceive two, we say, of themselves, and one incidentally. Of the two, one is what is proper to each sense, the other a common [object] of all.]

Having given the common account of sense and defined the power to 10 perceive as being in potentiality what the sense-object is, and having said <that> when it is not affected by the sense-object it is unlike, but when it has been affected by them it becomes like them, he passes to the discussion of each sense on its own because, as he has already said, in cases where what is predicated in common is not a genus but an equivocal spoken word, the common account is not sufficient for us 15to get to know the nature of the thing, but it is necessary to produce the account of each thing signified by the equivocal word on its own, since not even the accounts of genera are sufficient for getting to know the particular species. And intending to give the account of each sense, before that he deals with the sense-objects of each sense for the 20reason that has been given often, then with the activities and after that with the powers.

Someone might enquire why he did not deal with sense-objects generally before [giving] the common account of sense. I reply that he also included the account of this too in his common account of sense, where he said that perception is of the elements in themselves or of the things incidental to these [417a5-6], and again when he said that what the sense-object is in act, that the sense is in potentiality [418a3-4], and that the things that affect that which perceives are from outside [and] particular, whereas those that affect that which thinks are within it and universal [417b22-4]. Through all these [statements] he signifies what it is that sense-objects generally are: that they are things incidental to the elements, that they are particular, that they are those things to which sense is made like in act when it is affected by them, having formerly been like them in potentiality.

And here too, intending to speak about the sense-objects that belong peculiarly to each sense, he before that gives a sort of universal division of all sense-objects, saying in how many ways 'sense-object' is said, in order that, having separated by an account of its own³⁶¹ those things that are genuinely sense-objects from those that are incidental sense-objects, which are not in fact sense-objects, he may 5

25

35 give an account of the former without having the latter dropping in to disturb the teaching.

Three things, he says, are called 'sense-objects'. For of sense-objects, some are sense-objects of themselves, 362 and some inciden-

- 311,1 tally. And of those that are sense-objects of themselves, some [**311**] are common [objects] of the senses, others are proper to each. Proper to each sense are the sense-objects that fall under it alone, for instance colours for sight, sounds for hearing, vapours for smell,³⁶³ flavours for taste, and for touch, hotness, moistness, coldness, dry-
 - 5 ness, resistance, heaviness and the like. These things are called 'proper' sense-objects because they do not fall under any other sense. For neither does sight apprehend vapours or flavours or objects of touch nor does any of the other senses apprehend things apprehended by another sense.

These, then, are proper sense-objects. Some five things, he says are common sense-objects: movement,³⁶⁴ staying at rest, number, shape,

10 magnitude. He says that these are common objects of all, not because each one of them falls under all the senses, but because each falls under several and not [just] under one, and at the same time some fall under all.

For magnitude is a common object of sight and touch; for we see that the man or the mountain is large, and touching we perceive that the mass or interval that comes our way is large or small. And we do

- 15 also say we perceive a large or small sound, but here 'magnitude' is used by analogy, not properly. For in fact by 'magnitude' we mean that common sense-object which is continuous. A large sound is indicative of an intensified or relaxed quality, hence it fits more properly to say 'faint' and 'powerful' of sounds.
- 20 Shape too is a common sense-object of sight and touch. By shape I mean, not that this is a triangle or circle (for this belongs to reason, to say that it is a shape enclosed by one line or by three or however many it may be), but simply that it has an outline, every outline arising according to some shape. Even non-rational animals, in fact, when they encounter something of small height and upstandingness,
- 25 press on to go through, since they know the outline of the magnitude and the possibility of going through. But when they encounter an altogether high and precipitous place, they do not attempt to pass, being conscious both of the magnitude and of the shape. So there occurs in them a faint consciousness of the form itself of the shape; they shun, at least, such paths as are sharp or concave in shape, and 30 choose the path that is smooth and straight.

Number is a common sense-object of all the senses. For we see that there are five men, perhaps, but we also know this same thing by groping, and hearing we know that the sound is coming from more or fewer or one [source].

But someone might raise the problem here: how, in saying that

number is a common sense-object, is Aristotle not speaking contrary 35 not only to other philosophers and the plain fact of things, but also to himself? For in the *Physics*, having said that time is the number of change,³⁶⁵ he said that reckoning belongs only to intellect. For nothing, he says, is able to reckon [**312**] except soul, and of soul, the 31 intellect.³⁶⁶ How is it, then, that there he says that only the intellect apprehends number, and here that sense does? We reply that intellect is apprehending of the form itself of number, and sense apprehends [number] not as this particular number³⁶⁷ but simply as plural or unit, and as greater or less plurality. But intellect is what 5 through perception also recognises the form of the number.

And that hearing too apprehends this [sort of] number is quite clear. 'The beat of swift-footed horses strikes about my ears', he $[Homer]^{368}$ says. He knows that the sounds are coming from more sound-sources than one.

And that number is also a sense-object to taste and smell is clear. 10 For smell perceives different odours, as when a malodorous and a fragrant vapour come together, or indeed [vapours] different in form, either fragrant ones or malodorous ones.³⁶⁹ Likewise also taste. If wormwood, at least, is mixed with honey, it is conscious of both.³⁷⁰

And movement and being stationary are common sense-objects of all the senses except taste. That sight perceives him who runs and 15him who is stationary, is quite clear. But also hearing. For if the sound strikes upon us from the same place. [hearing] perceives that what is sounding is stationary, whereas if [the sound comes] not from the same place, but at one time from one place and at another from another. [it perceives] that it is moving. The same with vapours. And it is guite plain that touch perceives what is moving and stationary: 20a body which is in water, at least, perceives whether it is stationary or running. And perhaps even taste, if the thing tasted should run along beside the sense-organ, perceives the movement or stationary state. At least, if someone should anoint a rod with honey and then draw it through the mouth, the flavour will be apprehended as not stationary: though if someone were to hold touch, not taste, responsible from this, we should not differ.

Number, then, is perceived by all the senses, and staying stationary and movement by all the rest but taste. And shape and magnitude by the three, sight, hearing and smell.³⁷¹

Substances are perceived incidentally. For of itself sight apprehends the colour or shape, but incidentally that this is Socrates. For it is intellect that apprehends substances. And the proper senseobjects of each sense are incidental sense-objects to the rest. For seeing something yellow like resin we say 'I have seen something fragrant.' I mean I have seen what is fragrant incidentally. And when I smell resin I say that I have smelt something yellow, and when silver gives off a sound, I say that I have heard silver or white,

121

312,1

35 likewise if wood is what is sounding, and the same in all cases. For indeed one who has tasted honey will say he has tasted yellow. All these things, then, are incidental sense-objects, both substances and the sense-objects of each to the others.

What are the proper sense-objects, then, what the common and what the incidental, has been said. But what the difference is one from another, and what things are characteristic of each, we shall see [313] when we come to the text.

It should be known that the sense-objects that are subjects for sight, hearing and taste are called by common names in customary speaking; those of sight are colours, those of hearing sounds, those of taste flavours. It is not also the case, however, that the subjects of

- 5 touch and smell are called by common names. For to call them 'objects of touch' and 'objects of smell' is not the appellation of those things themselves, but of their relation to the sense, just as with the others to say 'things seen', 'things heard', or 'things tasted'. We cannot even use the name 'vapours' in connection with smell. For what rise from water are vapours, but they are not objects of smell. To smell there
- 10 lies opposite a single opposition, that in respect of fragrant and malorodous, which, as I said, has no common name laid up;³⁷² neither, likewise, have the oppositions subject to touch, of which there are several, hot and cold, dry and moist, hard and soft and the others.

418a11-13 I call 'proper' what cannot be perceived by another sense, and concerning which it is not possible to be mistaken, [as sight is of colour and hearing of sound and taste of flavour].

- 15 He differentiates those sense-objects that are proper from the others both³⁷³ by their not being sense-objects to another sense – which [property] neither the common nor the incidental sense-objects have. For we apprehend them by more senses than one. Concerning the common sense-objects that is clear. And concerning the incidental; since not only, when we see this white thing, do we perceive inciden-
- 20 tally that it is Socrates, but also when we hear a sound we again recognise incidentally the substance, and not only do we recognise by sight this wood or something malodorous or fragrant, but also by smell; for smelling such an odour, even if we do not see, we know the substance from which the odour comes and the colour. Similarly too
- 25 we recognise substances incidentally by taste or by touch, by taste as we do honey or the like, by touch bread, a stone, meat and the like. This, then, is one differentiation of sense-objects that are proper from those that are common and incidental.

The other is that, concerning the proper sense-objects, when the senses are in their natural state and intuit the sense-objects from the places from which they are by nature such as to apprehend them, they

30 are not mistaken about them, but concerning the sense-objects per-

313.1

ceived commonly and incidentally, mistake arises. For the senses do not apprehend when they are diseased or in a state contrary to nature nor when the sense-objects are at just any distance or in just any place. Sight does not also see colours that are behind, but those that are in front (for it is by nature thus), nor even those in front at any chance distance. But it [sc. sight] will attain truth when both these things³⁷⁴ are present for it and in addition light. But concerning the common [sense-objects] error occurs, and also concerning the incidental. [314] For seeing this white thing from afar, we know it is white. but whether it is stone or wood or the like we do not know, and we often err, thinking one thing in place of another. And hearing a sound, but not seeing what is making the sound, we err about the place from which the sound is coming. And place is among incidental sense-5 objets, as we shall show next [318,3]. And error also occurs about shapes. Things that are rectilinear, for instance, seen from afar appear rounded, and angular things appear to be without angles. And also rounded things are thought rectilinear when striking from afar in the direction of the line itself, which happens with the half-moon: the line, in fact, that marks off what is lit from what is unlit, though 10 it is circular, is thought by us to be straight.

And also when we see something which is moving we think it is stationary when it is far off, and we think what is stationary to be moving, as when people sailing think that the land is moving and that they themselves are stationary.

Similarly too magnitudes do not strike us in the same way when appearing from afar and from near, nor through water and through air: for they appear greater through water. And also error arises 15about number. For often when we hear several people singing, because of the likeness we think the voice is one, and we often see discrete things that are afar as united.³⁷⁵

418a13-17 And touch has several differences. But each [sense] indeed discerns about these, and is not mistaken that it is colour nor that it is sound, but about what the coloured thing is and where, or what the sounding thing is or where. Things like these, then, are called proper [objects] of each.³⁷⁶

It is not the case that as taste is apprehending only of flavours and sight of colours and smell of odours and hearing of sounds, so too it is possible to embrace the sense-objects of touch under one name. For 25each of the other senses is concerned with a single opposition. Sight is concerned with white and black and the things between, taste with sweet and sour and the things between, smell with the fragrant and the malodorous, sound with high and low sound. But touch is concerned with a plurality of oppositions that cannot be brought under 30 one common opposition. For indeed it apprehends things smooth and

35

123

rough, and hard and soft, and heavy and light, and hot and cold, and dry and moist, which are not subordinate one to another. Hence he will also raise the problem in what comes next [Chapter 11] whether perhaps touch is not a sense, or if it is indeed a sense, not one but several, seeing that all the others apprehend a single opposition, but this [apprehends] several. But even if touch has several differences of

which it is the apprehending cause, its discernment is not on that account more different in character than the others. But each of the senses discerns in the same way concerning the proper objects, and

- 315,1 is not mistaken about them (for 'each [sense] indeed [**315**] discerns about these' was said about all the sense-objects, not about touch alone), but mistake is possible for them concerning those things to which their own sense-objects are incidental. The error is not about colour, but about that which [has] the colour, nor about the sound, but
 - 5 $\;$ about that which is sounding, and these are incidental sense-objects.

418a17-20 Common are movement, staying still, number, shape, magnitude; such things are proper [objects] of no sense but common to all; for indeed movement is perceived both by touch and by sight.

Having spoken about the proper sense-objects he now speaks about the common. And he calls these 'common' because they are objects of no sense privately but are common objects of all. But he calls them [common objects] of all, not because the five [common objects] are sense-objects to all five [senses] (for he does not think that each of them is a sense-object to all) but because some are [sense-objects] to all and some to several, as we have already said. For magnitude can be taken by analogy [as an object] also for smell and taste; for these

15 apprehend their own magnitudes, the one in odours, the other in flavours, even if customary speaking does not recognise the name 'magnitude' in these cases.

418a20-3 And a thing is called an incidental sense-object, for instance, if the white thing should be Diares,³⁷⁷ [for this is perceived incidentally because it is incidental to the white thing, which is perceived.]

Having spoken about the things that are sense-objects proper to particular senses and spoken also about those that are common, he now speaks too about those that are incidental; for he made the division of sense-objects into these three. This Diares is said to have been a friend of Aristotle's; at any rate letters from one to the other³⁷⁸ are reported. Sight, then, sees the white that is in this [man] of itself, and incidentally knows that it is Diares. But some copies have 'Diares' son'.

418a23-4 And that is why it is not at all affected as such by the 25 sense-object.

He differentiated the proper sense-objects from the common and the incidental by the fact that concerning the former error does not occur. and concerning the latter it sometimes does. For in the throat of the pigeon and in such things as have a mixture of variegated colours, the variegation and the mixture and relation of these to the rays of the 30 sunl are responsible for their being apprehended differently at different times and for the mistake. But now he differentiates the incidental from the things that are sense-objects of themselves. [316] For the senses, he says, are affected by the things that are of themselves sense-objects, but not also by the incidental. And that the proper sense-objects do something in relation to the sense is quite clear: that the common [sense-objects do something] also, is plain from the following.

The sharp-angled acts in one way in relation to sight, for it hurts it: but the blunt-angled gives pleasure.³⁷⁹ and still more that which is 5 smooth and without angles. And in relation to touch it is quite clear that the different shapes do not act alike, but the sharp-angled acts in one way, and the blunt-angled or that which is without angles in another.

Similarly with movement and being stationary. For hearing does not sustain the same affection when it hears a sound that is moving and one that is stationary. Similarly for sight a different affection is 10 produced by these, even if we cannot expound in words the peculiarities of them. And touch too sustains one affection from the object of touch that is moving and another from that which is stationary. For if that were not so we should not, when we are standing in a river that is flowing, though the water is one and continuous and, as water, acts in the same way on touch, be conscious that it is moving, and if it is stationary, that it is stationary.

It is quite clear, then, from this too that a somewhat different 15affection occurs for sense from these things, though there is no expression for it, as is the case also with number. For we are affected by a different affection when we hear several [sounds] from when we hear one. That is why we are put out³⁸⁰ by a plurality of voices, which would not happen if hearing were not affected in some way by the plurality. And also when we see two colours, even if they are alike, sight is put in a different state. That becomes clear if sight intuits two 20lamps at once; here too, at least, sight is put out in its apprehension of the objects of sight. Yet it would not also be affected in this way if the fire of the lamps were united, not only when they are two but when they are more. And how do we apprehend plurality by touch or by taste unless it affects us with a different affection? 25

Unless someone should say against this that when touch appre-

316.1

hends a plurality, it is not affected by an affection that is other, but since the body is a thing that touches throughout, there are several parts apprehending the things that have come close, and then imagination, or rather reason, infers that the things touched are several. And perhaps also with sight-organs³⁸¹ the same thing happens: for if

30 different sight-organs intuit the thing seen in different ways it comes about that since the discerning power has parts in the body and apprehends the things seen in a dispersed way, that which imagines is confused, being unable to receive many imprints at the same time. So the affection sustained by the sense is not other.³⁸² For if imagination is not going to be confused, the affection sent on to it should be one and continuous

Further, magnitude too will seem to do something both to sight and 35 317.1to touch. For [317] the sense-organs, touch and sight, are more compacted and forced apart by a greater colour or a greater hot. insofar as it has so great a magnitude or at least is in so great a magnitude, than by that in a lesser magnitude, though it is similarly white

But insofar as it comes to be white or hot, how can the large do more than the small or the much than the little?

- But to this someone might say that being all together the powers 5 are stronger and become more powerful than they were, as is quite evident with weights. When weights come together, at least, they become heavier when together than when they were separated.³⁸³ When, therefore, the colour is in a greater subject, even if it is the same in quality, it will do more, being strengthened by the continuity of the things that are alike. This also happens with fire. More
- 10 abundant [fire] burns more.

And it should be known that the common sense-objects, when separated from the proper sense-objects, neither do anything to the senses nor are apprehended at all, for instance sight would not apprehend shape if the shaped thing were colourless. And neither would touch, if it did not have one of the qualities that are objects of touch, and the same with the rest [sc. of the common sense-objects.]

Hence it might also be thought that they too are among incidental 15sense-objects, since they yield apprehension of themselves through others

But I say that if the incidental sense-objects for this very reason [sc. because they are incidental] do nothing to the senses, whereas the senses are affected by these [sc, the common sense-objects], it is clear that they cannot be incidental sense-objects; they are sense-objects in a secondary way, perhaps, but still of themselves. And just as it is not

the case that since without light or the transparent or what is in 20between the proper sense-objects do not do anything to the senses, [just as] we do not, for this reason, say that they are incidental sense-objects, so even if the common [sense-objects] do not do any-

thing without the proper, since it is altogether in conjunction with them that they act, they should [still] be sense-objects of themselves to those senses on which also they act. So it is [only] if some sense is not affected by them, that they would not be sense-objects to that sense unless incidentally.

Someone might raise the enquiry: if the incidental sense-objects are substances, and reason alone gets to know these, using sense as an instrument, which is why in general they are also called incidental sense-objects, how does the dog get to know its master and the ass its manger and anything else of that kind that is seen with non-rational animals? I say that they do not perceive them as substances, but 30 because such shapes become dear or painful to sense,³⁸⁴ they recognise them by having the imprints of them in imagination.

And if perception of these things occurs in non-rational animals too – I mean perception of shapes and numbers and the rest (for they differentiate what is their own from what belongs to another, and pursue an object of appetition that is moving, showing that they perceive both plurality and movement), from this too someone might 35 establish that they are of themselves sense-objects. For they do something also to non-rational animals, since [otherwise] they would not be known by them. For they [sc. non-rational animals] perceive nothing incidentally, since [**318**] they cannot draw inferences. For incidental sense-objects do nothing to the senses, and there is need of the kind of reason that infers from other things.

But also place is perceived incidentally; for the senses are not at all affected by it. For sense does not apprehend the form of a place, unless as shape, and [it does] that not through itself but through what 5 is in the place. So this too is among incidental sense-objects.

And that common sense-objects are not sense-objects incidentally but of themselves it is possible to show also in a logical manner³⁸⁵ in the following way. If shape and magnitude and number and change and staving unchanged are sense-objects (for they are not objects of intellect: and³⁸⁶ all things that are, are either objects of intellect or 10 sense-objects: if the things mentioned, then, are not objects of intellect, it follows that they are sense-objects of themselves), if they are sense-objects, then, it should be sense that will apprehend them. For that which is a sense-object is a sense-object to a sense. If, then, neither does any other sense apprehend these of itself, nor are they proper sense-objects of any one of the five, what remains but that they are common objects either of all or of several? For if they are apprehended neither by these of themselves nor by others of themselves, 15they could not be sense-objects at all. But they are not objects of intellect either. It follows that they would be neither sense-objects nor objects of intellect, which is impossible.

[Further, magnitude too will seem to do something both to sight and to touch. For the sense organs, touch and sight, are more com-

127

25

318.1

pacted and forced apart by a greater colour or a greater hot, insofar as it has such a magnitude or at least is in such a magnitude <than by that in a lesser magnitude> though it is similarly white. But insofar as it is white or hot, <how> can it do more]³⁸⁷

418a24-5 But of the things which are of themselves sense-objects, the proper ones are genuinely sense-objects, and the substance of each sense is by nature relative to them.

What the incidental sense-objects are he has shown clearly. They are the things, in fact, which are not by their nature sense-objects, but belong to the things that are of themselves sense-objects. He says that Diares' son is incidental to what is white, not because Diares' son is incidental to what is white [sic] (for a substance is not something that supervenes incidentally on incidental attributes, but they do on it) but because it is incidental that this thing seen, the white thing,

30 perhaps, is Diares' son.³⁸⁸ That sight is not in any way affected by Diares' son insofar as he is Diares' son is a sign that sight perceives him incidentally.

Things that are sense-objects of themselves being twofold, those that are common and those that are proper to each sense, he says that those proper to each sense are genuinely sense-objects. And he indicates the reason for this when he says 'and the substance of each sense is by nature relative to them'. For if the being of each sense is relative to the proper sense-objects, these will be sense-objects most

relative to the proper sense-objects, these will be sense-objects most
of all. [319] For sense is relative. And those things are relative for
which to be ... for each sense, those are most genuinely the sense-objects, for sight relative to things seen, for hearing to things heard and
similarly for the others.³⁸⁹

Notes

1. Reading simply *ta men* where the OCT reads *ta men dê*.

2. That is, 'actuality', *entelekheia*, is used in two ways or senses; in one sense it means a kind of form or perfection, in another, it means an activity or the exercise of a power. Aristotle uses knowledge to bring out the distinction; dispositional knowledge is actuality in the first sense, the exercise of it is actuality in the second.

3. MS A (Vaticanus 268) here adds the following words: 'The proposed definition provides many starting points both for those who wish to receive it as being said for all soul, and for those by whom it is taken only for the vegetative. A synopsis of these replaces a more fine-grained exeges which would be burdensome.'

4. *goun*: this particle or combination of particles (*ge, oun*) is much favoured by Philoponus, sometimes means 'at least', sometimes something more like 'in fact'.

5. Philoponus is employing the distinction between two levels of potentiality explained at 417a22-8: a baby is potentially a knower in one way, in that it can acquire knowledge, and an adult who has acquired knowledge but is not exercising it is a potential knower in a second way.

6. The manuscripts of Aristotle agree with Philoponus here, but Ross inserts \hat{e} , 'or', to give the sense: 'It is still unclear whether the soul is actuality of the body in this way, sc. as form, *or* as the sailor is actuality of the ship he sails'; Hamlyn follows the MSS and Philoponus.

7. A has a longer version in place of the next few words: 'I mean the first [sort of] actuality. And the account will also include the vegetative [soul]. For even if it is always nourishing the body by digesting nourishment, without being in any way impeded even in sleep, but rather acts all the more in its own work and does not desist from its operative activity, which carries the account of the second [sort of] actuality, even so it is not severed from the disposition on account of which even the operative activity is attributed to the vegetative power. So the vegetative [soul] too, though it is always operative, has the actuality that is as knowledge and first, without being deprived of the second that is analogous to contemplating.'

8. Hitherto Aristotle's words have been taken to be a definition (203,12; 204,26, etc.) The abruptness of this remark suggests a new mind.

9. Aristotle here adds 'god'. Philoponus does not choose to preserve the suggestion that theology is a branch of zoology comparable with ichthyology.

10. *hupographê*: a word used for an outline drawing or sketch, and by the Stoics for a description as contrasted with a formal definition. Aristotle uses the verb *hupographein* at 413a10.

11. *homônuma*: Aristotle uses this word of things which are signified or expressed by the same word, but which have different definitions (*Categories* 1a1ff.). Later writers, including Philoponus, also call a word which is applied to

such things 'equivocal'. Aristotle sometimes says that the hand or eye of a corpse or statue is a hand or eye 'equivocally', because although the word is correctly applied to it, it does not satisfy the description of a hand or eye – it cannot perform the essential function of such a part (*PA* 1 640b35ff., *GA* 2 735a8, etc.), and Philoponus also avails himself of this usage, e.g. at 219,26 and 305,2. There are degrees of equivocality or homonymity (*EN* 5 1129a26-31). A sheep pen and a fountain pen would be equivocal 'by chance' (*EN* 1 1096b26-7) (in this case, strictly speaking, the things are signified not by the same word but only by the same morpheme). Healthy food, however, healthy exercise, a healthy pulse, etc. are called 'healthy' in relation to one thing', that is, because they are related in various ways to something that satisfies the definition of health, the bodily state that is health itself.

12. Hayduck suggests the reference may be to 107b6 or 148a23.

13. i.e. that which makes perfect or complete.

14. See note 11 on 206,2 above.

15. Reading $z\hat{o}\hat{o}n$ at 206,35 with Hayduck in place of the MSS $z\hat{o}\hat{i}\hat{o}n$, and taking Philoponus to be using $z\hat{o}\hat{e}$ as an alternative to $psukh\hat{e}$. Philoponus believes that rational human souls exist both before descending into bodies and after death.

16. *DA* 1 402b3-5, 410b18.

17. See 415a14-22: before discussing what has each psychological power, we should consider the exercise of that power, and before discussing its exercise, consider the things in relation to which it is exercised, sensible objects, nourishment, etc.

18. Reading *oun* where the OCT reads *dê*.

19. 'Them', *autôn*, presumably all kinds of soul; Hayduck suggests emending to *autou* which would give the sense: 'the things that help towards obtaining the definition itself'.

20. Aristotle attacks the 'attunement' theory in *DA* 1 407b27-408a28, and the remarks against the *Timaeus* and against Xenocrates to which Philoponus refers may also be in Book 1. The *Timaeus* is mentioned at 404b16 and Xenocrates' idea that the soul is a self-moving number at 404b29-30.

21. Philoponus is loosely quoting 412a11-12: 'Most thought to be substances are bodies, and of these, the natural ones'.

22. *abakion*; not a modern abacus but some kind of table or board, possibly covered with sand.

23. Philoponus is thinking of Prime Matter.

24. Euripides *Alcestis* 392.

25. It is not clear exactly how Aristotle arrived at the word *entelekheia*, which seems to be his own coinage, but Philoponus' etymology cannot be correct. *entelês*, 'complete' and *echein*, 'have' are constituents, but not *hen* or *sunekhês*. The word has some of the feel of the English 'fulfilment'.

26. Aristotle does not in fact use Philoponus' verb for having organs *diorganousthai*, but he uses the adjective *organikos*, translated here 'organised'.

27. cf. 412b20-2 and *Metaph*.7 1036b30-2: to be a hand unequivocally, a thing must be 'able to accomplish the work of a hand'.

28. The OCT reads, not, 'one thing as being in act', but 'one thing because it is true, as being in act.'

29. cf. *EN* 1 1096a17-19.

30. The OCT reads, not simply *hulên*, but *hôs hulên*; this might be translated 'one thing is [substance] as matter,' e.g. earth or flesh is substance in that it is matter.

31. Aristotle at 412a8 uses the words morphê kai eidos, 'shape and form',

Notes to pages 11-15

but elsewhere he uses *morphê* along with *logos*, 'account' (so *Metaph*. 9 1042a28, *ho logos kai hê morphê*) or speaks of 'form in the way of (or in accordance with) account', e.g. *Phys.* 2 192b31, *to eidos to kata ton logon*). Philoponus takes him to use 'form' (*eidos*) and 'actuality' to cover both shapes, like the shape of a statue or brazen sphere, and forms which can be grasped only by intelligence and expressed in words, like the form of a human being (which is expressed in terms of the abilities to perceive, think, etc.).

32. e.g. *Phys*. 1 190b5-7, 2 192b28-193b6.

33. Philoponus' thought is that the possession of a capacity like knowledge of a language is both prior in time and logically prior to its exercise. Aristotle does not, however, use the word 'second' here, and it may be that he is simply distinguishing two senses of 'actuality' and using 'first' to refer to the first mentioned of these. If knowledge we possess is indeed prior to our applying of it that will not be because it is actuality in the first of the two senses distinguished. Soldiers being trained to use an old fashioned rifle have to distinguish the first pressure from the second pressure on the trigger. This is a distinction between pressures, not between senses of 'pressure', and it would be rash to assume that Aristotle is introducing an analogous distinction between actualities.

34. These or similar words have dropped out.

35. i.e. as thing out of which it is made.

36. The so called simple bodies are earth, air, fire and water. The Commentators hold (or think that Aristotle holds) that they are composed of 'primary' or 'prime' matter, a substance with no causal powers or other distinguishing properties, and have forms of their own, the form of earth, the form of fire, etc. For a particularly lucid exposition of this idea, see Alexander, *de Anima* 2,25-5,22.

37. *trophê*. Aristotle is using this word for the act of nourishing; Philoponus usually uses it for food.

38. i.e. people confuse the case where more of something is added and the case where an organism, or part of an organism, becomes larger. As Philoponus goes on to observe, Aristotle is at pains to draw a conceptual distinction between the two in GC 1.5.

39. Because when things burn they pass away into fire, and fire comes into being out of them.

40. *kinêsis kata topon*, i.e. movement, cf. 415a6-7, but here Aristotle has in mind only appetitive movement, i.e. movement in pursuit and avoidance. The limb-movements of babies in the womb are taken to be in some degree appetitive.

41. In Greek this is not so obvious, the words being $z \hat{o} n$, 'living thing', and $z \hat{o} i o n$, 'animal'.

42. And are not animals, the argument requires. The author of the commentary on Book 3, in contrast, thinks zoophytes *are* animals: 600,15-17.

43. i.e. they move: Philoponus thinks of them as fixed in the womb but moving their arms and legs as zoophytes move their tendrils.

44. The reading is *esti sôma kai toionde*. The OCT reads *esti kai sôma toionde* but as Ross acknowledges in his 1961 edition this is puzzling, and he there reads *esti kai sôma kai toionde*, 'Since it is both a body and of this sort'.

45. The OCT reads 'The soul would not be a body'. Reading 'the body' Philoponus in 215,4-23 interprets Aristotle as arguing that, given the animal consists of a subject and something in a subject, the form, the soul is not the subject.

46. i.e. is not corporeal.

47. i.e. the definite article; there is no indefinite article in Greek.

48. The soul is incorporeal in that it is not *any* body at all, so to say this one would not use the definite article and say 'it is not *the* body.'

49. The reasoning is clearer in Greek where the words for 'animate' and 'soul' are *empsukhos* and *psukhê*.

50. Printed by Hayduck as a quotation, not a lemma.

51. An interest in the role of the teacher appears in Philoponus' *de Intellectu* (56,31-40; 58,99-102; 91,49), but not in the Greek commentary on Book 3.

52. God, angels, heavenly bodies, souls in separation, etc.

53. Emending *oute* to *oute gar ei*. Hayduck suggests *ou* $\langle gar ei \rangle$ gives a similar sense without the need to emend *eite* below.

54. Emending eite kai to out'ei.

55. Aristotle might have thought this comment misleading. It is not because fire is not organised that its power to heat is not a soul, but because it is not a source of teleologically explainable change, not a power like the smith's to heat or cool as necessary for a purpose.

56. i.e. in themselves as physical things.

57. *premnon*, the lower part; Philoponus seems to mean that an organ of a plant will consist of relatively few kinds of material, not of one only.

58. *hormê*, a word used by Neoplatonists especially for purposive impulses. **59.** Philoponus is thinking in terms of the four 'problems' distinguished

below, 226,1-6.

60. Philoponus may be referring to *Phys.*1 185b5-9, but what he says here echoes more closely *Metaph.* 9 1042b15-31

61. An Aristotelian phrase; a brazen sphere is a sphere in bronze; a house is a shelter in bricks and mortar; and artifacts and living organisms generally are forms in matter.

62. *holoskheresteron*; a word suggesting the definition is given as a package.

63. See note to 211,21.

64. Or 'instrumental': the Greek word *organon* means both 'instrument' and 'organ', and adjective translated here, *organikon*, means both 'organised' or 'organic' and 'instrumental'. Philoponus' argument takes advantage of this ambiguity.

65. Again Aristotle might feel this is misleading. It is not because an artifact is not a product of nature that its form is not a soul; rather it is because its form is not a source of change that it is not a product of nature (see *Phys.* 2 192b16-32), and a soul is the form of a thing the form of which *is* a source of change.

66. Printed by Hayduck as a quotation, but not as a lemma.

67. Printed by Hayduck as a quotation, but not as a lemma.

68. 'Concerning Principles' seems to have been the title of *Physics* 1. See Ross, *Physics*, pp.1-6.

69. Philoponus here reads *hetera de hê ho logos*. The MSS of the *Physics* have *mia*, 'one', for *hetera*, 'the other', and Ross changes $h\hat{e}$ to $h\hat{es}$, giving the sense 'one which is the object of definition'.

70. Printed as a quotation by Hayduck, but not as a lemma.

71. The phrase to ti $\hat{e}n \ einai$ is common in Aristotle and is sometimes translated 'essence'. It is not clear quite how Aristotle arrived at it. The to at the beginning probably serves to introduce the next three words rather as quotation marks would in English. $\hat{e}n$ is imperfect so ti $\hat{e}n \ einai$ might be translated 'what it was to be' but the imperfect is used (with or without the particle an) in counterfactual conditionals, and I prefer to translate 'what it would be to be'. In Greek einai, 'to be' can be used without a complement – we can say, not just that something is something, but, simply, that it is. It seems to

Notes to pages 21-26

be used in this second way here. But Aristotle (it may be held) did not think that when used without a complement it signifies a special kind of activity which we call 'existing' and which he conceived as 'like breathing only quieter'; being, even expressed by *einai* without a complement, is always being something. Being *sans phrase* for a man or horse is being a man or horse, i.e. having the form of a man or horse, so to grasp the form or essence of a man or horse is to grasp what being for such a thing would be. Philoponus seems to understand the phrase in this way.

72. Printed as a quotation by Hayduck, but not as a lemma.

73. Not like fire or flesh.

74. Of the two words, it is more likely that Aristotle wants to show the point of 'natural'.

75. Alteration is change of quality, and augmentation is growth, two of the four kinds of change Aristotle recognises. The other two are motion and coming to be and passing away.

76. Printed by Hayduck as a quotation, but not as a lemma.

77. Hayduck reads de with Dt (Parisinus 1914 and Trincavellus' 1535 edition). The OCT has $d\hat{e}$, giving the sense 'we should apply' without the 'but'.

78. Printed by Hayduck as a quotation, but not as a lemma.

79. *prokhôristheisa*; the compound *prokhôrizein* is not listed in Liddell and Scott.

80. i.e. the body of flesh and bone that exists in this world of coming to be and passing away; Philoponus also recognises a pneumatic body, the 'pneuma' here, and a body 'of luminous form': see his Introduction, 18.24-8.

81. Printed as a quotation by Hayduck, but not as a lemma.

82. *sperma*; I take it Philoponus means animal semen but he might mean seed in the broadest sense.

83. Printed as a quotation by Hayduck, but not as a lemma.

84. 'Second actuality' is not in fact an Aristotelian phrase.

85. Printed as a quotation by Hayduck, but not as a lemma.

86. A principle often invoked, e.g. 248,9; 265,5 below; there is a greater when and only when there is a smaller, and so on.

87. See note to 204,23.

88. This remark is puzzling, as Hamlyn observes ad loc., since we might have thought it was clear that the soul is *not* related to the body in the dualistic fashion in which a sailor is related to a ship. Philoponus' interpretation in what follows is ingenious, but leaves Aristotle with an embarrassingly dualistic account of the intellect.

89. That is, insofar as the rational soul is separable, it is not the actuality of the body, rather as (see the lines that follow) insofar as the steersman is separable from the ship, he is a man, not a steersman; as a steersman he is inseparable from the ship and, in a way, the actuality of it. Similarly the rational soul, as a moral agent, is inseparable from the body and the actuality of it.

90. Philoponus goes back for a further detailed exposition of the text.

91. *homoousia*, the word used in trinitarian theology: according to the Council of Nicaea (325) the Son is *homoousios* with the Father, of the same substance, and not merely *homoiousios*, like in substance.

92. The words 'of the parts of the soul' are not in Aristotle's text, but are implied by the context. Aristotle's sentence is awkward, but it must mean that some parts of the soul stand as *entelekheia* to the parts of the body, and on that account are inseparable from the body. Philoponus' interpretation here seems correct.

93. problêmata. In Aristotle this word usually means 'proposition' rather than 'problem' in our sense, but Philoponus is using it here almost as equivalent to 'question'. He seems to be thinking of *An.Post.* 2 ch. 1 where Aristotle distinguishes four objects of enquiry, $z\hat{e}t\hat{e}sis$, though these do not in fact coincide exactly with the four given here. Aristotle's four are 'that', i.e. the fact that, 'why', 'is it', i.e. is there such a thing, and 'what is it', where the first two concern facts or things expressible in declarative sentences, and the second two concern objects or changes, things expressible in noun-phrases. Philoponus' four all seem to concern things expressible by noun-phrases, and he has replaced 'is it a fact that?' by 'what sort of thing is it?'

94. Hayduck indicates a lacuna here and wants to read 'having given the definition or rather what is analogous to a definition.' I have tried to translate the text as it stands, but at any rate the meaning is clear: 'Since in giving his general account – not exactly a definition, but rather a description analogous to a definition – Aristotle has dealt with the first two questions: '*Is* there a common definition?' and '*What* is it?', it is reasonable for him now to deal with the other two questions.'

95. *kata logon*, literally, 'in accordance with account' or 'reason'. Aristotle does not, I think, use the word *logos* to signify a special faculty of reason, (he has other words for intellectual capacities, *nous*, *phronêsis* and *dianoia*) but to suggest a kind of knowledge that can be formulated in verbal accounts or that makes use of such accounts.

96. It would be better to omit the words 'in nature', since Philoponus thinks that the 'that' is prior only to us, not in nature, and the 'why' is prior only in nature, not to us; but he may be writing carelessly.

97. A pointed kind of script.

98. i.e. in the physical world in which things come to be and pass away.

99. The Creator.

100. From what is clearer to us.

101. The phrase 'restored immortality', *athanasia episkeuastê*, is used by Plato, *Statesman* 270A4; there is perhaps a suggestion of restoring old buildings.

102. cf. *DA* 3 434b22-5.

103. The phrase *ex hôn eporisametha to philosophias genos* which Philoponus here echoes is at Plato, *Timaeus* 47A7-B1. Plato is referring primarily to celestial phenomena and accurate time-intervals, which give us natural science, but he says that it is thanks to sight that we know about these.

104. A reference to *Iliad* 3.277 where Agamemnon says 'O Sun, you who see all and hear all'.

105. The family of spalacidae, to which moles belong.

106. By 'whole powers' Philoponus means the vegetative soul, the non-rational soul and the rational soul.

107. i.e. discursive thinking, treated as a special kind of intellectual activity by Philoponus in his *de Intellectu*.

108. *to kata topon kinêtikon*, i.e. that by virtue of which animals pursue and avoid, see above, 213,24n.

109. Philoponus reads *epanelthein*, 'to go back over' where the OCT reads *epelthein* which does not carry the suggestion of going *back*. He also has *kata logon* here where the OCT, and he himself at 225,33 had *kata ton logon*; this variation is insignificant.

110. Hayduck does not print this as a proper lemma, but it seems to be the beginning of the detailed commentary.

111. Flesh, blood, wood, etc.

112. Hand, foot, etc.

113. Hayduck here reads *didaskein*, 'teach' with D; the OCT and t read *dêloun*, 'make clear'.

114. Taking the genitive *horôn*, 'of terms' (or possibly 'of definitions' – the word could mean either) as dependent on *logoi*. This is how Philoponus prefers to construe the sentence. He discusses an alternative construal and an emendation below 231,34-232,9.

115. These definitions are derived from 403a30-b7, but Philoponus has modified them. For anger he uses the more Platonic word *thumos* in place of Aristotle's $org\hat{e}$; and while his composite definition of a house is Aristotelian enough it is not clear that Aristotle would have given so interactionist-sounding a definition of anger; he might have preferred: 'A boiling of the blood *in order that* someone might suffer in return for an apparent slight'.

116. Hayduck suggests that the reference is to *An.Post.* 1 75b31ff. In those lines Aristotle says that a definition differs from a definition in how it is set out, but that definitions are universal is more a doctrine of *An.Post.* 2, e.g. 90b3-4, 97b26.

117. That is, Alexander takes the genitive 'of terms' as dependent on 'conclusions' instead of on 'accounts'

118. That is, we read hôsper sumperasmata tôn logôn hoi horoi eisin.

119. Philoponus reads *hoion hoti tetragônismos to ison*. The OCT has *hoion tí estin tetragônismos; to ison*. ('For instance, what is squaring? An [equilateral] rectangle's being equal, etc.')

120. Inserting *tis* as Hayduck suggests.

121. Printed by Hayduck as a quotation, not as a lemma.

122. i.e. it does not make them larger, but only keeps them in such a size as to retain their form.

123. Philoponus thinks that Aristotle is appealing to the difference (spelt out in GC 1.5) between 'augmentation' or growth (which requires the whole thing to grow) and mere addition. This is doubtful. His point may rather be that changes due to matter and the nature of a thing's material constituents go only in one way, in the case of movements due to the elements, either away from or towards the cosmic Centre; whereas changes due to form, soul or mind go in opposite directions depending on which is best: see *Metaph.* 9 1047b35-1048a11. The growth of plants cannot be explained by their matter because they grow both up and down.

124. i.e. in thickness; whereas a couple of lines above the augmentation of roots in depth was downwards towards the depths of the earth.

125. Philoponus is here raising a problem, since he takes it that the heavenly bodies *are* (in some way) animals.

126. The Greek word for an animal, $z\hat{o}ion$, is closely related to the Greek words for living and life, $z\hat{e}n$ and $zo\hat{e}$.

127. i.e. athletes, and perhaps message-carrying runners.

128. *ostrea* a word used for oysters and other edible bivalves, but also for shellfish generally.

129. Not what we call 'cockles' but spiral univalves.

130. In which case it is not 'in place of "for just" '.

131. See note 133 below.

132. The OCT omits 'all'.

133. *threptikon, aisthêtikon, dianoêtikon.* Aristotle likes to use these neuter adjectives with the definite article, and Philoponus follows him. They are sometimes translated 'the power to nourish', 'the power to perceive', etc. but the *-ikon* formations are concrete expressions whereas *dunamis*, 'power' or 'capac-
ity' is abstract. Since philosophers today are interested in whether the soul should be conceived (and whether it is conceived by Aristotle) as a kind of attribute or as a thing with attributes, a kind of substance, I have retained concrete expressions, 'that which perceives', etc. wherever *-ikon* formations occur.

134. 'Activities', *energeiai*, must here be understood as meaning the powers to nourish, augment, etc. as in 237,12, not the activities of nourishing, augmenting, etc. expressed by infinitives at 237,18-19.

135. A contrast between empirical investigation and a priori proof; the movement from enquiry to discovery (*heuresis*) is empirical, that from premisses to conclusion is a priori.

136. What follows looks like a new *theôria*.

137. In 402b1-10 Aristotle raises the problem whether the soul has parts, but without reference to the Timaeus.

138. *paradeigma*; not a model, as above 219,7, nor an example in our sense, but a piece of ostensive evidence.

139. i.e. that they are not parts in different locations in the body, as Plato suggests in the *Timaeus*.

140. Philoponus may be thinking of phenomena like freezing and congealing.

141. i.e. the familiar body of flesh and bone as contrasted with the pneumatic body and the body 'of luminous form'; for these see his Introduction, 17,19-18,8 and 18,26-8, 222,15n above and 268,23-31 below.

142. i.e. that the power to see is related to some part of the pneuma as it was suggested in 238,28-37 that it is related to the brain.

143. Philoponus has *kai hêdonê kai lupê*; the OCT has *kai lupê te kai hêdonê*, 'there is also both distress and pleasure'.

144. In Book 3, 428a9-11, 434a1-5.

145. Inserting dokei after einai at line 31 as Hayduck suggests.

146. Taking 'the intellect and the power to contemplate' as equivalent to 'the intellect, that is to say, the power to contemplate.'

147. *sperma*. Philoponus elsewhere uses this for semen, but semen and fruit do differ 'in subject', so perhaps he is using it here in the sense of 'seed'; the same thing may be called 'seed' and 'fruit' according to what we consider its function is in relation to the organism or to us.

148. *haplôs*, literally 'simply'. This sentence begins the second chapter of the *Isagogê*, which inspired the whole medieval debate on universals.

149. Taking *kai* at line 34 to pick up *kai* at line 33; one could alternatively take it with *ta eirêmena:* 'and *even* the things that have already been said.

150. *DA* 1 411b18-19. Aristotle is speculating on whether the soul and its parts hold together the body, and says that 'it looks as if' this is impossible.

151. Since it has never been other than separate.

152. In this reading the conjunction 'and' is omitted and we have *endekhesthai* in place of *endekhetai*, which makes 'is capable' depend on 'it looks as if'.

153. The Pythagorean theory of reincarnation has the same soul reincarnated in bodies of different species of animal.

154. A dubious comment. In this passage Aristotle may be thinking only of animals, and the one power that belongs to some may be the power to perceive.

155. *dia tina d'aitian gegonen, husteron skepteon.* This is a different reading from the OCT: *dia tina d'aitian, husteron episkepteon*, but the difference in sense is negligible.

156. tinos kharin; in classical Greek this would suggest a teleological expla-

nation, 'for the sake of what', but here it is probably equivalent to the more general 'why'.

157. Perhaps at 237,1-7.

158. The Greek has simply the dative, without a preposition. This construction is used, as Aristotle says, in two ways, to introduce the *subject* that does something or is in some state, and to introduce the *attribute* of the subject by *virtue of which* it does this or is in this state. For another example of the first use, see Plato, *Theaet*. 184CD. Aristotle here says, in contrast to Plato and other dualists, that the soul of an organism is not the subject which lives and perceives but that by virtue of which the organism lives and perceives; and at 414a13 he adds that it is that by virtue of which it thinks; though he also holds that what is called 'the intellect' and generally regarded as in some sense a part of the soul is the subject that knows or thinks: 414a6, cf. *DA* 3 429a10-11, a22. Philoponus does not advert to this aspect of the present passage, but seems to view it rather as an argument against a materialist account of the soul.

159. These words could, perhaps, be translated: 'that he defined actuality itself well, that is, as substance in the way of form', but the lines that follow confirm the translation given.

160. Philoponus is probably using 'black' in the old fashioned sense of swarthy or sunburnt, though he would be familiar with Nubian blackness.

161. It would be more accurate to say '*That with which* we live', since there is no question here of meaning differing things by 'to live'; but Philoponus (see note 158 to 244,1) is less interested in the contrast between subject and attribute than in that between matter and form.

162. This is printed as a parenthesis in the OCT.

163. *energeia*. Aristotle did use this word, but he might have done better to use *entelekheia*, 'actuality', since while he thinks knowledge and health stand in some measure as actuality to 'what receives them' he is about to say they are the activity, not of this, but of what gives them. Using the same word is confusing; perhaps the parenthesis, which is not relevant to the rest of the argument, is a later addition.

164. i.e. the agent that acts.

165. Reading *prôtôs* (adverb) with t and the OCT. Hayduck reads *prôtôi*, adjective agreeing with the pronoun 'which'; that might be translated 'the soul is that first thing with which'; the meaning, however, is almost certainly: 'the soul is that with which in the first of the two senses of "with which" that have been distinguished.'

166. In the OCT and apparently in Philoponus' text this is the end of a long sentence that has no main clause. This last part of it seems to be still governed by the opening 'Since'. Hamlyn in his translation takes the last clause as the main clause and conclusion and supplies some particle meaning 'therefore': 'Hence it will be a kind of *logos* and form'. Another solution is to ignore the 'and' at 414a12 and take the main clause as beginning there: 'the soul is that by which in the primary way we live and perceive and think – so that it would be a sort of account and form'. Compare below 246,33n.

167. Ignoring the second *de* at 246,33; if we translate it as 'and' or 'but' the 'since' has no main clause. Cf. note 166 above on Aristotle's 414a12-14.

168. In the *de Intellectu* (116,66-88) Philoponus speaks of our imagining divine objects of intellect like God that are properly known by intellectual intuition, not by imagination.

169. i.e. the Pythagorean theory of reincarnation.

170. i.e. the perceiving subject, receiving sensible forms in perception.

171. The OCT reads kai here, 'it is also reasonable.'

172. Philoponus reads *en tôi dunamei huparkhei*. The OCT reads *en tôi dunamei huparkhonti*, requiring the sentence to be translated 'The actuality of each thing is by nature such as to arise in what is there (*huparkhonti*) in potentiality and in its own matter'.

173. Not printed as a lemma, or even as a quotation, by Hayduck.

174. tois phainomenois akolouthon, literally, 'following upon what is evident'. Aristotle sometimes uses ta phainomena for what is thought to be the case either by most people or by the experts, but Philoponus is probably using it here for empirical facts, and contrasting empirical grounds for an opinion with rational, a priori grounds. Aristotle's view has grounds of both sorts, while that of the censured thinkers of the past has neither. Philoponus perhaps understands Aristotle's statement at 414a24-5 that it does not even appear that any chance thing can receive any chance thing, as the statement that it is manifest to observation that it is not possible for any chance thing to receive any chance thing.

175. The sense requires this: Philoponus means that the superior powers are not found without the inferior, but he expresses himself carelessly.

176. The OCT reads: To others this and also that which perceives; and if that which perceives, then the appetitive.' Philoponus, however, is probably not quoting a different text but paraphrasing. Hayduck prints this text as a quotation, not as a lemma.

177. The OCT reads a ge here, 'at least one'.

178. Philoponus probably means that the sense of touch is the sense that apprehends the pleasant and the distressing; but the Greek could mean, and Aristotle probably thought (431a8-14), that every sense must do this.

179. The words here translated 'disposition' and 'state' are *hexis* and *diathesis*. Aristotle distinguishes 'dispositions' and 'states' in *Metaphysics* 5 1022b10 -12 and *Categories* 8b27-8. In the first passage he says that a disposition is a good or bad state, in the second that it is longer lasting than a state; but in both 'disposition' is the more specific and 'state' the more general term. Cowardice would be a disposition, fear a state.

180. That is, they are aware of food by sense.

181. sunaisthanesthai: Philoponus seems to use this word not to signify conscious awareness, but either simply as a variant on aisthanesthai, 'perceive', or perhaps, as Richard Sorabji suggested to me, for awareness of something within the organism, such as a pleasant or unpleasant bodily state. For a clearer reference of the verb to self-consciousness, see, e.g. 188,5.

182. *GC* 2 329b7ff.

183. Following Hayduck's suggestion that the lacuna here should be filled by some word like *phaneron*.

184. That is, by employing considerations not peculiar to the subject matter.

185. Or perhaps pale and dark, or bright and dark.

186. In *de Sensu* ch. 3 Aristotle argues that other colours arise from mixing black and white in various proportions.

187. The argument may be paraphrased as follows: food does not differ from drink because the one has something the other lacks or because something is asserted of the one that is denied of the other; still less do they differ because they stand in opposite relations like parent and child; it remains then that they consist of opposites.

188. *meristeon. merizein* usually means 'divide into parts' but here must mean 'distribute as parts'.

189. On this and 'vaporous exhalation' see Meteorology 2 359b28ff. and 365b21ff.

190. This and the two following sentences appear to be a critical note (not necessarily by Philoponus or Ammonius), but Aristotle's remarks in the *Meteorology* passages are not intended to bear on nourishment.

191. Interpretations which take what apprehends incidentally to be touch are discussed down to 253,20; Philoponus turns only then to interpretations which take what apprehends incidentally to be appetition.

192. pikros, a word applied to seawater.

193. oxôdes, a word applied to vinegar.

194. The MSS diverge here; Hayduck prints *euôdes tukhon ê dusôdes*, which would ordinarily be taken to mean 'nice-smelling as it might be or nasty-smelling', and brackets it. Since *oxôdes* has just been used as a word for a flavour, I think Philoponus may have used the words Hayduck prints, but given them the sense of my translation.

195. *diosmos*, a post-classical word, literally 'that through which one can smell'.

196. What follows seems at first to be, not a fresh, third interpretation, but a refinement of the first, 252,18-253,1 which has already been attributed to Alexander. Touch apprehends white incidentally in that it is incidental to the cold snow which it apprehends to be white. Perhaps, however, in the earlier exposition, when we feel snow we perceive white incidentally only if (having used both touch and sight on snow before) we *think* that the cold thing we perceive is snow, whereas here it is sufficient that snow should, incidentally, be white, whether we think it white or not.

197. See 423b27-9: 'Objects of touch, then, are the differentiae of body as such, I mean the differentiae which define the elements, hot, cold, dry, moist, concerning which we spoke earlier in the treatise concerning the elements [the GC 2.2].'

198. In 'Thirst is desire for moist and cold', 414b13.

199. i.e. the same qualities are not always perceived, or perhaps do not always have the same effect.

200. Printed as a quotation by Hayduck, not as a lemma.

201. The OCT has 'or', but Philoponus' reading appears below 255,6.

202. The kind of intellect supposedly discussed in Book 3 Chapter 4.

203. sc. to itself.

204. This long sentence is loosely constructed; in his progress towards the main clause Philoponus keeps getting distracted by geometry.

205. There is a lacuna here which might be filled either ACD, ADB or ACB, BCD.

206. Philoponus' explanation of how the concept of shape differs from a generic concept is not very clear. His Platonic realism about universals enabled him to say above, 255,33-4, that a generic term signifies something independent of species; he does not think 'boundary-enclosed' signifies anything that exists in addition to circle, triangle, etc. but what does he mean when he says it it is something *of* these? Some kind of property of them, or simply, as he says in the next line, an enumeration? A post-Wittgenstein commentator might say that 'shape' is not a technical geometrical term but a logical or second-order term signifying the role that words like 'triangular', 'square', 'circular' play or the kind of concepts they express, whereas generic terms like 'bird', 'fish' are first-order. But the analogy would then require that 'soul' and 'psychic' (or 'psychological') are also second-order expressions signifying the role played by 'perceive', 'appetition', etc., a conclusion Philoponus might not have welcomed.

207. The definition at 255,28-9.

208. Printed as a quotation by Hayduck, not as a lemma.

209. Or, simply, food.

210. Accepting Hayduck's suggestion that *kai huper touto to phantastikon* or words to that effect should be supplied.

211. They seem to 'wander': see 240,13-14

212. Philoponus accepts the traditional belief in spontaneous generation.

213. Taking 'one' not to be a number.

214. Philoponus seems to imagine the heavenly bodies effortlessly churning out a deductive system like Euclid's geometry or the propositional calculus.

215. cf. 242,1ff.

216. i.e. the heavenly bodies.

217. Reading *en tôi ephexês bibliôi* $\langle kai \rangle$ *têi Êthikêi pragmateiâi*, as Hayduck suggests. I think it possible, however, that what Philoponus wrote was *en tôi hektôi bibliôi tês êthikês pragmateias*. The reference seems to be to the treatment of *phronêsis* in *Nicomachean Ethics* 6 chs 6 and 12.

218. Hayduck prints this as a quotation in the body of a piece of commentary, but it is an important lemma, introducing the commentary on a new chapter.

219. Awkward confusion of the formal and material modes. The reference is to expressions ('healthy' is the stock example) that are applied to things not because they have something in common, but because they all derive from one thing or are related in various ways to one thing; such expressions, it is said, are 'equivocal'.

220. These words are inserted in A.

221. cf. 402a15, 402b16-403a2.

222. Food starts by being unlike and becomes like the thing nourished.

223. A paraphrase of 416b18-19.

224. Argued by Aristotle in GA 1 18.

225. Philoponus (at 34ff.) reads *hê gar threptikê psukhê kai tois allois huparkhei prôtê* as translated above. The OCT reads *huparkhei, kai prôtê kai koinotatê*, 'belongs to the others also and is the first and most common power of soul.' 'Others', *allois*, could refer to other parts of the soul or to living things other than plants.

226. gennêsai te kai trophêi khrêsthai. The OCT omits te, 'both'.

227. Printed by Hayduck as a quotation, but not as a lemma.

228. The OCT here reads *tôn ergôn*, 'it is the most natural of the functions of animals'.

229. i.e. all together, not distributed into parts.

230. i.e. the forms.

 ${\bf 231.}\,$ Accepting Hayduck's suggestion that words to this effect have dropped out.

232. A difficult passage. I understand Philoponus to be suggesting that the generative power might be added in all animals in the way it comes into animals and plants that are spontaneously generated, i.e. from the whole universe. They will then have a power to generate which does not come from the pre-existent non-rational soul; and the pre-existent soul does not need a generative power because it is eternal. Philoponus perhaps uses the word *gonimos* here for the power to generate instead of the usual *gennêtikos* because although animals have the power to generate what is like themselves. It has been pointed out to me that one might construe 268,33-6 differently and translate: '... but the matter having been made suitable by the whole of creation, there are sent into it the forms of herbs and animals and the psychical powers in them, so too it

happens with the non-rational soul in all animals when they are established by the whole of creation.'

233. The distinction is expressed in Greek by the genitive and dative cases, 'the benefit to obtain which' being expressed by the genitive and 'the beneficiary to benefit which' by the dative.

234. The distinction is not found in these works but at *Physics* 2 194a35-6 and *Metaphysics* 12 1072b2-3.

235. organika. The word also means 'instrumental'.

236. *kosmopoiia*: this could mean 'making the universe', but it is not clear that Philoponus wants to see the universe as a whole as a kind of unity with a beauty distinct from the beauty of the things in it. See note to 270,17 below. The word is used also at 274,21, and there too it is more natural to take it as signifying good order in things generally than making a universe as a whole.

237. *koinos*; the suggestion is not that there is a single end of each sort common to all things, but rather that on the most general possible view, which embraces both natural objects and artifacts, things have an end of each sort.

238. In fact this seems to be an end as benefit, not as beneficiary. As the next sentence shows, Philoponus uses this phrase to designate the form, and it was a doctrine in mediaeval aesthetics that artistry aims at the good of the thing made, but this, strictly speaking, is its utility to some living thing; neither an artifact nor the universe as a whole can be benefited.

239. *orexis.* This word is not in Aristotle's text, but Aristotle does say at 415b1 that all things *oregetai*, 'reach out for', the divine. (Whether he intends 'all things' to include inanimate objects is, of course, a question to be debated.)

240. i.e. sees by it, eagles being specially sharp-sighted.

241. ousia, which is, of course, the verbal noun of the Greek verb 'to be'.

242. That is, probably, of visual rays.

243. Printed as a quotation by Hayduck, not as a lemma. It seems, however, to be the beginning of the detailed commentary.

244. Printed as a quotation by Hayduck, not as a lemma.

245. *tropoi*; in *Physics* 2.3 this word is in fact used not for the four senses in which something can be a cause, but for the six ways in which what is a cause in any of these senses can be given.

246. Printed as a quotation by Hayduck, not as a lemma.

247. i.e. 'that from which change arises' is Aristotle's expression for the productive or 'efficient' cause.

248. Printed as a quotation by Hayduck, not as a lemma.

249. Printed as a quotation by Hayduck, not as a lemma.

250. Printed as a quotation by Hayduck, not as a lemma.

251. Printed as a quotation by Hayduck, not as a lemma.

252. Printed as a quotation by Hayduck, not as a lemma.

253. The commentary does not explain how the soul could be the benefit for which nature acts. The easiest way of explaining this (at least if we do not mind attributing a somewhat physicalist account to Aristotle) is to understand by the soul the constitution of the mature organism, and say that organs form and growth occurs in order that this good state may be reached. Philoponus seems to want the soul to be both benefit and beneficiary, but Aristotle might be drawing the distinction because he wants to say it is 'that for the sake of which' only as beneficiary.

254. Philoponus is right about this; and 'efficient' (or 'productive') 'cause' is a misleading paraphrase because Aristotle argues (*Phys.* 2.2, etc.) that the phrase applies to the form of a living thing, which he does not conceive as a causal agent.

255. Philoponus may be thinking of electromagnetic phenomena.

256. Or perhaps 'He does ill if he', referring to Empedocles.

257. *rhizoumenôn:* the OCT has *surhizoumenois*, but the sense is much the same.

258. sc. on earth; the heavens cause change on earth by causing the procession of the seasons.

259. prosektikôtata. prosektikos usually means 'attentive', but I think the meaning here is less that Aristotle is very attentive than that this second objection is more germane, closer to the point.

260. i.e. of the elements; some MSS read stoikheion here.

261. Euripides at Medea 1187 speaks of a stream of all-devouring fire.

262. i.e. they are not genuinely nourished and augmented. Philoponus is probably thinking of things like fire and perhaps also rumour, suspicion, panic, etc.

263. *hulê*; also the word for wood.

264. This is not argued formally, but see, for instance, 1 322a10-16 and 2 335a16-18.

265. Not between these two discussions, but perhaps Philoponus means between them and what comes next, or as a digression from his own treatment of the nutritive soul.

266. See too 267,4 above.

267. Printed by Hayduck as a quotation, not as a lemma. Insofar as there is a division between continuous exposition (*theôria*) and detailed commentary, the detailed commentary begins here.

268. *trophê*; the word is ambiguous between the process or activity of nourishing and that with which something is nourished, like the English word 'nourishment'.

269. Hayduck obelises the text here. Strictly speaking what is changed is the food consumed, and what is augmented is the consumer; but it does not seem to me impossible that Philoponus should carelessly call the consumer the thing changed. It would be wrong to call it *trephomenon*, 'the thing nourished', since we are trying to state the conditions under which it *is* a thing nourished.

270. That is, being a contrary that turns into its contrary and adding to the quantity of its contrary are necessary but not sufficient conditions of nourishing. A further necessary condition is that the change should originate in soul.

271. Philoponus reads *allois* here $-\sec 282,30$; the OCT reads *haplois*, 'in the case of the simple bodies', i.e. the elements.

272. Reading *h*^{\hat{e}} *tou puros eis to hudôr* in place of the corrupt *epi tou puros to hudôr*, as Hayduck suggests.

273. i.e. why this different way of speaking when neither is a genuine case of nourishment?

274. Philoponus reads kai here, see 283,19; the OCT has \hat{e} , 'or what is intermediate'.

275. Such a *metabolê* is not a *kinêsis*; *kinêsis* is here used in a narrow sense for a process of change as contrasted with an activity or *energeia*.

276. See *Physics* 3.2-3 for a distinction between *kinêsis* and *energeia*; the two are distinguished more formally at *Metaph.* 9 1048b18-36 and *EN* 10 1174a14-b5.

277. There is a lacuna here; Hayduck suggests that 'it is not yet like' or words to that effect have dropped out.

278. There is a lacuna here. Hayduck suggests $h\hat{e}i$ men dunamei estin hoper to trephomenon $h\hat{e}$ troph \hat{e} , 'insofar as the food is potentially what the thing nourished is', taking the words from line 29 below. I think we should rather

supply words like those in Aristotle's text: *hêi men tode ti kai ousia hê trophê*, 'insofar as the food is a this particular thing and a substance'.

279. peposôtai: literally, 'has been made to be of a determinate quantity'.

280. Printed by Hayduck as a quotation, not as a lemma.

281. i.e. when not miscegenating.

282. Printed by Hayduck as a quotation, not as a lemma.

283. paronomazomena, the things signified by cognate expressions. From *trophê*, 'food' we have *trephomenon*, 'thing nourished', *hôi trephetai*, 'that by which it is nourished', and *trephon*, 'thing that nourishes'.

284. The Greek words for intellect and thinking are cognate, *nous* and *noein*, and so are those for sense and perceiving, *aisthêsis* and *aisthanesthai*.

285. i.e. in this world into which the soul descends, or perhaps, 'starting at the lowest level'.

286. The twofold distinction is not between these two 'things with which' but applies to the second of these two.

287. The heat in the innate pneuma.

288. i.e. it does not change the nourishing power in its exercise.

289. At *Phys.* 4 211a29-31 Aristotle says that the parts of an undivided whole are in it as parts in a whole but not as a place-occupant in a place. Philoponus reasons that since the hand is continuous with the rest of the steersman, it is not moved by any other part of the steersman. Aristotle would certainly resist the idea that the hand is moved by, say, the bottom six inches of the arm, this by the next three inches, and so ad infinitum. He does, however, speak of parts of the body as being changed by appetition: 433b14-19.

290. Printed by Hayduck as a quotation, not as a lemma. Since the second sentence seems to be taken as a lemma below, 289,1, it could be bracketed here.

291. Printed by Hayduck as a quotation, not as a lemma.

292. *pathos*: this, though translated here 'affection', does not mean love or friendly feeling, but is a regular word for any more or less passive state or condition; an affection of a thing, in this sense of affection, is a way in which the thing is affected (*paskhei*).

293. *dokei*; this verb is used in Greek (and in this sentence) both to mean 'seem' and to mean 'be thought'.

294. *aisthêsis*, the word also translated 'sense'. Aristotle notes that it can mean both the ability to perceive and actual perceiving; it means the latter here.

295. Alteration is change of quality, and augmentation is growth, two of the four kinds of change Aristotle recognises. The other two are motion and coming to be and passing away.

296. *eirêtai men kai en tois katholou logois*: the text is so reported at 296,10; the OCT reads *eirêkamen en tois katholou logois*, 'we have said in our general discussion'.

297. It might be thought that while the sense-organ is potentially like the sense-object, the sense-object is not potentially like the sense-organ; unless it is sufficient for A's being potentially like B that A will become actually like B if B acquires properties A already actually has.

298. i.e. in what way it is 'in potentiality'.

299. to krustalloeidês, literally 'icelike' or 'crystalline'; the word is used for the lens and also for the virtuous humours behind it.

300. *epistrephein*, a word used by Neoplatonists for the intellect's turning in on itself to intuit its objects.

301. i.e. if the sense-organ is potentially *something* the sense-object is actually.

302. i.e. an affection contrary to nature such as rheum or the yellow of the jaundice.

303. That is, it supposes that the rheum is a spot on something outside, or that the yellow is the colour of something outside.

304. sc. on the tongue; the reference is to the fact that people sick of a disease like jaundice attribute the taste of the humour in their mouths to the food they eat, cf. 406,6-19.

305. i.e. they think things are revolving round them.

306. i.e. who explain sight by means of streams of pneuma coming out of the eye.

307. i.e. the hole in the field of vision is taken to be a visible object. That is, we imagine there to be objects similar in size and shape to the blanked off part of the eye.

308. This is the view of Plato, criticised by Aristotle in the *Nicomachean Ethics*.

309. sumplêrôtikos, literally 'fulfilling'; the four tangible properties are, as Aristotle says below, 423b27-8, those by which the elements are differentiated and defined.

310. *aisthêsis*; this word can mean both a sense, i.e. a capacity to perceive, and perceiving, i.e. exercising a sense, and that is what Aristotle is here pointing out; Greek does not have, as English has, two distinct words here.

311. It is clear from 295,32 that Philoponus here read *aisthanesthai*, 'to perceive', which makes the text very hard to interpret. The OCT correctly, I think, reads *to aisthêton*, 'the sense-object'.

312. Using the participle of the verb 'to perceive', *aisthanomenon*, as he explains a few lines below. Aristotle is arguing from the premiss that *verbs* of perceiving have two uses, to the conclusion that nouns and adjectives of perceiving, *aisthêsis* and *aisthêton*, have two uses. Philoponus, with his alternative reading, suggests he is arguing from the fact that the participle, *aisthanomenon*, (and presumably the adjectives *aisthêtikon*, *akoustikon*, etc.) are used in two ways, to the conclusion that both the noun for the power, *aisthêsis*, and the verb for the exercise, *aisthanesthai*, are used in two ways.

313. *legomen*; the OCT reads *legômen*, 'let us speak'.

314. Or incomplete. A process of change is incomplete while it is going on, whereas an 'activity' is complete at any moment of it: see *Physics* 3 201b31-5, and, more fully, *Nicomachean Ethics* 10 1174a14-b6

315. At 290,6 the text is reported as 'Some people say also'.

316. If we made this addition, the *kai* in Philoponus' text can be understood not as 'also' but as having the sense of 'both', anticipating the second *kai* here: 'how this is possible we both have said in our general account, and must also say here.'

317. i.e. incidental to the substance.

318. See Aristotle, Metaphysics 9 1048b23.

319. *de Interpretatione* 23a23; Philoponus seems to take this to refer to the heavenly bodies.

320. sc. between perfect activities and changes.

321. phusikês, here used almost in the modern sense of 'physical'.

322. prosapodedomenôn; this odd term may be an allusion to the theory that motion is discrete and made up of short 'leaps': see Richard Sorabji, *Time, Creation and the Continuum*, Chapters 5 and 25.

323. The word translated 'affect' is *poiein* and the word translated 'quality' is *poiotês*.

324. Or perhaps: 'because they are the same'.

325. Hayduck refers to *Phys.* 8 255a23, but Philoponus may have in mind only *Phys.* 3 chs 2-3

326. A technical term for some formal conceptual taxonomy; cf. above 249,31.

327. Saying that it is only in potentiality until advanced to actuality by the sense-object.

328. sc. 'to perceive', *aisthanesthai*, and more specific verbs of perceiving like 'to see', 'to hear'.

329. *legomen*; the OCT reads *elegomen*, 'we were speaking'.

330. Introducing an alternative interpretation; on the interpretation previously given, 'now' is equivalent to 'just now', that is, 'a little while ago'.

331. i.e. by repeated practice and exercise.

332. Philoponus writes as if the subject were not 'that which advances' but 'the advance'.

333. A omits the words *tês energeias*, 'of the activity'.

334. '... the absence of the activity'. A adds after this: 'alone. Similarly too what is in act in the first way, which also coincides with what is in potentiality in the second, is said to be in act in view of the presence of the disposition, and what is in act in the second [sc. is said to be in act] in view of the presence of the exercise or activity.'

335. Reading *auto* as it is clear from 303,16.24 Philoponus did. The OCT reads *hauto*, i.e. explicitly 'to the thing itself'.

336. The sentence would be improved by inserting *de* after *ex enantias*.

337. Hayduck prints this as a quotation, not a lemma, but it seems to be the beginning of some detailed commentary. See 302,19 and n.

338. Paraphrasing 'the other is preservation'. This is a loose and rambling sentence even by Philoponus' standards.

339. *protetheôrêmena*, said in the *theôria* or continuous exposition.

340. Printed by Hayduck as a quotation, not a lemma.

341. i.e. contemplates.

342. The OCT brackets 'according to', *kata*, allowing us to translate: 'Bringing what thinks and judges to actuality from being in potentiality should be called not "teaching" but something else.' This is the sense we want.

343. i.e. what is in potentiality in the second way, what has the disposition; Philoponus is trying to combine the sense of the OCT reading with his own reading of kata.

344. *phronoun*. Although *phronein* often means simply 'think', here and at 429a11 it perhaps means (or is taken by Philoponus to mean) the exercise of *phronêsis*, practical judgement: see Philoponus' commentary on the *de Intellectu*, 1,10-11.

345. hexis, which originally means 'having'.

346. That is, 'perceive' meaning 'exercise the ability to perceive' is said like 'contemplate'.

347. Understanding *êporêsen* as Hayduck suggests; the sentence as it stands lacks a main verb.

348. Or perhaps 'a potentiality', meaning 'sense is in potentiality'.

349. A verb must be understood; perhaps *agei* has dropped out before *ho gennêsas* by haplography.

350. *diêkhes*, literally, 'that through which something can sound', as *diaphanes*, 'transparent', means 'that through which something can appear'.

351. *loutron*: is Philoponus referring to the effect of steam-baths, or is the text corrupt? He likes the word *karos*, 'stupor' or 'trance' (translated *alienatio*

in the *de Intellectu*), but it is hard to see how *karou* could have been corrupted to *loutrou*.

352. Words supplied from A, as Hayduck suggests.

353. Or perhaps one should translate 'forms'; the allusion is to knowledge possessed before birth.

354. i.e. exercising knowledge.

355. i.e. each has its own private existence, and is restricted to that, unlike universals, as Philoponus will explain at 307,35-308,1.

356. Philoponus is here ascribing to Aristotle the view of universals offered by the Aristotelian Alexander in his *DA* 90,2-11, *Quaestio* 2.28 78,18-20; 79,16-18.

357. Medicine, astronomy, etc.

358. An archaism; in classical Athens, but not in sixth-century Alexandria, the office of general was elective and more political than military.

359. anamattetai. The root verb mattein means 'to pound up' and this metaphorical use suggests a kind of chopping up and reconstituting, but I doubt if either here or two lines below where he uses the different compound *ekmattesthai* Philoponus means anything more definite than 'take the impress of'. The author of the commentary on Book 3 uses *anaplattein* to express the same idea.

360. As Hayduck says, words to this effect seem to have dropped out.

361. *tôi oikeiôi logôi*: 'an account on its own' referring to the account in the present chapter, or, less probably, 'an account on their own', referring to the accounts of the proper sense-objects in Chapters 7 to 11.

362. *kath' hauto*, a technical term. In *Posterior Analytics* 1 72b34-73a13 Aristotle distinguishes four grounds on which one thing may be said to be 'of itself' another. He does not say on which the proper and common objects are said to be of themselves objects of sense and perceived, but he seems to think that the five senses are differentiated at least partly by their objects – sight is the ability to perceive colour by eye – and he probably thinks also that coloured objects are perceived because they are coloured and objects with shape and size because they have shape and size.

363. At [Aristotle] *Problems* 13, 908a2 odour is said to be 'a kind of vapour and effluence'.

364. *kinêsis;* although this word is used for all kinds of change, Philoponus, as is clear from the discussion that follows, takes as a common sense-object only change in respect of place, i.e. movement. He might consider changes in respect of colour, sound, temperature, etc. as objects proper to particular senses.

365. arithmos kinêseôs, Phys. 4 219b1-2. arithmos in the discussion of time in Phys. 4 is usually translated 'number' and it is the same word as Aristotle uses in this chapter of the *de Anima*. It covers, however, both what we call 'number' and what we call 'measure', and the cognate verb arithmein covers both counting and measuring. The Greek interrogative word poson (like the French 'combien') covers our two questions 'how many' and 'how much', and it is a request for arithmos. In analysing the concept of time in terms of arithmos Aristotle may well be using the word in the sense of measure: his suggestion seems to be that the concept of a time unit like a day or a year is the concept of a measure of change; the time of a movement or alteration is what we reckon (arithmoumen) in such units.

366. A paraphrase of Phys. 4 223a25-6.

367. i.e. sense does not apprehend that there are three or five men; Philoponus treats perception of number as he has just treated perception of shape.

368. *Iliad* 10.535. This line is quoted also by the commentator on Book 3 at 601,1-2.

369. The odours of coffee and fried bacon might be two fragrant odours different in form.

370. Galen, I am informed by Dr. Inna Kupreeva, says that 'if wormwood and honey are mixed in exactly equal proportion, the mixture, put on a tongue, will be perceived as "bitter-sweet", *glukupikron*', (*de simplic. med. temper. ac fac.* XI 586 K.)

371. Hayduck obelises 'three' and says 'you expect 'by two, sight and touch" '. I agree, and the reference to smell is very surprising, though Philoponus has allowed that magnitude is apprehended in a way by hearing (311,14-19) and at 315,13-14 extends this liberal attitude to smell and taste.

372. One might have thought that $osm\hat{e}$, 'odour' was as good a 'common name' as *khumos*, 'flavour'.

373. The 'both', *te*, is picked up by 'the other' at line 27 below.

374. Correct distance, etc.

375. This treatment of sensory illusions may be compared with that of the author of *in de Anima* 3, 510,34-511,16.

376. The OCT reads *hekastês*, 'of each [sense]'. Philoponus has *hekastou*; it is not clear what neuter or masculine noun we are to understand.

377. The OCT accepts the alternative reading *Diarous huios*, 'Diares' son', reported by Philoponus at line 24.

378. Literally 'from him to him'; it is not clear who is writing to whom.

379. Reading *hêdei* for *êdê* as Hayduck suggests. For the aesthetic theory cf. Burke, *The Sublime and the Beautiful*, Pt. 3.

380. *ekkrouometha*, literally, 'we are knocked or pushed back'; the word also used of an actor hissed off the stage.

381. Not eyes, but sensitive patches in the eye (cf. 294a41) or perhaps visual rays.

382. sc. whether we see one thing or several. The argument seems intended to be that a plurality of objects does not affect either the organs of touch or the organs of sight differently from a single object, since if it did, imagination would be 'confused', and in fact it functions normally. It would be surprising, however, if Philoponus came down against Aristotle on this issue, and the train of thought here and below is uncertain. Are lines 316,35-317,3 a defence of the claim that magnitude affects the perceiver, or is the whole passage 316,35-317,4 a development of the objection to the claim that number does? The repetition at 318,17-21 suggests there may be corruption to the text.

383. Not that two pounds weigh more when together than when separate, but the effect of adding equal weights is cumulative. Why then, the reply runs, should not the effect of adding similar intensive magnitudes be cumulative?

384. Taking *aisthêsei* with *philôn kai aniarôn*; it would be possible to take it instead with *ekhontôn*, 'having through sense the imprints in imagination'.

385. See note to 250,36.

386. *gar*, but the particle must be understood, not as introducing a justification of the premise that they are not objects of intellect, but a further premise.

387. Hayduck brackets these lines because they repeat, though with some corruption, 316,35-317,4.

388. The sentence is not a model of lucidity because *sumbebêkos* is used in two ways. *X* is *sumbebêkos* on *Y* if it is a non-essential attribute of *Y*, if *Y* could exist without being characterised by *X*; and *X* is *Y kata sumbebêkos* if *X* is as a matter of fact *Y* because one is *sumbebêkos* on the other or both on some third thing. Diares' son is not *sumbebêkos* in the first way on whiteness or on an instance of it; but an instance of white is *kata sumbebêkos* Diares' son because

both white colour and standing as son to Diares are $sumbeb\hat{e}kota$ on a certain man.

389. This sentence is corrupt. Hayduck reconstructs it: 'Those things are relative which have their being in relation to something. If each sense, then, has its being in relation to the proper sense-objects, sight in relation to things seen, hearing, in relation to things heard, and the others likewise, these will be sense-objects in the most genuine way.' This seems to me on the right lines. At 265,5-6 Philoponus says: 'relatives are those things for which to be is the same as to be related in a certain way.'

English-Greek Glossary

abound: pleonazein abstract: exairein accompany: parakoluthein accomplish: ektelein accordance, in accordance with: akolouthôs accretion: epiprosthêsis accurate: akribos act (n.): energeia in act: kat'energeian, energeiâi act on to make: empoioun act (v.), be active: energein, dran act together: sunenergein activity: energeia, to energein actuality: entelekheia acutely: akribôs add: epagein add in: epiprostithenai restore by addition: epiprostithenai addition: prosthesis, prosthêkê adduce: paratithenai administer: prospherein advance (n.): proödos advance (v.): proagein that advances: proaktikos things said in advance: prokeimena affect: poiein that affects, affective: *poiêtikos* be affected: paskhein affected: pathêtikos affection: pathos affinity, with affinity: sungenês agent: poioun aim, thing aimed at: skopos aim at: skopazesthai aimed at: skopimos air: aêr airy: aerios alien: allotrios alive, be alive: zên make alive: zôiopoiein

all at once athroos all-powerful: pandunamos alter: alloioun that alters alloiotikos altered: alloios alteration: alloiôsis analogous: analogos be analogous to: analogein analogy: analogia angle: gônia without angles: agônios anger: thumos angry, be angry: orgizesthai, thumousthai angular: gônioumenos animal: zôion animate: empsukhos ant: murmêx apart, force apart: diakrinein tear apart: diaspan aperitif: propôma appellation: onomasia, proségoria give appellation to: prosagoreuein taking appellation from: paronomazomenon appetition: orexis have appetition for: oregesthai appetitive: orektikos apply, be applied: *pheresthai* apportion: merizein apprehend: antilambanesthai apprehending, apprehends: antilêptikos thing apprehended: antilêpton apprehension: antilêpsis appropriate: oikeios appropriately: summetrôs aquatic: enudros arbitrate: diaitan argue: sullogizesthai argument: logos

arrival: aphixis article: arthron articulate distinctions: epidiarthroun articulate distinctly: diarthroun artifact: tekhnêton artificial. from artistry: tekhnêtos artisan: tekhnitês artistry: tekhnê ashes: tephra ass: onos assertion: kataphasis attach: sunaptein attack: enistanai attend: parakolouthein attention, call attention to, give attention to: ephistanai attunement: harmonia augment: auxanein augmentation: auxêsis augmenting, which augments: aurêtikos avert: ekklinein away, do away with: anairein be carried away: diaphoreisthai, diaphorêsis gignesthai axe: pelekus

bait: delear bake: artopoiein ball of wax: sphairikos kêros beginning: arkhê, huparkhê being: einai what being would be: ti ên einai belly: gastêr belong: huparchein bestow on: kharizesthai better: kuriôteron bind with: sundein bitter: pikros black: *melas* blacken: melainein blackness: melania blame: aitian bleeding: phlebotomia blind rat: aspalax blood: haima blunt-angled: amblugônios body: sôma bodily: sômatikos in a bodily way: sômatikôs boil: zein boiling: zesis book: logos

hone: ostoun horderline: methorios born, be born prematurely: ektitrôskesthai bound be bounded: horizesthai boundary: horos give boundary: periorizein brain: enkephalos branch: klados brazen: khalkous bread: artos bring in with: suneispherein bring together with: suneisagein build: oikodomein thing built: oikodomêton building (n.): oikodomêsis building (adj.) oikodomikos bulls, bodies of bulls: taureia sômata burn, thing that burns: kaustikon that is burnt kauston

care: phrontis case: aitia case (gr.): ptôsis cast off: apoballein cataract: epikhusis, hupokhusis category: katêgoria caterer, of a caterer: mageirikos cause: aitia. aition cavity: koilôma cease: lêgein censure, say in censure: memphesthai centre. the Centre: to kentron ceramic: keramikos chance: to automaton change (n.): kinêsis. metabolê change (v.tr.): kinein, metaballein, metalambanein, ameibein [topon] that changes in respect of place: kinêtikon kata topon change of expression: metalêpsis charm away: paramuthein chew in advance: promasasthai child: paidion chill: katapsukhein suffer from chill: psukhesthai circle: kuklos citizen, live as a citizen: politeuesthai clam: khêmê clarification, make clarification: diasaphein clarity: saphêneia clay: keramos

150

clear: saphês close: prosekhês come close: prospelazein closely: prosekhôs clothe self in enduesthai cockle: kokhlias cognise: gignôskein cognition: gnôsis object of cognition: gnôston cognitive, in a cognitive way: gnôstikôs cold: psukhros coldness: psuxis, psukhrotês colour (n.): khrôma colour (v.): khrômatizein colourless: akhrous comb. kêrion combination of both: sunamphoteros coming to be: genesis common: koinos in common, in a common way: koinôs compact (v.): sunkrinein complete: entelês completely: teleiôs completion, bring to: apergazesthai, apotelein composed of both: sunamphoteros be composed: sunistasthai composite: sunthetos conceive: kuein. kuiskein conception: epinoia conclude: sunagein concurrent: sundromos confirmation: pistis confuse: sunkhein confused: sunkekhumenos in a confused way: sunkekhumenôs congeal around: peripêgnusthai congenial: sungenês conjoin with: suzeugnunai conscious, be conscious of: sunaisthanesthai consciousness: sunaisthêsis consider: phrontizein consideration: skepsis constitution: sustasis constrain: biazein contact: thixis be in contact with: haptesthai make contact: thinganein container: angeion contemplate: theôrein

thing contemplated: theôrêton contemplation: theôria contemplative, that contemplates: theôrêtikos continuity: sunekheia continuous: sunekhês contract: sustellesthai contraction: sunkrisis contradistinction: antidiastolê contradistinguish: antidiastellein contrariety: enantiôsis contrary: enantios speak contrary: enantiousthai contributory cause: sunaition contrive: *mêkhanasthai* control in control of kurios converse, add the converse: antapodidonai cook: *hepsein* cooked dish: opson copy (n.): antigraphon corn: sitos corporeal, not corporeal: asômatos corpse: nekros correct: diorthoun counter-argument, construct a: antikataskeuazein coupling: sunduasmos creation: dêmiourgia crooked, with crooked talons: gampsônukhos crow: korônê cultivate: epimeleisthai cure: iama custom: ethos, sunêtheia customary speaking: sunêtheia usage of customary speech: sunêthês khrêsis cut: temnein power to cut: *tmêtikê dunamis* cutting [of plant]: klados darkness: zophos dative case: ptôsis dotikê dead: nekros deal with: dialambanein decay: phthisis

deduce: sunagein defence: apologia defend: apologeisthai defends itself: amuntikos defer: hupotithesthai deficiency: endeia define: horizesthai definition: horos. horismos delicate: leptos deliver: apokuein come to deliver: apokuiskein delivery: apokuêsis demonstrate: apodeiknunai also demonstrate: sunapodeiknunai demonstration: apodeixis demonstrative: apodeiktikos denial: apophasis denv: apophanai depend: artasthai deprive: sterein be deprived of: diapiptein depth: bathos descent: kathodos description: hupographê by way of description: hupographikôs desire: epithumia desiring: epithumêtikos destroy: *phtheirein* destroy along with: sunanairein destruction: phthora destructive: phthartikos detailed commentary: lexis determination: diorismos determine: diorizesthai detriment: blabê difference: diakrisis. diaphora different in character: alloios different kind: diaphora differentiate: diakrinein further differentiate, make further differentiation: prosdiorizesthai differentiation: diakrisis diffused, be diffused: diêkein dig through: dioruttein digest: pettein digestion: pepsis dim: amudros diminish: meioun diminution: meiôsis disagreement, be subject of disagreement: diaphôneisthai discern: krinein discerning: diakritikos, kritikos discernment: diakrisis, krisis discourse: logos discovery: heuresis discrete: diakekrimenos, diorismenos discuss: dialegesthai

discussion: logos disordered: ataktos dispersed, in a dispersed way: diespasmenôs displace: existanai dispose: diatithenai disposition: hexis dispositional: kath' hexin, kata tên horin dissipated, be dissipated in the air: diapneisthai dissolution: dialusis distance: diastêma distinction. draw distinction: diastellein. diorizesthai draw a preliminary distinction: prodiastellesthai distress: lupê experience distress: lupeisthai disturb: epitarattein divide: diairein divide along with: sundiairein divide from one another: antidiairein divine: theios division: diairesis do something: dran doctor: *iatros* doer: drastikos dominance: epikrateia dominant, be dominant: epikratein double: diplasion doubt, be in doubt: endoiazein doubtful, be doubtful: amphiballesthai downward journey: hupobasis downward moving: katôphoros draw: graphein draw away: apoteinein drink (n.): poton drive to: epagein drop in: *parapiptein* dry out completely: kataxêrainein dung: kopros dust: konis

eagle: aetos earth: gê of earth: gêïnos earthen: geôdês edible: edôdimos effect: praktikos einai element: stoikheion elephant: elephas elliptically: ellipôs embark · embibazein embrace: emperiekhein, perilambanein embracing (n.): *perilêpsis* embracing (adj.): periektikos embryo: embruon enclose: periekhein end: telos engineer: *mêkhanikos* enquire: zêtein enquiry: zêtêsis without effort of enquiry: azêtêtos enumerate: aparithmein enumeration: exarithmêsis. katarithmêsis environment: to periekhon equal: isos of equal strength: isosthenês equilateral: isopleuros equivalent [in meaning]: isos equivocal: homônumos equivocally: homônumôs erect (adj.): orthios err: planasthai error: planê essential: sumplêrôtikos establish: kataskeuazein. sunistasthai establishing, establishment: kataskeuê estimable: timios less estimable: atimôteros eternal: aidios eternity: aidiotês eunuch: eunoukhos even: homalos evenly: homalôs evident: phaneros evidently: phanerôs example: paradeigma excess: huperbolê run to excess: pleonektein exchange: antapodosis give in exchange: antapodidonai take in exchange: metalambanein exegesis: exêgêsis exercise: gumnasion exhalation: anathumiasmos existence: hupostasis expansion: diakrisis explain: exêgeisthai explanation, give explanation of: epexêgeisthai explanatory: aitiologikos

expression, have an expression for: rhêtos extend: epekteinein be extended: phoitan extension: paratasis extreme (n.): akron eve: omma, ophthalmos with eyes shut: muôn fact, plain fact: enargeia fall (n.): ptôsis fall upon: prospiptein fall [under]: telein fall into: enskêptein false: pseudês fanciful, in a fanciful way: plasmatôdôs fare well: euôdein feed: boskein fever, fever-case: puretos suffer from fever: purettein fiery: purios filling up: plêrôsis filtre in: proskrinein final: telikos final product: apotelesma final state: telos fine-grained: leptomerês fire: pur first: prôtos come first: proêgeisthai fit: epharmozein flash: lampas flavour, flavouring: khumos flea: psulla flesh: sarx flux, in flux: rheustos follow: parakolouthein follow upon: akolouthein follows: akolouthos food: sition, trophê foods: edôdima forced: biaios foregoing: ta prolabonta form: eidos, idea make to have form: eidopoein form-making: eidopoios of the same form: homoeidês formal: eidikos forward, go forward: prokhôrein fragrant: euôdês function: ergon functioning: ergasia

heat (v.): thermainein

further, go further: huperairein

gather: sunistasthai gaze, direct gaze at: atenizein general, in a general way: katholou generally: haplôs. koinôs genesis: genesis generate: gennan power to generate: gonimos dunamis thing generated: gennêton generative: gennêtikos generation: gennêsis genitive case: genikê ptôsis genuine: alêthinos genuinely: kuriôs genus: genos of the same genus: homogenês geometer: geômetrês geometrical: geômetrikos gestation: kuêsis giving: apodosis gnat: empis go through: diêgeisthai goad on: paroistran god: theos grasp (n.): katalêpsis grasp (v.): gnôrizein grev: phaios grope: psêlaphan ground: gê grow: phuesthai grub: skôlêx

habitation, underground habitation: katadusis habituation: sunethismos. to sunêthes hand kheir put hand to: metakheirizesthai hard: sklêros hardening together: sumpêxis harm: blabê head: kephalê; have head to the ground: kuptein epi gên health: hugieia healthy: hugieinos be healthy: hugiainein made healthy: hugiastos hear: akouein hearing (n.): akoê heart: kardia in vicinity of heart: *perikardios* heat (n.): kaumata, thermotês

heaven the heavens: ourgnos heavenly: ouranios heavy: barus hectic hektikos help: sumballesthai heptagon: heptagônon herb: botanê hexagon: hexagônon high [in sound]: oxus hind-part: opisthios hint (n.): emphasis hint (v.): ainittesthai honey: meli horizontal: plagios hot: thermos humour: khumos hunger: peina hurt: anian ice: krustallos ignorance: agnoia, anepistemosunê illuminate: katalampein image: eikôn imagination: phantasia imaginative, have in an imaginative way: periphantazesthai imagining, that imagines: phantastikos imitate: *mimeisthai* imitation: *mimêsis* immediate: amesos immortal: athanatos make immortal: apathanatizein immortality: athanasia impartible: ameristos in an impartible way: ameristôs impede: empodizein, kôluein, parapodizein imperfect: atelês imprint (n.): tupos, ektupôma imprint (v.): ektupoun imprinting: anatupôsis inactive: anenergêtos inactivity: anenergêsia, argia incidental: sumbebêkos incline: neuein include: emperiekhein, emperilambanein also include: sumperilambanein incommensurability: asummetria incomplete: atelês incorporeal: asômatos

154

knowledge: epistêmê

have knowledge: gignôskein

indestructible: aphthartos indicate: deloun, semainein indication: tekmêrion indicative: delôtikos semantikos individual: atomon as an individual: kat' arithmon induction: epagôgê infer, draw inference: sullogizesthai inflow: eisrhoê injurious, be injurious to: lumainein innate hot: emphuton thermon inscribe: anagraphein insect: entomon little insect: kônôpion winged insect: muia inseparable: akhôristos instrument: organon instrumental: organikos intellect: nous object of intellect: noêton intellectual: noeros intensify: epiteinein interception: emphraxis intermediate: meson interpretation: exêgêsis interpreter: exêgêtês interval: diastêma interweave: sumplekein introducing, that introduces: proaktikos introducing cause: aition proaktikon introduction: proöimion intuit: prosballein intuition: prosbolê, epibolê intuitive, grasp intuitively: epiballein involvement: epiplokê iron: sidêros itself, of itself: kath' hauto

jaundice, suffer from jaundice: *ikterian* join on: *episunaptein* join up: *epizeugnunai*

kind, of another kind: anomoeidês knit up: anuphainein know: epistasthai that knows: epistêmonikos get to know: gignôskein, gnôrizein known: gnôrimos thing known: gnôston knower: epistêmôn

lack (n.). sterêsis lack (v.): stereisthai laid up in advance: proapokeimenos lamp: lukhnos of a lamp: *lukhniaios* land: gê lead: *hupagein* leaf: phullon learning: mathêsis lens: to krustalloeides life zoê lead life: diaitan life, way of life: diaita like: homoios make like: homoioun make completely like: exomoioun light (n.): phôs light (v.): phôtizein light [in weight]: kouphos limit, without limit: ep'apeiron line: grammê in a way in line with: sustoikhos liquid (n.): hugron list with: enkatalegein literate. one who is literate: grammatikos live: bioteuein. zên liver: *hêpar* locomotive: metabatikos locust: akris logical: logikos long-lasting: polukhronios look (v.): anablepein lose: apoballein low [in sound]: barus

magnitude: megethos main clause: apodosis make: poiein make for: prosienai manger: phatnê manifestation: phanerôsis manufacture (v.): dêmiourgein mass: onkos master: despotês material (adj.): hulikos mathematics, object of mathematics: mathêmatikon matter: hulê forms in matter: enula eidê

English-Greek Glossary

mean (n.): mesê, mesotês mean proportional: mesê analogos mean (v.): boulesthai meaning: sêmainomenon measure metron [a state] beyond measure: ametria medicine: pharmakon membrane: khitôn mention mnêmê mild[.] êremaios mineral: *metallon* miscarry: exambliskein mistake (n.): apatê mistake, be mistaken: apatasthai mixed, be in a badly mixed state: duskratôs ekhein mixture: krasis bad mixture: duskrasia model: paradeigma moist: hugros mollusc: konkhulion more, become more: pleonazein becoming more: pleonasmos mortal: thnêtos moon: selênê half moon: dikhotomos selênê mother: *mêtêr* mould along with: sundiaplattein moulded, easily moulded: euplastos mountain: oros mouth: stoma mosquito: kônôps move (v. tr.): kinein movement: kinêsis mule: hêmionos multiply: pollaplasiazein musician: musikos mutation: metabolê name, having no name: anônumos

namely: hoion natural: phusikos nature: phusis be by nature such: pephukenai by nature: phusikôs student of nature: phusikos natural: prosphuês near, being near: parathesis get nearer to: engizein lie near: parakeisthai nerve: neuron new-born: neognos nominative case: eutheia ptôsis

non-concurrent: asundromos non-corporeal, in a non-corporeal way: asômatos non-imaginative: aphantastos non-living: azôn non-rational: alogos non-rationality: alogia non-temporal, in a non-temporal way: akhronôs note: sêmeioun nourish: trephein nourishing, that nourishes: threptikos nourishment: threpsis, trophê number: arithmos object (v.): enistasthai occupied, be occupied with: kataginesthai odour: osmê olive elaia olive oil: elaion one, being one: henôsis just one: haplous opining: doxastikos opinion: doxa opposite, lie opposite: antikeisthai opposition: antithesis order (n.): taxis give fair order to: kosmein making good order: kosmopoiia order (v.): tattein ordinary, speak of in ordinary speech: kathomilein organ: organon organised: organikos have organs, be organised: diorganousthai original: prôtotupos outflow: aporrhoê be outflow, flow out: aporrhein outline: perigraphê have an outline: perigraphesthai overturn: anatrepein own, its own: oikeios oxyrhynchic: oxurhunkhos packaged: holoskherês painful: aniaros parallel: *parathesis* part: meros

having parts: *meristos* with similar parts: *homoiomerês*

with dissimilar parts, without similar parts: anomoiomerês particular: idikos [as opposed to general]: merikos in the particular sense: *idiôs* partitions, that partitions: merikos partless: amerês partlessness: amereia pass: metabainein make to pass: methistanai pass away, that passes away: phthartikos pass in: proskinein passing in: proskrisis passage: metabasis passing away: phthora passing out: apokrisis past, men of the: palaioteroi peculiar, be peculiar to: *idiazein* peculiarity: *idion* pentagon: pentagônon perceive: aisthanesthai power to perceive: *aisthêtikê* dunamis perceived: aisthêtos perceiving, which perceives: aisthêtikos perception: aisthêsis perfect: teleios being perfect: *teleiôsis* perfection: teleiotês. teleiôsis perfective: teleiôtikos permanence: diamonê phantasm: phantasma philosophy: philosophia phrasing: phrasis pigeon: peristera place: topos place where: pou give place to: parakhôrein plant: phuton plausible: eulogos pleasant: hêdus thing to make pleasant: hêdusma pleasure: hêdonê experience pleasure: hêdesthai plural: *peplêthusmenos* plurality: plêthos pneuma: pneuma pod: perikarpion poet: poiêtês point, to the point: prosektikos politics, man of politics: politikos

polygon: polugônos position: taxis possible: *dunatos* potbellied: *progastôr* potentiality: dunamis power: dunamis powerful: dunamikos. epikratês. sphodros practical: praktikos precede: proêgeisthai precipice: krêmnos precipitous: apokrêmnos predicate (v.): katêgorein pre-exist: proüparkhein premature, be born prematurely: ektitrôskesthai premiss: protasis preparative: skeuastikos prepare in advance: proparaskeuazein presence: parousia present, be present: huparkhein be present in advance: proüparkhein be present before: proüpokeisthai preservation: sôtêria preservative: sôstikos, phulaktikos press on: epibainein prevent: kôluein primary: prôtos principle: arkhê prior, posterior: proteros, husteros; prôtos, husteros private: *idios* problem: aporia, problêma raise problem: aporein problematic: aporos proceed to go into: epexerkhesthai proceeding: proïon process of time: kinêsis tou khronou produce: poiein productive: poiêtikos progress (n.): epidosis progress (v.): epididonai progress along with: sumproïenai proof: deixis, epikheirêma proper: idios properly: kuriôs belonging properly: oikeios proportion: summetria proportionate amount: logos proportionately: pros logon protect inside: emphulattein prove: epikheirein

provide in advance: prokataskeuazein proximate: prosekhês proximately: prosekhôs pulse: sphugma pupil [of eve]: korê [learner]: mathêtês pure: katharos purgative: katharmos purple fish: porphura purpose: prokeimenon be purpose: prokeisthai to no purpose: *matên* pursue: *metadiôkein* put forth: proballein putting forth: probolê put out: ekkrouein putrefaction: *sêpsis* quadrilateral: tetrapleuros qualify: poioun quality: poiotês quantitative, be quantitative: posousthai quantity: poson race: genos ranged along with: sustoikhos rare: manos ratio: logos rational: logikos rationally: kata logon rav: aktis reach out for: oregesthai read: anagignôskein reading: graphê ready, make ready: paraskeuazein reality, in reality: tôi onti reason: aitia, aition, logos reasonable: eulogos reasoning: logismos, logos recall: anamimnêskein receptive: deiktikos reckon: arithmein reckoning board: abakion receptive: epidektikos recognise: epigignôskein, gnôrizein rectangle: orthogônion rectilinear: euthugrammos red: eruthros reflect: epistrephein refute: dielenkhein, elenkhein regulate: rhuthmizein relation: skhesis

relationship: logos relative: pros ti relax: luein remind: hupomimnêskein remote, in a remote way: exêirêmenôs remove: anairein replenishment: anaplêrôsis report: historein be reported: pheresthai represent: anamattesthai, apomattesthai, ekmattesthai representation: mimêma reproach: enkalein resin: sturax resistance: antitupia resistant: antitupos resolve: epiluein responsible: *aitios* hold responsible: aitian rest. be at rest: êremein staving at rest: êremia reverse: empalin rheum: *lêmê* right [angle]: orthê right-angled: orthogônios rind: lepos ring (n.): daktulios rock: petra rod: rhabdos root: rhiza be rooted: rhizousthai rot: sêpesthai rounded: peripherês rough: trakhus rove: phoitan rule: kanôn runner: dromeus runs in: epirrhutos runs out: aporrhutos sailor: *plôtêr* saltiness: halmurotês sap: enterionê satisfy, be satisfied with: areskesthai scatter, that tends to scatter: skedastos script: tupos sea anemone: akalêphê secretion: perittôma see: horan that sees: horatikos thing seen: horaton seeing: horasis

seed: kenkhramis, sperma seek zêtein segment: *tmêma* self-sufficient be self-sufficient. heautôi eparkein semen: sperma semicircle: hêmikuklion send on: parapempein sense: aisthêsis with sense *aisthêtikos* sense-object: aisthêton proper, common sense-object: koinon. idion sense-object of itself, incidental: kath' hauto, kata sumbebêkos sense-organ: aisthêtêrion separable: khôristos separate (v.): khôrizein separate (adj.): khôristos separated: diakekrimenos separation: khôrismos serve: hupêrêtein serve to carry: diakonein service: hupêrêsia set before: paristanai set forth: prokheirizesthai set out: ektithenai, paratithenai, gumnazein how it is set out: thesis settle: hidrusthai sex: aphrodisia shake off: aposeiesthai shape (n.): morphê, skhêma shape (v.): skhêmatizein become shaped along with: suskhêmatizesthai share, be without share of: amoirein sharing: methexis sharp-angled: oxugônios sharp-sighted: oxuderkês shell: ostrakon shellfish: ostreon shelter: skepê, skepasma shining: ellampsis ship: naus, ploion show: deiknunai shun: pheugein side: pleura sight: opsis object of sight: horaton sign: sêmeion simple: haplous simply: haplôs

single, in a single way: haplôs sing *âidein* skill. tokhnô man of skill: tekhnitês skin[.] derma slave: doulos sleep (n.): hupnos sleep (v.): katheudein sliver of wood: karphos smell: osphrêsis object of smell: osphranton smell-vehicle: diosmos smoky: kapnodês smooth: leios snake: ophis snubnosed simos soft: malakos solid: stereon solution, give solution to: epiluein soul· zoê sound (n.): psophos source of sound: phthongos sound (adj.): ekhuros. hugiês sound-vehicle: diêkhes sour: *pikros* source: arkhê sourness: *pikrotês* sow in: enspeirein special: *idios* species: eidos specific: eidikos specification, without further specification: haplôs sphere of fire: sphaira puros spherical: sphairikos spirit: thumos spirited: thumikos, thumoeidês sponge: spongos spontaneous: automatos spread out: diakheisthai spread under: hupostrônnunai starting point: arkhê spoken word: phônê square (n.): tetragônon square (v.): tetragônizein squaring: tetragônismos stain: khrônnunai stand, i.e. hold good: khôran ekhein state: diathesis be in a state: *diatithesthai* put in a state: *diatithenai* statement: logos stationary state: stasis

statue andrias staving unchanged: stasis stem: premnon step by step, advance step by step: hodôi hadizein stomach: gastêr, stomakhos stone (n.): *lithos* [fruit]stone: purên stone (adi.): lithinos story: muthos straight line: eutheia strength, of equal strength: isosthenês strong, be strong: rhônnusthai subdivide: hupodiairein subordinated to one another: hupallêlos, hup'allêla substance: ousia in substance: ousiâi of the same substance: homoousios substantiation: ousiôsis subtend: hupoteinein succession: diadokhê succinctness: suntomia such as: hoion suffer. make to suffer in return: antilupein making to suffer in return: antilupêsis sufficient: autarkês suit: prokhôrein suitability: epitêdeiotês suitable: epitêdeios suitably: epitêdeiôs sun, of the sun: heliakos supernatural being: daimôn supervene incidentally: episumbainein supervene on: epigignesthai supply: khorêgein surface: epiphaneia on the surface: epipolês surround, that which surrounds: to perix suspect: huponoein sustain: hupomenein sweet: glukus syllogise: sullogizesthai syllogism: sullogismos take, also take in: paralambanein

talons, with crooked talons: gampsônukhos target, intended target: prokeimenon tart: oxôdês taste [sense of]: geusis [i.e. thing tasted]: geuston that tastes: geustikos teacher: didaskalos teaching (n.): didaskalia teaching (adi.): didaskalikos tear apart: diaspan temporal: khronikos, khronios tenid: khliaros term: horos bring to full term: telesphorein text: lexis. rhêton that, the 'that': to hoti theologian: theologos theorem: theôrêma thick: *puknos* thicken: pakhunein thin (v.): *leptunein* think: noein, dianoeisthai, phronein thinking, that thinks: noêtikos, dianoêtikos thirst: dipsa this something: tode ti thought: dianoia. noêsis be thought: dokein throat: trakhêlos tiller: pêdalion time: *khronos* timeless: akhronos tomb: taphos tongue: glôtta totality: holotês touch (n.): haphê, thixis touch (v.). haptesthai apprehend by touch: ephaptesthai object of touch: hapton which touches: haptikos transparent: diaphanês travel: hodeuein treatise: pragmateia trouble, cause trouble: enokhlein without trouble: apragmonôs true (v.) to the line of: apeuthunein true: alêthês trumpet shell: kêrux truth: alêtheia attain truth, speak truly: alêtheuein turn away from: apostrephesthai two minds, be in two minds: endoiazein

unaffected: apathês

uncertainty: amphibolia. amphisbêtêsis unchanging, unchanged: akinêtos unchosen: aproairetos unclear: asaphês undergoing: peisis underground habitation: katadusis understand: hupolambanein understand as added: prosupakouein uneven: anômalos unimpeded: anempodistos union: henôsis unit: monas unite: henoun unity: henôsis universal (n.): katholou universal (adi.): katholikos universe, the whole universe: to pan unlit: aphôtistos unmuddied: anepitholôtos unobvious: aphanês unperceiving: anaisthêtos unprocessed: akatergastos unreasonable: alogos unrelated: askhetos unwished for: aboulêtos upright: spoudaios upstandingness: epanastêma upward-moving: anôphoros urine: ouron usage: khrêsis use (n.): khreia. khrêsis use along with: sunkhrêsthai use in addition: proskhrêsthai useful: khrêsimos be useful: khrêsimeyein useless: akhrêstos value above: protiman vaporous: atmidôdes vapour: atmos variegated: poikilos variegation: poikilia vegetative: phutikos

vein: phleps vicious: mokhthêros violent: plêktikos vital, in a vital fashion: zôtikos voice: phônê wail, raise a wail: klauthmurizesthai waking: egrêgorsis wander: *planasthai* ward off. amunein warmth thermasia wasp: sphêx way, be on the way: hodeuein wax kêros weakness astheneia weave on: prosuphainein weight: baros where, place where: pou whisper: *psithurismos* white: leukos white leprosy: leukê whiten: leukainein why, the why: to dioti widely, more widely: epi pleon winged insect: muia wish (n.): boulêsis wish (v): boulesthai within from within: oikothen womb: gastêr. mêtra wood: xulon sliver of wood: karphos wooden: xulinos word: phônê in a word: haplôs in spoken words: prophorikôs in words: logôi work (n.): ergon work (v.): ergazesthai work for: prokhôrein work upon: katergazesthai wormwood: apsinthion worn, be worn out: kamnein write: graphein add in writing: prosgraphein knowledge of writing: grammatikê one who knows how to write: grammatikos

yearn: *ephienai* yearning: *ephesis* yellow: *xanthos*, ôkhros yellowing: ôkhriasis

zoophyte: zôphuton, zôophuton

Greek-English Index

The capital letter A following page number indicates that the word is to be found in the text of Ms. Vat. gr. 268 (= A) printed by Hayduck in his apparatus; line numbers following A in this Index correspond to the line numbers in the text printed in Hayduck's apparatus on the designated page.

abakion, reckoning board, 208,5;

- aboulêtos, unwished, 204,7
- adioristôs, without drawing
- distinctions, 299,4
- *aêr*, air, 227,20; 282,14; 314,14
- *aerios*, airy, 255,13
- aetos, eagle, 271,5
- agnoia, ignorance, 300,12
- *agônios*, without angles, 314,7; 316,5.7
- âidein, sing, 314,16
- *aidios*, eternal, 241,27; 242,18; 261,12.18
- aidiotês, eternity, 228,16; 265,32-4
- ainittesthai, hint, 255,14
- *aisthanesthai*, perceive, 214,32; 275,2; 296,18; 307,6.15.17.18
- *aisthêsis*, sense, 207,12; 248,21; 249,1; 270,26.27; 272,21.22; 275,1.3.8; 289,17; 291,3; perception, 289,30 and n.; 290,3
- *aisthêtêrion*, sense-organ, 221,33-4.36; 222.8; 291,3.20.22;
- 292,6.8; 305,10-11.14.17; 317,1 *aisthêtikos*, with sense, 214,31;
- perceiving, that perceives, 221,37; 235,10; 237,20; 240,7.29; 248,28; 310,26; *aisthêtikê dunamis*, power to perceive, 220,12; 221,34
- *aisthêton*, sense-object, 207,12; 222,12; 290,19; 291,3; 292,7; 302,31; 303,4; 306,13; 310,22.28; *kath'auto, kata sumbebêkos*, of itself, incidental, 310,36-7 and n.; 312,27.30; 315,31; 316,1.2;

- 317,16-28; koinon, idion,
- common, proper, 311,1.5.8.9; 315,26; 316,2.3; 317,37; 318,1.3
- *aisthêtos*, perceived, 312.25; 318.3
- *aitia*, reason, 207,23; 212,13; 216,9; 235,2; 246,17; case, 280,14; cause, 208,29; 220,23; 237,15; *aition proaktikon*, introducing cause, 217,5-6
- *aitian*, hold responsible, 277,8; 312,24; blame, 276,5.11
- aitiologikos, explanatory, 236,16
- *aition*, cause, 208,27; 221,29; reason, 307,21 (Aristotle, *DA* 417b21)
- aitios, responsible, 229,35; 230,1
- *akalêphê*, sea anemone, 258,9; 262,21
- akatergastos, unprocessed, 280,18
- *akhôristos*, inseparable, 204,15; 219,8; 223,25.28-30; 224,16.22.23.30.31.34; 237,13; 240,7.9.30; 242,19; 246,23.28; 248,17.18
- akhrêstos, useless, 234,31
- akhronos, timeless, 228,28
- *akhronôs*, in a non-temporal way, 297,8
- akhrous, colourless, 317,13
- *akinêtos*, unchanging (i.e. unmoving), 238,30.34; unchanged, 245,22
- *akoê*, hearing, 228,21.37; 247,19
- akolouthein, follow upon, 248,18
- *akolouthon*, in accordance with, 248,1 and n.; follows, 296,8
- *akouein*, hear, 239,4; understand, 225,8; 227,7; 242,11; 270,36

^{212,15; 270,21}

- *akribôs*, acutely, 253,36; accurately, 307.30
- akris. locust. 270.35
- akron, extreme, 233,16 (Euclid)
- *aktis*, ray, 315,30
- *alêtheia*, truth, 241,12
- *alêthês*, true, 213,1
- *alêtheuein*, speak truly, 223,3; attain truth, 313,34
- alêthinos, genuine, 210,10
- *alloiôsis*, alteration, 221,11; 275,1-4; 289,29; 300,14-19
- alloiôtikos, that alters, 221,12
- *alloioun*, alter, 272,22; 275,2.6; 289,28.30.32; 296,17; 301,9.14.21; 303,19; 308,26.32; 309,1.6.18
- *alloios*, altered, 297,2; 300,25; different in character, 314,36
- *alloiôsis*, alteration, 272,17.21.22; 274,32; 275,1.4; 289,29; 298,5.6; 300,14-19; 301,24-6; 303,21.22
- allotrios, alien, 237,3
- *alogia*, non-rationality, 242,17; 255,11
- *alogos*, non-rational, 203,7; 230,3; 239,34.36; 255,14; 268,11.13; unreasonable, 214,1; 243,11
- amblugônion, blunt-angled, 316,5.7
- *amelei*, no matter, 229,29; indeed, 293,23 (apparatus)
- *amereia*, partlessness, 238,12
- amerês, partless, 238,38; 297,19
- ameristos, impartible, 238,18.28
- *ameristôs*, in an impartible way, 239,1
- *amerôs*, in a partless way, 238,11; 268,15.18
- amesos, immediate, 255,8
- *ametria*, [state] beyond measure, 291,25
- *amoirein*, be without share of, 282,10-11
- *amphiballesthai*, be doubtful, 229,14
- amphibolia, uncertainty, 226,9
- amphibolos, doubtful, 229,26
- amphisbêtêsis, uncertainty, 241,30
- *amudros*, dim, 240,15; 258,34; faint [of sound] 311,18.28
- amunein, ward off, 259,12
- *amuntikos*, that defends itself, 249,15
- anablepein, look, 297,8

- anagignôskein, read, 263,4
- anagraphein, inscribe, 233,4.8
- *anairein*, remove, 256,15.16.19.21; 257,1; 265,15.16; do away with, 277,6
- anaisthêtos, unperceiving, 238,29.34
- anaklasis, reflection, 294A28
- *analogein*, be analogous to, 207,22; 270,5; 295,18
- analogia, analogy, 223,9.10; 307,32-3
- analogos, analogous, 203,23; 231,32
- analogôs, analogously, 217,18
- anamattesthai, represent, 309,23 and n.; 309,29
- anamimnêskein, recall, 246,25
- anankê, necessity, with infinitive, be necessary that, 204,14
- *anaphainesthai*, come to light, 263,16
- anaplêrosis, replenishment, 250,25; 251,22
- anathumiasis, exhalation, 252,4
- *anatithenai*, set down to, 275,28; 276,9; 277,13; 278,29
- anatrepein, overturn, 268,23
- anatupôsis, imprinting, 261,3
- andrias, statue, 211,22
- anempodistos, unimpeded, 274,19
- anenergêsia, inactivity, 216,8
- anenergêtos, inactive, 238,31
- anepaisthêtos, unperceiving, 263,2
- anepistêmosunê, ignorance, 306,29
- anepitholôtos, unmuddied, 306,23
- angeion, container, 239,8
- aniaros, painful, 240,23; 317,31
- anian, hurt, 228,34; 316,4
- anienai, ascend, 306,33
- anômalos, uneven, 293,12
- anomoeidês, of another kind, 278,16
- *anomoiomerês*, without similar parts, 217,15; with dissimilar parts, 230,23
- anônumos, having no name, 309,3
- anôphoros, upward-moving, 276,10
- antapodidonai, give in exchange,
- 269,18; add the converse, 290,25
- antapodosis, exchange, 269,17
- anthrôpeios, human, 247,32; 268,24
- antidiairein, divide from one

another, 251,17

antidiastellein, contradistinguish, 208,2-3; 209,5.8; 212,12; 249,18.21; 261,19

antidiastole. contradistinction. aphthartos. indestructible. 269.16 260,28; 296,31.33 antigraphon, copy, 315,24 antikataskeuazein, construct counter-argument, 213,26 antilambanesthai, apprehend. 222.12: 240.19: 252.18-19: 253.6: 263.1: 291.4.22: 292.8-11: 305.10: 307.3: 312.2 antilêpsis, apprehension, 240,17; 252.12.13; 263.7-10; 289.27; 292.6; 315.30: 316.21 antilêptikos einai tinos. apprehend, be apprehending of. 253.14-15.20: 265.16: 291.3: 295.5.8: 312.3.29: 314.23.36 antilépton, thing apprehended, 311,7 antilupein, make to suffer in return. 231.17.18antilupêsis, making to suffer in return. 231.9.11 antitithenai, oppose, lie opposite to, 211.13, 313.10; antikeisthai. antikeimenon, opposite, lie opposite, 207,11; 251,1.15; 263,31.32; 264,26.27; 265.1; 266,14.15.19; 271,11.13; 279.7.29.30: 313.10 antithesis, opposition, 229,16.22; 251.1.4.8: 313.9: 314.26.29.30.34-5 antitupia, resistance, 311.4 antitupos, resistent, 259,35 *anuphainein*. knit up. 259.11: 286.8 aparithmein. enumerate. 227.35: 229,34 apathanatizein, make immortal. 222,4; 237,11 apatasthai, be mistaken, 313,29; 314.38 *apatê*, mistake, 313,30; 315,2.3.30 apathês, unaffected, 283,13.24.27 apeiron, ep' apeiron, without limit, 278.4apeptos, undigested, 280,18.25.26; 281,8; 284,17 apergazesthai, bring to completion, 214.11*apeuthunein*, true to the line of, 227.3aphanês, unobvious, 227,13 aphantastos, non-imaginative, 247,8 aphrodisia, sex, 204,7, 286,16-17 aphixis, arrival, 234,7

apoballein, cast off. 219.32: lose. 222 20 apodeiknunai, demonstrate, 225.24 apodeiktikos. demonstrative. 227.14 apodeixis. demonstration. 216.6: 231.14 *apodosis*, giving, 207,21-2, 211,31; main clause, 253.31 apokrêmnos, precipitous, 311.26 apokrisis, passing out. 285.26 apokuein. deliver. 306.9 apokuêsis, deliverv, 214.21 apokuiskein, come to deliver, 306.10 apolambanein, acquire, 302.33 apologeisthai. defend. 276.32 apologia, defence, 275.31 apomattesthai, represent. 309.29 apophanai, deny, 251,6 apophasis, denial, 251,16 *aporein*, raise a problem, problems, 207,10; 236,7; 237,29; 290,31; 291,6 *aporia*, problem, 290,8.22.32; 291,1; 305.9.10 *aporos*, problematic, 229,25; 260,31; 265.28aporrhein. be outflow. flow out. 235.3-5.23; 259.10 aporrhoê, outflow, 286,7 aporrhutos, runs out. 282.17 aposeiesthai. shake off. 235.7 apostrephesthai, turn away from, 249.29apoteinein. draw away. 292.4 apotelein, bring to completion, 266.28-9apotelesma, final product, 229,9.10 *apousia*, absence, 300,27-30 apragmonôs, without trouble, 260,24 aproairetos, unchosen, 269,10 apsinthion, wormwood, 312,13 apsukhos, inanimate, 209,7.8; 212,19; 233,25; 269,2.11 argia, inactivity, 283,33; 303,34 arithmein. reckon. 311.37 arithmos, number, 205,26; 207,29; 311,9.30.36 and n.; division of, 251.11-12: kata arithmon. arithmôi, in number, [as contrasted with 'in form'] 265,33; as an individual. 268.38 arkeisthai, be satisfied with, 257.13 arkhê, beginning, 203,10; principle,

- 275,27; source, 212,13; 272,26;
- starting point [of a
- demonstration], 231,14; 232,20;
- arkhê kinêseôs, source of change,
- 221,9.13.15; 298,4; *arkhê pantôn*, source of all things (i.e. God) 260,7
- artasthai, depend, 259,17
- arthron, article, 215,31.32
- artopoiein, bake, 213,16
- artos, bread, 280,18; 284,9
- asaphês, unclear, 226,6
- askhetos, unrelated, 255,11.14
- *asômatos*, not corporeal, 215,33; incorporeal 215,27; 251,2; 282,20
- *asômatôs* (adv.) in a non-corporeal way, 309,23
- aspalax, blind rat, 229,1; 258,17
- *asphalôs*, [taking a] safe precaution, 216,28
- astheneia, weakness, 273,1
- *asummetria*, incommensurability, 254,5
- asundromos, non-concurrent, 217,2
- asunêthês, unfamiliar, 306,15
- ataktos, disordered, 258,33
- *atelês*, imperfect, 211,14; 213,27.29; 227,12; 296,29; 297,13; incomplete, 296,26.28
- atenizein, direct gaze at, 263,3
- athanasia, immortality, 228,17
- athanatos, immortal, 203,12;
- 241,18; 246,26; 260,16
- *athroos*, all at once, 296,25; 297,3.5.16.19
- *atimôteros*, less estimable, 228,32; 229,3
- atmidodês, vaporous, 252,5
- *atmos*, vapour, 239,9.13.15; 311,3.6; 312,11.18
- atomon, individual, 205,24; 210,29
- autarkês, sufficient, 310,15
- *automatos*, spontaneous, spontaneously generated, 259,7; 267,25; 268,31; 269,10; *to*
- *automaton*, chance, 227,2 *auxanein*, augment, 204,17; 213,1.13; 217,30; 223,37; 234,8.11-13; 275,11.14.15.18; 277,25-6
- *auxêsis*, augmentation, 212,31; 213,3.5.9; 221,10; 223,37; 234,13; 272,18.24; 274,32; 275,9.14.16; 277,2.6

- *auxêtikos*, augmenting, 204,17; 217,30; 228,10.13; 234,7; 259,3.4; 286,10.11
- *azêtêtos*, [conclusion reached] without effort of enquiry, 260,22 *azôn*, non-living, 209,21: 268,19
- baros, weight, 311,4; 317,6.7
- *barus*, low [in sound], 229,18; 314,29; heavy, 229,23; 297,25; 314,31
- bathos, depth, 234,18.20 and n.
- *biaiôs*, forced, 294A27
- biazein, constrain, 225,25
- bioteuein, live, 214,25
- *blabê*, detriment, 277,19; harm, 258,26
- boskein, feed, 228,35; 258,11
- *botanê*, herb, 259,7; 268,34

boulêsis, wish, 206,27; 249,11.15; 306,33-4

- *boulesthai*, wish, 203,12; mean, 203,24-5
- daimôn, supernatural being, 255,7
- *daktulios*, ring, 302,37; 303,2; 309.20.24.27
- deiknunai, show. 233.13-15
- *deixis*, proof, 277,35
- *dektikos*, receptive, 247,35; 248,8.9; 299,16.28
- delear, bait, 228,36; 258,14 and n.
- *dêloun*, show, 303,11; indicate, 215,10; 245,33
- *dêlôtikos*, indicative, 215,33; 256,31-2.37
- dêmiourgein, manufacture, 221,16
- *dêmiourgia*, creation, 214,11-12.16; 217,7; 268,33.36; 270,14
- *derma*, skin, 217,35; 258,19.23
- despotês, master, 285,14; 317,28
- *dia*, for the sake of, 234,7; 259,32
- *diadokhê*, succession, 218,3; 228,17; 268,32; 269,9; 270,32
- diagônios, diagonal, 256,8; 257,27-8
- *diairein*, divide, 209,30; 211,29; 238,4-7;
- *diairesis*, division, 207,23; 211,31; 238,8; 298,28; of a concept, 249,31; 298,25; 299,9; 305,28-9; 310,32; 315,21
- diaita, way of life, 239,9.13

- *diaitan*, arbitrate on, 205,17; 280,14; lead life, 258,21.27
- *diakeisthai*, be in a state, 292,36; 293,14
- *diakheisthai*, spread out, 228,34; 249,6; 260,1; 262,22
- diakonein, serve to carry, 253,4
- *diakrinein*, differentiate, 239,18; 242,30; 313,15; 315,27.31; force apart, 317,1; *diakekrimena*, discrete, 314,17; separated, 317,7
- diakrisis, discernment, 208,8; 237,2; expansion, 272,23; difference, 312,38: differentiation, 313,26
- diakritikos. discerning, 240.18
- dialambanein, deal with, 264,6; 310,19
- dialegesthai, discuss, 203,7
- dialusis, dissolution, 268,28-9
- *diamonê*, permanence, 218,3; 266,23
- dianoeisthai, think, 245,31.32
- *dianoêtikos*, thinking, which thinks, 227,32; 237,24; 248,30; 255,4; 297,13
- *dianoia*, thought, 229,31; 248,23; 258,36; 259,2; 260,6.18.20; 297,20.21.27
- *diaphanês*, transparent, 253,4; 306,23
- *diaphôneisthai*, be subject of disagreement, 280,4
- *diaphora*, different kind, 227,17; difference, 243,5.8-10.13
- *diaphoreisthai*, be carried away, 250,25.26; 251,22.27.28; 252,13
- diaphorêsis gignesthai tinos, get carried away, 251,25
- *diapiptein*, lose, 205A8 (205,9 and n. 7)
- *diapneisthai*, be dissipated into the air, 208,28
- *diarthroun*, articulate distinctions, 226,32; 227,7.18.22; 291,18; 302,17; *diêrthrômenon*, distinctly articulated, 226,15-16; 255,19
- *diasaphein*, make clarifications, 254,18, 308,18
- diaspan, tear apart, 277,1; diespasmenôs, in a dispersed way, 316,31
- *diastellein*, draw a distinction, 253,5; 296,20; 298,33; 299,14.23

- *diastêma*, interval, 311,14; distance, 313,31.34
- *diathesis*, state, 249,16-17 and n.; 296,30; division of, 251,12-13
- *diatithenai*, dispose, 245,19; put in a state, 293A 11.12
- *didaskalia*, teaching, 212,7; 225,37; 227,10.11.25; 228,4-7
- *didaskalos*, teacher, 216,30; 275,6; 305,22; 306,31
- didaskalikos, teaching, 301,7
- diêgeisthai, go through, 210,25
- diêkein, be diffused, 221,35
- diêkhes, sound-vehicle, 306,23 and n.
- dielenkhein, refute, 203,5
- dikhotomos selênê, half moon, 314,9
- *diorganousthai*, have organs, 209,10-11.14.18; 214,17; 222,31; be organised 239,6.16.21; 259,12; 272,13.14
- diôrismenos, discrete, 207,2
- diorismos, determination, 216,14
- diorizesthai, determine, 216,11;
- draw distinction, 300,19
- diorthoun, correct, 300,19
- dioruttein, dig through, 258,21.22
- *diosmos*, smell-vehicle, 253,5; 306,24 *dioti, to dioti*, 'the 'why', 226,1.11;
- *227,5*; 244,4.7
- *diplasion*, double, 233,11-12
- *dipsa*, thirst, 250,5.10
- *dokein*, be thought, seem, 289,31 and n.
- dotikê ptôsis, dative case, 211,11
- *doulos*, slave, 285,13.1.4
- *doxa*, opinion, 229,31; 259,1
- doxastikos, opining, 227,31
- *dran*, do something, act, 316,2.4.6
- *drastikos*, a doer, 282,19
- drattesthai, fasten on, 203,11
- *dromeus*, runner, 236,9
- dunamikos, powerful, 317,6
- *dunamis*, power, 203,8; 234,1.22.25; potentiality, 205,12; 216,34; 245,10; 297,11; *kata tên hexin*, dispositional, in the dispositional way, 204,36; 205,13; 302,36; *dunamei*, in potentiality, 203,11; 238,6; 246,8-9; 280,17; 299,14; 305,34-6; *to proteron (prôton)*, *deuteron dunamei*, what is in potentiality in the first way, in the

second way, 204,10.35; 209,22;

296,26-7.34; 301,12-13.23.29; 304.13.14; 306,3 dunaton, possible, 209,30-2 duskrasia, bad mixture, 293,1.15.18 duskratôs ekhein, be in a badly mixed state, 293.8 dusôdês, malodorous, 229,19; 312,11.12; 313,10.21 edôdimos, edible, 222,25; edôdima, foods, 239.14 egrégorsis, waking, 203.24; 216.3.6.8: 220.19 eidikos, specific, 255,24; 257.11.16.18.23: formal. 271.29: 281.32.34: 282.18 eidopoiein, make to have form, 220.8.33-4: 223.33: 244.11: 300.16 eidopoios, form-making, 253,17; 295.6eidos, form, 203,15; 206,18; 207,35; 208,7; 209,2.4.7; 210,28.31; 211,1.2.5.7; 212.20; 215,6; 244,15; 246,4-10; 302,29; eidos kata ton *logon*, form that is according to the account 211,21 and n.; species, 205,25.26.28; 214,28; 227,18.22 eikôn, image, 223,10 eilikrinês, pure, 267,31 einai, to be: ti ên einai, what being would be, 220,31 and n.; tôi onti, in reality, 203,18; 229,38; 237,19 eisrhoê. inflow. 235.3 ekhuros, sound (metaph., of theories) 252.7ekklinein, avert, 259,33; 260,2.3 ekkrouein, put out, 316,17.21 eklegein, excerpt, 241,33 ekmattesthai, represent, 309,25 ektelein, accomplish, 286,32 ektithenai, set out, 203,4; 210,24 ektitrôskesthai, be born prematurely, 214,32 ektupôma, imprint (n.), 303,2 ektupoun, imprint (v.), 303,1 elaia, olive, 217,34 elaion, olive oil, 282,7.12.13.29 elenkhein, refute, 278,29 elephas, elephant, 271,1-2 ellampsis, shining, 223,1; 271,4 ellipôs, elliptically, 279,26 embibazein, embark, 243,9

embruon, embryo, 209,10.18; 213.10.13.18.25 empalin, the reverse, 262,18; 290,16 emperiekhein, include, 204,26; embrace, 265, 4.6-7; embrace within itself. 291.37 emperilambanein, include, 204,25 emphasis, hint, 222,14 emphraxis. interception. 238.32: 294A39 emphulattein, protect inside, 213,35 emphuton thermon, innate hot, 287.24 (see note): 288.7.8.25 empis. gnat. 270.35 empodizein, impede, 204.21: 292.1 empoioun, act on to make, 245,17 empsukhos, animate, 208,15; 212,19; 273,4.5; empsukhon, animate thing, being, 216,11; 219,30.31.34; 220,33.34; 233,22; 269,1.4; 271,13; division of, 251,6-9 enantios, contrary, 250,17; 280,8; 281,2; 290,15.17; 301,30.32 enantiôsis. contrariety. 251.33 enantiousthai, speak contrary, 311.35 enargeia, autê hê, the plain fact, 311.35 endeia, deficiency, 250.6; 298.22 endoiazein, be in two minds, 225.23; be in doubt, 241,28.32 enduesthai, clothe itself in, 247,17 energeia, act, 204,5; 275,9; 291,11.12; energeiâi, kat' energeian, in act, 204,5.10; 209,25; 238,5; 280,17; 290,22; 300,26; 301,24.29; activity, 204,20.36; 216,11.29-36; 217,2; 245.15n; 279,6.7.17; 296,22; defined 296,25-6; 297,1-2; 301,13.20; 305,17 energein, act, 204,1; 216,12.13.34; 223,36; 295,29; 296,21; 301,18; be active 229,16; to energein, the activity, 296,17 engizein, get nearer to, 260,7 enistanai, attack, 277,11-12; object, 213.12enkalein, reproach, 225,19 enkatalegein, list with, 248,30 enkephalos, brain, 237,32;

238,29.30.34

ennoia, idea, 226,31; 246,24; 257,17; 277.24enokhlein, cause trouble, 251.32 enskêptein, fall on, 291,30; 294A41 enspeirein, sow in, 269,1 entelekheia actuality. 203,10.14.20-2; 206,18; etymology 208,37-209,1; 209,4.7; 210,2-5; 211,10-21; 216,20.25; 220,3.16; 221,5; 224,2.6; 244,5.6; 246.9-11.15.17: 272.6.7: 302.7: 303.12 entelês, complete, 284.28 enterionê, sap. 238.10: 270.10-11 entomon. insect. 238.2.13.22: 239.2.6: 242.24: 254.24 enudros, aquatic, 258,25 enula eidê, forms in matter, 206,22 epagein, add, 203,19 epagôgê, induction, 244,18; 245,28 epaisthanesthai, perceive, 263,2.6 epanastêma, upstandingness, 311,24 eparkein heautôi, be self-sufficient, 213.28-9epeigein. drive to. 269.7 epekteinein, extend, 286,1.6 epexienai. tackle. 228.6 epexêgeisthai, give explanation of, 217.9epexerkhesthai, proceed to go into. 219,6.11; 255,29.35; 256,25 *ephaptesthai*, apprehend by touch, 240.22epharmozein. fit. 203.14: 223.29.30: 256.30ephesis. vearning. 228.16: 249.5: 250,8.16.25; 251,24.31.36; 270,19.22; 286,34 ephienai, yearn for, 251,20.23 ephistanai, call attention to, 216,9; give attention to, 269,8 epibainein, press on, 311,24 epiballein, grasp intuitively, 226.13-14 epibolê, intuition, 260,23 epidektikos, receptive, 211,3 epidiarthroun, articulate distinctions, 220,20 epididonai, progress (v.), 234,19 *epidosis*, progress (n.), 303,28; 304.27: 308.27 epigignesthai, supervene on, 254,7 epigignôskein, recognise, 312,6

epikheirein, prove, 250,37; try, 311,26

epikheirêma, proof, 207,31; 271,33; 273,19.35

- epikhusis, cataract, 291,32
- epikrateia, dominance, 254,7.11

epikratein, dominate, be dominant, 254,8.9; 269,12-14

- epikratês, powerful, 234,8
- *epiluein*, give solution, 210,4; 238,1; 284,24; 289,24; 290,18.23.32;
 - 291,1; resolve, 238,1; 294,6-7; 296,7
- epimeleisthai, cultivate, 239,13-14
- epinoia, conception, 212,14
- epiphaneia, surface, 244,32; 303,3
- epiplokê, involvement, 260,19
- epipolês, on the surface, 309,28
- epiprosthêsis, accretion, 294A41
- *epiprostithenai*, add in, 212,31; restore by addition, 286,8-9; be an accretion, 294A42
- epirrhutos, runs in, 282,17
- episkeuastos, restored, 228,17
- epistasthai, know, 244,18

epistêmê, knowledge, 203,21; 244,18.20-23.29.30; 245,7.9; 299,28; 304,25.26; 307,6-12

- *epistêmôn*, knower, 244,19.20; 245,18; 299,16.27; 300,10.11; 304,12
- epistêmonikos, that knows, 245,6.8.16
- *epistrephein*, reflect, 292,2 and n.; 292,5.13
- episumbainein, supervene incidentally, 318,27
- episunaptein, join on, 290,32
- epitarattein, disturb, 266,9
- *epitêdeios*, suitable, 209,22; 281,21; 297,6
- epitêdeiôs, suitably, 289,6
- epitêdeiotês, suitability, 218,18.24.28; 222,29; 223,4.6; 305,35.37; 306,4
- epiteinein, intensify, 311,17
- *epithumêtikos*, desiring, 237,32; 238,26
- *epithumia*, desire, 235,7; 240,24; 249,1.5.11
- epizeugnunai, join up, 256,8.13; 257,27
- *êremaios*, mild, 263,1-2
- *êremein*, be at rest, 204,6

êremia, staving at rest, 221,9.13.15; 311.9 and n. ergasia, functioning, 303.34 ergazesthai, work, 288.26 ergon, function, 228,12; 267,11; 276.13: 302.24.25: work. 274.7.9 *eruthros.* red. 244.31 ethos, custom, 291,2 eulogos, plausible, 240.25; 290.16 eunoukhos, eunuch, 267.24 euodoun, fare well, 294A32 euôdês. fragrant. 229.19: 312.11.12.31.32: 313.10.22: 314.28 euplastos, easily moulded, 239,11 eutheia, straight line, 233,15 [Euclid]: 314.10 eutheia ptôsis, nominative case, 211.11: 232.5: 295.10 euthugrammos, rectilinear, 256,3.7; 314,6.8 exairein, abstract, 257,14; exêirêmenôs, in a remote way, 270.14exambliskein. miscarry. 267.30 exarithmêsis, enumeration, 256,34 exêgeisthai, explain, 217,32; 222,19; 303.10-11 exêgêsis, exegesis, 202,1; interpretation, 252,17; 288,5.10.20 exêgêtês, interpreter, 226.9 existanai, displace, 277,23 *exomoioun*, make completely like, 213,22; 281,23.24; 284,24 *gampsônukhos*, with crooked talons 247.26-7gastêr, stomach, belly, 213,20; 258,12; 287,27; 293,24; womb, 213,8.29 **g**ê, earth, 276,8.10; 277,8; ground, 276,27; land, 314,12 gêïnos, of earth, 226,17; 275,31 genesis, coming to be, 213,5-6; 302,1.3; [the world of] coming to be, 227,23; 268,24; 306,28; genesis, 256,13; 268,27; 300,14; 301,33.35; ta en genesei kai phthorâi, things that come to be and pass away, 216,32; 227,23 genikê [sc. ptôsis], genitive, 232,4; 295.10gennan, generate, 214,25.26.29; 266,18-22; 267,27; 268,12;

 $\begin{array}{c} 279, 4.11.14; \, 286, 18\text{-}21; \, 287, 14.17; \\ 306, 10 \end{array}$

- *gennêsis*, generation, 266,17.19,25-9; 267,11; 279,19; 307,13
- gennêtikos, generative, 214,1.29;
 269,10; gennêtikos einai,
 generate, 268,10.13; gennêtikê
 dunamis, power to generate,
 generative power, 228,9.11.15;
 229,10; 259,4; 266,20; 267,21;
 268,11; 269,1.2.6.20.22; 286,32
- *gennêton*, thing generated, 266,28; 277,1
- *genos*, genus, 205,23; 256,28.31; 299,28.30; race, 270,35
- geôdês, earthen, 275,32
- geômetrein, geometrise, 205,1
- *geômetrês*, geometer, 204,11; 205,1.4; 301,22
- *geômetrikos*, geometrical, of geometry, 204,11; 302,26
- *geusis*, taste, 228,22.35; 311,3; 312,12.15.21.24.26
- geustikê aisthêsis, sense that tastes, 252,26
- geuston, taste, 306,18
- *gignôskein*, have knowledge, 212,10; get to know, 230,23; 247,31; 264,7.8; cognise, 248,10-11
- *glotta*, tongue, 247,18
- glukus, sweet, 229,19; 252,25.27.31
- *gnôrimos*, known, 212,29; knowable, 226,7.33-4
- *gnôrizein*, grasp, 255,25; get to know, 310,18; recognise, 313,20
- *gnôsis*, cognition, 208,2; 226,12; 227,23; 255,24; 300,12
- *gnôstikôs*, in a cognitive way, 303,5-6; 309,19.25
- gnôston, thing known, 260,24; object of cognition, 291,37
- *gônia*, angle, 232,28
- *gôniousthai, gegôniômenos*, angular, 314,7
- *gonimos dunamis*, power to generate, 268,36.37
- *goun*, at least, in fact, 204,6n
- *grammatikê*, knowledge of writing, 300,4
- grammatikos, one who knows how to write, who is literate, 306,1.5-6
- grammê, line, 314,8.9

- *graphê*, reading, 242,6; 288,10.12.19; 290,26
- graphein, draw, 221,3; write, 227,16
- gumnasion, exercise, 206,7.14
- gumnazein, set out, 220,4.6
- haima, blood, 231,8; 284,10; 293,6.8
- halmurotês, saltiness, 294,11
- *hamillasthai*, have commerce with, 306,15
- haphê, touch, 214,8; 221,35; 228,22.33; 235,30.33; 236,17.22; 237,1; 248,33; 249,3.6; 252,17.19; 253,2; 314,29.33.36
- *haplôs*, generally, 209,7; 247,27; 310,22.28; in a word, 270,11; simply, without further specification, 227,15-20; 247,23
- *haplous*, simple, 207,35; 226,18-19; just one, 301,4; *hapla sômata*, simple bodies, 212,21-2; 281,5; just in a single way, 209,31
- *haptesthai*, touch, 252,30; be in contact with, 228,30; 253,4
- haptikê [sc. aisthêsis], of touch, 214,6.19; 291,24; 294,7; which touches, 316,26; to haptikon, that which touches, 236,31
- *hapton*, touched, object of touch, 252,20; 253,2; 313,5
- harmonia, attunement, 207,31
- harpaktikos, to harpaktikon, snatching, 247,27
- hêban, reach puberty, 213,38
- hêdêsthai, experience pleasure, 294,3
- *hêdonê*, pleasure, 249,10; 294,2
- *hêdus*, pleasant, 240,17; 249,4-6.10
- *hêdusma*, thing to make pleasant, 250,8; 253,32
- *heis*, one; *aph' henos*, from one origin, 255,26; *pros hen*, in relation to one thing, 255, 26
- hektikos, hectic, 293,17
- *hêliakos*, of the sun, 271,5
- *hêmikuklion*, semicircle, 256,5
- *hêmionos*, mule, 214,28; 267,27.30
- *heneka, tinos heneka*, why, i.e. for what reason, 258,3; *hou heneka*, that for which, meanings of, 269,28-33
- *henôsis*, being one, 209,1; union, 218,24; unity, 218,35
- *henoun*, unite, 218,14.19; 314,17

- hêpar, liver, 213,21; 237,32
- hepsein, cook, 277,21.22
- heptagônon, heptagon, 256.11
- *hermêneuein*, expound, 257,20; 316,10
- *heteromêkes*, oblong, 232,17.22.26.29-36; 233,1
- *heuresis*, discovery, 237,25 and n.; 260,21
- hexagônon, hexagon, 256,11
- hexis, disposition, 203,25; 204,35; 205,2-8; 209,23; 216,29,31.33.34.36; 217,1; 249,17.18; 251,12; 295,28; 296,26.27.31; 297,3.11.16; 299,15.18.33; 301,13.17.20; 304,28n; 305,35.36; 306,3.5; having, 251,5; kata tên hexin, dispositional, 204,36; kath'hexin, dispositional, 211,29
- hidrusthai, settle, 239,3
- *himas*, umbilical cord, 213,11-12
- *hippos*, horse, 267,32
- historein, report, 267,29; 268,1
- *hodeuein*, be on the way, 213,29; 286,7; travel, 228,2; 229,3; 230,24
- *hodôi badizein*, advance step by step, 214,11
- hoion, such as, 295,7; namely, 295,5
- *holoskherês*, packaged, 219,6; 220,20; 249,27; blanket, 300,17
- holotês, totality, 217,3-4; 269,20.21
- *homalos*, even, 234,20; 293,14-15.18.20
- *homalôs*, evenly, 293,12
- *homoeidês*, of the same form, 211,7; 230,36
- *homogenês*, of the same genus, 215,35; 216,1; 231,1
- *homoiomerês*, with similar parts, 230,22
- *homoios*, like, 290,9.13; 298,13.15; 305,24.27; 309,13.14
- *homoioun*, make like, 298,16; 302,36-7; 309,16; 310,5
- *homônumos*, equivocal, 206,2 and n.; 206,32-3; 209,14.36; 210,11; 249,16; 255,26.28; 257,4; 297,37; 303,22-3; 310,14
- *homônumôs*, equivocally, 219,26; 305,2
- *homoousios*, of the same substance, 225,10; 296,5

hupertithesthai. defer. 289.4: 308.21 *horan*, see, defined 264,35-6 horasis, seeing, 223,11 horatikos. that sees 222.34: 223.2 *horaton*, thing seen, object of sight, 207,13; 253,7; 263,34; 293,3; 316,22 hôrismenos. determinate. 215.32: 278.8horismos, definition, 203,10-13; 220.22.30; 223.21.29.30; 224.9.21; 231,6.13.23; 242,32; 243,13; 244,3; 246,11; 255,21 horizesthai. define. 204.12: 232.19.23: be bounded. 278.2 *hormê*, impulse, 204,7; 217,27 and n.: 270.30 horos, boundary, 208,27; 255,29; 256.34; 278,2; definition, 223,27; 239.17.20.35: 257.15.20: term. 231,4n.; 232,1; 297,21; mesos *horos*, middle term [of syllogism], 231.32*hoti, to hoti*, the 'that', 226,1.11; 227.5; 244,3.5 hugiainein, be healthy, 244,23.25.28 hugiastos, made healthy, 245,7.8.15-16 hugieia, health, 206,10.16; 244,23.25-9; 245,8.9 hugieinos, healthy, 206,6-16 hugiês. sound. 209.37: 296.16 hugron, liquid, 220,8; 223,18; 291,27 hugros, moist, 229,23, 249,35; 250, 4.7; 254, 2.12; 281, 14.17 hulê, matter, 207,35; 208,6.8; 210,31.32; 211,1-9; 212,20-3; 215,6.10-12; 244,15-17; 246,5.8; 248,5; 270,20.22; 278,4 and n.; 299,17; 305,37; 306,6; 309,17.21; prôtê hulê, primary matter, 212,22 hulikos, material, 271,28; 275,27; 278,29; 281,33.34; 282,18; 287,21 hupagein, lead, 277,24 hupallêlos, subordinated one to another, 229,22.24 huparkhê, beginning, 230,29 *huparkhein*, belong, 205,11; be present, 219,1 huperairein, go further, 260,8 huperbolê, excess, 263,8.9; 291.22 hupêresia, service, 217,27; 247,26; 279.15hupêretein, serve, 217,15,

hupheimenos, flexible, 269,12 huphistanai, subsist, 210.32; 268.36 hupnos, sleep, 203,23.24; 204,2.5; 21668 hupo. hup'allêla, subordinate one to another. 314.32 hupobasis, downward journey, 255,8 hupodiairein, subdivide, 207.34 hupographê, description, 205.29.30:

- 206.1.5hupographikôs, by way of description. 207.6
- hupokeisthai, be subject, 215,9.16

hupokeimenon, subject. 206.23: 215,8-24.26.30.34; 241,11 and n.; 244,22.32.34; 245,29.32; 247.18-19.21: 299.29.30: 303.26: kata to hupokeimenon, in subject, 262,1; existing, 213,22-3; underlying, 220,8

- hupokhusis, cataract, 291,32
- hupolambanein, understand, 203,18
- hupomenein. sustain. 303.32: 316.8
- hupomimnêskein, remind, 245,23-4
- huponoein, suspect, 215,24; 241,37;
- 254,27; 277,11; 278,12; 301,24
- hupopiptein, fall under, 311,2.5.11 hupostasis, existence, 257,23;

307.27.33

- hupostrônnunai, spread under, 210.31
- hupoteinein, subtend, 256,14
- hupsêlos, high, 276,27; 311,26
- *hupsos*, height, 311,24
- *iama*, cure, 250,17; 254,10
- *iatros*, doctor, 245,18; 250,10; 274,9; 284,11; 293,4
- *idea*, form, 269,13; 309,25.29
- idiâi, privately, private, 206,12.34; on its own, 220,21; 255,21; 262,15; proper to particular senses, 315,19
- idiazein, be peculiar to, 255,32
- *idikos*, particular, 226,30; 249,18; 296.31-2
- *idion*, peculiarity, 230,19; 233,21
- *idios*, private, 239,24; proper, 214,8; 217,19; 245,22; 311,1; special, 262.7
- *idiôs*, in the particular sense, 250,29
- idiotês, peculiarity, 316,10
ikterian, suffer from jaundice, 291,28.29 *ikhthus*. fish. 268.2 isopleuros, equilateral, 232, 17.25-9 isos, equivalent [in meaning], 302,23 isosthenês, of equal strength, 298.22 kamnein, be worn out, 285,35 kanôn. rule. 209.37: 210.7 kapnodês, smoky, 252,4 kardia, heart, 237,31 karphos. sliver of wood. 238.31 karpos, fruit, 217,33; 218,2; 222,23; 241,11katadeês. defective. 235.2 katadusis, underground habitation, 240.12kataginesthai. be occupied with. 308.10katalampein, illuminate, 297,6 katalêpsis, grasp, 241,12 kataphasis, assertion, 251,16 katapsukhein, chill, 293,10 katarithmêsis, enumeration, 248,27 kataskeuazein, establish, 217,28; 226,14; 264,1; 317,36 kataskeuê, establishing, 244,14; establishment, 270,27 kataxêrainein, dry out completely, 282.9katêgorein, predicate, 209,38; 210, 1.9; 218, 7; 251, 5; 255, 22.25-6; 256,17.19; 297,37-8 katêgoria, category, 207,24; 297,33 katergazesthai, work upon, 282,27 kath' hauto, of itself, 209,23; 310,36 kathapax, [not] at all, 215,33; altogether, 236,1; 297,15 katharmos, purgative, 239,12 katharos, pure, 306,23.27 katheudein, sleep, 220,16.17; 295,25 kathistanai, construe [gr.], 231,34 kathodos, descent, 255,8 katholikos (adj.), universal, 210,7; 237,6; 274,33; 296,22 *katholou*, in general, in a general way, 211,19; 220,19; universal, 226,15; 306,33; 307,3.4.28.34; 308,20 kathomilein, speak of in ordinary

speech, 303,23 *katôphoros*, downward-moving, 276,10 kaumata, heat, 269,31

kaustikon, thing that burns, 305,13

kauston, thing that is burnt, 295,17.19; 305,12

kenkhramis, seed, 217,34; 222,24

kentron, to kentron, the centre [sc. of the universe], 276.34

kephalaiôdês, summary, 256,18

keramikos, ceramic, 211,4

keramos, clay, 211,6; 239,7

kerannunai, compound, 226,17

keratoeidês, cornea, 294A32

- kêrion, comb, 268,4
- *kêros*, wax, 218,21.22; 247,19; 248,6; 282,8; 302,37; 303,2; 309,20.23.26
- kêrux, trumpet shell, 258,14

kharaktêristikos, characteristic, 233,21.22.26; 312,39

kharaktêrizein, characterise, 208,30; 219,28; 233,29; 235,22.27.32; 236,2; 273,15

kharizesthai, bestow on, 223,1

- *kheir*, hand, 209,15.16; 247,26; 288.14.18.19
- khêmê, clam, 228,37; 258,10

khiton, membrane, 220,8; 223,18; 291,28

khliaros, tepid, 263,6

khôra, khôran ekhein, stand (metaph.) 275,31

- khorêgein, supply, 258,24; 278,4
- *khôrion*, area, 232,28

khôrismos, separation, 208,32; 241,24

khôristos, separable, 222,10.11; 224,1.3.13.17-20; 241,23; 242,10-13; separate, 261,32.33

khôrizein, separate, 224,36.37; 238,26-7; 241,20.23-6; 242,10; 261,10.15.18; 262,3

khreia, use, 274,8

khrêsimeuein, be useful, 211,30

- *khrêsimos*, useful, 289,20
- *khrêsis*, use, 222,21; 241,34; usage, 277,28
- *khrôma*, colour, 244,32; 293,3; division of, 251,10-11
- khrômatizein, colour, 293,2

khronikos, temporal, 270,36

khronios, temporal, 259,15

khrônnunai, stain, 293,3

khronos, time, 297,4.7.16; 311,36 and n.

- *khumos*, humour, 230,21; 291.30; 294,4; 294A24; flavour, 247,29; 250,8.9; 253,25.32.33; 263,1
- *kinein*, move, 206,27; 221,16; 251,2; 312,18; 316,9.11; change (tr.), 229,37; *kineisthai*, be changed, undergo change, 213,34
- *kinêsis*, change, 217,28; 272,16.17; 296,23; 297,13; defined, 296,33-297,1; movement, 311,9 and n.; 312,13.22; 316,7-8
- kinêsis kata topon, change in respect of place, 213,24; 229,35; 259,30.31; 260,3; 272,17; arkhê kinêseôs, source of change, 221,9.10; ataktos, movement that is disordered, 258,33; kinêsis tou khronou, the process of time, 297,4.7
- kinêtikos, to kinêtikon kata topon, that which changes in respect of place, 229,33.38-230,1; 240,7.29-30
- *klados*, cutting [sc. from a plant], 238,4.10.12; 268,15; branch, 275,32; 276,7.9.21
- *klauthmurizesthai*, raise a wail, 306,14-15
- koilôma, cavity, 293,24
- koinêi, in general terms, 289,8 and n.
- koinônein, have in common, 290,11
- *koinos*, common, 203,10; 220,20; 225,34
- *koinos* (adv.), in common, in a common way, 206,33, 289,16; generally 242,3; 270,18
- *kokhlias*, cockle, 236,24 and n.; 240,20; 259,35
- *kôluein*, prevent, 204,18; impede, 300,1
- konis, dust, 275,19
- konkhulion, mollusc, 228,36; 236,24
- kônôpion, little insect, 291,33
- kônôps, mosquito, 267,26
- kopros, dung, 250,32
- korê, pupil, 221,22; 223,16-18
- korônê, crow, 271,1
- *kosmein*, order, give fair order to, 270,20-2
- *kosmopoiia*, making good order, 270,15 and n.; 274,21
- *kouphos*, light [in weight], 229,24; 297,26

- *krasis*, mixture, 254,5 *krêmnos*, precipice, 258,25
- *krinein*. discern. 276.13
- *krisis*, discernment, 292,17
- kritikos, discerning, 250,4
- *krustalloeidês*, lens, 291,30-1n; 293,2
- krustallos, ice, 291,16
- *kubernêtês*, steersman, 206,19; 224,17-19; 246,31-3; 287,29; 288,12.17
- *kuein*, conceive, i.e. become pregnant, 267,30.31
- kuêsis, gestation, 306,4.7.12
- kuiskein, conceive, 268,1
- *kuklos*, circle, 256,4
- kuôn, dog, 317,28
- *kuptein epi gên*, have head to the ground, 276,27
- kurios, in control of, 291,37
- kuriôs, genuinely, 206,1; 218,33;
 244,10; properly, 278,1.10;
 285,11.12; 289,32; 300,15;
 kuriôteron, better, 253,21; 270,36
- lampas, flash, 298,20-2
- *lêgein*, cease, 259,4
- *leios*, smooth, 314,30
- *lêmê*, rheum 292,19; 294A17
- *lepos*, rind, 222,24
- *lêpsis*, obtaining, 207,20; 262,27; 263,12; taking, 302,29
- *leptomerês*, fine-grained, 204,2 and n. 3; 282,23
- *leptos*, delicate, 239,14
- *leptunein*, thin (v.), 239,13
- leukainein, whiten, 301,14-15
- *leukê*, white leprousy, 294A36
- *leukos*, white, 229,17; 244,31
- *lexis*, text, 205,14; 225,15.25; 230,6-8; 296,8; detailed commentary, 279,23
- *lithinos*, stone (adj.), 209,15
- lithos, stone, 209,6
- *logikos*, rational, 203,8; 214,24; 230,2; 235,6; *logikê psukhê*, rational soul, 224,3.29; 306,25; uses non-rational as instrument, 206,28; *ousia logikê*, rational substance, 255,10
- logikôs (adv.) in a logical way, manner, 250,36 and n.; 318,7
- *logismos*, reasoning, 260,6

logos. account. 205.14.16: 207.6: 220,22; 262,7; 264,18,19,32; 265,8; 268,18 and n.; book, 205,19; 222,7; 254.30; argument, 226,14; 238,24; 248,8; discourse, 204,24; 206,36; discussion 207.13: 210.24: 245.29: 247,15; 289,14; 310,13; proportionate amount, 278,7.8; ratio. 232.36.37: 233.2: reason. 242,17; 247,26; 248,3; 249,15.19-24; 290,10; 316,28; kata *logon*, reasonable, 248.1: reasoning, 263,19; relationship, 220.10: 221.35: 228.18: 243.11: 244.26: statement, 232.6.7.18: 260,31; *logôi*, in words, 316,10; kata ton logon, rationally, 226,7 and n.: pros logon. proportionately, 259,13 luein, relax, 210,7 lukhniaios, of a lamp, 298,20 *lukhnos*, lamp, 316,20.22 *lumainesthai*, be injurious, 235,8; 254.1:259.12 lupeisthai, experience distress, 294,3 lupêros, distressing, 240,17.24; 249.4.7*lusis*, solution, 291,1.8.9; 295,15; 296.6mageirikos, of a caterer, 277,22 malakos, soft, 229,23; 314,31 manos. rare. 229.24 *matên*, to no purpose, 213,26; 239,26; 247.9mathêmatikon, object of mathematics, 208,3 mathêsis, learning, 297,11 *mathêtês*, pupil, 216,30; 275,5; 305.22 megethos, magnitude, 207,27; 215,28; 311,9.12.16 *meiôsis*, diminution, 221,10; 234,32; 274.32meioun, diminish, 275,10.14 meirakion, youth, 213,38 *mêkhanasthai*, contrive, 218,3; 258.20mêkhanikos, engineer, 308,11 melainein, blacken, 301,15 melania, blackness, 290,15 melas, black, 229,17; 244,31 and n. *meli*, honey, 252,24.31

melitta, bee, 258,32; 268,2

memphesthai, censure, say in censure 207,3.7; 247,14

merikos, that partitions, 224,4; particular, 226,15; 255,33; 306,32; 307,2; 308,14; 310,29

meristos, having parts, 204,15; 297,19; 316,30

merizein, apportion, 251,30 and n.

mesê, mean, 232,20; *mesê analogos*, mean proportional, 232,25.30.36

meson, intermediate, 218,29

mesotês, mean, 255,10

metabainein, pass, 244,3-4

metaballein, change, 239,11; 269,13.14; 278,17; 280,10-12; 300,11.12; 301,17-20.22; 304,7; 309,16

metabasis, passage 249,10; passage from one thing to another, 260,24

metabatikos, locomotive, 214,22

metabolê, change, 275,20; 300,13-18; 301,16-19; 304,14.15; mutation, 284.4

- metadiôkein, pursue, 270,32
- metagein, transfer, 221,18

metakheirizesthai, put hand to, 230,15

metalambanein, change, 211,18; 216,16; take in exchange, 211,23

metalêpsis, change of expression, 216,9-10.17-18

metallon, mineral, 269,18-24; 275,22

mêtêr, mother, 213,12.19; 214,9; 306,7

- methexis, sharing, 270,37; 271,3
- methistanai, make to pass, 304,20

methorios, borderline, 299,21

mêtra, womb, 213,34.36; 214,20

metron, measure, 269,3; 271,6.7

mimeisthai, imitate, 265,33.34; 268,8

mimêma, representation, 259,19

mimêsis, imitation, 265,31; 270,23

mnêmê, mention, 203, 9

mokhthêros, vicious, 239,8

monas, unit, 312,5

- *morphê*, shape, 211,21
- mousikos, musician, 299,19
- muia, winged insect, 240,11
- *muôn*, with eyes shut, 220,15; 252,29
- murmêx, ant, 240,11; 258,32
- muthos, story, 247,16

naus, ship, 224,18; 246,32

- nekros, dead, 209,8.10; 219,27;
- corpse, 209,13
- neognos, new-born, 267,25
- neuein, incline, 259,15.18
- *neuron*, nerve, 238,32
- noein, think, 302,28.30
- noêma, thought, 279,27; 308,1
- noeros, intellectual, 259,19
- *noêsis*, thought, 264,28
- noêtikon, that thinks, 310,27
- *noêton*, object of intellect, 247,4.8; 266,6.7; 302,29.30
- nosein, be diseased, 313,30
- nosos, disease, 294,10
- *nous*, intellect, 204,19; 225,26; 227,32; 229,32; 240,31; 241,6.37; 242,5; 246,27; 261,10.23.35; 266,6.7; 306,27.36; 307,3.5; 312,1.3.6; *dunamei nous*, potential intellect, 255,4; *theios nous*, divine intellect, 242,1-3; 261,12.17
- odous, tooth, 287,26
- *oikeios*, its own, 211,16; 237,2; 250,2; appropriate, 262,5-6; belonging properly, 285,20
- oikodomein, build, 301,22
- oikodomêsis, building (n.), 266,26-31
- oikodomêton, thing built,
- 266,26.29.34
- oikodomikos, building (adj.), 302,25
- oikothen, from within, 209,29
- oinos, wine, 250,21.33; 253,37
- ôkhriasis, yellowing, 291,29; 294A,36
- *ôkhros*, yellow, 291,30
- oligokhronios, short lasting, 270,33-4
- omma, eye, 222,9; 294,4
- on, thing that is, 207,24
- onoma, name, 211,19; 221,23; vocabulary 277,26-8
- onomasia, appellation, 210,34; 313,5
- onomazein, call, 299,22
- onos, ass, 267,32; 317,29
- onkos, mass, 311,14
- ophis, snake, 271,2
- ophthalmos, eye,
 - 221,21.23.25.30.32; 223,2.11.15; 291,5; 292,19
- opisthion, hind part, 276,27
- opsis, sight, 207,13; 220,9; 239,24;

defined 264,34; sight-organ, 294A41; 316,29

- opson, cooked dish, 280,18
- optikê aisthêsis, sense that sees, 252,22-3.26; dunamis, power to see, 220,12.15; 221,24; 222,7-8
- optikon pneuma, optic pneuma, 294A26
- oregesthai, have appetition for, 231,17; reach out for, 261,2
- orektikos, appetitive, 223,33; 230,1; 235,10; 240,8.9
- *orexis*, appetition, 230,2; 240,16.24; 249,2.5.10-20; 261,1-3; 270,25-7.30
- *organikos*, organised 203,11; 217,10.12.32; 218,8-10; 219,24.26; 220,3; 221,5; 239,17; 244,9; 246,7.12; 247,23-5; 270,9.10; 274,17; instrumental [sc. cause] 287,22
- *organon*, instrument, 206,28; 219,14; 274,12.13.23; 287,22; organ, 213,2.4; 238,35-6; 239,22-6; 275,17; 276,13
- orgizesthai, be angry, 231,17
- oros, mountain, 311,13
- orthios, erect, 247,25; 259,15.17
- orthogônion, rectangle, 232,17.26
- orthogônios, right angled, 256,9
- orthos, orthê [sc. gônia], right [of angles], 232,28
- **osmê**, odour, 253,4
- *osphranton*, object of smell, 247,19; 306,24; 313,5
- osphrêsis, smell, 225,14; 253,4
- ostoun, bone, 213,14
- *ostrakon*, shell, 214,21; 240,21; 247,20
- *ostreon*, shellfish, 228,36; 236,23; 258,10
- *ouranios*, heavenly, 226,17; 227,23; *ta ourania*, the heavenly bodies, 236,5; 258,36; 260,19
- *ouranos*, heaven, 227,20; the heavens, 276,23.25.34
- ouron, urine, 206,7
- *ousia*, substance, 205,23.24; 206,22.24-6; 207,33.35; 209,36; 210,32; 212,2.3.6; 246,2; 250,25; 257,25; 252,13; 272,1-4; 312,27.29; 317,26.30; 318,27; division of, 251,1-4; *ousia kata to eidos, ton*

logon, substance in the way of

form. account. 209.34-5: 210.2.7: 219,11-12; 244,6-7; 246,5; ousiâi, in substance, 237.33 ousiôdês. substantial. 216.21: 219,28; 295,3.4 ousiôsis, substantiation, 208.9 oxôdês. tart. 252.24 oxuderkês, sharp-sighted, 263,10-11 oxugônios, sharp-angled, 316.4.7 oxurhunkhos. oxyrhynchic. 227.15-16 and n. oxus, high [in sound], 229,18; 314,28 paidion, child, 286,2; 304,12.15: 306.1.5pakhunein, thicken, 239.7 palaios, palaiôteros, man of the past. 203.4-5: 210.25 pantodunamos, all-powerful, 260,8-9 *pantôs*, necessarily, 205,3; 228,32 papuros, papyrus, 248,7 paradeigma, model. 219.7.14: 288.12: 307.9: example, 232.14: 238.17 and n.: 281.31: 283.29: 300.8 parakhôrein, give place to, 272,35 parakeisthai. lie near. 293.8-9 parakolouthein. attend. 204.33: 205,6.9; follow, 226,13; accompany, 291.15*paralambanein*, also take in, 250, 19.21; 254, 4; 265, 7.9 *paramutheisthai*, charm away, 238.37: 250.12 *parapempein*, send on, 213,21; 316.34-5parapiptein, drop in, 310,35 parapodizein, impede, 205A3 (205,9 and n. 7) paraskeuazein, make ready, 264,20; 286.33.35 paratasis, extension, 270,36-7 paratithenai, set out, 222,21; 241,34.36; adduce, 307,10 parathesis, parallel, 287,29; being near. 293.10 paristanai, set before, 221,7; 230,31 paroistran, goad on, 269,6 paronomazomena, things taking their appellation [from] 287,5 parousia, presence, 300,28

pas, to pan, the whole universe,

 $\begin{array}{c} 216.31\text{-}217,1;\,227,35.36;\,228,1;\\ 276,21 \end{array}$

paskhein, be affected, 245,19.21.23; 275,4; 280,9-11; 281,9-11; 283,14.15.23.25; 289,28-30; 290,7-9; 292,23; 296,5.23; 298,8-11; 301,4.5; 305,15.16; 309,32.34

- *pathêtikos*, affected, 301,16.27; 305,25
- *pathos*, affection, 218,22; 289,29; 301,10.11.14; 304,21.24
- pêdalion, tiller, 287,31; 288,13.15.18
- peina, hunger, 250,5.24.34
- peisis, undergoing, 303,7
- *pelekus*, axe, 219,15.19.20;
 - 220, 14.18.35.37; 221, 1-4; 223, 11-12
- pentagônon, pentagon, 256,10
- *pephukenai*, be by nature such , 204,15
- pepsis, digestion, 281,16; 288,26
- *peras*, limit, 278,7; 297,26
- periekhein, enclose, 256,4-6

periekhon, to, the environment, 218,2

- *periektikos*, embracing, 210,18; 282,20.23
- perigraphê, outline, 311,22-3
- *perigraphesthai*, have an outline, 311,22.25
- *perikardios*, in the vicinity of the heart, 231,8.11
- *perikarpion*, pod, 217,34; 218,1.2; 222,25
- *perilambanein*, embrace, 204,31.32; 205,11; 239,37-8; 260,23-4; 272,20; 314,25
- perilêpsis, embracing, 256,18; 282,20
- periorizein, give boundary, 237,22
- *peripêgnusthai*, congeal around, 275.23
- *periphantazesthai*, have in an imaginative way, 247,8
- peripherês, rounded, 314,6-7
- peristera, pigeon, 315,28
- *perittôma*, secretion, 266,18; 286,14; 289,5
- *perix, to perix*, that which surrounds, i.e. the outer heavens, 276,22.24
- pêrôma, deformed, 267,24.28.32; 287,15
- *petra*, rock, 259,27

- *pettein*, digest, 213,21; 280,26;
- 283,15; 284,17; 285,31; 288,26.28
- *phainomenon, ta phainomena*, evidence, 248.1 and n.; 248.3
- *phaios*, grey, 280,23
- phaneros. evident. 226.7.8
- *phanerôs.* evidently. 221.26: 225.21
- phanerôsis, manifestation, 303,20-1
- *phantasia*, imagination, 229,30; 239,12; 240,11-13; 254,24-8; 260,27.30; 261,4-7 316,28; 317,31
- phantasma, phantasm, 239,10
- *phantastikos*, imagining, which imagines, 227,29; 240,9.10.14; 316,32
- *pharmakon*, medicine, 250,13; 277,21
- *phatnê*, manger, 317,29
- *pheresthai*, be applied, 211,24; be reported, 242,6; 315,22
- pheugein, shun, 240,19; 311,28
- philosophia, philosophy, 228,25
- *philosophos*, the Philosopher, 203,12; 252,4; 261,6; 277,32; 282,12; 284,25
- phlebotomia, bleeding, 206,7
- *phleps*, vein, 213,21; 287,27
- *phloios*, bark, 217,24; 270,10
- *phônê*, spoken word, word, 206,2; 255,26; 297,37; voice, 316,18
- *phoitan*, rove, 238,39; 239,30; be extended, 229,33; 294A31
- *phôs*, light, 222,34; 223,4; 263,9; 297,5.6
- *phôtistikos*, [that] which lights, 297,5
- phôtizein, light, 292,20-1; 314,10
- phrasis, phrasing, 279,27
- *phronein*, think, 303,30; judge, 304,2.5
- *phrontis*, care, 213,37
- phrontizein, consider, 302,16
- *phthartikos*, destructive, 237,3; 280.7
- *phthartos*, that passes away, 241,27; 242,19; 260,14
- phtheirein, destroy, 263,9
- *phthisis*, decay, 213,9; 234,9; 272,18.24; 286,7
- phthongos, sound-source, 312,9
- *phthora*, destruction, 272,30; 293,15; 301,9; 305,30.32; passing away, 213.6; 282,26; 302.2.3

phuesthai, grow, 235,8

- phulaktikos, preservative, 206,11
- phullon, leaf, 218,1; 270,11
- *phusis*, nature, 264,20; 293,24.25; 294,1; 313,27.31
- phusikos, natural, 203,11; 212,12.15-21; 267,22; 268,9,15; 269,26; 297,22 and n.; ho phusikos, student of nature, 255,23
- phusikôs, by nature, 264,21
- *phutikos*, vegetative, 203,13; 204,2-4.8; 205,11; 222,13; 248,20; 267,5; 278,33; 279,3
- *phuton*, plant, 214,5.18; 217,18-23; 234,5.17; 236,8; 238,2-7; 270,8.10; 276,12.16.19
- *pikros*, sour, 229,19; 314,27; bitter, 252,24 and n.
- pikrotês, sourness, 294,11
- pistis, confirmation, 244,17
- *pistousthai*, confirm, 234,3; 295,23
- plagios, horizontal, 259,14
- *planasthai*, wander, 240,13-14; err, 314,2.4
- *planê*, error, 313,36; 314,6.16; 315,27
- *plasmatodôs*, in a fanciful way, 329.28-9
- plêktikos, violent [of flavour], 263,1
- pleonasmos, becoming more, 278.13.15.18
- *pleonazein*, abound, 275,32; become more, 278,16
- pleonektein, run to excess, 281,18
- *plêrôsis*, filling up, 252,14
- *plêthos*, plurality, 312,5; 316,23.26
- *plêthunein, peplêthusmenos*, plural, 312,5
- *pleura*, side, 232,28.31.33
- *ploion*, ship, 206,20.21; 224,18.28.35; 287,32; 288,14
- *plôtêr*, sailor, 204,23
- *pneuma*, pneuma, 222,15; 239,3.7.8.16.20.21.26.33; 268,25; 293,6.8
- poiein, make, produce; affect, 282,20; 283,23.25; 292,22.23; 293,21; 297,30-2
- *poiêtês*, poet, 228,26; 277,29; 282,2
- *poiêtikos*, productive, 206,11; productive [cause] 271,29; 306,34; affective, that affects, 283,27;

295.16: 296.4: 298.10.12: 29.8: 310.26 poikilia. variegation. 315.29 poikilos, variegated, 217.26.29; $315\ 29$ **noion**, quality, 207, 30, 32: 297, 33, 34 **poiotês**, quality, 244.35; 249.35; 250.4.26: 252.20: 253.33: 254.3: 281.14.18: 295.3.4.6: 301.16 **poioun**, agent. 245, 19-21 **poioun**, qualify, 254.2 politeuesthai. live as a citizen. 239.36-7**politikos**, man of politics, 308,11,12 pollaplasiazein, multiply, 232.33 **polugônon**, polygon, 256,12,13 polukhronios, long lasting, 270,33; polus, epi pleon, [extending] more widely, 215,29; 216,20 porphura, purple fish, 258,14 *poson*, quantity, 207,29; 297,33 **posousthai**, be quantitative, 285.30 poton. drink. 250.3.9.12; 253.34 **pou**, place where, 297.33 pragmateia, treatise, 274,9 praktikos, practical, 241,7.10.13; 246.30: 262.1.3: [sc. *einai tinos*] effect, 228,1; praktikos nous, 261.23.36; 274.4; 308.20 *premnon*, stem, 217.24 and n. presbutês, old man, 222,9 proagein. advance (trans.). 291,11-14.19-21; 302,27.36; 307.1 proaktikos, introducing, that introduces. 207.15: 217.5-6: 246,30; that advances, 295,17 proapokeimenos, laid up in advance, 227,1-2 proballein, put forth, 292,1 problêma, problem, 226,1.5 probolê, putting forth, 296,25-6; 297.1-5prodiastellesthai, draw preliminary distinctions, 289.21 proêgeisthai, precede, 216,31.35; 217,6; 225,37; come first, 260,25 proerkhesthai, proceed, 204.36 progastôr, pot bellied, 211,25 proüparkhein, pre-exist, 227,4; 265.18: 268.26: be present in advance, 214,13

proüpokeisthai, be present before. 268 32

proienai. proiôn. proceeding. 209.11

prokataskeuazein, provide in advance, 213,17

prokeisthai be purpose. 241.29: prokeimenon, intended target. 220,5; 257,11; purpose, 242,4; 246.16: thing said before, 271.27-8

prokheirêsis, exercise, 300A3 (300.30 and n. 334). kata prokheirêsin, operative, 205.4.6 (205.9 and n. 7)

prokheirisis. setting forth. 227.26: 303.19

prokheirizesthai, set forth, 264,23; 290,3; 300,26; 301,20-4

prokheiros, accessible, 226,13

prokhôrein, be appropriate, suit 218,20; go forward, 304,32; work for. 238.24

- prokhôrizesthai, be already separated, 222,12-13 and n.
- prolabôn, foregoing, 272,5

promasasthai. chew in advance. 213.17

- proödos. advance. 227.26: 296.29.34
- prooimion. introduction. 203.5-6: 241.36
- proparaskeuazein, prepare in advance, 213,15
- propôma, aperitif, 250,21 and n.
- prophorikos, in spoken words, 232.7

pros ti, relative, 223,26-7; 248,9; 265,5; 271,21; 285,12

prosagoreuein, give appellation to. 279,13; 287,12.16

prosballein, intuit, 313,29; 316,30; strike [of sense-objects], 314,8.14

prosbolê, intuition, 297.21

prosdiorizesthai, make further differentiation. further differentiate, 218,17; 245,18; 247,22.35

- proségoria, appellation 233.23
- prosekhês, proximate, 211,3; 248,5; 263,23; close, 249,32

prosekhôs, proximately, 210,10; closely, 263,20

- prosektikos, to the point, 276,35 and
- prosgraphein, add in writing, 290,26-7

178

271.1

- *prosienai*, make for, 240,19.24; 249,29
- *proskhrêsthai*, use in addition, 264,35; 265,2
- *proskrinein*, filtre in, 235,23; pass in, 281,25; 284,9.14-15.20
- *proskrisis*, passing in, 284,26.27; 285,27
- *prospelazein*, come close, 249,7; 316,27
- prospherein, administer, 254,8-10
- prosphuês, natural, 232,6; 237,17
- *prospiptein*, fall upon, 307,24-6 *prosthêkê*, addition, 213,3; 216.25.28; 286.3.4
- *prosthesis*, addition, 234,12.14; 275,16.21; 278,13; 281,7
- *prosupakouein*, understand as added, 290,27
- *prosuphainein*, weave on, 235,4; 268,25
- *protasis*, premiss [of syllogism] 231,21.24; 237,25; 273.32; 297,17
- *proteron kai husteron*, prior and posterior, 206,29-31; 209,37; 210,1.8,12,22; 255,18-19; 262,16-17
- *protiman*. value above. 252.10
- *protithenai*, propose, 264,19.21; 309,35-310,1
- prôtos, first, 226,18; prôtê [sc. hulê], primary, 211,7; 212,22; prôton kai husteron, prior and posterior, 216,13; 218,6; 255,1; 262,29
- *prôtos*, *to prôton*, what is first, sc. God., 265.31: 268.7.9: 286.34
- prôtotupon, original, 223,10
- psêlaphan, grope, 311,31
- psithurismos, whisper, 263,3
- *pseudês*, false, 300,12
- *psophos*, sound, 247,18; 263,2; 311,14
- *psukhê*, soul, 203,6.8 et passim
- psukhesthai, suffer from chill, 293,4
- psukhikos, psychic, psychical
- 217,28; 267,8.9
- *psukhros*, cold, 229,22; 244,33; 250,4.7; 254,2.9; 281,13.16
- psukhrotês, coldness, 244,34
- *psulla*, flea, 267,26
- psuxis, coldness, 290,16
- ptôsis, fall, 255,9; case, 211,11; 232,4
- puknos, thick, 229,24
- *pur*, fire, 213,1.4.5; 217,11; 227,19;

- 276,7; 277,8.11.13.14; 278,3.4; 281,35.36; 282,1-9; 317,10 *purên*, stone [of fruit], 217,34 *puretos*, fever, fever-case, 250,14; 251,31; 291,25; 293,17 *purettein*, suffer from fever, 293,18 *purios*, fiery, 278,30
- *rhabdos*. 312.22. rod
- rhêton, text, 219,11
- *rhêtos*, have expression for, 316,16
- *rheustos*, in flux, 235,22; 236,32
- *rhis.* nose. 247.19
- *rhiza*, root, 234,18; 270,10; 275,31; 276,8.10.12
- *rhizousthai*, be rooted, 259,27; 276,2 and n.
- rhônnusthai, be strong, 317,6
- rhuthmizein, regulate, 277,18
- saphêneia, clarity, 264,24
- *saphês*, clear, 264,15.25.26; [by nature, to us], 226,7.11; 230,13
- *sarx*, flesh, 206,20.22; 213,15; 283,12; 284,20,21,25; 293,6
- *selênê*, moon, 314,9
- *sêmainein*, indicate, 206,14
- *sêmainomenon*, meaning, 204,29; 206,16; 299,17
- sêmantikos, indicative, 206,11
- *sêmeion*, sign, 318,30
- *sêmeioun*, note, 221,20; 248,27
- *sêpesthai*, rot, 208,28; 282,10
- sêpsis, putrefaction, 214,26; 259,6; 267,25; 268,1-3
- sidêros, 219,17.22.35
- simos, snubnosed, 211,25
- sition, food, 206,6; 277,21
- *sitos*, corn, 271,23
- *skedastos*, tends to scatter, 282,21
- *skepasma*, shelter, 269,31
- *skepazein*, cover, 258,22; 291,33
- *skepê*, shelter, 269,32
- skepsis, consideration, 308,14
- skeustikos, preparative, 287,1
- skhêma, shape, 247,28-31; 255,27.31; 256,1-3; 311,9.19.20; 314,6; defined 255,27-9
- *skhêmatizein*, shape (v.), 239,10; 317,13; *skhêmatizesthai*, be in shape, 311,29
- *skhesis*, relation, 224,33; 225,2; 241,8; 246,30; 313,6

sklêros, hard, 229.23; 291.14.16 skôlêx, grub, 240,12; 258,33; 259,6; 267.26 skopimos, aimed at, 228,15; 267,22-3.26-7; 279,13 skopos, aim. 227.3; thing aimed at. $\bar{270.23}$ -4 sôma, body, 203,10-11; 209,6 sômatikos, bodily, 237.30 sômatikôs, in a bodily way, 225.8 *sôros*, heap, 234,14.15 sôtêria, preservation, 253.38: 303.6-9.14: 305.31 sôstikos, preservative, 235,7; 237,3; 286.24: 289.11 *sperma*, semen, 209,9.10.16.18; 222,27.29; 238,10; 266,18 268.18.20.26: 286.14: 289.4-6: 305,37; 306,6; seed, 222,24; 241,11 and n.; generative product, 217.33 sphaira puros, sphere of fire, 282,23-4 *sphairikos*, spherical, 259,15-16.18; sphairikos kêros, ball of wax. $\bar{218.21}$ **sphêx**, wasp, 270,35 sphodros, powerful, 311.18 sphugmos, pulse, 206.8 *spongos*, sponge, 235,32; 236,23; 240.23: 254.26: 258.9: 259.34: 262.21spoudaios, upright, 239,14 stasis. staving unchanged. 219.6 (Aristotle, DA 412b17) 312,14; stationary state, being stationary, 312.14.22: 316.8 sterein, deprive, 208,31; stereisthai, lack, 251,9; 259,6 stereos, solid, 393,11 sterêsis, lack, 251,4; 272,33.36; 300,13; 301,32.36; 304,19.28.35 stoikheion, element, 230,21; 254,5.6; 269,12; 282,18.22.24; 310,24.29 stokhazesthai, aim at, 266,22; 304.25 *stoma*, mouth, 213,11.20.31; 214,23; 258,12; 276,16-20 stomakhos, stomach, 250,20 sturax, resin, 312,31.32 *sukon*, fig, 217,34; 222,24 sullogismos. svllogism. 227.14.15.17: 231.16.24: 232.1-3.9 sullogizesthai, syllogise, 232,34;

argue, 240.8-10: 241.3-4; infer. draw inference, 316,28; 318,1.2 sumballesthai. help. 207.20: 228.24-5: 247.4 sumbebêkos, incidental, 207.25.33; 241.22: 262.26: 263.11.15.295.9-10: 310.33.37 summetria, proportion, 293,24 summetrôs, appropriately, 206,10 *sumperasma*, conclusion, 223.21: 231.14.31: 232.9: 237.25: 273.32: 297.17sumperilambanein, also include. 204.19: 310.23 sumpêxis, hardening together. 213.32: 214.16 sumplekein, interweave with, 279,24 sumplêrôtikos, essential, 295.4 and n sumproïenai, progress along with, 297.3.6sunagein, conclude, 213,7; deduce, 223.22: 260.22 sunaisthanesthai, be conscious of. 249,28-9 and n.; 254,26; 292,36; 311.27 sunaisthêsis, consciousness, 259,33; 293.16.19: 294.1: 311.28 sunaition. contributory cause, 277.14.17*sunamphoteron*, combination of both, composed of both, 211,13; 212.6.7.10.20; 221.21.25-32; 223,16; 244,24; 292,32.34; 297,20 *sunanairein*, destroy along with, 227.33.34: 236.25 sunapodeiknunai, also demonstrate, 215, 25. 28; 277, 33 sunaptein, attach, 214,9.19 sundein, bind with, 214,9 sundiairein, divide along with, 239.12sundiaplattein, mould along with, 239.12sundromos, concurrent, 216,33; 217,1 sunduasmos, coupling, 214,28 suneisagein, bring together with, 248.9suneispherein, bring in with, 236,25 *sunekheia*, being continuous, continuity, 316,13; 317,9 sunekhês, continuous, 207,29;

288,16; 311,16

- *sunektikos*, holding together, 219,2; 227,37
- sunenergein, act together, 252,26.32.33
- sunengizein, come near, 228,34
- sunêtheia, custom, 208,31; 250,20; customary speaking, 277,26.28; 282,11; 298,3; 301,26; 302,16; 309,7; 313,2; 315,16
- sunêthês, to sunêthes, habituation, 293,23; sunêthês khrêsis, usage of customary speech 304,17-18
- sunethismos, habituation, 253,27 sungenês, with affinity, 220,5; congenial 260.2
- sunistasthai, be composed, 207,33; establish, 291,8; gather, 294,4
- sunkheisthai, be confused, 316,31.33; sunkekhumenos, confused, 226,15.29; 227,6; 255,19; sunkekhumenôs, in a confused way, 226,30
- sunkhrêsthai, use along with, 204,21
- *sunkrinein*, compact, 316,36-317,1
- sunkrisis, contraction, 272,23
- *sunokhê*, holding together, 208.26.35; 275.25
- *sunopsis*, general view, 204A3 (204,2 and n. 3)
- suntattein, construe, 253,22
- suntaxis, construction, 253,22
- *suntelein*, accomplish 205A6 (205,9 and n. 7)
- sunthetos, composite, 226,19
- suntomia, succinctness, 230,6
- *suntrekhein,* coincide 300A2 (300,30 and n. 334)
- suskhêmatizesthai, become shaped along with, 239,8
- sustasis, constitution, 251,21
- sustellesthai, contract, 228,33;
- 236,1-2; 240,22.23; 249,7; 262,22 *sustoikhos*, ranged along with,
- 255,7; 281,14 *sustoikhôs*, in a way in line with,
 - 258,36
- suzeugnunai, conjoin with, 248,28-9
- *taphos*, tomb, 239,10
- tattein, order, 227,24; 258,29
- *taureia sômata*, bodies of bulls, 268,3

- *taxis*, order, 214,16; 227,24; 254,34; 258,2; position, 215,12.17; 256,4
- *tekhnê*, artistry, 208,4; 270,20; skill, 303,33
- *tekhnêtos*, artificial, from artistry, 219,14; 270,19; *tekhnêton*, artifact, 208.3; 209.5; 220.4
- *tekhnitês*, artisan, 277,19.20; man of skill, 308,11
- tekmêrion, indication, 257,1
- tektôn, carpenter, 283,30
- telein, fall, 207,25
- teleios (adj.), perfect, 209,1
- *teleiôs* (adv.) completely, 284,19; 291,32
- *teleiôsis*, being perfect, 209,2; perfection, 303,14.20
- *teleiotês*, perfection, 203,14; 206,21; 209,2.4; 211,16-18; 216,16.22; 220,1; 223,26.32.36; 264,16; 284,3.4; 302,13.33; 303,28; 304,24.27
- *teleiôtikos*, perfective, 206,21.23.26; 225,18; 245,11
- *telesphorein*, bring to full term, reach full term, 214,32; 267,30-1; 268,20-1
- *telikos*, final, 228,16; *telikon aition*, final cause, 269,28; 271,29
- *telos*, final state, 211,15; end, 228,15; 241,10.12; 261,25; 264,18.19.24; 265,29.30; 267,21; 269,29; 270,2-5
- *tephra*, ashes, 282,10
- tetrapleuron, quadrilateral, 232,33
- tetragônismos, squaring, 232,16.26
- *tetragônizein*, square (v.), 232,24.30
- *tetragônon*, square (n.), 232,27; 233,4-5.9; 255,30; 256,7-9
- *theios*, divine, 216,33; 234,31; 236.3.6; 249,19; 260,16.19; 265,31.33; 297,10; Divine, 242,1.2.16
- theios nous, divine intellect, 261,12
- theologos, theologian, 261,31
- *theôrein*, contemplate, 203,21.22.24; 204,5; 212,2.3; view, 266,24.25
- theôrêma, theorem, 301,23
- theorêtikos, contemplative, which contemplates, 241,7.9; theôrêtikê dunamis, power to contemplate, 241,6; theôrêtikos nous, contemplative intellect, 241,10-14; 261,25.30; 262,4

- *theôrêton*, thing contemplated, 307,24
- *theôria*, contemplation, 204,4.12; 308,15.16
- theos, God, 271,7
- thermainein, warm, 293,6.10
- *thermantikê dunamis*, power to heat, 217,11.13
- *thermasia*, warmth, 291,23; 293,19.20
- *thermos*, hot, 229,22; 250,3.6-7.23; 254,2; 281,14.15.17; *emphuton thermon*, innate hot, 287,24; 288,7.8.25
- *thermotês*, heat, 244,33; 250,11.14.15.18
- *thesis*, how it is set out, 231,15.23
- thinganein, make contact, 292,9-14
- *thixis*, touch, 251,37; 253,35; contact, 292,17; 293,9.10
- *thnêtos*, mortal, 206,34; 216,35; 234,32; 235,1.3
- *threpsis*, nourishment, 207,13; 223,37; 263,32; 264,29; 265,14.24; 279,19
- *threptikos*, nourishing, which nourishes, 204,16; 237,11-12.20; 238,4; 248,29; 267,6; (definition) 286,5; *threptikê dunamis*, power to nourish, nourishing power 217,30; 223,31; 228,10.11.12; 229,11; 234,5.7.21.29; 235,15; 236,19; 248,33
- thumikos, spirited, 237,31
- thumoeidês, spirited, 238,26
- *thumos*, anger, 231,8 and n.; spirit, 235,6; 249,11.14.19
- thumousthai, be angry, 231,17.19
- *timios*, estimable, 226,34; 227,36-7; 228,8.11.22.31; 229,4; 260,29
- tmêma, segment, 256,5
- *tmêtikê dunamis*, power to cut, 219,16-19; 223,12-13
- tode ti, this something, 210,28
- *topos*, place, 288,16; 314,4; 318,3.4; *topon ameibein*, change place, 235,34; 259,28

trakhêlos, throat, 315.28 trakhus, rough, 314,30 tranês. limpid. 226.30: 227.7: 229.12: 234,27; 236,10-12 trephein, nourish, 204,16; 213.1.2.10-14: 214.3.5: 217.30: 234.8.11.12: 250.2.5.6: 277.25.27. 278,1.5; 280,5-12; defined 285,2-5 trigônon. triangle. 256.2-8 *trophê*, food, 207,13-14; 213,3; 250.3.9.22.27-36: 251.13.18: 266.15.17: 267.10: 279.35n.: defined 286.35-287.3: nourishment, 212.30 and n.: 213.9: 234.8.9: 259.5: 271.26: 275.26. 277.2.23.26.31: 278.3 tupos. imprint, 317,31; script, 227,16 xanthos, yellow, 252,25.31

xârantikê dunamis, power to dry, 217,13 xêros, dry, 229,23; 250,3.6; 254,1.12; 281,14.17-18

- *xêrotês*, dryness, 250, 11.14; 253, 36
- xulinos, wooden, 210,11; 219,27
- *xulon*, wood, 217,24
- *zein*, boil, 231,18.19
- *zên*, live, be alive, 233,26; 234,1.4.5
- zesis, boiling, 231,8.10.27
- *zêtein*, enquire, 208,11; seek [in mathematics], 232,25
- *zêtêsis*, enquiry, 208,14
- zôê, life, 203,11; 208,16-18; 209,9.12.13; 212,28.30; 213,1; 214,24; 259,14-19; soul, 206,35n; 214,13
- *zôion*, animal, 214,3-5; 260,19
- *zôiophuton*, zoophyte, 214,7.19
- *zôopoiein*, make alive, 209,23-9; 225,6.7
- *zophos*, darkness, 263,9
- *zôphuton*, zoophyte, 235,32.33; 251,7.9; 259,27
- *zôtikos* (adv.) in a vital fashion, 309,28

Subject Index

abacus, 208.5n. activities, of sight, 293,23 apparatus actuality, first and second, 211,32n.; 223,11addition, growth and transformation, 212,30-213,7 Admetus, 208,33 Alexander of Aphrodisias, 212,22n.; 215,25; 216,9; 225,20-6; 231,34; 233,13; 237,17; 241,29; 242,6; 264,16; 288,5; 290,25; misconception about the intellect, 261,11, cf. 241,37-242,5 alteration, 300,15-17; 301,14-17 Aristotle, 210,28; 222,6; 225,21.23; 226,21; 229,21; 237,13.17-18; 238,38; 258,18-19; 261,6; 270,24; 273,32; 280,15; 291,2; 311,34; 315,22; 'the Philosopher', 203,12; 246,24; 252,4; 277,32; 282,12; 284,25An.Post. 1 ch. 2: 226,1n.; 75b31: 231,13-14n. An.Post. 2 90b3-4, 97b26: 231,13-14n. Cat. 3b10: 210,29; 7b35: 265,13 EN 6 chs 6.12: 261,22-3 and n. de Int. 23a7: 209,30; 222,21; 23a23: 216,35; 297,10-11 GA 289,3-4 GA 1 724b21-726a26: 286,14-15; 289,5-6GA 2 731b24-732a1: 228,16-18 GC 269,30 and n. GC 1 317b1-18: 302,2; ch 5: 213,7; 289,3; 281,7; 282,15; 283,6; 284,28-9;321a2.19: 234,11; 275,18-19; 321a12: 278,11-12.20-1; 282,4-5; 322a20-2: 285,20-1.27; ch 7: 290,23

GC 2 ch. 2: 249,35-250,1; 335a19:

- 282,18-19; 336a12: 277,16-17
- HA 6 ch. 15: 268,1
- Metaph. 6 1026a5: 261,28-9
- Metaph. 7 1036b30-2: 209,15-16n.
- Metaph. 8 1042b15-31: 218,31n.
- Metaph 9 1049b4-27: 264,31
- Meteor. 4 380a11.16: 222,25; 383a20-5, 282,14
- PA 1 641a33-4: 261,28-9
- Phys. 1 184a21: 226,14; 185b6 (cf. Metaph. 9 1042b15-31): 218,31; 191b13: 272,36-7
- *Phys.* 2 192b21: 221,8-9; 193a30: 211,22; 194a28: 274,8; 194b23: 273,10-11 and n.; 198b10: 272,12
- *Phys.* 3 chs 2-3: 284,5; 298,10;
- 201b31: 296,25; 202a13: 245,20 Phys. 4 211a29: 288,17; 219b1-2:
 - 311,36; 223a25-6: 312,1
- Phys. 8 ch. 6: 261,32
- *Poet.* 269,29 and n.
- Top. 1 107b6: 206,4
- articles, 215,31n.
- artifacts, 220,4n.; 270,20n.
- Attic interpreters, 232,5-8
- attunement theory, 207,31n.
- benefit and beneficiary, 269,29n.; 274,16n.
- blind rats, 229,1n.
- bodies, of flesh and bone, of pneuma and of 'luminous form', 222,15n.; 239,9 and n.
- change, and activity, 284,4n.; 284,5n.; 296,2n. as object of perception, 311,9n. 'number' of, 311,35-6n.
- consciousness, 249,28n.

detailed commentary, 230.6n.: 273,7n.; 279,25n.; 302,6n.; 312.39-313.1 Diares, 315,20-4; 318,26-30 dispositions and states, 249,16-17 and n. dualism, 244,10-225,8; 231,8n; 244,1n.; 244,36n.; 288,17n. 'efficient' cause, 274,26-7 and n. embryos, 213,7-214,3 Empedocles, 275,28-33; 276,5-10; 277.7-10: 278.28-9 entelekheia, 245,15n.; etymology of, 209.3n. errors in perceiving, 313,27-314,18 'essence' (to ti ên einai), meaning of, 220.31n. Euclid, Elements 6,13.17, 233,13-17 Euripides, Alcestis 392 guoted 208,33; Medea 1187; guoted 277,30 fire, 217,10-13; 277,6-278,21 form. 211.21n. God, 227,24 heavenly bodies, 236,4-5 and n.; 260.22n. Homer ('the Poet') Iliad 3 277: 228.26-7 Iliad 10 535: 312,7-8 Iliad 22 2: 250,13 Iliad 23 182: 277,29; 282,2 Odyssey 12 73: 295,11 homonymity, 206,2n. -ikon formations, 237,19n. incidental objects of perception, 252,17-253,28; 318,24-33 'logical' modes of argument, 250,36n.

miscegenation, 286,19-20n.

Neoplatonists, 217,27n.; 292,2n.; 307,35n. paronymy, 287,5n. perceiving, defined 293,23 apparatus 'Philoponus' (author of commentary on de Anima 3), 214,7n.; 216,30n.; 309,23n.; 312,8n; 314,18n. Plato Phaedrus 249 B: 247.28-31 Statesman 270 A: 228.17n. Timaeus 47 A-B: 228.25-6 Timaeus 69D-70A: 225,19-20: 237,31-2; 242,29-30 pneuma, 239.2-38; 287.24n., 293.23 apparatus Porphyry, 241,31-2 prime matter. 208.8n.: 212.22n. problems, 226,1n. Pythagoreans, 243,9; 247,11-12 reason, faculty of, 226,7n. relatives, 223,26-7n. sense-objects perceived 'of themselves', 310,35-6n. Socrates, as example, 211,25-6; 312,29 Sorabji, R., 297,23n. spontaneous generation, 268,38n squaring, 232,16-233,17 subject and attribute, 244,1n. Sun, the Sun god, 228,26 theôria, i.e. continuous exposition, 237,28n.; 302,19n. 'this in this', 219,2-3 thought (dianoia), 229,31n. time, 311,36n. Trinitarian terminology, 225,10n. universals, 256,33a; 307,33-5 and n.

Xenocrates, 204,6n.; 207,28.32n.

zoophytes, not animals 214,7