

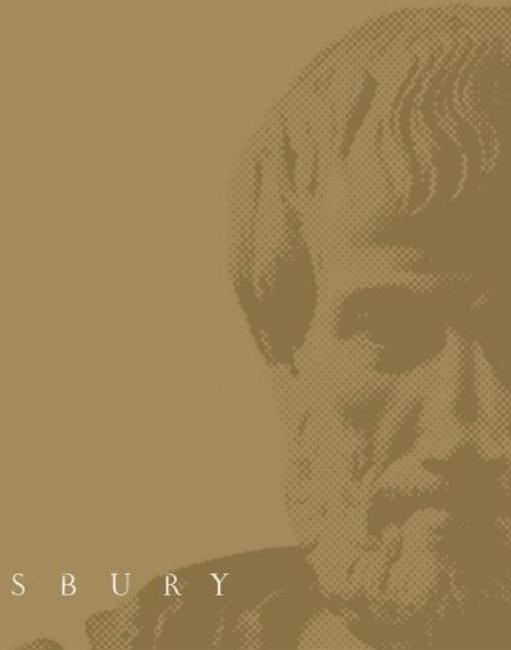
Ancient
Commentators
on Aristotle

GENERAL EDITOR: RICHARD SORABJI

ALEXANDER OF
APHRODISIAS:
On Aristotle On Sense
Perception

Translated by
Alan Towey

B L O O M S B U R Y



Alexander of Aphrodisias
On Aristotle
On Sense Perception

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Editor's Note

In *On Sense Perception* Aristotle discusses the material conditions of perception, starting with the sense organs and moving to the material basis of colour, flavour and odour. His Pythagorean account of hues as a ratio of dark to light was enthusiastically endorsed by Goethe against Newton as being true to the painter's experience. Aristotle finishes with three problems about continuity. In what sense are indefinitely small colour patches or colour variations perceptible? Secondly, which perceptibles leap discontinuously, like light to fill a whole space, which have to reach one point before another, and do observers of the latter perceive the same thing, if they are at different distances? Thirdly, how does the control sense permit genuinely simultaneous, rather than staggered, perception of different objects?

Alexander's highly explanatory commentary is most expansive on these problems of continuity. His battery of objections to vision involving travel, which would lead to collisions and interferences by winds, inspired a tradition of grading the five senses in respect of degrees of immateriality and of intentionality. He also introduces us to paradoxes of Diodorus Cronus about the relation of the smallest perceptible to the largest perceptible size.

January 2000

R.R.K.S.

Preface

The present volume is a translation of the commentary on the *De Sensu* of Aristotle (to give it its Latin title) attributed to the Aristotelian commentator Alexander of Aphrodisias. The *De Sensu* deals with sense perception and is therefore referred to as 'On Sense Perception' both in the title of this volume and elsewhere in the Ancient Commentators series. The Greek title is *Peri aisthêseôs kai aisthêtôn* which for consistency with my translation policy (see notes 1 and 2 on p. 157 below) I have rendered as 'On Perception and Perceptibles'.

The aim of this translation is to express Alexander's meaning accurately whilst writing English which is clear and readable. Alexander is fond of longer sentences than we find natural in English and in some places I have broken these up. I have used angle brackets < > to enclose words or phrases necessary to complete the meaning which are absent from Alexander's text.

The English-Greek Glossary indicates how I have chosen to translate Alexander's technical vocabulary. Whilst wishing to be consistent I have had to take account of the fact that for some Greek words (*logos* is a good example) the span of meaning is not matched by any one English word. The alternative translations are listed in the Greek-English index and in important cases explanations have been provided in the notes.

The translation of Alexander's commentary on chapters three, six and seven (pages 41,7 to 66,6 and pages 109,7 to 173,12) originally appeared as an appendix to my PhD thesis *Time, Change, and Perception: Studies in the Aristotelianism of Alexander of Aphrodisias* (London, 1995). I am grateful to the supervisor of my research, Professor R.R.K. Sorabji, for his many helpful comments and in particular for allowing me to read his unpublished commentary on the *De Sensu*. My thanks are also due to the examiners of my thesis, Professors R.W. Sharples and M. Schofield.

Save where I have indicated in Textual Emendations, my translation follows the edition of the text produced by Paul Wendland for the Berlin Academy in 1901, which itself benefited from the earlier edition of Charles Thurot as well as unpublished work by Hermann Usener. The survey of the manuscript tradition found in the preface to Wendland's edition (*Alexandri in Librum De Sensu Commentarium* (CAG 3,1), Berlin 1901, v-xiii) emphasises the large number of surviving manuscripts, including a medieval Latin translation. However, all these manuscripts share serious

corruptions and lacunae and are presumed to derive from a single corrupted early medieval archetype. Wendland candidly confesses that in many places he allowed himself the licence of recovering Alexander's meaning rather than his actual words and acknowledges that he has left several errors for others to correct. But he comments that in an age in which hardly any readers of Alexander's commentary can be found it is an audacious man who expects to find anyone to undertake the task of textual emendation. It will not, I am sure, be regarded as too audacious of me to hope that the present volume will go some way to remedying the first shortage, if not the second.

January 2000

A. Towey

Introduction

1. Alexander of Aphrodisias

Alexander of Aphrodisias was appointed as a teacher of Aristotelian philosophy at some time between AD 198 and 209.¹ Although he was not the first to write a commentary upon a work of Aristotle, he was one of the earliest commentators, and certainly one of the most celebrated.² Aristotle's treatises require exegetical commentary because of the obscurity of his expression. They also invite philosophical commentary because they approach the issues they discuss in a spirit of inquiry which calls for further reflection rather than acceptance as the last word on a subject. A commentator on Aristotle therefore should do his job not merely by offering an exposition of the meaning but also by attempting to resolve the philosophical problems that Aristotle has addressed. Alexander's fame as a commentator rests upon his achievement on both counts.

The Alexandrian corpus comprises commentaries on Aristotle, treatises, and collections of shorter discussions, such as the *Quaestiones*.³ Alexander always presents himself to the world as a loyal follower of the Aristotelian school. As Sharples points out, 'in his independent treatises, as well as in the commentaries, Alexander's approach to the issues he discusses is from Aristotle's works – and above all from the esoteric works – as a starting point'.⁴ On the other hand the five centuries which separate Alexander from Aristotle had seen the advent of important philosophical movements, notably the foundation of the Epicurean and Stoic schools. These impinged on Alexander in two ways. Firstly, as a defender of Aristotle he would have felt the need to resist the anti-Aristotelian teachings of rival schools. Secondly, there is what Todd refers to as Alexander's 'general affinities to the contemporary philosophical culture',⁵ which manifest themselves both in his interest in topics not hitherto seen as Aristotelian⁶ and in his philosophical vocabulary much of which is derived from the Stoics.⁷ In view of this Alexander's own protestations⁸ that his role is simply to set out Aristotle's own doctrine as clearly as possible are not to be taken at face value. Expressions of loyalty to the founder of one's philosophical school do not necessarily rule out intellectual independence⁹ and the commentaries no less than Alexander's other works provide ample opportunity for the development of Aristotle's thought in new directions. To provide some impression of what this means in practice I have set out

below¹⁰ a case-study of the way in which Alexander goes beyond Aristotle in the case of the commentary on the *De Sensu*.

2. The *De Sensu*

The *De Sensu* is the first of a series of short treatises now referred to as the *Parva Naturalia* in which Aristotle discusses functions or activities that are ‘common to body and soul’,¹¹ the *De Sensu* itself dealing with the activity of sense-perception (*aisthêsis*).¹² As Aristotle indicates¹³ the *De Sensu* is intended to be read as a sequel to the *De Anima*, a large part of which was devoted to the subject of sense-perception.

Alexander describes¹⁴ the treatise as concerned with the sense-organs and the perceptibles (the objects of the five senses). This is in some ways misleading. Only one of the seven chapters (chapter two) is concerned with sense-organs and the only sense-organ considered is the eye. Although chapters three to seven do deal with objects of the senses, the discussion is neither systematic nor exhaustive. Nevertheless Alexander’s description does accurately capture the central concern of the treatise, which could broadly be described as examining the material or physical conditions, both in the external environment and in the perceiving subject, that are necessary for an act of sense-perception to occur.

As a philosophical text the *De Sensu* has had a long and flourishing history. Together with Alexander’s commentary it was part of the corpus studied by Arabic followers of Aristotle.¹⁵ The *De Sensu* itself was known by the ninth century philosopher al-Kindi and was the subject of a lost commentary by Abu al-Faraj in the eleventh century. It is included in the epitome of the *Parva Naturalia* of Ibn Rushd (Averroes) completed in AD 1170. It was available in Latin from the thirteenth century when Aquinas wrote his commentary on it and subsequently became a major source for all discussions of the senses in the later middle ages. Aristotle’s assertion at the end of chapter one that hearing makes a greater contribution to learning than vision was for example frequently discussed in medieval Aristotelianism.¹⁶ In the sixteenth century the *De Sensu* and Alexander’s commentary upon it were (alongside Lucretius’ poem *De Rerum Natura*) the most influential sources for the visual theories of ancient atomism.¹⁷

Aristotle’s *De Sensu* is of more than historical interest. The subject of sense-perception embraces a number of problems of perennial interest to philosophers both in epistemology (questions relating to the reliability of our senses in providing our knowledge about the world) and in philosophical psychology (questions about the relationship between the psychological processes involved in perception and the physical processes that underlie them). Within the modern philosophical tradition it is the first grouping of problems which has tended to monopolise attention, mainly because of the influence of Descartes. Because the *De Sensu* has little directly to say on epistemological questions it has not played a prominent role in these

discussions. The arrival of the computer age has moved the pendulum the other way. Advances in neuroscience and the scientific challenge of creating artificial intelligence have both exerted an influence on contemporary philosophers, bringing the problem of consciousness to centre stage. Part of this general trend is the increased scrutiny now given to Aristotle's views on psychology. Aristotle's *De Anima*, which considers perception generally within the context of psychology as a whole, has been the focus of most debate. But it has increasingly been recognised¹⁸ that the *De Anima* can only be fully understood by considering the *De Sensu*.

One difficulty in using Aristotle's psychological works as a starting-point for consideration of issues in contemporary philosophy is that they do not fit neatly into modern pigeon-holes. The *De Sensu* is a case in point. Although its subject-matter suggests an affinity with modern concerns in philosophical psychology, this is presented within a tradition of ancient natural science which could not appear more remote from modern thought. For example in chapter two Aristotle has much to say about the physiology of the eye. But he says it in the context of a discussion of how the five sense-organs are to be correlated with the four elements, earth, air, fire, and water. The need for any such correlation will seem odd to any modern physiologist. Moreover, although dissection was practised in the ancient world, Aristotle apparently takes little account of the results of such research in reaching a conclusion.¹⁹ A more fundamental difficulty relates to the treatise's avowed concern to examine the physical conditions required for sense-perception. For it is controversial whether we can even attribute to Aristotle himself the view that an act of sense-perception is constituted by anything which we would recognise today as a physiological process. On the one side²⁰ it is maintained that Aristotle's view of the material side of life is alien to modern thought and indeed is such that we cannot take it seriously. The other side²¹ insist that on the Aristotelian account sense-perception can be understood in terms of an activity that is constituted by, but not reducible to, a physiological process. Clearly, in view of its subject matter, the *De Sensu* has an important role to play in the controversy, although it must be admitted that the precise nature of that role is not clear cut. Indeed both the *De Sensu* and Alexander's commentary on it have been pressed into service on both sides of the argument.²² Since the issue pervades the commentary it would be redundant in this Introduction to discuss in detail the significance of the evidence it presents. The translation, together with my notes and the references they contain, will supply the reader with sufficient materials to make up his or her mind. In the case-study that follows I will simply draw attention to one way in which Alexander departs from Aristotle which has a bearing on the controversy.

3. Alexander's Aristotelianism: a case study

As has been pointed out, the *De Sensu* looks at the physical conditions that must be present in the external environment for perception to arise. In chapter three of the *De Sensu* Aristotle considers the conditions that give rise to our perception of different colours. He argues against an account of colour according to which colours other than black and white are composed of black and white patches juxtaposed in different ratios (the juxtaposition theory). He states without explanation that this theory presupposes that imperceptible times exist. Alexander provides an explanation: he links the juxtaposition theory to another theory of colour which Aristotle rejects, the efflux theory, according to which colours are particles received in the eye. Alexander says that the efflux theory requires imperceptible times between the arrival of individual particles to explain why the perceiver is not aware of the particles arriving in the eye and that the juxtaposition theory requires the existence of imperceptible times because it and the efflux theory are different aspects of the same theory, the theory of vision held by Empedocles, Democritus, and Leucippus.²³ Alexander is in effect offering a historical explanation. But the explanation shows scant regard for historical accuracy. Moreover it ignores the fact that the efflux and the juxtaposition theories are offering rival accounts of colour.

Alexander has earlier linked the Democritean theory with the followers of Epicurus²⁴ and his motive in conflating the efflux and the juxtaposition theories appears to be the polemical one of discrediting a philosophical rival.²⁵ For the conflated theory is on Alexander's account saddled with two absurdities, imperceptible times as already noted, but also imperceptible magnitudes²⁶ and these two commitments are shown to be absurd by Aristotle in chapter seven.²⁷

Alexander's interpretation creates a serious difficulty, for in chapter six Aristotle concludes that imperceptible magnitudes do exist.²⁸ Alexander explains this²⁹ by distinguishing Epicurean imperceptible magnitudes (imperceptible by their own nature) from Aristotelian ones (perceptible were they not too small). But the price of removing inconsistency here is only to introduce inconsistency elsewhere. For the magnitudes that the conflated theory is committed to are Aristotelian ones.³⁰

A further consequence of Alexander's polemic is to put undue weight on Aristotle's arguments in chapter seven against imperceptible times and magnitudes.³¹ These appear as a digression from Aristotle's main concern in the chapter, which is to argue that simultaneous perception is possible. For they are introduced only to explain how, if simultaneous perception were impossible, the appearance of simultaneous perception might arise. Aristotle therefore has no reason requiring him to deny imperceptible times or magnitudes and in fact assumes elsewhere³² that there are imperceptible times. Alexander in contrast has to take them seriously and

cannot countenance imperceptible times in any theory he is defending. This has an interesting consequence for his account of light. The propagation of light through a medium appears to take no time at all. Clearly it could be explained as a process which takes time if one postulated an imperceptible period of time during which the light moves to all parts of the medium. But this postulate is not available to Alexander who must defend the view that light really does take no time at all to spread. He does this by means of the notion that light is a relational property like the property of being on the right. The doctrine that light is a relation is relevant to the controversy mentioned above over whether Aristotle requires a physiological change in perception. For it has been used to support the claim that he does not.³³

The case-study therefore illustrates well some of the difficulties which arise in using Alexander to explain Aristotle. For although it is tempting simply to take the commentator at face value as providing an accurate guide to Aristotle's own meaning, it is evident that Alexander's doctrine that light is a relation cannot be viewed independently of his embargo on imperceptible times and his attack on Epicureanism, both of which positions can be regarded as innovations that take Alexander beyond Aristotle.³⁴

Notes

1. cf. R.W. Sharples, 'Alexander of Aphrodisias: Scholasticism and Innovation', *Aufstieg und Niedergang der römischen Welt* 36.2, 1987, 1177-243, 1177. The termini are supplied from the introduction to the treatise *De Fato* which is dedicated to the Roman emperors Septimius Severus and Caracalla in gratitude for the appointment.

2. Earlier commentators include Aspasius and Adrastus. Cf. R.R.K. Sorabji, 'The Ancient Commentators on Aristotle', in R.R.K. Sorabji (ed), *Aristotle Transformed*, London 1990, 1-30, 16. For Alexander's pre-eminence and the accolades recorded by Simplicius see Sharples, op. cit. (n. 1), 1179.

3. A comprehensive survey of works by Alexander both extant and no longer extant, including spurious works, can be found in Sharples, op. cit. (n. 1), 1182-99. The authenticity of the commentary on the *De Sensu* has not been doubted, although its date of composition relative to the other works is disputed (cf. I. Bruns, *Alexandri Aphrodisiensis praeter Commentaria Scripta Minora (Supplementum Aristotelicum 2,1): De Anima Liber cum Mantissa*, Berlin 1882, v, P. Accatino and P. Donini, *Alessandro di Afrodisia: L'anima*, Rome 1996, vii.)

4. Sharples, op. cit. (n. 1), 1180.

5. R.B. Todd, *Alexander of Aphrodisias on Stoic Physics*, Leiden 1976, 17.

6. cf. the comment of R.W. Sharples, *Alexander of Aphrodisias On Fate*, London 1983, 23, that Peripatetic interest in the concept of fate, the subject of Alexander's treatise *De Fato*, was largely stimulated by its central place in Stoicism.

7. cf. Todd, op. cit. (n. 5), 27-9.

8. cf. *de Anima* 2,4-9.

9. cf. A.A. Long and D.N. Sedley, *The Hellenistic Philosophers, volume I: Translation of the principal sources with philosophical commentary*, Cambridge

1987, 5-6: 'It was generally thought more proper to present new ideas as interpretations or developments of the founder's views'; Sharples, *op. cit.* (n. 1), 1180: 'Even when his own position is clearly a rejection of earlier Peripatetic theories [Alexander] regards himself as providing a more Aristotelian solution.'

10. See section 3 below.

11. *Sens.* 1,436a7-8. The list given at 436a8-15 is discussed by Alexander at 5,20-6,25. The phrase 'common to body and soul' describes those activities of animals which require a body, i.e. all activities other than the intellectual.

12. In Latin, *sensus*, hence the treatise's traditional title. For the meaning of *aisthēsis* see note 1 to the translation. According to Alexander perception needs to be dealt with first because it is perception that all the other common activities stand in need of (cf. 8,20-1).

13. 436a1-2; cf. 2,7-10.

14. 1,11-18.

15. cf. F.E. Peters, *Aristoteles Arabus, The Oriental Translations and Commentaries on the Aristotelian Corpus*, Leiden 1968, 45-6.

16. cf. T. Frangenberg, 'Auditus visu prestantior: Comparisons of Hearing and Vision in Charles de Bovelles's *Liber de sensibus*' in C. Burnett, M. Fend and P. Gouk (eds), *The Second Sense, Studies in Hearing and Musical Judgement from Antiquity to the Seventeenth Century*, London 1991, 71-95, 89.

17. cf. Frangenberg, *op. cit.* (n. 16), 75, note 18.

18. cf. particularly C.H. Kahn, 'Sensation and Consciousness in Aristotle's Psychology', *Archiv für Geschichte der Philosophie* 48, 1966, 43-81, and in J. Barnes, M. Schofield, R. Sorabji (eds), *Articles on Aristotle 4. Psychology and Aesthetics*, London 1979, 1-31, esp. 6-17.

19. cf. G.E.R. Lloyd, 'The Empirical Basis of the Physiology of the *Parva Naturalia*', in G.E.R. Lloyd, *Methods and Problems in Greek Science*, Cambridge 1991, 224-47, 236: 'References to anatomical points are generally vague to the point of serious obscurity', a criticism that applies with equal force to Alexander's commentary.

20. cf. S. Broadie, 'Aristotle's Perceptual Realism', *Southern Journal of Philosophy*, volume XXXI, 1992, 137-59, M.F. Burnyeat, 'Is an Aristotelian Philosophy of Mind still Credible? A draft', in M.C. Nussbaum and A.O. Rorty (eds), *Essays on Aristotle's De Anima*, Oxford 1992, 15-26, M.F. Burnyeat, 'How Much Happens when Aristotle Sees Red and Hears Middle C? Remarks on *De Anima* 2.7-8', in M.C. Nussbaum and A.O. Rorty (eds), *Essays on Aristotle's De Anima*, Oxford 1995 (paperback edition), 421-34, T.K. Johansen, *Aristotle on the Sense-organs*, Cambridge 1998.

21. cf. M.C. Nussbaum and H. Putnam, 'Changing Aristotle's Mind', in M.C. Nussbaum and A.O. Rorty (eds), *Essays on Aristotle's De Anima*, Oxford 1992, 27-56, S.M. Cohen, 'Hylomorphism and Functionalism' in M.C. Nussbaum and A.O. Rorty (eds), *op. cit.*, 57-73, R.R.K. Sorabji, 'Intentionality and Physiological Processes: Aristotle's Theory of Sense-Perception', in M.C. Nussbaum and A.O. Rorty (eds), *op. cit.*, 195-225, H. Granger, 'Aristotle and Perceptual Realism', *Southern Journal of Philosophy*, volume XXXI, 1992, 161-71, J.E. Sisko, 'Material Alteration and Cognitive Activity in Aristotle's *De Anima*', *Phronesis*, 1996, 138-57, S. Everson, *Aristotle on Perception*, Oxford 1997.

22. cf. M.C. Nussbaum and H. Putnam, *op. cit.*, 42, M.F. Burnyeat, *op. cit.* (n. 20), 424.

23. 59,21-4; cf. 56,8-16.

24. 24,18-20.

25. Alexander taught philosophy in direct competition with the Stoics, the

Epicureans, and the Platonists. For Alexander as a polemicist (against the Stoics) see Todd, *op. cit.* (n. 5), 17, Sharples, *op. cit.* (n. 1), 1178.

26. The juxtaposition theory creates colours out of the juxtaposition of magnitudes invisible because of their small size (cf. 56,14-15).

27. cf. 62,4-6.

28. cf. 446a15-16.

29. cf. 61,7-24.

30. cf. 53,18-21 and see note 264 on p. 175 below. The fact that this inconsistency does not trouble Alexander suggests that his real interest lies in the Epicurean position.

31. 448a19-b12.

32. cf. *Phys.* 4.13, 222b14-15.

33. See M.F. Burnyeat, *op. cit.* (n. 20), 424: 'But light is not only the condition for the colour to produce its effect on the medium. In a way it is also the condition for the colour itself to be present in actuality.' On the doctrine itself Burnyeat comments: 'As usual, Alexander understands Aristotle very well.'

34. This is quite apart from the fact that the doctrine itself appears to go beyond Aristotle. The important thing about relational change for Alexander is that it *is* a change, but a change that takes no time to occur. But for Aristotle a relational change is no real change at all: the category of relation is excluded from the list of categories in respect of which change is possible (cf. *Phys.* 3.1, 200b33-201a9, 5.2, 225b11-13).

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Alexander of Aphrodisias
On Aristotle
On Sense Perception
(On Perception
and Perceptibles)

Translation

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Textual Emendations

It should be noted that Wendland's procedure has produced what is by modern standards a strange text since in some cases he accepts emendations by previous scholars in the main text but elsewhere he gives the reading of the MSS and puts suggestions of his own or of other scholars in the apparatus. My translation follows the text as printed but (except where otherwise indicated) excludes words that Wendland has square-bracketed. Other departures from Wendland's text are recorded in the notes as they occur and are summarised here.

- 2,5 Reading *aisthêseôs* for *aisthêseôn* (Usener)
5,29 Wendland suspects a lacuna here, since *te* in 5,28 cannot be connected to anything in the next line. I have translated it as if *értetai* from 5,27 had been repeated, and have commenced a new sentence at *peri*
6,3 Reading *hekaterôn* for *hekaterou* (Thurot)
10,15 Deleting *hôsper*
10,20 Deleting *tôn* and reading *phthartikôn sêmantikoi, ha* for *phthartikoi, hous* (Wendland)
10,23 Reading *euporei* for *euporian* (Wendland)
10,24 Reading *diakrinei tin'* for *diakrinousi* (Wendland)
12,15 Deleting *toutôn*
14,1 Reading *kôphous* for *enneous* (Thurot)
14,2 Deleting *kôphous* and reading *kai enneous* before *tous* and *mête* for *mêde* (Thurot)
14,3 Reading *tois kôphois ek genetês to kai* for *kôphois te kai* (Thurot)
15,8 Reading in the lacuna *eis ta stoikheia anagontes* (Wendland)
15,9 Deleting the second *pantes*
17,1-2 Deleting *kai tês aporias kai tês dia ti thlibomenê hê opsis hautên horâi, êremousa de ou* (Thurot)
18,2 Reading in the lacuna *alla kai touto ou khalepon luein, ei tis legoi hoti mê* (Thurot)
18,20 Reading *kai* for *kan* (Thurot) 18,21-2. Reading, after *genomenê, kat'allo ti morion apo tês korês, hês en tini allôi genomenês estai to diaphanes* (Diels)
27,10 Reading *dêla* for *dêlon* (Thurot)

- 28,21 Reading *ho* for *hou* (MSS MT)
- 33,9 Reading *ou* for *oude* (Wendland)
- 33,25 Reading *to* for *tên* and *idion* for *idiôn* (Wendland)
- 34,9 Reading in the lacuna *ei de asômaton, oud' holôs*
dunêsetai sumphuesthai to phôs (Wendland)
- 34,17 Reading *korêi* for *khôrâi*
- 38,1 Add *alêthes* after *an* (Wendland)
- 39,8 Supply a full stop after *opsis* and add *Alla mên epei hê*
opsis
- 39,9 Reading *esti* for *eisi*
- 44,20 Adding *to de khrôma* before the square-bracketed text
(the contents of which are not to be deleted)
- 44,27 Reading *auta* for *auto* (Wendland)
- 45,12 Reading *phainein* in the lacuna and reading *gar* for *men*
(Diels)
- 47,23 Reading *toutou* for the first *touto* with Thurot's MSS BC
- 47,25 Reading *phêsin* in the lacuna (Thurot)
- 48,16 Add *en* before *aoristôi* and *tôi* before *diaphanei* with the
other Aristotelian MSS
- 49,15 Reading *dêlon hoti ou tou sômatos* in the lacuna
(Wendland)
- 50,9 Reading *toutois aitia esti tou khrômatizesthai* for *toutôn*
esti khrômatizesthai (Wendland *dubitanter*)
- 50,15 Reading *khrôma oikeion ouk ekhonta* in the lacuna
(Wendland)
- 52,20 Reading *dê* for the second *de* (Wendland)
- 53,7 Reading *diaphanes* with MSS TANa for *diaphanesi*
- 56,4 Reading *kath' auta* for *kat' auta*
- 56,10 Reading *dokousin enantioutai doxêi prokatabeblêmenêi*
for *dokei en hê en doxa prokatabeblêmenê* (Wendland)
- 56,21 Reading *tois ophthalmois aitia tou horan tôn*
ophthalmôn haptetai all' for ê horatheisôn and the
subsequent lacuna (Thurot)
- 56,22 Reading *deon* for *dein* (Diels)
- 58,15 Reading *oukhi kan ep' for kan* (Wendland)
- 58,16 Reading *ê exô ê en* for *ê ex hôn en* (Diels)
- 58,20 Reading *kai* for *ei* (Diels)
- 59,17 Reading *sômatôn* for *khrômatôn* (Thurot)
- 60,17 Reading *aph'henos* for *aphenes* (Wendland)
- 64,15 Deleting *touto*
- 64,24 Reading *hênômenon* for *hênômena* (Wendland)
- 64,25 Reading *tôi de* for *to te*
- 65,12 Reading *kata* for *kai* (Diels)
- 69,10 Reading *eipôn* for *eis* (Diels)
- 69,23 Reading *autous* for *auta*

- 69,30 Reading *khuloi* for *khumoi* (Thurot)
- 70,10 Reading *ou gar toi* for *ê gar tôi* (Wendland)
- 70,11 Reading *diapherei monon* for *diapherein* (Wendland)
- 75,23 Reading in the lacuna *pathous hôs* (Wendland)
- 78,24 Reading *êi* for *esti* (Thurot)
- 80,3 Reading *entetheisês* for *enetheisês* (Thurot)
- 80,8 Reading *proskrinomenon* for *trephon* (Wendland)
- 81,26 Reading in the lacuna *men liparon kai to glukou diairoiê, suntitheî de to* (Wendland, but with *gluku* for the suggested *hêdu*)
- 82,1 Reading, for *mête, ê amphotera* and add *kai ta deuthera* before *kai* (Wendland)
- 86,19 Reading in the lacuna *ou gar enantia tauta, hoti* (Thurot)
- 90,14 Reading *luthôsi* for *lutheien* (Usener)
- 92,9 Reading in the lacuna *osmês dektikon, osphranton houtô ginomenon* (Wendland)
- 94,7 Reading in the lacuna *hupo tês enkhumou xêrotêtos paskhein ti* (Wendland)
- 95,9 Reading *kôluonta* for *duo onta* (Wendland)
- 96,9 Reading *autês* for *autôn* (Wendland)
- 97,7 Reading *to apoton hêmin* for *ton apo tôn khumôn* (Thurot) and place a comma after rather than before *muron*
- 99,8 Reading *tôi aph'hou* for *tôn aph'hôn* (Wendland)
- 99,9 Reading *parekhontai* for *dekhontai* (Diels)
- 100,1 Placing *te* in 100,1 after *ergôi* in 99,27 and omitting *kai* in 100,1 (Thurot)
- 100,12-13 Reading *aisthanetai* for *aisthanontai* (Wendland)
- 101,16 Reading *ospchrêsamena* for *ospchrêsan* (Wendland)
- 101,19 Reading *auton* for *auta* (Wendland)
- 102,10-11 Transposing *kai peri tèn opsin* to follow *horatai* (Wendland)
- 103,3 Omitting *ti* (Thurot)
- 104,10 Adding *allôn* after *tôn* (Wendland)
- 104,27 Reading *hautê* for *autôn* (Thurot)
- 105,1 Reading *threptikôn* for *geustikôn* (Thurot)
- 105,17 Reading *enapoplunomenôi* for *plunonti* (Wendland)
- 106,24 Reading *an eidê* for *anankê* (Thurot)
- 109,21 Reading *ginetai sunkrimati tês hapseôs* for *gar sunkrima toutou opsesi* (Diels)
- 113,1 Reading *hôs* for *hôn* and *adunata* for *dunata* (Diels)
- 118,12-13 Reading *epeisi goun* for *epei oun* (Wendland)
- 118,22 Reading *oude dunamei* for *ouden* (Wendland)
- 119,25 Reading *di'hênômenôn* for *di'hôn* (Wendland)
- 120,8 Reading *presbutera hê* for *hê husterata* (Wendland)

- 122,13 Reading *meros tou* for *meros autou* (Wendland)
- 125,1 I have not tried to fill the lacuna and have not translated *hoti* or *gar*
- 126,23 Reading *ginetai* for *gineta* and omitting the contents of the square brackets
- 127,23 Reading *kai oukh hôs tou horan ouk ontos tôn pros ti* in the lacuna (Thurot)
- 129,9 (lacuna) I have not translated *tôi*
- 129,11 Reading *kata* for *ta* and *tên* for *kata* (Wendland)
- 130,24 Reading *aisthanetai* for *aisthanesthai* (Wendland)
- 132,18 Reading *hôs deon* for *eis de* (Diels)
- 132,21 Adding *hêtis* after *kinêsis* (Wendland)
- 134,2 Reading *ho kai* for *ê* (Wendland)
- 135,4 Reading *esmen, all'ou khumôn oude pephuke paskhein hupo pantos hugrou* in the lacuna (Thurot)
- 135,18 Adding *ho* before *edêlôsen* (Wendland)
- 137,12 Reading *tôi* for *hôs* (Thurot)
- 137,12 Reading *holôs allogenôn* for *holôn elattonôn* (Wendland)
- 137,26 I have not tried to fill the lacuna. Reading *toutois* for *touto* (Wendland)
- 138,3 Reading *ti hê elattôn* for *tên elattô* (Wendland)
- 138,5 Reading *haplê men gar aisthêsis ouk an eiê for hapla men gar ex isou kan eien* (Wendland)
- 140,23 Reading *tôi mêketi einai* for *aei* (Wendland)
- 145,23 Reading *touto* for *to* (Thurot)
- 149,18 Reading *alêthôs* for *alêthes* (Wendland)
- 150,13 Reading a comma after *tini*
- 152,3 Reading *to GB suntelei ti sunêmmenon tôi khronôi ei en for to sunêmmenon tôi khronôi en* (Wendland)
- 152,5 Reading *ou gar* for *ouk* (Wendland)
- 152,5 Reading *GB* for *B* (Wendland)
- 153,27 Reading *ou gar hôs* in the lacuna and adding *tis* after *dunatai* (Wendland)
- 154,13 Reading *kai tis diaphora* in the lacuna (Wendland)
- 157,7 Deleting *allêla*
- 157,17 Reading *atomôi* for *atomôs* (Wendland)
- 158,1 Reading *alêthês, legei for, legôn*
- 160,22 Adding *an* before *anêiroun* (Wendland)
- 161,22 Reading *touto* in the lacuna (Wendland)
- 162,15 I have not tried to fill the first lacuna. Deleting *ei gar*. Reading *allou, allôi de* in the second lacuna and reading *allou* for *allôs*
- 163,23 Reading *legei de, ei anankê hama allêlois* in the lacuna (Wendland)

- 168,2 Reading *hê dunamis hê aisthêtikê tês psukhês* for *hêde psukhê* (Thurot)
- 168,4 Deleting *gar*
- 169,6 Adding *ouk ap'allou* after *horômenon kai* and *kai aph'hou oukh horatai* after *horatai* (Wendland)
- 170,21 Reading *horaton to* for *to horan oukh* (Wendland)
- 170,28 Reading *ekeino* for *ekeinou* (Wendland)
- 171,21-2 I have not tried to fill the lacunae. I have not translated
hama an ti eiê hopôs ... ameres legein ... hoion te ex amerôn sunekhes ti ginesthai
- 172,2 Reading *horaton* in the lacuna (Wendland)
- 173,9 Reading *touto megethos* in the lacuna (Thurot)

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