A commentary on the *Peri Hermeneias* ascribed to Apuleius of Madaura

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Declaration of Authorship

I, Emma Kathleen Ramsey, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed _____

Date _____

Abstract

This thesis takes the form of a line-by-line commentary on the *Peri Hermeneias* ascribed to Apuleius with an introduction and has two main aims: To provide more detailed analysis of the Latin terminology than has been carried out previously and to examine the textual issues in order to highlight the need for a new critical edition of the text. Neither the 1908 Teubner edition of the work, which has been used for previous scholarship, nor the more recent 1991 Teubner by Moreschini take into account the full manuscript evidence, which means that this scholarship has not been able to adequately explain some of the more opaque parts of the work. In my commentary, therefore, I suggest a number of textual variants with a view to correcting such points. The introduction is divided into eight sections; the first two sections provide (1) a review of the previous scholarship on this text and (2) brief details about its intellectual background. The introduction then focuses on topics which have not been given a satisfactory treatment in the available scholarship: (3) A review of scholarship regarding the manuscript tradition of the text. (4) The relevance of Alexander of Aphrodisias' commentaries in positing more plausible readings and a discussion of possible Greek sources for the text. (5) An analysis of the Latin terminology compared to its Greek counterpart and of the introduction of neologisms compared to those introduced in the authentically Apuleian texts is carried out with a view to contributing to the authenticity debate. (6) The language and method of exposition are then used to highlight the didactic purpose of the work, which has not been examined previously. (7) I present new arguments for both sides of the debate surrounding the authenticity of the work by considering the stylistic aspects as well as the content of the text. (8) The purpose of this commentary is described as providing detailed evidence for the conclusions drawn in each of these introductory sections before suggestions are made as to how work on this text may usefully proceed in the future.

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List of Abbreviations

L&S   Lewis, C. T. and Short, C. (eds.), *A Latin Dictionary Founded on Andrews' Edition of Freund's Latin Dictionary.* Revised, enlarged, and in great part rewritten, Oxford, 1951.

LSJ   Liddell, H. G. and Scott, R. (eds.), *A Greek – English Lexicon.* Revised and augmented throughout by Sir H. S. Jones, with the assistance of R. McKenzie and with the co-operation of many scholars, 9th edition, 1940. With a supplement 1968, Oxford, 1992.

OLD   Glare, P. G. W. (ed.), *Oxford Latin Dictionary,* Oxford, 1982.

TLL   *Thesaurus Linguae Latinae,* Leipzig, 1900*ff*.

Classical texts are abbreviated according to *The Oxford Latin Dictionary* (1982)*.*

Introduction

1) Previous Scholarship on the *Peri Hermeneias* and the present study

The Latin *Peri Hermeneias* is a text which is mentioned frequently but briefly in general histories about the development of logic,[1] as a point of comparison to texts concerning logical theory which are better known, or as a testimonium to the thoughts of a particular figure or particular philosophical school about an aspect of logic.[2] A comprehensive bibliography for the text is given in *Lustrum* 34 of works published between 1940 and 1990.[3] Since then a number of works have been published about Apuleius' philosophical works more generally;[4] such works tend to treat the *Peri Hermeneias* only from the point of view of its authenticity and how it might plausibly fit into the Apuleian philosophical canon. Such discussions are usually centred around the text's stylistic and stylometric aspects but neglect to engage with the logical content in any serious way. No new scholarship which focusses specifically on this text and its logical content has been published since the *Lustrum* bibliography.

There are, in fact, only four main works to date which are concerned specifically with the *Peri Hermeneias* and which treat the text in its own right.[5] The aims, scope, and overview of the contents of these will now be discussed briefly before I situate my own thesis among them and explain the selection of topics presented in this introduction.

Sullivan's monograph presents a mostly clear and systematic account of the logical theory expounded in the text, and he is duly cautious about the areas which are affected by lacunae. The main goal of his study is to 'focus attention on the distinct and decisive influence which Apuleius's treatise exercised on the thought of later logicians'.[6] He follows Bocheński[7] in using symbolic formulae to represent the inference schemes set out in the text and, after mentioning the fact that the terminology used in this text 'was not incorporated into the traditional logical language,' he indicates that 'when interpreting the meanings of the more unusual and difficult words ... we have tried to point out the problematic or tentative character of our constructions'.[8] I have dealt with this problem in

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[1] For example, Bocheński, 1951; Kneale and Kneale, 1962.
[2] For example, Bocheński, 1947; Mates, 1961; Frede, 1974b.
[3] Bajoni, 1992.
[4] Most notable are Sandy, 1997; Harrison, 2000; Moreschini, 2015. Dillon, 1977, which is missing from the *Lustrum* inventory, includes discussion about this text in relation to Apuleius' education.
[5] Sullivan, 1967; Lumpe, 1982; Baldassarri, 1986; Londey and Johanson, 1987.
[6] Sullivan, 1967: 5.
[7] 1951.
[8] Sullivan, 1967: 3.

my own thesis by establishing that the idiosyncratic terminology used throughout the text serves the didactic purpose of the work and that the meaning of such terms is always made clear by the use of their established cognate verbs to define them in each case. For this reason, I use the standard Aristotelian terminology throughout in order to make it clear how each part of this text relates to the original Aristotelian counterpart. Sullivan's main conclusion is that the Latin *Peri Hermeneias,* which he considers to be by Apuleius, exerted a substantial influence on the development of logic in the Latin West based on the indirect influence it had through Boethius' treatises on the categorical syllogism. The problems associated with this conclusion, and with Sullivan's assumption that the work is tied to the second century A.D. by being written by Apuleius, are discussed in sections 2 and 5 of this introduction.

Lumpe is the only one out of the four authors to treat the question of the authenticity of the work with the caution which is due. As well as discussing this aspect of the text, after which he concludes that an otherwise unknown fourth-century grammarian is likely to be its author,[9] his monograph deals with the purpose of the work, which he sees as fulfilling the intention of Apuleius to write a third book to the *De Platone*;[10] the issues surrounding this supposition will be discussed in section 7 of this introduction. Lumpe also discusses the title of the work[11] as it is presented in the manuscripts, possible sources for the work and the history of views on this matter,[12] the place of logic in philosophy[13] and, throughout the rest of his work, outlines the logical theory. His work contains a useful review of previous views on these matters.

Baldassarri presents an Italian translation of Thomas' 1908 edition and includes a commentary which discusses the logical content of the text in rather general terms as well as a glossary[14] of the Latin terms used throughout the text with Greek equivalent terms. As will be discussed in section 5 of this introduction, his rationale behind the choice of some of these Greek terms is not always clear and is not explained in his introduction. My analysis of the Latin terminology throughout this text in light of clearly parallel passages from

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[9] Lumpe, 1982: 19.
[10] Lumpe, 1982: 20-21.
[11] Lumpe, 1982: 19-20.
[12] Lumpe, 1982: 22-26.
[13] Lumpe, 1982: 26-27.
[14] Baldassarri, 1986: 101-107.

Alexander of Aphrodisias has allowed me to correct Baldassarri's glossary on a number of points. My own glossary of terms is included in Appendix B.

Londey and Johanson consciously aim to build upon the work carried out by Sullivan in their own book. They correctly establish that studies carried out on this text ought to focus on 'both the logical content of the work and the language in which it is presented'[15] and aim to facilitate further research on the text by 'the provision of a complete {English} translation together with the Latin text'.[16] The problems associated with providing a translation of this text, which are mostly due to its instability, will be discussed in section 3 of the introduction. In light of these, I offer variant readings as possible solutions to a number of textual issues but I do not provide my own version of the text or a translation. My commentary is based on Moreschini's 1991 edition, and my suggestions of textual variants are listed in Appendix A. Furthermore, Londey and Johanson 'avoid translating the technical terms into the conventional and familiar ones of traditional syllogistic logic ... because it would be too easy to impose a particular, and possibly mistaken, interpretation'.[17] Their approach in this matter has led them towards some errors in their assessment of the terminology which are indicated in their glossary; for example, they identify some terms as being entirely synonymous when it is clear from the context that a distinction is intended. Such cases are discussed throughout my commentary, and the definitions of various technical terms are collected in my glossary in Appendix B. The most valuable parts of their work are found in Appendices B and C, where they discuss the origins of the Square of Opposition diagram[18] and the way in which the author, whom they consider to be Apuleius, presents the moods of the Stoics.[19] It is their comparison to Alexander of Aphrodisias' treatment of Stoic arguments which led me to investigate the similarities between his commentaries and the Latin *Peri Hermeneias* further. Their own analysis of the background against which the author was writing would have benefitted if they had taken this comparison further; instead, they 'review, rather briefly and from an elementary standpoint, the three major strands discernible in the history of formal logic before Apuleius' time' -[20] the Peripatetic, the later Peripatetic and the Stoic strands – and choose to 'pay much more attention to Aristotle's logic than to the other two strands'.[21] Whereas Sullivan considers the text based

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[15] Londey and Johanson, 1987: 6.
[16] Londey and Johanson, 1987: 6-7.
[17] Londey and Johanson, 1987: 7.
[18] Londey and Johanson, 1987: 108-112.
[19] Londey and Johanson, 1987: 113-118.
[20] Londey and Johanson, 1987: 20.
[21] Londey and Johanson, 1987: 20.

on its contribution to logic after it was written and Londey and Johanson discuss developments in logic which occurred before the time of Apuleius, my aim is to situate the text, based on its content, within a milieu which also contained Alexander of Aphrodisias. The vagueness of the term 'milieu' is appropriate for this context due to the lack of complete certainty over the date of the Latin *Peri Hermeneias*; I use it to refer strictly to what is shared in terms of intellectual content between the two texts and do not intend for it to carry any implications of a shared geographical location or time period.

The overall aim of this thesis is to build upon what was carried out by these four main works. The principal way in which my thesis differs and improves upon all of these works is that I take into account the greater textual evidence which has become available since they were published. Baldassarri's work is the only other commentary on this text but is more thematic and synoptic in its content than my own. The methodology of line-by-line analysis of the text which this thesis adopts is the main factor that has allowed the significant textual issues to be brought to light. By highlighting the features the *Peri Hermeneias* shares with Alexander of Aphrodisias' commentary on the *Prior Analytics* 1-7, I present a new method of elucidating the author's treatise which is frequently clouded by the very dense mode of expression; such similarities have been alluded to in passing and taken for granted by those working on ancient logic as a whole but have not been taken into account to this extent by those dealing with the Latin *Peri Hermeneias.*

The following section presents a brief overview of the intellectual background of the text; its title, content, and structure and a description of the position it is usually considered to occupy in the history of logic. The rest of this introduction is not comprehensive but aims to deal with a number of major issues concerning the work for which satisfactory conclusions have not been reached in previous scholarship. The introduction is framed by the two topics which tend to attract the most attention for the *Peri Hermeneias*. It is important to begin with a discussion on the textual tradition of the text as it has previously been underestimated, or even overlooked, as a factor which affects our understanding of its content. Although a new text is not offered to accompany this commentary, a number of divergences from the most recent edition by Moreschini[22] are suggested. This is the first contentious topic to be discussed because this aspect of the work is fundamental to the

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[22] 1990.

way in which each of the other topics throughout the introduction, and in the commentary, are considered and treated.

The authenticity of the text is another topic which does not have a coherent account in modern scholarship. The conclusion that this text is not by Apuleius is tentatively reached in introduction section 7. It is for this reason that any account of Apuleius' intellectual character and how this text fits in with his overall philosophical output is omitted.[23] This conclusion is based on the factors discussed in the intermediate sections of introduction (4, 5, 6), which have lacked a full treatment in previous scholarship.

Throughout this thesis I use the chapter division for the text (1-14) which was put in place by Thomas in his 1908 edition but the page and line references refer to Moreschini's 1991 edition; this is the case for references to the *Peri Hermeneias* but also for the *De Platone et eius dogmate* and the *De deo Socratis* where reference is made to these texts. Dictionary information is predominantly gathered from Lewis and Short rather than from the Oxford Latin Dictionary since much of the unusual terminology from this text, which may be seen to be symptomatic of its date, is not included in the latter.

The theme of each of the sections discussed in this introduction reflects the common strands which are present throughout the commentary. This particular collection of themes has not been discussed as part of one, single work before. The didactic purpose of the text has not, to my knowledge, been discussed at all and a comprehensive account of the logical terminology used within the text is absent from previous scholarship. The set of topics presented in this introduction, which draw on the evidence presented in the commentary, serves to provide a more coherent view of this work as a whole, its purpose, and its character. The problematic state of the text makes it necessary to seek guidance from a comparable text dealing with the same topic (3). The use of Alexander of Aphrodisias' commentary on *Prior Analytics* 1-7 for this purpose highlights a number of other similarities between these works (4). One such similarity is their use of terminology, which leads into a discussion about the use of language throughout the *Peri Hermeneias* more generally (5). The language of the text highlights its didactic purpose which, in turn, serves to explain a number of the features of the author's method of exposition (6). Each of these factors is then considered in terms of how they contribute to the debate surrounding the authenticity of the text (7). Although these topics as they are presented in this introduction are

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[23] Such accounts may be found in Moreschini, 2015: 15-27; Harrison, 2000; Dillon, 1977: 306-338; Sandy, 1997; the most comprehensive account is found in Hijmans, 1987: 395-475.

intrinsically linked and reflect the commentary of the text which follows they have tended to be treated in isolation from each other in the past, if at all. As such, a literature review is given for the scholarship to date on each section where this is available.

This thesis claims to make advances in our understanding of the logical content of the *Peri Hermeneias* only insofar as it provides clarification and correction to the presentations of this aspect of the work found in the aforementioned studies; the elementary level of the logical content of the *Peri Hermeneias* means that this material is likely to be familiar to experts in logic. It is hoped, however, that the analysis of the textual issues and the Latin language used within the text will present the material in a more coherent way than previously and that this analysis will be of use to those interested in the development of Latin technical terminology in philosophical texts. In addition to this, the other aim of this thesis is to make the text more accessible to those who are aware of it in relation to Apuleian studies by providing an introduction to its logical content.

2) The text and its background

i)   The title of the work

This work is always ascribed to Apuleius in the manuscripts and is always referred to by the Greek title, *Peri Hermeneias*.[24] It shares this name with the text belonging to Aristotle's *organon* of the same title, but which is more commonly referred to by the Latin equivalent, *De interpretatione.* Just as Aristotle's work of the same name is customarily divided into 14 chapters,[25] modern editors of the *Peri Hermeneias* ascribed to Apuleius split this work into the same number of sections. The first five chapters of this text deal with the same topics as those which arise in chapters 1-7 of Aristotle's *De interpretatione* – nouns and verbs are shown to form the simplest type of propositions, these vary in terms of quantity and quality, and are either true or false – but this is where the similarities between the two works end. The rest of the Latin *Peri Hermeneias* sets out the Aristotelian theory of syllogisms, conversion and proof *per impossibile*. In terms content, therefore, the work bears more resemblance to Aristotle's *Prior Analytics* than to the *De interpretatione.*

Lumpe points out that the *Peri Hermeneias* is not alone in having a Greek title even though its content is written in Latin; Boethius also uses the Greek rather than the Latin title for his commentary on Aristotle's *De Interpretatione.*[26] The reason behind Boethius' title is far clearer than it is for the text with which this study is concerned; Boethius' work is a commentary on that particular Greek work whereas the title of our text represents only a small part of its content and it is not a translation or a commentary on the other work with the same title. Lumpe also, however, points out that it is not unusual for ancient texts to be assigned a title which represents only the first part of the work and mentions Xenephon's *Anabasis* as a comparable example.[27] It is likely that title for our text was originally assigned based on a review of the contents of the first few chapters, which would make it seem that the *Peri Hermeneias* was the most appropriate option. This is the way in which the work is referred to throughout antiquity[28] and in modern scholarship.[29]

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[24] With very slight variation. See Moreschini's *apparatus criticus* (1991: 189).

[25] Seel, 2001: 133 notes that this division 'can probably be traced back to Julius Pacius' 1584 edition of the *Organon'.*

[26] Lumpe, 1982: 20.

[27] Lumpe, 1982: 20.

[28] For example, Cassiodorus, *Inst.*2.3.12; Isidore of Seville, *Etym.*2.28.22.

[29] See, however, Moreschini, 2015, who refers to the work by the Latin title, *De interpretatione.*

ii)   Contents and structure

As mentioned above, the first five chapters of the *Peri Hermeneias* handbook present material which ultimately derives from Aristotle's *De intepretatione* 1-7. In Chapter 1[30] the author explains that the topic of the work is '*ars disserendi*'[31] and mentions 17 different types of speech act before presenting the proposition (*propositio*) as the focus of his handbook. Chapter 2[32] presents the two types of proposition; categorical, which is the focus of this work, and hypothetical. In Chapter 3,[33] the author presents the differences which a proposition may have in terms of its quantity and quality. The differences in quality are universal (*omnis*), particular (*quidam*), and indefinite (no quantifier); the last of these is not referred to again throughout the work because they can be treated as the same as particular. The quality of a proposition may be either affirmative or negative. After giving examples of these types of propositions the author explains and criticises the Stoic view that a proposition can only be truly negative if the negating particle prefixes the entire proposition rather than just one term within it. In Chapter 4[34] the author explains that the subject part of a proposition is always expressed by a noun and the predicate part by a verb. He uses '*Apuleius disserit'* as an example of this and presents *'philosophum Platonicum Madaurensem'* as an alternative way of representing '*Apuleius'* and *'uti oratione'* as an alternative to the verb because both the subject and predicate parts can be formed by more than one word. The author then says that the predicate part is always larger than the subject and this is one way to tell them apart regardless of the order in which they appear in a proposition. At the end of the chapter, he also mentions indefinite terms such as *non homo* and *non animal* as those which indicate that the subject is 'something other than this'.

After showing that there are four different types of propositions – universal affirmative, universal negative, particular affirmative, and particular negative – the author explains how each of these relate to each other in Chapter 5.[35] He describes the formation of a square diagram to demonstrate which propositions can be simultaneously true, which cannot, and which propositions, when true, make their alternate in both quality and quantity false and

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[30] 189.1-190.8.
[31] 189.4.
[32] 190.9-16.
[33] 190.17-191.15.
[34] 191.16-193.13.
[35] 193.14-196.14.

vice versa. Based on the attribution to Apuleius, the diagram described here is considered to be the earliest extant example of the Square of Opposition.[36]

After explaining the relation between each of the types of propositions, the author is able to describe the process of conversion in Chapter 6.[37] He explains that universal negative and particular affirmative propositions are convertible because the truth value of these remains the same even if their subject and predicate parts are switched. This is not the case for the universal affirmative or the particular negative. However, conversion which retains the truth value of these propositions is possible if the predicate term has equal scope to the subject, that is to say, if it is a definition (*definitio*) or a property (*proprium*). If the scope of the predicate is either a genus (*genus*), a difference (*differentia*), or an accident (*accidens*), it is not equal to the subject and so conversion is not possible. In this chapter the author also mentions another type of conversion whereby the terms within a proposition are changed from definite (e.g., *homo*) to indefinite (e.g., *non homo*) and vice versa.

In Chapter 7[38] the author introduces the concept of the middle term (*communis particula*) in order to describe how pairs of premises form different syllogistic combinations from which a conclusion is inferred. Based on the position of this middle term in the combination, there come to be three figures; the first gives conclusions of all kinds because the middle term is the predicate in one premise and the subject in the other. The second has universal conclusions but they are only ever negative because the middle term is always the predicate. The third can only give particular conclusions because the middle term is always the subject. He explains that a conclusion is inferred from the combination directly (*directim*) when the subject and the predicate terms are in the same position in the premises and the conclusion and that it is inferred conversely (*reflexim*) when they switch positions in the conclusion. This chapter also contains a quotation from Aristotle's *Prior Analytics*[39] which sets out the definition of a syllogism. Although the *Peri Hermeneias* is a handbook to Aristotelian syllogistic which summarises and paraphrases the theories presented by Aristotle rather than engaging with the text directly, his treatment of this quotation is remarkably similar to the sort found in commentaries on Aristotle.[40]

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[36] Londey and Johanson, 1987: 111, *cf.* Lumpe, 2982: 35-36. For an image of the diagram as it appears in the oldest manuscript of the text see Radiciotti, 2008: 123.
[37] 196.15-198.17.
[38] 198.18-202.15.
[39] 24b18-20.
[40] See commentary notes on 200.9-12; 200.13-16; 201.2-4; 202.1-3.

Chapter 8,[41] which is the shortest of the text, gives the number of valid moods in each of the three syllogistic figures; nine in the first, four in the second, and six in the third. Moods (*modi*) are paradigms for types of syllogisms; each has a pair, or combination, of premises (*coniugatio*) which leads to a conclusion, the quality and quantity of which depends on those of the two premises. The author also gives the number of combinations in each figure; six in the first, three in the second, and five in the third. There are more moods in each figure than combinations because some combinations can give more than one conclusion.

Chapters 9 – 11[42] are concerned with setting out the valid moods in each of the three figures in turn before proof *per impossibile* is explained with an example in Chapter 12.[43] In Chapter 13,[44] the author gives some historical background information on the way in which syllogisms have previously been presented by the Peripatetics and the Stoics as well as differing views about the number of valid moods in each figure.

Finally, in Chapter 14[45] the author systematically explains why the remaining combinations, which were not discussed in the previous chapters, are not valid in any of the three figures. He conclusively states at the end of the work that out of the 48 possible combinations of the four types of premise only 14 are valid. The author's decision to present the valid combinations all together and then to group the invalid ones is in contrast to Aristotle's method of systematically listing every possible combination. This structure most likely reflects the purpose of the work, which is to deliver guidance in *ars disserendi*; only the valid combinations are useful for this purpose.[46] The reason for the invalidity of the remaining combinations is no doubt clearer when they are presented collectively.

### iii)	The place of the work in the history of philosophy

The *Peri Hermeneias* is frequently presented as the earliest extant logical handbook of its kind in Latin; in some cases, the work is also the sole testimonium to certain views held by philosophical figures.[47] The ascription of the work to Apuleius, which the majority of

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[41] 202.16-203.10.
[42] 203.11-209.1.
[43] 209.1-212.3.
[44] 212.4-213.10.
[45] 213.11-215.12.
[46] See Sullivan, 1967: 19.
[47] See commentary notes on 209.11-14 and 213.5-9.

scholars dealing with the text accept, means that the work has thus far been tied to a date within Apuleius' lifetime. As such, it is usually considered to occupy the same place in the history of logic as the other handbooks belonging to the second century A.D.,[48] such as those of Galen[49] and Alcinous.[50] Although the sixth chapter of Alcinous' handbook does discuss the syllogistic figures and ascribes them to Plato, this text is more similar in scope, overall content, and style to the *De Platone* than it is to the *Peri Hermeneias.* Furthermore, as Dillon notes, Alcinous 'confines himself to the Theophrastean formulations, adopting nothing distinctly Stoic in his account of syllogistic'.[51] Londey and Johanson see the mention of Apuleius' varied education and ability for versatility in *Florida* 20 as enough evidence to accept that the *Peri Hermeneias* was a product of the intellectually charged Second Sophistic period to which Apuleius belonged.[52] Chapter 6 of Sullivan's study aims to describe the significant role the *Peri Hermeneias* played in later antiquity from Martianus Capella onwards in establishing a Latin logical tradition.[53] Figures such as Cassiodorus and Isidore of Seville did not doubt that the work was authentically Apuleian as they refer both to the work and the author by name;[54] and so this provides us with a firm *terminus ante quem* for the work.

The discussions about the place of the *Peri Hermeneias* in the history of logic have been discussed in previous scholarship without a great deal of variation or disagreement. The rest of this introduction and the commentary which follows aim to discuss the following questions about the text which have been dealt with less satisfactorily in order to place the text with more certainty:

> What types of sources were used to compose the text?

> What sort of audience was it aimed at?

> Was Apuleius the author?

The last of these three questions is the most widely asked but is the most inconclusive. In order to answer these questions, comments must first be made on the state of the text as it is presented in the modern editions. The previous comparisons with texts from the second

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[48] Kneale and Kneale, 1962: 181-182.
[49] Kieffer, 1964.
[50] Dillon, 1993.
[51] Dillon, 1977: 104.
[52] Londey and Johanson, 1987: 9-11; 14-15.
[53] Sullivan, 1967: 170-208.
[54] See n.28.

century A.D. and with Latin texts from Late Antiquity have not significantly help us to understand the dense and often syncopated content of the *Peri Hermeneias.* As will be discussed in introduction section 4, it is unclear where the *Peri Hermeneias* stands chronologically in relation to Alexander of Aphrodisias' *in Analytica Priora* and, of course, these two texts represent two distinct kinds of philosophical texts – a handbook and a commentary – but the fact that they share a number of similarities and frequently use the same stock examples allows us to see that the setting in which the *Peri Hermeneias* belongs is different to the second-century A.D. texts mentioned above and that, therefore, its position in the history of philosophy requires re-examination. Another aspect of the text which is important in helping to respond to this question is the Latin terminology which is used to present the logical content; this aspect of the text has lacked a full treatment in previous scholarship, accordingly, it is dealt with in detail in section 5, prior to the final two questions which are dealt with in sections 6 and 7.

3) The textual tradition of the *Peri Hermeneias*

This section gives an overview of the studies which have been carried out on the textual tradition of the *Peri Hermeneias* and of the way in which scholarship has approached the text in light of its current state. The aim of this section is to highlight the fact that scholars commenting on the *Peri Hermeneias* in the past have had to rely on a text which, as it is presented, is at times opaque and which lacks the guidance of a comprehensive *apparatus criticus.* In a number of cases, this has led to significant misunderstanding of the author's meaning. In this section, I discuss some passages which demonstrate this and, in doing so, justify my methodology for selecting different readings to Moreschini and, in some cases, suggesting plausible conjectures to certain passages.

It would appear that the *Peri Hermeneias* does not receive the attention it requires when it is edited as part of a collection of Apuleius' philosophical works and is written off as an anomaly, owing to its separate textual tradition, and not given full treatment. Reynolds, for example, discusses the manuscripts of the *opera philosophica* of Apuleius but points out that 'the spurious Περὶ ἑρμενείας has its own tradition' and omits this separate tradition from his discussion.[55] Similarly, Thomas, in his *Étude sur la tradition manuscrite des oeuvres philosophiques d'Apulée*,[56] discusses Goldbacher's use and description of the manuscripts containing Apuleius' philosophical works but omits any discussion about the tradition of the *Peri Hermeneias*.

Moreschini's 1991 Teubner edition of the collected philosophical works of Apuleius is the most recent, after that of Thomas published in 1908, which contains the *Peri Hermeneias* ascribed to Apuleius. The major modern works which deal with this text as their main focus[57] predate Moreschini's edition and therefore, use Thomas' text. However, scholars whose work has been published since Moreschini's edition and who therefore had access to his text are not dealing with a significantly different version to that used by earlier scholars; Moreschini's text, unfortunately, does not make much progress beyond that of Thomas. He includes a number of additional manuscripts not found in Thomas but he also omits some which Thomas included. In an article[58] which came out prior to his edition he

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[55] Reynolds, 1983: 16.
[56] 1907.
[57] Sullivan (1967), Lumpe (1982), Baldassarri (1986), Londey and Johanson (1987).
[58] 1990, 61-73.

claims that the manuscripts containing the text can be split into an earlier family and a later one. He emphasises the importance of using the readings contained in the earlier family as far as possible and only taking into account the later group when the earlier one is clearly unsustainable; the *apparatus criticus* of his subsequent edition reveals that this is not his method in practice.[59] He also says, however, that the second family presents a text which is more correct, one which is 'closer to the truth', and is more 'normal' and easier to read.[60] He repeats this assertion in the introduction to his edition[61] and it seems that this is the view which guided his editing of the text as it appears to be largely based on readings from what he considers to be a second, later tradition. In this respect, his edition does not differ in any significant way from those of Goldbacher and Thomas; any changes are minor and do not alter the sense of the text in a significant way. At any rate, the problems associated with assuming distinct families of manuscripts based on their dating, as Moreschini has done, have been highlighted by Reeve, who says that 'he starts from Goldbacher's *potior* and *deterior* families of 1876 and continues in the same vein by adding a third family that '*mediam … viam inter duas illas … tenet*''. He also describes Moreschini, in light of the select number of manuscripts he has consulted, as 'uninformative about the extent of the tradition.'[62]

Winterbottom points out the same issue with Moreschini's method in his review of the edition in which he notes that 'he has drawn on L. Minio-Paluello's Index[63] but not, it would seem, on Munk Olsen's *L'Étude des auteurs classiques latins*,[64] a glance at which shows six further manuscripts from the period up to 1200'.[65] Even more recently, Klibansky and Regen's census of the manuscripts containing the *Peri Hermeneias*[66] 'makes an advance in completeness and accuracy over Munk Olsen',[67] since they count a total of 35. The text as it currently stands, then, is not fit for purpose; when Barnes mentions that Chapter 13 of our text is the only surviving witness to the indeterminate moods which Aristo counts alongside the four indemonstrables,[68] he describes the text as 'wretchedly corrupt'.[69] As a

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[59] 1990: 66.
[60] 1990: 65.
[61] 1991: x.
[62] Reeve, 2000: 201.
[63] 1961.
[64] 1982.
[65] Winterbottom, 1993: 431.
[66] Klibansky and Regen, 1993: 139-155.
[67] Victor, 1996: 435.
[68] See commentary note 213.5-9
[69] Barnes, 2012: 693. For a similar comment, see Bocheński, 1951: 104 n.1.

result of this unfortunate state of the text, scholars dealing with it have often perceived problems with its logical content or have concluded that the author himself is mistaken or confused when coherence can be achieved simply by suggesting a variant reading. One notable example occurs in Chapter 12 where Sullivan[70] has misinterpreted the rules the author sets out for the ranking of moods[71] and another in Chapter 14 where Londey and Johanson find confusion in the text due to the choice of the readings put in the text by Thomas.[72]

I have been able to consult seven of the 35 manuscripts named by Klibansky and Regen which are digitised.[73] No attempt has been made to suggest any relation between any of these manuscripts in the way that Moreschini and others have done because I do not believe that such a task could be effected in any useful way without, first of all, dismissing the preconception of the existence of an earlier and a later family, and then, consulting all of the known manuscripts containing the text. The readings of these seven digitised manuscripts are included in the relevant lemmata of the commentary. The variant readings I have suggested otherwise are based on conjecture, having established that, due to the striking and numerous similarities both of content and of language between this text and Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics*, this text more often than not lends plausibility to certain readings over others where the meaning of the text is doubtful.

A comparison between Moreschini's *apparatus criticus* and the seven manuscripts available digitally makes it clear that, in a number of cases, readings not used by Moreschini present a text which is similar, in terms of both terminology and context, to works belonging to the Aristotelian commentary tradition and to works from Aristotle's own *Organon.* In his article, Moreschini repeats Goldbacher's view that, although there are numerous manuscripts containing the *Peri Hermeneias,* they are endlessly corrupted by arbitrary conjectures due

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[70] Sullivan, 1967: 124-126.

[71] See commentary notes 209.5-6, 6-7.

[72] See commentary note 214.13-16.

[73] Bamberg (B); Corpus Christi Cambridge 206 (C); Paris 6288 (F), Paris 6638 (A), 7730 (D); St Gallen 64 (S); Valenciennes 406 (W). See Klibansky and Regen, 1996: 139-155 for descriptions of these and the other manuscripts containing the text. The sigla correspond to those given by Klibansky and Regen according to those used by the editors. Of these seven Moreschini has consulted only DWS. However, his *apparatus criticus* is not reliable in every case; for example, the digitised version of D shows the reading *cui* rather than *an* (197.9) but this reading is not recorded in his *apparatus criticus.* A similar situation occurs at 213.5; the reading viiii & xx, '29', is recorded in W as the total number of valid syllogisms if an indefinite mood is added for every particular but is omitted by Moreschini. See commentary note on 213.2-5.

to the fact that the work was read and interpreted with such frequency in the Medieval period.[74] This is surely strong grounds for relying as much as possible on the earliest manuscripts. However, as mentioned above, this does not appear to be Moreschini's *modus operandi*. Moreschini singles out M as being the most interesting owing to its unusually early date but he is more interested in this manuscript for what it tells us about the history of the *Peri Hermeneias* than what it tells us about the text since it was written, according to him, '*in modo particolarmente scorretto*'.[75]

Three notable examples which collectively provide strong grounds for accepting readings other than those followed by Moreschini and Thomas are as follows.

In Chapter 6 the author introduces five variable types, or predicables, as a way of testing the convertibility of the four different types of premises. The text in Moreschini's edition says: *nec universe verae sunt istae, sed quinque solae*,[76] which Londey and Johanson translate as: 'It is not the case that such expressions are suitable in general – but there are only five kinds [of such expressions]'.[77] This rather opaque phrase has not been considered to warrant comment in any of the main works but the *apparatus criticus* to Moreschini's edition suggests that the phrase caused some confusion to copyists; there are a total of ten variants. The reading, *unum verae* not only makes good grammatical sense but also has support from external sources. Specifically, it can be supported by Aristotle's use of μίαν when discussing the role of the four predicables in a comparable context.[78] The possibility of our author having direct access to this work becomes irrelevant in light of Alexander of Aphrodisias' discussion of the same topic in his commentary on this work in which he argues against the view, presumably held by others, that the predicables can be treated by 'one single method' (μίαν).[79]

A similar problem with the text arises in Chapter 7 and is similarly solved with the help of Alexander of Aphrodisias. This passage concerns the order and ranking of the three syllogistic figures and the reason behind this order. There are eight different readings for *non numeri ratione*[80] as Moreschini's edition has it; the five oldest manuscripts are entirely

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[74] Moreschini, 1990: 63.

[75] Moreschini, 1990: 64. The contents and palaeography of this manuscript have been discussed in detail by Radiciotti, 2008. See also Kristeller, 1992: 193 col. b.

[76] 197.9-10.

[77] Londey and Johanson, 1987: 91.

[78] *Top.*1.6.102b37-38.

[79] *in Top.*55,23-26. For a fuller discussion of this see note on 197.9-10 in the commentary.

[80] 199.4.

varied in their readings, as is often the case, which no doubt accounts for Moreschini's predominant use of, what he considers to be, the later family. However, Alexander of Aphrodisias' more comprehensive treatment of the same topic provides much needed guidance. In his own discussion about the ranking of the figures, he repeatedly makes note of the number of moods which each contains.[81] This, along with the references made by our author to the number of moods within each figure later in the work,[82] and the fact that the author counts more moods in the first figure than in either the second or third,[83] makes a strong case for the reading '*non tantum enumeratione*' which the editor Colvius has followed.[84] This reading conveys the idea that the order is *not only* due to a counting up of the moods which places the first figure first *but also* due to the worth of the conclusions which the moods in this figure produce.[85]

The final example arises at the end of Chapter 9; the author has just enumerated and described the nine moods in the first figure and is clarifying what he means by saying that the first four of these are 'indemonstrable' (*indemonstrabiles*).[86] It is hard to see what exactly the intended distinction between 'may not be demonstrated' (*non demonstrentur*) and 'not able to be demonstrated' (*demonstrari nequeant*) is meant to be in the way that is implied by Moreschini's text. Londey and Johanson translate this as follows:

> 'The first four are called indemonstrables, not because they cannot be proved, like the evaluation of the whole sea, or because they may not be proved, like the squaring of a circle, but because they are so simple and evident that they do not need proof'.[87]

When the analogy of the squaring of the circle used here is considered in light of a passage from Aristotle's *Categories* concerning the objects of knowledge, and the various ancient commentaries on this work which follow, the correct reading becomes clear. All of the modern editors have printed *non* here when manuscripts in Moreschini's *apparatus criticus* are unanimous in having *nondum.* This clearly links the passage to the tradition of discussing

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[81] *in An.Pr.*51,24, 34.
[82] 202.17.
[83] 202.18-203.1 *cf.* 203.1-2, 2-3.
[84] 1588.
[85] See commentary note on 199.4.
[86] 206.1-4.
[87] Londey and Johanson, 1987: 99.

the squaring of the circle in antiquity as something which is not yet known, where οὐδέπω is used in Greek.[88]

These three examples provide strong grounds for relying on the earliest manuscripts and for seeking comparable passages in works such as those by Alexander of Aphrodisias as a means of weighing up the plausibility of a reading in a given context. These are the bases, therefore, upon which my own methodology for choosing readings is formed. In a recent chapter, Thomsen-Thörnqvist has discussed the principles of editing Latin logical texts belonging to the Medieval period and the way in which these are likely to differ from the methodologies applied to editing texts of any other genre due to the specific characteristics of these technical texts.[89] Her discussion is centered around the process of editing Boethius' *De syllogismo categorico*[90] and *Introductio ad syllogismos categoricos*[91] as it will be applied to the Anonymous *Aurelianensis III in Aristotelis Analytica priora*. She also claims that *De syllogismo categorico* has a very high number of errors due to its stylistic uniformity, and that in spite of this, such errors would be easily corrected 'due to the limited variation in exemplary terms used, modelled on Aristotle's Greek examples, the sterile language, and the schematic structure of the syllogism and its premises'.[92] She explains this in relation to a scribe's ability to make such emendations.[93] The same factors are present in our own text, and although conducted at a number of levels removed from scribal transmission, I have been able to apply the same principles for suggested corrections.

My own suggested variants are discussed in the relevant lemmata throughout the commentary as well as listed in Appendix A. This thesis was begun with the aim to provide a commentary on the text, and the need for a renewed analysis of the manuscripts did not come to light until an advanced stage. It is for this reason that the variant readings I suggest come from only seven manuscripts and the conjectures I propose are provided on the basis which Reeve describes as characteristic of commentaries, as opposed to editions, 'in the light not of collation but of reflection'.[94] In light of the usability of Moreschini's edition and the number of manuscripts which neither I nor anyone else has taken into account when dealing with this text, the divergences from Moreschini I have suggested are based on

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[88] See commentary note on 206.3-5 for the relevant Greek passages which contain οὐδέπω.
[89] Thomsen-Thörnqvist, 2016: 369-370.
[90] Thomsen-Thörnqvist, 2008a.
[91] Thomsen-Thörnqvist, 2008b.
[92] Thomsen-Thörnqvist, 2016: 373.
[93] This, she says, causes the text to lose the idiosyncratic stylistic features which are marks of Boethius.
[94] Reeve, 2000: 200.

exactly this, reflection rather than collation; they are suggested here with the understanding that more extensive evidence from the manuscripts will either prove them correct or reveal the need for a different interpretation. It is clear from the above, however, and from the number of variants and conjectures I suggest which present a more coherent text, that a new edition of the *Peri Hermeneias,* which takes into account all of the known manuscripts as they are listed in Klibansky and Regen in a way which Moreschini has not is much to be desired.

4) The *Peri Hermeneias* and Alexander of Aphrodisias

As demonstrated by way of a number of examples in the previous section, Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics* 1-7 has proved to be a useful source in deciphering and unpacking the more opaque parts of this text. In this section, I aim to justify my use of Alexander for explaining points in my own commentary further by highlighting a number of other similarities, as well as some differences, of other sorts between these two texts. My aim is also to make it clear that these similarities should not lead to the assumption that one author was making direct use of the other author's text, but rather, that both belonged to the same well-established and formulaic tradition.

Alexander's logical texts have received more, and more thorough, attention[95] than the *Peri Hermeneias*, no doubt due in part to their established authorship. The close analysis of Aristotle's texts found in his commentaries is considered to be exemplary.[96] This makes them an invaluable tool for shedding light on Aristotle's originals and they have been used to this end by both ancient and modern scholars. Lee's treatment compares the *in Analytica Priora* to the commentaries of Ammonius and Philoponus, whose own works were no doubt influenced by those of Alexander. One of the criticisms Maconi[97] makes against this study, which is otherwise laudably rigorous, is the lack of justification for Lee's choice of texts; he points out, in this regard, that Ammonius and Philoponus are separated from Alexander by approximately three centuries and, therefore, Lee represents two distinct phases in the history of logic.[98] He also mentions the unexplained omission of a number of texts which are chronologically closer to Alexander, one of which is the Latin *Peri Hermeneias*.[99] The only author with whom a detailed comparison of the *Peri Hermeneias* has been carried out, to my knowledge, is Boethius. Sullivan's study contains a detailed comparison between the *Peri Hermeneias* and Boethius' texts concerning the categorical syllogism[100] and Thomsen-

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[95] Most notable is the English translation with commentary notes on *in An.Pr.* by Barnes et al.: 1991, to which I refer very frequently throughout my own commentary. Similarly, Van Ophuijsen: 2001 on *in Top*. Alexander is one of the three authors whose commentaries are examined by Lee, 1984 which I discuss below. For further bibliography on Alexander see Barnes et al.: 1991, 224-229 and Sharples, 1987: 1226-1243.

[96] See Baltussen, 2016: 187; Barnes et al., 1991: 4; Sharples, 1987: 1179 *ff*; Bocheński, 1951: 104.

[97] Maconi, 1985.

[98] Maconi, 1985: 93.

[99] *loc. cit.* He also mentions Galen's *Institutio Logica* and suggests that Boethius would also have been a useful point of comparison.

[100] *De syllogismo categorico* and *Introductio ad syllogismos categoricos.* See Sullivan, 1967: 209-227.

Thörnqvist critiques this comparison in her discussion about the Greek commentary tradition more generally in the introduction to her editions of these texts.[101] Whereas the use of Alexander by Ammonius and Ammonius by Philoponus is known and acknowledged in Lee's study, Sullivan conducts his comparison in order to argue for Boethius' direct use of the *Peri Hermeneias*.

This section of my introduction, which goes some way towards filling the gap identified by Maconi in Lee's work, aims to highlight the similarities in content between the *Peri Hermeneias* and Alexander's commentary on the *Prior Analytics.[102]* This study differs from those of both Lee and Sullivan in that Alexander's use of the *Peri Hermeneias,* or our author's use of Alexander's commentary, is not known in the way that the interrelation of the texts in Lee's study is known, nor is it my intention to demonstrate the direct use of one work in the composition of the other as is the purpose of Sullivan's argument. The potential chronological proximity of these two texts means that they provide a valuable point of comparison in pinpointing a particular stage in the development of Peripatetic logic of which Alexander's commentaries can be considered to be representative. This comparison, therefore, serves as a new method of testing the likelihood of the hypothesis that the *Peri Hermeneias* did, in fact, belong to the second century A.D. and, therefore, to Apuleius.

In the context of considering the influences on the *Peri Hermeneias* Sullivan treats the text in relation to Aristotle's *Organon* as a whole and is particularly preoccupied with comparing the text to Aristotle's work of the same name, the *De interpretatione*; he says that it is like this treatise 'in that the first five chapters of Apuleius' work deal with the nature of propositions and of their oppositions' but that 'very little of what is found in the rest of Aristotle's *On interpretation* (Chapters 8-14) has any direct counterpart in Apuleius' logic book'.[103] Londey and Johanson's approach to the sources for this work is similar but more vague; they refer only to the 'background against which the *Peri Hermeneias* was written' as one which included 'the Aristotelian, the later Peripatetic, and the Stoic strands';[104] they

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[101] Whereas Sullivan has concluded that the similarities between the texts suggest that Boethius was using our text as a source, Thomsen-Thörnqvist concludes, correctly, that these similarities are much more likely to be due to the texts belonging to the same, larger tradition (2008a: xxv-xvi n.53). See also Correia, 2011, who similarly disagrees with Sullivan and argues that these works, as well as others dealing with the same topic, are ultimately indebted to Theophrastus.

[102] In her 1968 review of Sullivan, 1967, Huby comments that the relation to Alexander of Aphrodisias would be worth investigating.

[103] Sullivan, 1967: 144*ff*.

[104] Londey and Johanson, 1987: 20.

discuss the developments made by Theophrastus after Aristotle[105] but otherwise do not refer to any named individuals or possible texts. At any rate, the general consensus with regard to the sources for this text is summed up succinctly by Sandy, who says that it demonstrates the use of a patchwork of sources.[106]

Sandy is not necessarily incorrect to suppose that a number of texts were used in the composition of the *Peri Hermeneias* but his reference to 'the patchwork methods of composition evident in the *Peri Hermeneias*'[107] is misleading. As will be discussed throughout this introduction section,[108] the exposition of syllogistic logic is extremely formulaic and the same stock examples are often found in a number of texts dealing with the same topic.

Although Sandy states that 'the framework is Aristotelian, derived principally from his *Topics'*, the following comparison with Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics* shows that it is from this latter work which the *Peri Hermeneias* is principally derived, at the very least in terms of its content. The rest of this introduction section serves to show the ways in which it is helpful to consider the author of the *Peri Hermeneias* as belonging to the same milieu as Alexander of Aphrodisias.

Before going any further, it is important to point out a number of ways in which the *Peri Hermeneias* as a handbook to Aristotelian syllogistic logic differs from *in Analytica Priora* as a commentary to one particular work by Aristotle – *Prior Analytics*:

Alexander's *in Analytica Priora* and the *Peri Hermeneias* represent the two distinct kinds of literature which characterise logical scholarship from the second-century A.D. onwards; these are described by Bocheński as 'big commentaries, mainly on Aristotle, and handbooks'.[109] Baltussen describes the development of the philosophical commentary and uses Alexander's many commentaries on Aristotle as examples of this type of text in its mature, or 'full form'.[110] A key feature of Alexander's running commentary is the way in which he structures his comments; each section is introduced by roughly three or four lines of the original Aristotelian text and is then followed by detailed comments 'on almost every

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[105] Londey and Johanson, 1987: 27-29.
[106] Sandy, 1997: 223.
[107] Sandy, 1997: 223.
[108] The uniformity of the style of logical texts was mentioned in introduction section 3 n.92 in relation to how this helps with solving textual issues.
[109] Bocheński, 1961: 134.
[110] Baltussen, 2016: 187.

aspect of the arguments and language'.[111] The handbook format of the *Peri Hermeneias* mostly provides a synopsis of a particular point of Aristotle's syllogistic theory and then an example to demonstrate it. There is, however, one passage in the *Peri Hermeneias* which seems to follow the same format as Alexander's commentary; the author cites Aristotle's definition of a syllogism word-for-word in Latin[112] in the same way as Alexander begins a new section of his commentary, and then comments on the choice of words used within this definition in order to fully analyse its meaning.[113] This could indicate that, although our author's work takes the form of a handbook, it is possible that he was making use of commentaries, which follow this structure throughout, when composing the *Peri Hermeneias.*

Running commentaries, like *in Analytica Priora*, are clearly intended for an audience who is familiar with the original text[114]. This is not expected of the audience of the *Peri Hermeneias*; this handbook contains very little in-depth analysis of the sort which Alexander presents in his discussion of Aristotle's text. Instead, the structure of the *Peri Hermeneias* follows this standard pattern: a given topic in syllogistic logic is named; a general definition of the name of the topic is provided; examples of this are given; sometimes, some historical background information is given about former treatments of the topic. We can assume, then, that this kind of handbook was intended for a more elementary audience than that of the commentary prepared for use with the original text.

In spite of these differences, this introduction section serves to show the way in which the more advanced and detailed account of syllogistic theory found in Alexander's commentary on the *Prior Analytics* helps us to understand the wider context of the theory the author of the *Peri Hermeneias* is putting forward in his handbook. As mentioned previously, the formulaic nature of logical texts means that any number of logical texts could be used to elucidate the obscure parts of the *Peri Hermeneias* in the way that I use Alexander's commentary. My reasons for choosing Alexander of Aphrodisias for this purpose is twofold; firstly, there are a number of features of Alexander of Aphrodisias' exposition which are considered to be the earliest extant evidence we have of their kind. Similarly, if the Latin *Peri Hermeneias* is of authentic Apuleian authorship[115] this would make the *Peri Hermeneias*

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[111] Baltussen, 2016: 187.
[112] 200.10-12.
[113] See commentary notes on 200.9-12; 200.13-16; 201.2-4.
[114] Barnes et al., 1991: 10. See also n.131.
[115] For a full discussion about the authenticity of this text see introduction section 7.

the earliest Latin text of this kind. Secondly, Londey and Johanson have already pointed out one striking similarity between the author of the *Peri Hermeneias* and Alexander of Aphrodisias without following it up.[116]

The most obvious feature of a running commentary as opposed to a standalone handbook is that its order of presentation follows that of the original text from start to finish; the lemmata with which Alexander's commentary is structured make it clear that this is the case in his work. The order of topics presented in the *Peri Hermeneias,* however, does not deviate greatly from those presented in Alexander's *in Analytica Priora* other than a small number of differences:

Page and line reference	Alexander of Aphrodisias *In Analytica Priora* 1-7[117]	Chapter, page, and line reference	*Peri Hermeneias*
1,3-6,13	The status of logic - an instrument or part of philosophy? The value of logic	1. 189.1-190.8	Logic as a type of philosophy, types of speech, the term *propositio*
6,14-9,24	The goal of the *Prior Analytics*	2. 190.9-16	Types of propositions, simple, or predicative, and compound
9,25-16,17	Propositions, terms, subjects and predicates,	3. 190.17-191.15	Quantity and Quality of propositions
16,19-21,9	Syllogisms, premises and conclusions	4. 191.16-193.13	Nouns and verbs, subjects and predicates
21,10-23,14	Non-syllogistic arguments	5. 193.14-196.14	How the four types of propositions affect each other
23,15-24,19	Perfect syllogism	6. 196.15-198.17	Conversion, the five types of predicables
24,20-26,24	Kinds of proposition, universals, modality	7. 198.18-202.15	Syllogistic combinations, Aristotle's definition of the syllogism, criticism of Stoic non-differently and duplicating arguments, example of induction

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[116] See n.164.

[117] This is a condensed version of the contents page found in Barnes et al., 1991, 37-39.

26,25-28,30	Quality and quantity	8. 202.16-203.10	Number of combinations and moods within each of the three figures, position of the common term
29,1-41,29	Conversions	9. 203.11-206.6	First figure moods
41,30-70,21	The first figure	10. 206.7-207.15	Second figure moods
70,24-93,31	The second figure	11. 207.16-209.1	Third figure moods
94,1-108,32	The third figure	12. 209.1-212.3	Proof *per impossibile*
109,1-112,3	Further reflections – syllogisms with non-standard conclusions	13. 212.4-213.10	Historical points: Aristotelian letters, Stoic numbers, beliefs about the validity of subaltern moods
112,4-119,6	Reduction – all syllogisms are reduced to the first figure, final remarks	14. 213.11-215.12	Invalid combinations in each of the three figures

Table 1.

As seen from the table above, our author begins by referring to the three parts of philosophy, of which logic is one,[118] which is comparable to the way in which Alexander opens his work with a more detailed discussion about logic as an instrument or part of philosophy and discusses its use.[119] Both authors then include details from Aristotle's *De interpretatione* which are relevant for laying the groundwork for an exposition on the syllogism; the noun and verb distinction which is presented in the *De interpretatione* is referred to before being mapped onto the distinction between subject and predicate terms which form the propositions which, in turn, form syllogisms. The formation of a syllogism from a combination of premises and a conclusion is then described and discussed based on an analysis of Aristotle's definition of a syllogism. In our text this comes after the chapter concerned with conversion but in Alexander's commentary it precedes the discussion about types of conversion. This leads onto the inventory of the combinations and moods in each of the three figures. Whereas our author describes each of the valid moods which belong to each figure and counts up the invalid moods in the final chapter,[120] Alexander systematically works through every possible combination and points out for each whether

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[118] 189.1-2.

[119] *in An.Pr.*1,3-6,13.

[120] For the didactic purpose which this method of presentation serves, see introduction section 6*.*

it is valid or invalid in the same way as Aristotle. Our text ends with a descriptive list of the invalid combinations, after explaining proof *per impossibile* and discussing the ways in which Peripatetics and Stoics represent syllogisms. At this point, the author also criticizes those who count an additional subaltern mood for every universal.[121] Alexander, on the other hand, ends with some remarks about syllogisms with non-standard conclusions; it is here that he discusses the moods which our author refers to as the eighth and ninth moods of the first figure.[122] Alexander then explains the possibility of reducing all syllogisms not only to the first figure but, more specifically, to the two first moods of this figure.

As well as a similar set of topics, which appear in a similar, but not identical, order there are numerous other features of the content of the text and its delivery which are characteristic not only of Alexander but of logical texts more widely. This makes it seem far more likely that the author was mainly drawing on these rather than on a number of Aristotle's originals in the way that has previously been supposed. For example, the list of types of speech at the very beginning of the work, although not replicated exactly elsewhere, is a format found in a number of other works on the same topic.[123] There is also the commonplace analogy of parts of speech such as particles and conjunctions to pitch and glue[124] and the use of the stock example for demonstrating induction in which the conclusion that 'Every animal moves its lower jaw' is inferred from the premises which say that particular species within the genus 'animal' move their lower jaw.[125] The author's analysis of Aristotle's definition of a syllogism also follows an established pattern; Sullivan's main piece of evidence for the commonality of the *Peri Hermeneias* and Boethius' texts is the comparable way in which the two authors analyze and explain Aristotle's definition of the syllogism. As explained by Thomsen-Thörnqvist, however, this exposition also 'shows close parallels to the corresponding passages in the commentaries of Alexander (16,21-23,13), Ammonius (26.2-32.22), and Philoponus (30.24-36.13) and, in this respect also, it is evident that Boethius is following a conventional model found with the Greek commentators'.[126] From this, the fact that these two texts are both drawing on a well-established tradition of explaining

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[121] See commentary note on 213.5-9.

[122] See commentary note on 204.19-205.2.

[123] Boethius *Introd. ad. syll. cat.*767B lists the Peripatetic five as opposed to the Stoic ten; see Thomsen-Thörnqvist, 2008b: 128 n.20.11 who cites Ammonius *In de int.*2.26-3.6 as a comparable example as well as Porphyry *In cat.* 71.19 and Boethius *De syll. cat.* 14.11. See also Schenkeveld, 1984: 299-300 and commentary note on 189.4-8.

[124] For a discussion about the popularity of this example and for other examples of its use see Barnes, 2007a: 231-235.

[125] See Barnes et al., 1991: 104 n.12. See also commentary note on 202.4-8.

[126] Thomsen-Thörnqvist, 2008a: xxv.

Aristotle's logic in an extremely formulaic manner is clear. In one case, there is a very clear example of use of material common to a number of commentaries which we do not find in any of Alexander's extant works: Aristotle's explanation about knowledge of things which exist and of things which do not exist in his *Categories* is frequently discussed by the Greek commentators and by Boethius, who was following Porphyry.[127] The numerous other features which our text shares with the Greek commentaries provide strong support to a particular set of manuscripts with the reading *nondum* rather than *non* in the context of defining *indemonstrabilis*.[128] This piece of evidence, which has not been considered by scholars previously, contributes significantly to the case for the author's direct use of the Greek commentary tradition.

The features discussed above which the *Peri Hermeneias* and Alexander's commentary on the *Prior Analytics* share are also in fact shared with the Greek commentary tradition more generally. Therefore, just as Sullivan is mistaken in arguing for Boethius' direct dependence on the *Peri Hermeneias,* for the same reasons, we cannot argue for a direct link between the *Peri Hermeneias* and Alexander's commentary on *Prior Analytics* 1-7 because both texts, as well as Boethius' texts, belong to the same tradition. As Barnes et al. point out, there are no points at which Alexander indicates that he is innovating, either in terms of terminology,[129] or in terms of content[130] which suggests that much of what he presented in his own study was not new at the time but rather that he was drawing on a well-established tradition. This means that it is likely that the same resources would have been available to an author composing the Latin *Peri Hermeneias* in the second century A.D., even if they did not have direct access to Aristotle's *Organon*. Barnes et al. explain that Alexander's lecture audience 'was expected to have a text of Aristotle's *Prior Analytics* to hand'.[131] The way in which our author presents his material makes it clear that he did not expect his audience to have access to any other texts in the same way as Alexander or any prior knowledge of logic or logical terminology.[132] In addition, whereas Alexander has designated technical terms for the subalterns (ὑπάλληλοι), that is, each particular proposition in relation to the universal proposition of the same quality, our author refers to them in a distinctly non-

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[127] Chadwick, 1981: 149.

[128] For a discussion about the textual issues surrounding this passage in our text see introduction section 3 and commentary note on 206.3-5.

[129] Barnes et al., 1991: 11 n.72.

[130] Barnes et al., 1991: 12 n.73.

[131] See n. 114.

[132] See Barnes et al., 1991: 10. See also introduction section 6.

technical way as simply 'its particular' (*particularis eius*).[133] The clarity and economy of expression which is evident from the text throughout suggest that he may have deemed it unnecessary to establish terminology for subalterns, which he considered to be superfluous and unnecessary.[134]

It is clear, and it is discussed in more detail in section 6, that this text was intended for complete beginners in logic and, furthermore, for a Latin audience. Gellius, who can be considered to be roughly contemporary with Apuleius,[135] writes one passage in which he describes his own foray into logical education and mentions the need to return to Greek texts.[136] Elsewhere, he sets out Aristotle's definition of a syllogism and translates it into Latin[137] but does not offer any further discussion or analysis. In light of these passages, it is possible that the *Peri Hermeneias* was not available to him and, therefore, came after this part of his *Noctes Atticae*.[138]

There are a number of linguistic features of the Latin *Peri Hermeneias* which have a particularly close parallel in Alexander's *in Analytica Priora*. For example, just as Alexander has uses for both δείκνυμι and ἀποδείκνυμι, the first of which means merely 'to show' whereas the latter has the specific meaning of 'to demonstrate', our author uses *probo* and *approbo* with a similar distinction.[139] Also common between the two texts is the practice of defining nouns in their works by using the cognate verb in the definition. With regard to language more generally, it seems that, in some ways, our author was a more steadfast follower of his Greek sources than Boethius; for example, whereas Boethius uses the common Latin adjective *risibilis* to denote 'laughing' as a property of man, our author uses *cachinnabilis*, from the verb *cachinno*, which is etymologically closer to the Greek καχάζω than *risibilis*.

These similarities provide the grounds for using Alexander's text to unpack a number of points of our text which are overly terse or opaque.[140] The formulaic nature of logical texts

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[133] See commentary note on 194.15-16.

[134] See commentary note on 213.5-9.

[135] For similarities between Gellius and Apuleius, see, for instance, Holford-Strevens, 2003: 22-26; Dillon, 1977. For their shared education at Athens see Sandy, 1997: 27-41.

[136] *N.A.*16.8.4.

[137] *N.A.*15.32.13.

[138] See Holford-Strevens, 2003: 18, who, based on internal evidence of the *Noctes Atticae,* concludes that 'publication could hardly have much preceded 170'.

[139] See commentary note on 194.13-15 and Appendix B.

[140] Textual issues which may be solved with the help of Alexander's commentaries were discussed in introduction section 4. Here, I discuss matters of content which do not appear to be contentious in the manuscripts.

of this kind makes Alexander's commentary on *Prior Analytics* 1-7 a suitable point of reference for this purpose and, in addition, does not carry the assumption that by doing so, we must also subscribe to the view that this particular work was a source for our author, but simply an example of what such a source may have been like. From such a comparison we can infer that our author was making use of a more comprehensive work since Alexander's commentary provides the level of detail needed to unpack a number of our author's points which are hard to follow without the guidance of a fuller treatment on the same topic. Three such examples follow:

The author of the *Peri Hermeneias* does not explicitly state that the quantity of a proposition[141] plays a more important role than its quality[142] in the way in which he ranks the moods. Alexander, on the other hand, makes the priority of universals clear; knowledge about this rule allows us not to be misled by the author's comments about the ranking of moods in the same way as Sullivan.[143]

Our author does not refer to terms within a premise as either major or minor.[144] Nevertheless, the criteria according to which each syllogistic figure holds its validity, which relies upon either the major or the minor, or both of these, being determined, is clearly at play in his syllogistic theory. Alexander explains these criteria,[145] which can be summarised as follows:

> In the first figure, the major premise[146] must be universal and the minor premise must be affirmative.

> In the second figure, the major premise must be universal.

> In the third figure, the minor premise must be particular.

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[141] Universal and particular.

[142] Affirmative and negative.

[143] See commentary note on 209.3-5 for a full discussion on this point.

[144] The closest he comes to this is to say that the subject term is usually smaller (*minor*) than the predicate term which is usually bigger (*maior*) in Chapter 4 (192.13). This description, however, falls within the discussion about the material aspect of subjects and predicates; see commentary note on 192.13. The comparative terms are never used in this text with the sense of characterising the premises containing either the major or minor term as they are traditionally used in formal logic.

[145] *in An.Pr.*95,14-24.

[146] By which I mean the premise containing the major term and by minor premise I mean the premise containing the minor term. See Thomsen-Thörnqvist 2008a: 172 n.51.5 for the post-Aristotelian use of the Greek terms ἐλάττων and μείζων to denote the premises containing the major and minor terms as well as the terms themselves.

Our author only describes reduction to the first figure indemonstrables by way of converting either the first premise or the second premise. In his systematic presentation of the premises within the moods, the minor premise customarily comes before the major premise in moods with direct conclusions. There is nothing in his text to explain why converting either the first or second premise is a logically valid way of reducing a given mood to an indemonstrable; it is only Alexander's passage discussed above which makes this clear.[147]

Another puzzling aspect of this text is the way in which the author explains the validity of the eighth mood of the first figure; this becomes clearer when considered in light of the mode of presentation of syllogisms in Alexander. The otherwise unexplained use of the pluperfect verb *converterat* in the context of the formation of the eighth and ninth moods in the first figure[148] is likely to be a residual feature of the fuller treatment of the same point given by the source which the author was using. As discussed above, in the exposition of the three syllogistic figures, Alexander systematically works through every possible combination and points out for each whether it is valid or invalid whereas our author presents the valid moods first and then the invalid moods altogether at the very end of the work. Towards the end of his commentary, Alexander explains how the first non-syllogistic pair in the first figure, consisting of a universal affirmative and negative, can be made to conclude something if these premises are converted; this conversion of the universal negative gives another universal negative,[149] and the universal affirmative converts to a particular affirmative; this combination matches that of the eighth mood in the first figure.[150] Our author describes this process in reverse order to reduce the eighth mood of the first figure to the fourth indemonstrable so as to demonstrate its validity. He also treats this reduction as evidence that the eighth and ninth moods are generated by the fourth indemonstrable. This highlights an important distinction between the views concerning generation and reduction held by Alexander and those presented in our text.[151]

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[147] See commentary note on 207.17-20.

[148] 205.3-5.

[149] See 196.16-19.

[150] See 198.3-4.

[151] This topic, according to Themistius, *Max.*184, was introduced by 'the more recent Peripatetics' and was not treated by Aristotle, Theophrastus or Eudemus. For general accounts on reduction and generation in logic see Barnes et al., 1991: 109 n.41; Thomsen-Thörnqvist, 2008a: xxviii-ix; Lloyd, 1990: 21-3.

Maconi points out a serious error in Lee's analysis of the way in which Alexander treats the relation between reduction and generation. As Maconi describes,[152] Lee sees the use of πάλιν in the following passage to indicate that Alexander considered generation to have some kind of ontological priority over reduction:[153]

> 'For each of these figures is generated from the first figure by the conversion of a premise; and when this premise is again (πάλιν) converted, the figures are analysed into and reduced to the first figure – and by the analysis they are proved to be syllogistic'.[154]

Lee also ascribes this view to Themistius,[155] which, according to Lloyd seems to be an accurate ascription.[156] Maconi, however, points out that this view is erroneous and that Lee is incorrect to ascribe it to Alexander. In commenting on the same passage, Barnes et al. accuse Alexander of a lesser error; they say that, 'here, Alexander, in trying to correlate generation with analysis, conflates figures with syllogisms: the figures, properly speaking, are generated but not analysed or proved (it makes no sense to speak of proving a *figure*); the syllogisms, properly speaking, are analysed or proved but not generated'.[157] In spite of this conflation of terminology, there is no indication that Alexander was guilty of actually conflating figures and syllogisms in this way throughout the rest of his commentary. However, conflating their designations in this way would appear to be exactly the sort of comment which has misled our author into thinking that reduction and generation is an entirely reciprocal relationship. Our author makes the mistake of referring to the 'generation' of certain moods.[158] Furthermore, he is alone in affirming that the eighth and ninth moods in the first figure are generated from the fourth indemonstrable.[159] I discussed above the way in which he demonstrates the reduction of the eighth mood to the fourth; based on the rules for the conversion of each type of premise set out by our author in Chapter 7[160] this is a perfectly valid example of logical conversion in which the universal negative premise simply swaps its terms[161] and the universal affirmative converts

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[152] Maconi, 1985: 96.
[153] Lee, 1984: 121-122.
[154] Alex. *in An.Pr.*97,28-30.
[155] Lee, 1984: 122.
[156] Lloyd, 1990: 21-23. See also Badawi, 1968.
[157] Barnes et al., 1991: 171 n.24.
[158] See, for example, 205.13-21; 206.5-6.
[159] 205.13-21.
[160] 196.15-198.17.
[161] See 196.16-21.

particularly, that is, into a particular affirmative.[162] The generation of the eighth mood from the fourth which he describes, however, is not possible; the combination of this mood consists of a particular affirmative and a universal negative. It is not logically possible for the fourth mood to generate the eighth in the way our author describes because its particular affirmative cannot convert to the universal affirmative of the eighth mood; particular affirmatives, like universal negatives, convert into themselves.[163] It seems clear from this example that the author considered generation and reduction to be entirely reciprocal with each other and, in this regard, based on Alexander's conflation of terminology discussed above, it seems that our author was erroneously led astray by this kind of comment.

Another feature which links this text with Alexander's commentary more closely than any other is the treatment of Stoic doctrine. Londey and Johanson say that 'Peripatetic criticism of Stoic logic is to be found later than Apuleius in Alexander of Aphrodisias (fl. early third century A.D.), in his commentaries on Aristotle. Alexander's targets included the single-premise arguments, the duplicated arguments, and the first undemonstrated argument. We suggest that Apuleius' attacks in P.H.VII (as well as his remarks on negation in P.H.III, which had rather more point for his exposition) are simply a part of this Peripatetic tradition. Their appearance in P.H.VII would then have to be seen as an attempt to preserve the Aristotelian syllogism as the only proper kind of deductive inference. We must admit, of course, that, if this is correct, it would count against our conjectural suggestion that the Apuleian collection was a wider concept than the Aristotelian syllogism'.[164] It has been demonstrated above, and throughout the following commentary, that our author took a similar stance to Alexander, which suggests that Londey and Johanson are correct to want to reserve the right to revise their position. In their treatment of the logical background of the text[165] they propose to review the three distinct strands of formal logic before Apuleius' time – Aristotelian, later Peripatetic, and Stoic. Without justification, they say that they will 'pay much more attention to Aristotle's logic than to the other two strands'.[166] The only 'later Peripatetic' they take into account is Theophrastus, and their main focus here is on aspects of his contribution to logic which are not relevant to this text, such as modal syllogistic. Their account of the author's presentation of Stoic logic is rather bizarre in that,

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[162] See 198.3-7.
[163] See 196.16-19.
[164] Londey and Johanson, 1987: 118.
[165] Londey and Johanson, 1987: 20-33.
[166] Londey and Johanson, 1987: 20.

as seen above, they acknowledge the critical attitude towards the Stoics which pervades the text but still try to argue that the material presented in Chapters 1 and 2 of the text is 'consistent with his having begun with a plan to deal first with Aristotelian logic and then to go on to treat propositional logic';[167] this is, presumably, what they mean when they say, as quoted above, that the 'Apuleian collection was a wider concept than the Aristotelian syllogism'.[168] Barnes et al. say that Alexander marks the midpoint of the development of Aristotelian syllogistic logic;[169] the similarities discussed in this section and the previous section show that our author can, like Alexander, be considered to be representative of this midpoint in the development of logic. It is strange that Londey and Johanson did not consider taking this similarity between the author of the *Peri Hermeneias* and Alexander further in light of these parallel criticisms of the Stoics which they have identified.

In conclusion, in terms of the content, the presentation of the material and, in a number of respects, the method of exposition, it is clear that the *Peri Hermeneias* belonged to a broadly similar milieu to Alexander's commentary on the *Prior Analytics*. There is not enough evidence of Alexander's own sources to allow us to distinguish between his original contributions to his commentary and what he was reiterating from others. He may not be a chronologically possible source for Apuleius but those who taught him could be; one of his teachers, Herminus, is known to have also written a commentary on the *Prior Analytics*[170] which, we can assume, followed the same formulaic pattern as that of Alexander and this cannot have been the only such text of its time. Lumpe, in fact, suggests Herminus as a possible source specifically for the author's exposition of the five predicables due to its differences from that of Porphyry.[171] This is an entirely plausible possibility but it cannot be put forward as anything more than a possibility without the backing of more concrete extant evidence. We cannot, therefore, ascertain with any certainty whether the *Peri Hermeneias* came just before or just after Alexander's commentary or even at roughly the same time, nevertheless, a *terminus ante quem* of the late fifth century is given by Cassiodorus' *Institutiones,* in which, the *Peri Hermeneias* is referred to by name.[172] This will be taken into account in the discussion about the authenticity of this work alongside other evidence such as the use of Latin language within the text.

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[167] Londey and Johanson, 1987: 36.
[168] See n.164.
[169] Barnes et al., 1991: 11. See also Maconi, 1985: 92.
[170] See Von Arnim, 1912.
[171] See commentary note on 197.10-13.
[172] *Inst.*2.3.12.

5) The introduction and use of logical language

The style of terminology used in this text is a valuable aspect to investigate when considering this work in comparison to the genuinely Apuleian philosophical works from the point of view of its authenticity. It is equally valuable, however, for considering the types of Greek sources the author may have used which provide the origin for this terminology. Consideration of the style of the terms, and the way in which they are introduced, is useful for indicating the type of audience at whom this text was aimed. This section of the introduction is divided into five parts:

Firstly (i) I shall discuss the way in which the author introduces new logical terms alongside their already established cognate verb in order to define them. Following on from the previous section, this is a feature of the text which it has in common with Alexander of Aphrodisias' commentaries. Then (ii) I shall explain the methods which are used in the authentic Apuleian texts to introduce new terminology compared to the way in which terms are introduced in this work. I shall also compare the characteristic types of terms introduced in these texts. The comparison in this section will be focused upon our text against the *De Platone* since the technical nature of that text makes it the best point of comparison for this purpose. The following section (iii) is concerned not with logical terminology which is unique to this text, but with more common Latin terms, the frequency of the use of which is unique to Apuleius.[173] Consideration of the style of the terminology is then used (iv) to determine that this text is of an elementary nature which further confirms its didactic purpose before this purpose is discussed more fully in the next section of my introduction. Each of these aspects will be considered in terms of how they make clear the didactic purpose of the work and also how they contribute to arguments for and against the Apuleian authorship of this text. In the final section (v) I shall discuss the aspects of the terminology and syntax used within the text which are symptomatic of the author's heavy reliance on a Greek source.

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[173] Stover, 2015: 38 identifies three 'function words' which he has shown to be used in Apuleius' authentic works with a higher than average frequency. This, he has demonstrated, provides strong grounds for considering the *Expositio* to be by Apuleius since these terms are also present in this text with a high frequency.

i) New nouns and their cognate verbs

The method the author uses most frequently for bringing neologisms into this text is to introduce the new term alongside its already established and familiar cognate verb which defines it and explains its meaning. This philological method of definition is also employed by Alexander of Aphrodisias; he uses the verb 'to determine' as a way of defining a 'term':

> 'The parts of propositions are called terms (ὅροι) because propositions are determined (ὁρίζονται) by and compounded from them' (Alex. *in An.Pr.*15,1).

Alexander also comments on the fact that Aristotle feels the need to define this term, which he suggests, indicates that it was not in common use or well known in its application to a part of a proposition.[174] The table below shows similar instances in this text where a neologism is made familiar and is defined by its already established cognate verb:[175]

New term	Cognate verb	
substitutiva	*substituis*	190.11-13
indefinitae	*non definit*	190.20-21; 193.11-12
dedicativae	*dedicant*	191.1-2
abdicativae	*abdicant*	191.3-4
declarativa	*declarat*	192.8
revictio	*revincit*	194.9-10
conversibiles	*possunt semper inter se versare vices*	196.15-18
	convertis	196.20
illatio	*infertur*	199.9-11
indemonstrabiles	*demonstrari nequeant*	206.1-2

Table 2.

Although the majority of these verbs have uses in various technical contexts,[176] all of them have well established general uses outside of a logical context. This means that when they

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[174] *in An.Pr.*14,25-26. Barnes et al., 1990: 61 n.48 also mention Ammonius *in An.Pr.*14,13-22 and scholium to Aristotle, 146a9-18 where this point is also made.

[175] This method is sometimes also used to explain an established term which is being applied to this logical context, perhaps for the first time. For example, *significatio* (197.8) is closely followed by *significaveris* (197.14) in an explanation about the five types of predicate. Similarly, *propositio* which is first introduced in Chapter 1 (190.7-8) and used throughout is explained and defined in Chapter 7 using the verb *propono* (199.11-12). See also *collectio* (200.8) and *colligitur* (199.10-11).

[176] All but *definio, versare,* and *revinco* have uses as technical terms according to Lewis and Short; *dedico* is used in religious language to mean 'consecrate' (s.v. IIA); *converto* (s.v. I2A) and *infero* (s.v. IB4) are used in military contexts; *converto* is also used in rhetorical contexts to mean 'transpose or interchange words' (s.v. I2b). *substituo* (s.v. IIB), *dedico* (s.v. IIB), *abdico* (s.v. IIA), *declaro* (s.v. IB), and *demonstro* (s.v. IB) are all used as technical terms in legal or juridical language. The relatively large number of these terms which belong to a legal context suggests that further research could usefully be done comparing the use of these terms in such legal texts with their use in the *Peri Hermeneias.* Such a comparison could provide a way of determining the extent to which familiarity

are used to define the terms above as they are applied in the logical context of this work, their meanings are easily made clear to beginners in logic. This suggests that the text was pitched at an introductory level.

The rather conservative approach to linguistic innovation, which is clear from the table above is in contrast to the types of terms introduced in *De Platone.* This text, like the *Peri Hermeneias,* tends to be described as being extremely dry and technical in comparison to other Apuleian texts[177] such as the *Metamorphoses*, the *Apologia,* or the *De deo Socratis.* Nevertheless, it still bears signs of Apuleius' idiosyncratic linguistic creativity through the types of terms which are introduced. For example, there are those which demonstrate his fondness for Plautine archaisms such as *lucricupidinem,*[178] which is likely to be an imitation of Plautus' *turpilucricupidum,*[179] and feminine abstract nouns ending in -*trix* which have a poetic feel and which appear to be coined only for the sake of agreeing in gender with the feminine *anima* which they describe, when masculine equivalents which already exist would suffice to convey the meaning.[180] These characteristics are, on the whole, absent from the *Peri Hermeneias*; Harrison identifies only five 'Apuleian-type colourful usages' in the text.[181] Stylistic features such as these are often used as evidence of authorship. Apuleian style in the form of a number of items of terminology does not provide strong enough grounds to argue in favour of Apuleian authorship. The style of terminology introduced, however, can be used to demonstrate the didactic purpose of the work; to judge from the comparable example found in Alexander of Aphrodisias mentioned above, introducing terms of this sort in this way would appear to be a common practice in logical exegetical texts.

The author is equally methodical in the way he forms his syntax. The first of two noteworthy examples would be the way in which he describes the relationship between the two propositions which have particular as their quantity in the context of the square of opposition diagram; the term *revictio* is used as the subject of the verb *confirmo,* the

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with this field was an expectation of its audience and could, therefore, be indicative of the possible use of this text in legal education.

[177] See, for example, Harrison, 2000: 203-204.

[178] *De Plat.*2.241

[179] *Trin.*100. This imitation is pointed out by Beaujeu, 1978: 299 n.248.1.

[180] *agitatrix*: *De Plat.*199; *captatrix*: *De Plat.*231; *diiudicatrix*: *De Plat.*228; *ducatrix*: *De Plat.*225.

[181] Harrison, 2000: 12 n.45: *quispiam* (192.16); *hinnibilis* (192.17, 22; 193.1); *supervacaneus* (201.4; 212.15); *hicce* (205.21); *perquam* (213.9)*.*

cognate verb of the antonymous term *confirmatio* before the statement is inverted so that *confirmatio* becomes the subject of *revinco,* the cognate verb of the noun *revictio*.[182]

The second example would be the extremely systematic way in which he presents the moods within each figure. There is virtually no variation in the syntax of these parts; the number of every mood is introduced with *est* before a relative clause, introduced by *qui conducit,* describes the combination of types of propositions which produce a direct conclusion. This is always indicated by the adverb *'directim'*, and the example of the syllogism is set out with the same range of common terms.[183] Each of them is then introduced by *'ut'*.[184] Where there is another possible conclusion from the same combination, this is introduced by '*at si reflexim inferas'.*

Collectively, these examples demonstrate the extent to which the author was extremely careful and formulaic in his introduction and use of his logical terminology.

ii) Apuleian methods of introduction

A large number of the neologisms introduced into the *De Platone* are third declension adjectives formed in *-bilis* and adverbs in *-biliter*. These terms are usually used to denote concepts which would more typically be circumscribed by a relative clause in the Classical Latin of, for example, Cicero.[185] Nevertheless, Apuleius' use of such coinages in this text does bear resemblance to the way in which Cicero sometimes tentatively offers such coinages himself.[186] However, whereas Cicero appears to regret using such terms and makes it clear that they will only suffice until a more suitable way of conveying the concept becomes apparent, Apuleius liberally applies his own new terms to describe Platonic

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[182] 194.9-11 cited below.

[183] *iustum, honestum, bonum, malum,* and *turpe.* This particular set of terms adds to the moralising tone of the text. This tone is also exemplified by the use of the verb *recusant* for those propositions which, once converted, must be rejected for stating falsity (197.7-8) and by the use of the adverb *impudenter* to describe those who foolishly deny a conclusion which is drawn from premises which they have accepted (209.18).

[184] But sometimes *'velut'* as in the case of 205.7; 206.9, 14; 207.5.

[185] Compare, for example the coinage *innominabilis* by Apuleius, *De Plat.*1.92: *'quem quidem caelestem pronuntiat, indictum, innominabilem et, ut ait ipse,* ἀόρατον, ἀδάμαστον, *cuius naturam invenire difficile est'* with the way in which Cicero describes the same concept using verbs, *N.D.*1.30: *'qui in Timaeo patrem huius mundi nominari neget posse'.*

[186] For example, the introduction of *qualitas* is prefixed by *quasi* which conveys uncertainty and is accompanied by an apology for using such an unusual word at *Acad.*24 and *pronuntiatum* is used to render ἀξίωμα only for the time being: '*utar post alio, si invenero melius'* at *Tusc.*1.7.14. For further such examples see Powell, 1995: 255*ff*.

concepts in a way that suggests they are intended to be definitive, often when a suitable established Latin term already exists.[187]

There is one example of a coinage in the *Peri Hermeneias* which displays Apuleius' characteristic concern for linguistic style. When describing the relation between the two particular propositions, he says that if one is refuted, the other is confirmed, but when one is confirmed the other is not necessarily refuted. He explains this using the following balanced expression:[188]

> '*utriusvis harum revictio confirmat alteram, non tamen et utriusvis confirmatio revincit alteram*'.[189]

The use of the *hapax legomenon, 'revictio',* can be seen to be more Apuleian in style; it would appear to convey the same meaning as the established term *refutatio.*[190] Its use here, therefore, can only be explained as a way of creating balance with the antithetical phrase which follows in which the cognate noun of the verb *confirmo* is used alongside the cognate verb of *revictio,* '*revinco'*.

Another method of introducing neologisms which we find in Apuleius' *De Platone* and which appears to be shared by this work is the use of a particle such as *vel* or the enclitic *-que* to join two terms. In the authentic texts, this usually serves to link a new term with another, synonymous term which is already established. In *De Platone,* for example, *atque* serves this purpose for joining *lucricupidinem* and *accipitrem pecuniae*[191] and the coinage *diiudicatrix* is linked to *spectatrix* by the enclitic *-que.*[192] Although the noun *spectatrix* is not particularly common, it is found in various works of Ovid[193] and is therefore already established. This is similar to the way in which the neologism *irritabilitas* is introduced; it is appended to the term *excandescentia* by *vel.* The term *excandescentia* is already in

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[187] For example, Apuleius chooses to coin *rationabiliter* (*De Plat.*1.97) in the context of the seven spheric motions of the world when *rationaliter* is already in existence having been used by Seneca (*Ep.*109.11). There is no indication in the context of Apuleius' introduction of the new term that its *-bilis* suffix was intended to convey the idea of capability in a way which *rationaliter* does not; these two adverbs appear to have entirely synonymous meanings (*cf.* L&S *rationalis* s.v. II B2 and *rationabilis* s.v. 1).

[188] See commentary note on 194.8-11.

[189] 194.9-11. This phrase was discussed above in relation to the author's formulaic syntax and his method of consciously forming neologisms as cognates of already established verbs.

[190] Used to mean a 'refutation' in rhetorical contexts, e.g., Cic.*Top.*25, 93; Quint.5.13.1; 3.9.5; 4.3.15, see L&S s.v.

[191] *De Plat.*127.6-7.

[192] But see Moreschini, 1991 who, unlike the earlier editors, has omitted *-que.*

[193] *Am.*2.12.25; *Her.*18.91; *Met.*9.359. See also Luc.3.128.

existence, having been coined by Cicero.[194] In this instance, the use of the particle *vel*, like *-que* in the example above, creates the impression that the two nouns are natural partners for each other and it disguises the fact that one is a less traditional synonym of the other. In this way, whereas Cicero draws attention to his neologisms with an often emphatic apology or hesitation, Apuleius' practice for the same purpose is more subtle; his method, if indeed it can be called a method, is to sneak them in unnoticed by appending them to an already established Latin word. It may be argued that we cannot know for sure that these are Apuleius' own coinages since he does not introduce them as emphatically as Cicero introduces his coinages. However, there are many terms which appear for the first time in Apuleius' *De Platone,* which do not appear elsewhere. Since there is no evidence for their use elsewhere in Latin outside Apuleius,[195] this strongly suggests that they are Apuleius' own coinages and also shows categorically that they did not succeed in becoming established Latin terms.

We see terms joined by particles like *vel* or *velut* in a similar way in the *Peri Hermeneias*. For example, when defining the subject term in a proposition, the author refers to this part as '*subiectiva velut subdita'*.[196] The first term, *subiectiva,* is the new term and is used throughout the rest of the text as the standard way of referring to the subject term whereas *subdita* does not appear outside of Chapter 4 where it is first used;[197] it is clear that its sole function is to qualify *subiectiva* at its point of introduction. The use of two terms to denote a subject places focus on the *sub-* prefix which is shared by both words and thus makes it clear that this is its defining aspect; the point being made is that many subjects may be contained 'under' one predicate. In a similar way, *illativum rogamentum* is used once, where it is linked to *illatio* by *vel,* in order to make clear the definition of this neologism, *illatio,* which the author uses to denote a conclusion throughout the text.[198] *rogamentum* is used elsewhere in the text[199] in a way which indicates that its meaning should be obvious to the audience. It is qualified by the adjective, *illativus,* the meaning of which is clear from the cognate verb *infero* which is used to define it. As a more convenient one-word synonym for this, the author coins the new term, *illatio,* to denote the conclusion of a syllogism, the

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[194] *Tusc.*4.7.16; 4.9.21. Apuleius is next to use this term in *De Plat.*109.6.
[195] For example, *diiudicatrix* 117.6; *honoripeta* 126.24; *incommobilitas* 115.8; *irascentia* 103.9, 109.15, 127.5; *irritabilitas* 109.6; *lucricupido* 127.6.
[196] 192.7. See commentary note on 192.6-7.
[197] 192.19, 20, 21; 193.5.
[198] 199.9-11. See commentary note on 199.9-11.
[199] 190.7; 193.4.

meaning of the familiar cognate verb, *infero,* makes the process which is required for it to come about entirely clear.

Sometimes, however, *vel* is used in this text to introduce a more specific example of that which is denoted by the term which precedes it. In this way, the second term which comes after *vel* is used to give a specific example or to refer to the relevant function of the concept denoted by the first term in its given context. That this is the author's method in such cases is clear from the fact that often the second term will then not be used again outside of this context. This is the case for *substitutiva vel condicionalis*.[200] These terms denote compound propositions as opposed to the categorical sort which are the subject of this text; *substitutiva* denotes their general feature, that one proposition is 'placed next to'[201] another and *condicionalis* is one example of this type of proposition, a conditional, as opposed to disjunctive proposition. The terms *collectio* and *conclusio* are used to define 'syllogism'.[202] Both terms already exist but whereas *collectio* is used here (200.8-9) and then once more (200.16) in Chapter 7, *conclusio* is the term the author uses throughout to denote a syllogism. The supplementary use of *collectio,* I would suggest, is in keeping with the formulaic method of providing a definition through a pair of cognate terms; although less frequently than *concludo*, the verb *colligo* is used in some places to express the action of drawing a conclusion,[203] and might be considered to be the less technical and therefore more familiar counterpart to *concludo*.[204]

The above has shown that the introduction of new terminology in this text differs in a number of respects from the practice displayed in the *De Platone.* These differences between the two texts outweigh the similarities to such an extent that they are hardly likely to belong to the same work.

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[200] 190.11-12.

[201] *L&S* s.v.1.

[202] The author uses the term *illatio* to refer to 'conclusion' and *conclusio* to refer to 'syllogism' For this, see commentary note on 200.7-9. Compare Londey and Johanson, 1987: 75 and Sullivan, 1967: 78.

[203] 199.10-11; 201.7, 10; 209.13, 14, 18; 212.14-15.

[204] There is one technical sense of *colligo* listed in *L&S* s.v. I Bb meaning 'to thicken' in a medical context. Compare L&S *concludo* s.v. II D, a philosophical technical term meaning 'to conclude' or 'to infer' as is its sense in this text.

iii) Function words as indicators of authorship

In his recent critical edition and commentary on the third book of the *De Platone* Justin Stover[205] presents a convincing case for the authentic Apuleian authorship of this work which he refers to as Apuleius' *Expositio*. In support of this argument, among other factors, he identifies three 'inconspicuous particles and conjunctions';[206] *alioquin, enimvero,* and *necnon* as words which Apuleius uses with unusually high frequency; their regular presence in this work which has been revealed by computational analysis of the text,[207] he says, suggests that it 'matches the profile of Apuleius'.[208] Carrying out a similarly detailed analysis of the frequencies of common words in the *Peri Hermeneias* would be the next logical step to add to the arguments concerning authenticity. Arguments based on stylistic grounds have thus far tended to focus on the prose rhythm of the text which differs from the authentic works[209] and also on the more creative and innovative aspects of Apuleius' linguistic style which, of course, could be easily imitated, rather than the more subtle and less imitable use of common words. As Stover says, 'the frequency and combination of the most common Latin words hold considerable promise for the analysis and attribution of Latin texts. Research has shown that their frequencies are surprisingly reliable indicators of authorship'.[210]

Of the three 'function words' which Stover tests, neither *alioquin* nor *necnon* are used in the *Peri Hermeneias.* The conjunction *enimvero* occurs twice in the *Expositio* which is around 5000 words in length. Stover says that 'there is no other author besides Apuleius from whom we would expect two instances of this word in so brief a text' and concludes that, 'at most we can say that it suggests a particular Apuleian usage'.[211] For those who are convinced of the Apuleian authorship of the *Peri Hermeneias,* the fact that the conjunction *enimvero* appears once in this text,[212] which is even shorter in length than the *Expositio,* would not come as a surprise in light of Stover's analysis. However, for those who are more sceptical about the text's origins and refer to reserve judgement on its authorship, like myself, this single use of *enimvero* is insufficient to make any claims about authenticity or

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[205] Stover, 2015.
[206] Stover, 2015: 38.
[207] The details of this study are discussed in Kestemont, Koppel, Stover, and Winter, 2015.
[208] For these statistics see Stover, 2015: 37-38.
[209] See, for example, Harrison, 2000: 178-179. See also introduction section 5 iii for further discussion about the use of this method for testing the authenticity of texts.
[210] Stover, 2015: 38.
[211] Stover, 2015: 38.
[212] 194.13.

even Apuleian style, particularly since neither of the other two function terms appear in this text; this sort of evidence is effective collectively but the single use of one term which Apuleius is fond of using is not significant enough to be worth taking into account. Nevertheless, Stover's method has provided valuable evidence for arguing in favour of the authenticity of the *Expositio* as the third book to Apuleius' *De Platone.* This would be a worthwhile exercise to carry out on the *Peri Hermeneias.* About the authenticity of this text, Stover concludes that 'whether it is authentic or not remains an open question: under no circumstances, however, should it be considered part of *De Platone* and not a separate monograph'.[213] This conclusion is reached, not through a study of the *Peri Hermeneias* itself, but through the study of the *Expositio* which, as Stover effectively argues, contains the kind of material that we would expect to find in the third book of a handbook on Platonic philosophy which satisfactorily refutes all of those who claim that the *Peri Hermeneias* originally served as this third book.[214] This is an important development in the study of the authorship of the *Peri Hermeneias* even though it did not arise from the study of the text itself.

Moreschini, who has edited this text as well as the other genuinely Apuleian philosophical works,[215] has identified a number of expressions and terms which he says make it unlikely that this text was written before the fourth-century A.D. His examples are as follows:

> 'The use of *abdicare* with a meaning of to deny (here and in Nonius); *hinnibilis* (here and in Caelius Aurelianus); *paucus* for *parvus*; *incongruus*, which is only found beginning in the fourth century; *aequipollens,* which is only in the *De interpretatione* and the works it influenced; *subiectivus,* which is only here and in the Grammarians, in the surveyors, and in Augustine; *conversibilis,* which is in the *De interpretatione,* in Calcidius, Marius Victorinus, and Augustine; *particulariter,* which is used from Augustine on; *quadtratura,* which is witnessed to here and in the surveyors; and the connection *certum est quod.'*[216]

Moreschini concludes by saying that 'there is no (non-technical) term that can be considered typical of Apuleius' period or of Apuleius himself,'[217] but this is not entirely true;

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[213] Stover, 2015: 46. See also Moreschini, 2015: 213.
[214] Cassiodorus (*Inst.*2.3.12) and Isidore of Seville (*Etym.*2.28.22) described the text as such in their own works. Those who accept this view in modern scholarship are Baldassarri, 1986: 7; Londey and Johanson, 1987: 19; O'Brien, 1991: 49 n.10; Sandy, 1997: 40; Harrison, 2000: 196; Huby, 2007: 61.
[215] Moreschini, 1990.
[216] Moreschini, 2015: 216-217.
[217] Moreschini, 2015: 217.

for one thing, the use of the (non-technical) *enimvero,* although it appears only once, is, as Stover has argued, representative of typical Apuleian usage. Furthermore, on a more modest scale than the study of Stover, I have identified another common term which, when compared to a number of other authors, is used by Apuleius with a higher than average frequency: *quippe* appears in the *Peri Hermeneias* seven times.[218] A search on the Library of Latin texts indicates that it is used a total of 118 times throughout the Apuleian corpus; this is in comparison to 21 times in Plautus, whom we know Apuleius is fond of imitating, 68 times in Cicero, whose style and terminology is frequently emulated by Apuleius in his *De Platone*,[219] five times in Quintilian, and 20 times in Gellius. As a roughly contemporary source to Apuleius, the last of these can be considered as representative of the time at which Apuleius was writing; the fact that his use of this particle is so much less prominent than that of Apuleius, and that this can be said of the other authors listed here, suggests that this is another term whose frequent use is indicative of Apuleian style. However, as mentioned above, a particular style is not enough evidence for a particular authorship. This evidence, therefore, will be weighed up against more significant factors pertaining to authenticity in section 8 of this introduction. Overall, however, the linguistic aspects of the text discussed in this section make it likely that this text was written by an author other than Apuleius.

iv) Non-technical logical terminology

Some of the ways in which our author refers to particular features of syllogistic logic are distinctly non-technical when compared to the way in which they are referred to in other texts dealing with this topic.

Attention has been drawn to the author's terminology for referring to the qualities of propositions, *abdicativa* and *dedicativa,* on a number of occasions[220] but a satisfactory explanation for his use of these terms rather than the sort which become established as

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[218] 192.19; 197.17; 199.5; 202.10, 18; 204.19; 207.20.

[219] For details about the similarities between the philosophical exposition of these two authors see Harrison, 2000: 205-207.

[220] For example, by Sullivan, 1967: 172*ff*; 224 and Londey and Johanson, 1987: 53-58. '*dedicativus* is one example of the words which show the author's dependence on Greek sources, rendering as it does *kataphatikos'* see Huby, 2007: 69.

technical terms in texts such as those of Boethius has never been reached.[221] There are a number of features of this text which point towards its didactic purpose; these are discussed fully in section 6 to this introduction. I suggest that the author's use of his own terms which do not belong to an established logical vernacular, but which are coined from generic and well-known verbs of the sort set out in Table 1,[222] is another indicator of the didactic purpose of this text which is aimed at a non-specialist audience. Furthermore, the specific technical term which Alexander has for the particular propositions in relation to their universal counterpart, ὑπάλληλοι, compared to our author's way of describing such a proposition as simply 'its particular',[223] was discussed above where the difference was explained by the fact that our author would likely have considered such a term to be superfluous since he considered these subaltern forms themselves to be superfluous.[224] His method of carefully selecting appropriate terminology and omitting unnecessary technical terms in this way also suggests that he was writing an elementary text.

In a number of cases, a non-traditional distinction is made between two items of terminology which serve to elucidate differences. There is, for example, the nuanced difference between the use of the participles *comprobata* and *probata*;[225] the complete power with which a universal premise, when proved, can, in turn, prove its particular counterpart is represented by the intensifying prefix *co-* on the former verb as opposed to the latter, which has as its subject a particular premise which does not have the power to prove its universal counterpart in the same way. In addition, the verb *approbatur* is used exclusively for proof which is carried out *per impossibile.*[226] A similar type of variation occurs between the verbs *conduco* and *infero* according to whether the conclusion of a syllogism is drawn directly or conversely.[227] Another similar case is the distinction between *suppar* and *subneutra* to describe the relationship between contradictory propositions.[228] Whereas Londey and Johanson present these two terms as synonyms in their glossary,[229] I argue that the author uses each for a different circumstance which depends upon which of the pair of

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[221] Boethius uses *negativus* and *negatio* to denote the Greek ἀποφατικός and ἀπόφασις and uses *affirmativus* and *affirmatio* for καταφατικός and κατάφασις throughout his *Introd. ad syll. cat.* and his *De syll. cat.*

[222] p20-21.

[223] *particularis eius.* See 195.4-5; 205.5 and n.113 above.

[224] See n.121.

[225] See commentary notes on 194.13-15, 194.17-18.

[226] See 207.13-14; 208.27.

[227] See commentary note on 204.8-13.

[228] Universal affirmative with particular negative and universal negative with particular affirmative.

[229] 1987: 74-79.

contradictories is true.[230] The author introduces the term *acceptio* and explains its meaning only in order to describe the procedure of dialectic, which relies upon the acceptance of questions posed, but he keeps things simple by using the more common term '*propositio*' even though, based on his explanation, this is not technically accurate. He does, however, use this term once more in the context of proof *per impossibile.* In this context, the term *acceptio* is more appropriate and makes the point clearer than *propositio* because this method of proof was invented against those who foolishly do not accept a conclusion based on premises they accepted.[231]

v) The Greek style of the text

There are a number of features of this text which are rather unusual in Latin but which would be more naturally expected in Greek language. These points, which come up at various points in the commentary, are worth reporting here since I would argue that collectively they provide support to the argument presented in introduction section 8, that they indicate that our author heavily relied upon a Greek text when composing his own work. Both the style of terminology introduced and the syntax of parts of the text support this view.

Firstly, the terminology is frequently formed as a direct calque of a Greek term in which each unit of the term is taken into consideration and accounted for in the calque rather than the overall sense of the word. The following table gives four examples of new terms which are representative of this practice alongside the equivalent, original Greek term. The Latin terms of Boethius are also presented for comparison:

New term		Greek equivalent	Term used by Boethius
de-dicat-ivus	191.1-2	κατα-φατ-ίκος	*affirmativus*
ab-dicat-ivae	191.3-4	ἀπο-φατ-ικός	*negativus*
de-clarat-iva	192.8	κατ-ηγορ-ικός	*praedicativus*
in-demonstra-bilis	206.1-2	ἀν-απόδεικ-τος	*indemonstrabilis*

Table 3.

The hyphens which break up the new Latin terms and their respective Greek counterparts serve to show the systematic way in which the author created his new terms based on a

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[230] See commentary note on 195.4-6.
[231] See commentary note on 209.17-18.

calque for each part of the original Greek term. Our author consistently uses a form of the verb *dico* where parts of the verb φημί are used in the Greek term, whereas Boethius uses terms formed from *affirmo* and *nego* which are more natural in Latin. He also consistently uses the prefix *de-* to represent words beginning with κατα- in Greek. Both authors match the adjectival suffix -ίκος with *-ivus.* Boethius, however, just as often uses the substantive forms *affirmatio* and *negatio.*[232] Baldassarri's work, as well as an Italian translation and commentary, contains a glossary in which he suggests, often with a degree of doubt,[233] an equivalent Greek term. In many cases, Baldassarri's rationale behind citing certain Greek terms is not obvious.[234] For example, it seems clear that the use of the diminutive *modulus* to denote a mood is unique to this text. Nevertheless, Baldassarri suggests the Greek diminutive τροπάριον which, belonging to Byzantine Greek Orthodox vernacular, refers to a piece of ecclesiastical music[235] and is not even listed in *LSJ*. Another example would be his suggestion ἀσύμβατος[236] for *incongrua.* This term denotes one of the two universal propositions in relation to the other, of which it is the contrary; this clearly corresponds to Alexander's use of ἐναντίος.[237] By analogy, Alexander uses the term ὑπεναντίος to refer to the same type of contrary relationship between the two particulars which are 'nearly equal' but Baldassarri considers πάρισος or even παρόμοιος[238] to be the equivalent term. In my own glossary in Appendix B I offer more appropriate parallels which are mapped onto uses found mainly in Alexander of Aphrodisias, with whose work, as discussed in the previous section, this text is closely associated. In this way, my glossary provides correction to Baldassarri on a number of points.[239]

There are places in the text where the use of *et* is unexpected.[240] This use of *et* is, in many cases, comparable to the way in which the same particle is used in the *Expositio*.[241] This text, which serves as a reference to Plato's dialogues with a summary of their contents, was

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[232] See n.221.

[233] His doubt is indicated by a question mark.

[234] Nor is it explained in his introduction. For a review of this commentary, see Pieters, 1988.

[235] Dalmais, 2002.

[236] His doubt about this suggestion is indicated by a question mark.

[237] *in An.Pr.*45,21.

[238] Again, accompanied by a question mark.

[239] Londey and Johanson, 1987: 74-79 also include a glossary of terms with their English translation and a definition. In some cases, they identify two terms as being synonymous when it is clear from the author's use that a distinction is intended. For example, their conflation of *suppar* and *subneutra* which was discussed above.

[240] See commentary note on 191.8-10. See also 190.17; 192.15; 198.9; 202.3, 7; 204.5; 205.3; 209.9; 211.5.

[241] For uses of *et* in this work which are comparable with those found in our text see *Expositio* 1.13; 3.27; 4.7; 13.23, 27; 17.11; 30.3, 4, 9, 23; 32.8, 15.

evidently formed from the direct use of Greek sources as it demonstrates Apuleius' close familiarity with the original Platonic dialogues throughout.[242] The same may be said for our author. Although the Latin particle *et* may be used to connect two separate or two complementary expressions in a similar way to its Greek counterpart καί,[243] its position as the second word in the sentence as we find in this text makes it difficult not to treat its meaning in a way which is more characteristic of common uses of καί[244] than for *et*.

Another way in which the Greek style of the author's source has carried over into this text is the use of the pronoun *id* which, in one case, is unusually forward-looking rather than referring to an antecedent.[245] There is also the use of the balancing particles '*quidem*' and '*autem*' which is modelled on the Greek μέν – δέ.[246]

According to Moreschini, 'Sullivan correctly maintains that Meiss' attempt to support the hypothesis that the *De interpretatione* is the translation of a Greek work is completely indemonstrable'.[247] Sullivan criticises this view of Meiss since he 'appears to base this view on the fact that a few Greek words and examples occur in the *Peri Hermeneias* and on the fact that a number of the Latin words found in the treatise appear to be transliterations of technical Greek logical terms'[248] and presents a three-pronged refutation of this claim as follows:

i) There is no extant Greek text which fits the profile of being the original work from which the author translated.

ii) The author, whom he considers to be Apuleius, is more than likely to have picked up the Greek terms and examples during his studies in Athens, which are well documented, rather than from the sort of text described above.

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[242] Stover, 2015: 66-73 explains that the doctrinal, textbook presentation of the *De Platone* is not a result of direct use of Plato's dialogues, but rather, 'the indexed arrangement of the *Expositio* provided the intermediary... out of which Apuleius fashioned his treatise'. He suggests that Apuleius made direct use of Plato's dialogues in order to compose the *Expositio*, saying that 'Apuleius clearly knew his Plato very well'.

[243] See, e.g., L&S s.v. II A, F, H.

[244] See Denniston, 1934: 289, whose explanation about the force of καί could just as well apply to the force of the uses of *et* discussed here: 'Like δέ, it is used both as a connective and as a responsive particle... This includes the meanings 'also' and 'even'; while in some cases, the idea of response receding into a dim background..., καί conveys little more than pure emphasis, 'actually'.

[245] 193.8. See commentary note on 193.8-12.

[246] For which, see commentary note on 190.17-18.

[247] Moreschini, 2015: 211. Copies of Meiss' study are not readily available as pointed out by Sullivan, 1967: 9 and Moreschini, 2015: 208 n.106. The section in which he deals with the authenticity of the text is made available as an appendix to Sullivan's work, 235-242.

[248] Sullivan, 1967: 13-14.

iii)   Too little is known about the Latin language of the period to make judgements about how well established or not the terminology which is used within the text was.

Although Sullivan's first assertion is technically correct, the prolific evidence for such texts[249] cannot be ignored and therefore the author's use of such a text cannot be discounted. As discussed in this section, my close reading of the text has brought to light a number of features which are reflective of Greek syntax; these, more so than simply items of terminology, are strongly suggestive of a written Greek source. Sandy claims that 'the patchwork qualities of the *Peri Hermeneias* are blatant' and that 'Apuleius has failed to integrate the multiple sources he has consulted'.[250] Contrary to this claim, which was discussed previously, the similar order of exposition to that found in Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics* strongly suggests that the author was using a single source which belonged to this tradition. With regard to the third point, more about Latin language is known than when Sullivan's work was published in 1967, and the type which we find in the *Peri Hermeneias* is still hard to place in the second century A.D.[251]

vi) Final remarks

The form of the terms and the way in which they are introduced throughout the text suggest that rather than introducing new Latin logical terminology as a way of demonstrating linguistic creativity, in the way that is clear from the *De Platone,* their function in this text is to introduce logic to Latin speakers who were new to the topic. The concepts rather than the terminology are the priority. In some places, the formulaic nature of the author's writing has provided the grounds for preferring one manuscript reading over another.[252] More than anything else, however, it is indicative of the didactic purpose of the work. Although the introduction and use of terminology show a great deal of care and thought, the fact that its primary purpose is to facilitate understanding of syllogistic logic

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[249] This was discussed in section 4 of my introduction.

[250] Sandy, 1997: 40.

[251] Huby, 2007: 61, for example, comments on the fact that the Greek equivalent term for *modus,* τρόπος 'is not found with the sense of 'mood' until it appears in pseudo-Ammonius in the sixth century... It is tempting to suppose that the work is not by the second century Apuleius, but much later.' See also Moreschini's list of words which date the work later than the second century cited above p39.

[252] For example, the emendation of *dedico* to *dico,* for which, see commentary notes on 191.7-8; 209.3-5 and the change from *immutationibus* to *mutationibus* discussed in commentary note on 211.12-16.

for beginners rather than to demonstrate linguistic creativity and skill sets the *Peri Hermeneias* in contrast to the authentically Apuleian philosophical texts.

6) The didactic purpose of the text

It is clear from the subject matter of this work, a handbook to syllogistic logic, that it was intended for educational purposes.[253] In this regard, it is not dissimilar to other texts which are also concerned with the exposition of syllogistic logic. Such texts were discussed in section 4 of this introduction, where the differences between the handbook style of the *Peri Hermeneias* were compared to the format and the more detailed content of Alexander of Aphrodisias' commentaries. These differences in style are also likely to reflect the differing levels of education at which the two texts were pitched. For example, Alexander's commentaries 'presumably represent the substance of Alexander's lectures on Aristotle',[254] although the way in which he frequently presents more than one explanation for the same point without indicating which is to be followed 'hardly suggests that the commentaries formed part of a programme of teaching, at least not at any introductory level'.[255] The 'disposition and content' of Boethius' *De syllogismo categorico* make it clear that his aim with this work is 'to give a compendious account of the doctrine of the categorical syllogism'.[256] Owing to its content, the *Peri Hermeneias* may be grouped alongside texts such as these; they all share the same educative purpose. There are, however, a number of features of this text which suggest that it ought to be categorised more specifically as didactic. Since this text is composed in prose, and the term 'didactic' is more often applied to poetry rather than to prose, I shall begin with some clarification about the way in which I qualify the text as being didactic. The following ways in which didactic poetry is broadly defined represent a number of characteristics which are present in our text: they 'aim to instruct the reader in a particular subject-matter ... didactic poems are normally addressed to a particular individual who is seen as the primary object of instruction and acts as a model for the reader'. Specifically didactic elements 'include specific forms of address, transition and argumentation, often crystallized in quasi-formulaic expressions'.[257]

The aim of this section is to give an overall view of the various and varied ways in which the author makes the material he presents suitable for an educational purpose using these

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[253] Sandy, 1997: 38, however, considers it simply as a scholastic record in the form of a collection of notes, which demonstrates what Apuleius can remember from his own education at Athens.
[254] Barnes et al., 1991: 4.
[255] Sharples, 1990: 97.
[256] Thomsen-Thörnqvist, 2008a: xviii.
[257] Schiesaro, 2012: 448-449.

didactic tropes. This aspect of the text has not been given such treatment in the major works of either Sullivan or Londey and Johanson.[258] It is, however, an important aspect of the text to consider as it helps us to understand the author's rationale for, among other things, choosing the vocabulary that he does and for presenting the topics in the order in which we find them. In some cases, it also exonerates the author from errors which have been perceived by modern scholars who believe that he gives undue weight to the order of premises within a syllogism; in the third section below I shall argue that this consistency is, in fact, due to the didactic purpose of the work. What follows, therefore, is a discussion of the three main features of the text which point towards this purpose and which reflect aspects of the didactic elements described above: the formulaic language and forms of address used within the text, the way in which transitions from one topic to the next are signposted, and the method of exposition used to present the logical content.

i)   Didactic language

This aspect of the text was discussed in detail in section 5, where I concluded that the extremely formulaic and systematic way in which the author coined new terminology and presented it alongside more familiar language which elucidates its meaning has a clear function as an educative tool. This is in contrast to Alexander of Aphrodisias, whose use of technical and semi-technical terminology in his commentary on the *Prior Analytics* makes it clear that his audience 'have a general competence in Peripatetic philosophy and in its terminology'.[259] I also highlighted the points at which the author draws a distinction in his terminology so that when something is expressed using a different word or with a different form of expression, it is clear that the process being described is different to what has gone before. Another example to add to this list would be the way in which the phrase *tam directim quam reflexim* (207.17-18) is used to describe the way in which the combination of the first mood of the third figure produces two different conclusions, one direct and one converse. This is in contrast to the way in which the author normally presents the syllogism with the direct conclusion by saying *conducit directim* and the indirect conclusion which comes after with the phrase *at si reflexim inferas*.[260] This difference in expression is due to the fact that our author considers this to be one mood which has two possible conclusions,

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[258] See, however, Huby, 2004 where it is considered briefly.
[259] Barnes et al., 1991: 10.
[260] See discussion in introduction section 6 about the formulaic way in which the author presents the moods within each figure.

not two different moods as Theophrastus thought, and in this respect it is different to the combinations which produce two different moods and which are presented using the standard expression.[261]

Another more general feature of the language which characterises the text as didactic is the very frequent use made of second person singular[262] and first person plural verbs.[263] Lehoux comments that, as a scientific author, Lucretius' use of these types of verb is unparalleled, and he says that this is most likely due to his work being composed in verse.[264] Although the *Peri Hermeneias* lacks a named addressee in the way that *De rerum natura* has, the same use of second person singular verbs is a technique which is present not only in this text but also throughout Apuleius' philosophical works of confirmed authenticity which are, of course, written not in verse but in prose. Similarly, the imperative form of the verb is often used to encourage participation and active involvement on the part of the audience.[265] To the same end, the author sometimes ends a chapter by suggesting ways in which the audience could complete a paradigm for themselves based on the information he has just presented.[266] Sometimes passive verbs are used which dictate the type of activity our author wants his audience to engage in and teach them the rules for working things out for themselves.[267]

There are two examples in the text of rules for logical validity which are presented in the form of a maxim which share a similar syntactical structure. The first, which appears in Chapter 3, concerns the reason why indefinite propositions are considered to be equal to particulars but not to universals:

> '*tutius est id ex incerto accipere, quod minus est*'[268]

The second example occurs in Chapter 13 and also concerns a rule about the quantity of propositions; after noting that Aristo of Alexandria and 'some more recent Peripatetics' count five more moods than the total 28 because they count an extra mood with a

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[261] See commentary note on 207.23-24.

[262] *aias* (190.11-12); *dicas* (192.11-12); *explorabis* (198.16-17); *convertas et subicias* (205.4).

[263] *meminisse debemus* (204.3-6); *dicamus* (190.10-11); *dicemus* (207.14-16).

[264] Lehoux, 2013: 137, n.5.

[265] *iunge* (199.16-17); *puta* (202.4; 210.9, 10). Compare the use of the future imperative *locato* in *DdS* (120). Harrison, 2000: 146 points out that this type of archaic imperative is 'particularly common in didactic contexts'.

[266] See, for instance, 212.1-3; 209.17-18. See also commentary note on 196.13-14.

[267] *agnoscitur* (193.3-4); *discernitur* (193.7-8).

[268] 190.22-191.1. See commentary note on 190.21-191.1.

particular conclusion for every mood with a universal conclusion,[269] the author points out the futility of this practice:

'*ineptum est, cui plus concessum sit, minus concludere*'[270]

Another way in which the author encourages his audience to participate is through the use of direct, rhetorical questions.[271] At one point, the author provides an explanation about the way in which dialectical argument takes place; he says that a question is posed, once the interlocutor agrees to it, the question becomes a proposition, this is joined to another, similarly formed proposition to form a combination which produces a conclusion. This technique of introducing direct questions into his exposition, therefore, not only serves to enhance the didactic aim of the text but also actively brings the topic of discussion, dialectic, to life.

ii)   Signposting techniques

Just as the way in which the topic of predicative propositions is justified as the topic of this text because it is prior to and therefore a part of compound propositions,[272] the transitions from one topic to another within the text are very clearly signposted; the language used to mark these transitions conveys that the points at which they occur are justified based on what has gone before. For example, having described the ways in which propositions vary in terms of quantity and quality in Chapter 3 and the subject and predicate parts in Chapter 4, the ways in which the four different types of proposition relate to each other is set out in Chapter 5; the logical progression of this next step is marked out by the emphatic *nunc* with which this chapter begins and the justification for this being the correct route of progression is indicated by the gerund verb '*dicendum est*'.[273] The same conjunction is coupled with the gerund '*tradendum est*' at the beginning of Chapter 8 to introduce the number of combinations and moods there are in each of the three figures.[274] This naturally follows directly after the concept of combinations '*coniugationes*' is described in general terms in Chapter 7. This chapter, which also examines and explicates Aristotle's definition

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[269] 213.5-9.
[270] 213.9-10. See commentary note on 213.9-10.
[271] See commentary notes on 191.7-8; 199.11-15 for the explanation about propositions which are based on questions which have been accepted and on 199.12-13; 201.8-11 for examples of direct questioning in the text.
[272] *quia natura priora est ac velut elementum substitutivae* (190.15-16).
[273] 193.14.
[274] 202.16.

of a syllogism,[275] is brought to a close using the formulaic expression '*ac de his satis dictum*'[276] variations of which are also found in other texts laying out logical theory.[277]

iii)   Presentation of the logical content

The way in which the author orders the premises within each example of a syllogism is consistent throughout the text; in a mood with a direct conclusion, the subject term in the first premise appears as the subject term in the conclusion and the predicate term of the second premise appears as the predicate term of the conclusion. This is the opposite way round in a mood with an indirect conclusion. This consistency has led to criticisms from modern scholars; on the one hand, that the author has altered what was considered to be the standard order for the presentation of the premises in a syllogism,[278] whereby the major comes before the minor, and on the other, that the author misinterprets the point he presents because he fails to take into account the order of premises as a factor which determines the different possible combinations and moods.[279] Both of these criticisms are unfounded in terms of the way in which these modern scholars have interpreted the original material from which our author is drawing. For example, Patzig makes it clear that the order of premises as they are presented by Aristotle has no bearing on the validity of the syllogism, but only serves to make this validity evident.[280] These criticisms are also unfounded because, although the author makes use of the way in which he orders the premises for the purpose of demonstration,[281] he also makes it very clear that he does not consider the order of the premises within a syllogism to have any bearing on its logical validity.[282] In light of the other factors which point towards the didactic purpose of the text,

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[275] 200.10-12.
[276] 202.14-15.
[277] See commentary note on 202.14-15 for examples.
[278] This view is held by Waitz as reported by Lukasiewicz, 1957: 33. See commentary note on 204.3-6.
[279] This is a view held by Sullivan, 1967: 106. See commentary note on 208.19-23 and Rose 1966 for a statistical analysis of Aristotle's presentation of the premises within syllogisms throughout the *Prior Analytics.*
[280] Patzig, 1968: 60. See commentary note on 204.3-6.
[281] For example, he describes the way in which the premises of the fourth mood also swap positions when they are converted to equipollent premises e.g. 204.20-205.2.
[282] This is most clear from the expression *'licet ante abdicativa enuntietur',* which refers to the fact that in the combination for the sixth mood of the first figure, which consists of a universal affirmative and negative, the affirmative is 'considered' (*aestimandam*) first because the subject term of the conclusion is taken from this premise, even if the negative premise is uttered first. This phrase seems to be left without comment by scholars dealing with the text. See commentary note on 204.3-6; 204.6-7.

the obvious reason for his consistency in this order of presentation, coupled with his assertion that the order does not matter, is that he is striving to present the logical doctrine in the most lucid way possible. The double use of second person singular verbs,[283] '*convertas et subicias*'[284] in this context shows that swapping the position of the premises while carrying out conversion, although not necessary for logical validity, is a reliable method for his audience to use in order to proceed with the process of conversion without error.

The complete list of valid moods in each of the three figures laid out in Chapters 9-11 is prefaced by some general rules for logical validity in Chapter 8 for which the audience are prepared with the emphatic '*demonstrabo praefatus*'.[285]This phrase acts almost in the same way as the 'signposting' terminology described in the section above. In a similar way, the author forewarns his audience of his intention to discuss proof *per impossibile*,[286] but only after setting out all of the valid moods in each figure. This technique of alluding to more complicated material, which is relevant to the point, but withholding a fuller discussion until a suitable point is reached is highly indicative of the elementary level of the text. As discussed in introduction section 6, to the same end, our author presents all of the valid moods in each of the three figures and then does not bring up the invalid ones until the final chapter where he goes through the remaining combinations and explains in each case why a valid conclusion does not result from these. This is in contrast to the way in which Aristotle, and Alexander of Aphrodisias, systematically work through all of the possible combinations indicating for each one whether it brings about a valid syllogism or not; in this way, the valid and invalid syllogisms are presented altogether.

The above has made clear the didactic purpose of this text. Furthermore, identifying the text's purpose in this way has served to explain features of the text which have been left unexplained in previous scholarship and for which the author has been subject to criticism; namely, the idiosyncratic terminology which is elucidated by the author's method of defining such terms with their established cognate verbs and also the particular way in which he refers to and orders the premises within a syllogism, which allows the validity of the syllogism to be made as clear as possible in every case.

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[283] For the use of such verbs in a didactic context see n.223 above.
[284] 205.4.
[285] 203.3-8.
[286] 207.13-15.

7) The debate surrounding the authenticity of the text

The authorship of the *Peri Hermeneias* is the aspect of this text which has attracted the most attention. In spite of this, a satisfactory conclusion with regard to its authenticity is yet to be reached. In this section, after describing the history of this debate and its current state, I shall attempt to place the text within a very broad timeframe. Once this background has been laid out, I aim to consider the question of authenticity in light of the factors which have been addressed in the previous introductory sections. Although it has not been possible to reach a completely watertight conclusion as to whether or not this text was written by Apuleius I shall contribute new evidence pertaining to both sides of the debate which has come about as a result of preparing this commentary before making suggestions for how the examination of this aspect of the text may proceed with more certainty in the future.

i) The history of the debate

As recorded by Sullivan[287] and, more recently, by Moreschini,[288] Hildebrand was first to express doubt that the *Peri Hermeneias* was authentically Apuleian in his edition of the text.[289] His three main objections to the authenticity of the work can be summarised as follows:

- The text has a manuscript tradition which is separate to both strands of the authentic Apuleian works.
- The jejune style of the work is at odds with the authentic works.
- The treatise presents Peripatetic and Stoic logic rather than Platonic, which we would expect from a Middle Platonist such as Apuleius.

Goldbacher, who produced a subsequent edition of the text,[290] agreed with Hildebrand's objections and added that the use of Apuleius' own name within the text was in bad taste and, therefore, serves as a further piece of evidence of its spurious origins.[291] In his PhD thesis, Meiss provides counter-arguments to each of these points[292] and argues that the

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[287] 1967: 9-14.
[288] 2015: 205-218.
[289] 1842.
[290] 1885.
[291] See commentary note on 191.18, where I discuss the reasons why this is not a valid piece of evidence for either side of the debate.
[292] See n.247 for the availability of Meiss' study.

Peri Hermeneias is by Apuleius and 'is a copy of a Greek original'. After Sullivan has presented a comprehensive account of the history of the debate up until his own time, he refrains from coming down on either side, but announces that he will 'treat the *Peri Hermeneias* as if it had been written by Apuleius of Madaura'.[293] Moreschini points out the error in holding such a contradictory position because of 'the historical importance of whether or not the *De interpretatione* is a work of Apuleius'.[294]

Since Sullivan's book, the main works concerned with the *Peri Hermeneias,* and with Apuleius' philosophical works more generally, continue to display a divide in opinion on this matter: Beaujeu, who omits the text from his edition of the *philosophica,* believes that '*la pauvreté du contenu et surtout de notables particularités de langue interdisent d'attribuer ce texte à Apulée*'.[295] Lumpe's view that the text is spurious is evident from the title of his work, *Der Logik des Pseudo-Apuleius*.[296] Baldassarri says that '*sembrerebbe che l'autore dell'opuscolo sia Apuleio e che esso debba essere considerato come il terzo libro del De Platone et eius dogmate*'.[297] Similarly, Londey and Johanson conclude 'that there are no worthwhile reasons for saying... that Apuleius did not write the *Peri Hermeneias'*[298] and cite a number of linguistic features of the text which they consider to be typically Apuleian in support of this view.[299] Like Baldassarri, they also consider it to be the third book of the *De Platone* as does Sandy.[300] In Harrison's view, 'Apuleian authorship of the Περὶ Ἑρμενείας is not … absolutely impossible'[301] although he points out the difference in prose rhythm[302] in this text compared to the authentic works and notes the distinctly smaller number of Apuleian-type coinages in this work compared to the others.[303] Lee thinks that 'we should not necessarily reject Apuleian authorship' but that 'the case is far from closed'.[304] Fletcher 'agree{s} with the consensus that the *Asclepius* and *Peri Hermeneias* … are not authentic

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[293] 1967: 14.
[294] 2015: 211 n.118.
[295] Beaujeu, 1973: vii-viii.
[296] 1982.
[297] 1986: 7.
[298] 1987: 19.
[299] 1987: 15-17.
[300] 1997: 40.
[301] 2000: 12.
[302] 2000: 11 n.44, see also 178-9.
[303] See n.181.
[304] 2005: 11.

works'[305] and says that his study 'could provide some momentum to arguments that would reopen the authenticity debate of either work'.[306]

More recently, Stover's work on the *Expositio* has played a significant role in quelling assumptions made by previous scholars, mentioned above, that the *Peri Hermeneias* formed the third book of the *De Platone*.[307] Although Stover does not deal with this text directly, he successfully proves that it definitely did not form the third book of *De Platone* since he provides a very convincing case that the text of which he has produced the first critical edition and commentary fits the identity of the lost third book.[308] As a result, it is not possible that the *Peri Hermeneias* formed the third part of the *De Platone.* This is an important advance in the dispute surrounding the authenticity of this text. However, it does not preclude the possibility, as Stover acknowledges, that it was a separate treatise which was also written by Apuleius.

The most recent discussion about the authenticity of the *Peri Hermeneias* is Moreschini's study on Apuleius' Platonism as a whole[309] in which he argues that it cannot be dated before the fourth-century A.D.,[310] and therefore, by implication, cannot be ascribed to Apuleius. Moreschini, who has edited the *Peri Hermeneias,*[311] says that 'its technical nature makes it inadvisable for those – like us – who are not experts to deal with the problems of content: for these problems, we limit ourselves here and elsewhere to what scholars of logic have proposed, while we will confront certain questions that do not regard the understanding of the work, but have considerable importance for its history'.[312] This limited approach has, unfortunately, led Moreschini to make a number of erroneous generalisations:

First of all, Moreschini says that 'the logical doctrines of the *De interpretatione* are not those of the *Didaskalikos* of Alcinous'[313] and, as further proof that it could not belong to the second century A.D., says that 'the logical works taken into consideration by the Middle Platonists contemporary to Apuleius were the *Categories* of Aristotle, always read in a

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[305] 2014: 1 n.2.
[306] *ibid.*
[307] For those who hold this view, see n.214.
[308] For the discussion on this matter see introduction section 7.
[309] 2015.
[310] Moreschini, 2015: 217*ff cf.* Moreschini, 1966: 10, where he does not take up a position on this matter.
[311] For a discussion about this edition, see introduction section 3.
[312] 2015: 205.
[313] 2015: 204.

polemical light'.[314] This view about the treatment of the *Categories,* however, is based only on a 'few remaining fragments'.[315] Furthermore, there is a part of this text which contains an allusion to the *Categories* and its commentary tradition in an indirect way.[316]

Moreschini goes on to say that, 'if the *De interpretatione* is of Apuleius, he is not interested in the *Categories,* but in Aristotle's Περὶ Ἑρμενείας'.[317] This assertion betrays a lack of familiarity, either with the contents of the Latin *Peri Hermeneias* or with the contents of Aristotle's work of the same name. In light of the fact that Moreschini has edited the former, the case must be that he is unfamiliar with the contents of the latter; as discussed in section 2 of this introduction, the contents of our text are more in line with the subject matter of Aristotle's *Prior Analytics* than his *De interpretatione,* aspects of which are only briefly mentioned in order to lay the groundwork for the exposition of syllogistic theory and the topic of conversion which Aristotle discusses in the *Prior Analytics*. This is also exactly the sort of material that we find in Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics* 1—7.

Lastly, Moreschini says that the author interpreted this topic 'outside of strict Aristotelian exegesis, that is, with ample inclusion of Stoic logic'.[318] It was demonstrated in section 4 of this introduction, in complete contrast to this supposition of Moreschini's, that the Latin *Peri Hermeneias* is written in a manner which is perfectly in line with the Peripatetic tradition of commentaries on Aristotle's texts. Just as we find in Alexander of Aphrodisias, any inclusion of Stoic logic within the text is presented with a view to refuting it. In places, terminology is used which may have been introduced by the Stoics but it has clearly been appropriated into the context of Peripatetic logic.[319]

Moreschini's study, then, represents one angle of the disparity in the treatment of this text as a whole; those dealing with the authenticity do not concern themselves with the subject matter and those dealing with the subject matter have little interest in the authorship of the text; the authenticity of the text is not an aspect which tends to concern those who come across it when dealing with other, better known texts on syllogistic logic or with logic

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[314] 2015: 205.
[315] 2015: 205.
[316] See introduction section 4, and commentary note on 206.3-5.
[317] 2015: 205.
[318] 2015: 205.
[319] For example, *indemonstrabilis* (206.1-2), which corresponds to the, originally Stoic, Greek ἀναπόδεικτος, for which, see Barnes et al., 1991: 21.

as an area of philosophy. In works such as these, it is usually simply noted in the briefest terms for providing an example which is comparable to a variety of other texts which is representative of the main topic of discussion. The authenticity of the work, however, an aspect which preoccupies those who deal with Apuleius' work more generally, but such studies largely neglect to include a detailed discussion about the text itself due to its highly technical subject matter.[320] It is also considered by those who treat the text itself but in isolation from comparable texts dealing with the same topic.[321] As discussed in section 4 of this introduction, however, the numerous similarities between the text and the commentary on the *Prior Analytics* by Alexander of Aphrodisias have made it possible to suggest, albeit in rather broad terms, the milieu to which the text belonged.

ii) The possible timeframe for the composition of the work

It was previously suggested that the text must have been composed after Gellius' *Noctes Atticae* owing to the way in which Gellius talks about his own experience of learning logic, which suggests that a text like the Latin *Peri Hermeneias* was not in existence at this time.[322] We must also conclude that the text has to have been written before Cassiodorus' time in the sixth century since he mentions Apuleius and the *Peri Hermeneias* by name in his *Institutiones*.[323] Martianus Capella is one of the six authors included by Sullivan in his discussion about the influence that *Peri Hermeneias* had on later authors and their works.[324] Since I am less certain than Sullivan about the appropriateness of attributing the work to Apuleius and since the above has shown that it is possible that *Peri Hermeneias* may have been composed later than the second century A.D., in this section, I aim to explore the possibility that, not only was *Peri Hermeneias* not written by Apuleius, but also that it was not written in the second century A.D. at all. In this way, rather than Martianus Capella borrowing from the *Peri Hermeneias* when composing *De Arte Dialectica,* as has been

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[320] For example, Harrison, 2000: 12; Fletcher, 2014: 1 n.2; Moreschini, 2015: 205.

[321] This is the case for Sullivan, 1967 and Londey and Johanson, 1987.

[322] For an estimation of the date of publication of *Noctes Atticae* see n.138.

[323] *Inst.*2.3.12.

[324] Sullivan, 1967: 170-208. He also discusses the influence the work had on Cassiodorus, Isidore of Seville, Alcuin and Charles the Great, Dunchad, Pseudo-John Scotus Erigena, and Remigius of Auxerre. He then discusses the text more generally in the ninth and tenth centuries. My own discussion in this section is limited to Martianus Capella, whose work, being the closest possible in terms of chronological proximity to the *Peri Hermeneias,* serves my purpose of setting this text within a plausible timeframe.

assumed by Sullivan, I explore the possibility that this work was a source for *Peri Hermeneias.*

The first, face-value, factor which raises suspicion that *Peri Hermeneias* does not predate Martianus Capella is that, as Sullivan himself points out, 'Martianus does not acknowledge Apuleius's treatise as his source; but that, and how he takes much of his doctrine from the *Peri Hermeneias,* or an intermediate work, can be shown through a brief description of the middle of *De Arte Dialectica.'*[325] In response to the first part of this statement, it seems to me that this is an unexplained exception; Martianus is very much in the habit of crediting his other sources.[326]

The main factor which is indicative of the chronological differences between the two texts is their differences in terminology, some of which will now be discussed.

Sullivan points out that Martianus 'uses *proloquium* instead of *propositio* to denote a proposition' and that 'this is one of the relatively few differences in terminology between Martianus and Apuleius.'[327] Sullivan goes on to list three more differences in the terminology used in each of the works: 'Martianus uses *forma* instead of *formula*, *syllogismus* for *collectio, in quo conficitur* in place of *qui conducit, etc.*'[328] His use of 'etc.' indicates that this is not an exhaustive list, indeed, *sumptum* is a term which is used by Martianus but which does not appear anywhere in *Peri Hermeneias,* and there are also differences in the way in which the term *illatio* is used in each of the texts. What follows is a discussion about the use of each of these terms in Martianus Capella and, where there is one, their corresponding term in *Peri Hermeneias*.

proloquium for *propositio*: Martianus, in fact, uses both *proloquium* and *propositio* a similar number of times.[329] He uses *propositio* 18 times.[330] *proloquium* is also mentioned in the

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[325] Sullivan, 1967: 171.

[326] See for instance, Aristotle 327, Stoics 327, Cicero *passim*. It is not, of course, common practice for ancient authors to always credit their sources. Apuleius himself, for instance, neglects to refer to any named source in the philosophical works more firmly attributed to him. It is significant however that, in this work at least, Martianus' practice is to cite authors from whom he has drawn heavily.

[327] Sullivan, 1967: 171 n.7.

[328] Sullivan, 1967: 172.

[329] According to the Library of Latin Texts, there is a total of 20 uses of *proloquium* and 18 of *propositio.*

[330] Twice in 414; 416; five times in 422; 506; 544; 553; 554; twice in 555; 561; 562; 563; and 716.

Peri Hermeneias as the term which Varro chooses to express '*quae pronuntiabilis appellatur*'.[331]

forma for *formula*: Martianus also uses *formula* twice in 328. This use, however, falls outside the middle portion of *De Arte* IV in which, according to Sullivan, Martianus is borrowing from *Peri Hermeneias.*[332] Ferré however, suggests that Martianus '*joue sur le mot 'formula', 'petite forme' ou 'statuette', et aussi 'formule' de syllogisme,*' and cites d'Auxerre's comment on the same passage, '*potest et ita accipi ut per formulas intelligatur propositio.*'[333] Cassiodorus[334] and Boethius,[335] who both post-date Martianus Capella, both use *formula* rather than *forma,* in the same, technical sense as it is found in *Peri Hermeneias,* and use *forma* in a more general sense. The author's choice of *formula* over *forma* in *Peri Hermeneias* could be an indication of the intended audience of the piece;[336] this is one of a number of examples of terminology in the piece which is also found in a legal context.[337]

syllogismus for *collectio*: *syllogismus* is used frequently by Aulus Gellius[338] showing that it was a familiar term in the second century A.D. It does not, however, appear anywhere in *Peri Hermeneias,* which we could reasonably expect it to; *collectio,* which is the alternative term used throughout, is, as Ferré points out, a direct calque from *syllogismus*.[339]

sumptum: The use of this term as a substantive is unique to Martianus according to Ferré[340] and appears to mean a 'premise' which has been accepted by the interlocutor.[341] The cognate verb form of the term is used in Cicero's *De Inventione*;[342] Martianus refers to this work explicitly by name[343] which, as mentioned above, makes it clear that he is using it as a source. It is often clear in the authentically Apuleian philosophical works that, despite leaving him unacknowledged, Apuleius is borrowing from Cicero for his own work as there

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[331] 190.2-3.
[332] 393-413. See note 286.
[333] Ferré, 2007: 69 n.19.
[334] See esp. *Inst.*2.3.12.
[335] See esp. *In Arist. Peri Herm.* 1.1.30-33.
[336] L&S s.v. esp. IV '*formula for regulating judicial proceedings*', B1 '*a lawsuit', 'action', 'process'.* Similarly, Boethius uses *formula* in a legal sense (*in Cic. Top.* 1.9; 4.33-34) as well as in a logical sense.
[337] See introduction section 5 n.176 for a comment about the use of legal language in this text.
[338] *N.A.*1.2.4; 5.11.8; 5.15.32; 15.26.1,2; 15.32.13.
[339] Ferré, 2007: 113 n.251. See also Quint.*Inst.*9.2.103, in which he shows that *collectio* is the standard Latin term for *syllogismus*.
[340] Not to be confused with *sumptus-us* which means 'sum (of money)'.
[341] 404: *cum concessa fuit, 'sumptum' dicitur. cf.* the definition of *acceptio* in our text (199.11-14).
[342] '*quod pro credibili sumptum erit.*' *De inv.*1.80.
[343] 399: '*Hac conversione usus est in Rhetoricis Cicero*'.

are a number of philosophical terms coined in Cicero which do not appear elsewhere until Apuleius.[344] The author of *Peri Hermeneias* refers to that which is labelled *sumptum* in Cicero and Martianus Capella as *acceptio.* This is one of only two terms from this work which is also found in Cicero's writing on logic.[345] In light of this, if it is the case that Apuleius did write *Peri Hermeneias,* this work would be an unexplained exception to his standard practice of using Ciceronian vocabulary freely.

illatio: Martianus uses the term only six times, including an occurrence where he clarifies the difference between this term and *sumptum.* Since this word appears very frequently in *Peri Hermeneias,*[346] it seems strange that if, as Sullivan maintains, Martianus was using this work as a source, the term *illatio* should appear so infrequently. This is particularly the case since Martianus' rather minimal usage of this term is starkly contrasted by that of Cassiodorus in *Institutiones.* Cassiodorus explicitly states that he is using *Peri Hermeneias*[347] and uses the term more or less as many times as it appears in our text.[348]

The similarities in language used at the beginning of *Peri Hermeneias* Chapter 8 and in *De Arte* 4.410 show quite clearly either that a direct borrowing is taking place or that they are sharing a common source.

> *'Nunc tradendum est, quibus modis et coniugationibus fiant intra certum numerum praedicativi generis verae conclusiones. quippe in prima formula novem soli moduli, sex autem coniugationes reperiuntur ; in secunda quattuor moduli, tres coniugationes ; in tertia sex moduli, coniugationes quinque.'*[349]

> *'Nunc dicendum est singulae formae quot modos recipiant. Nam recipiunt intra certum numerum, extra quos modos quicquid conclusum fuerit non est temere concedendum. Recipit autem prima novem modos, secunda quattuor, tertia sex.'*[350]

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[344] For example, *medietas, excandescentia, universa virtus, modice temperatum, ille heros* (Plato), *conservatrix, meditullio, fatuitas.* For further details about the similarities between Cicero and Apuleius and the way in which the latter borrows from and emulates the former, see introduction section 5ii.

[345] *Top.* 37. The other Ciceronian term, *negatio,* appears in Chapter 5. For which, see commentary note on 196.9-11.

[346] 30 occurrences listed in the Library of Latin Texts.

[347] See n.172.

[348] There are 28 occurrences recorded in the Library of Latin Texts.

[349] 202.16-203.3.

[350] *De Arte* 4.410.

The choice of the verb '*trado*' in *Peri Hermeneias* suggests that this information did not originate with the author who is delivering it here, but that he is handing down something which existed previously;[351] this is in contrast to the use of *dico* in the corresponding passage which tends to have a more general meaning, and is more commonly used when the information which is being delivered 'belongs' to or originated with the subject.[352] This nuance hints towards the possibility suggested above that the author of *Peri Hermeneias* is relaying information which has already been stated by Martianus Capella. Note, however, that our author and Alexander of Aphrodisias distinguish combinations from full moods or types of syllogisms whereas Martianus Capella simply counts the complete moods.

The differences between these two texts discussed here lead to the same conclusion as Moreschini reached after highlighting some anachronistic vocabulary in the *Peri Hermeneias*;[353] the specific terminology used throughout the *Peri Hermeneias* is more in line with a date later than the second century A.D. As demonstrated in the previous section, this text shares so many striking similarities in terms of content and exposition with Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics* that the two texts must have belonged to the same broad milieu. It was not possible, however, to say whether our text came before or after Alexander's commentary; the linguistic evidence which has been analysed here suggests that it came after.

iii) New arguments concerning the authenticity of the text

Thus far, arguments concerning the authenticity of the *Peri Hermeneias* have tended to focus on the linguistic style of the text. The prose rhythm of the text has been treated as a reason for disputing its authenticity; *Peri Hermeneias* shows the *cursus* technique unlike *De Platone* and *De Mundo*, in which the *cursus mixtus* is employed.[354] As Oberhelman and Hall have shown, however, this is not a reliable method of determining the authenticity of any given work as a number of authors employ different rhythms in different works.[355] In some

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[351] *OLD* s.v. *trado,* esp. sense 4: 'To hand down, bequeath,' and sense 10a: 'To hand down or pass on (information etc.), 'relate'; 'tell of' *cf. L&S* s.v.2a, b *'To hand down or transmit to posterity* by written communication.' See Cic. *De inv.* 2.1.3 for an example of the term being used in a similar context.

[352] *OLD* s.v. *dico* all senses.

[353] See n.216.

[354] Harrison, 2000: 11 n.44.

[355] 1985: 224, 'While our research so far sheds no light on the question of the possible spuriousness of the *De mundo* and the *De Platone*, we can at least discount a reservation about their authenticity which is based solely on the argument that the genuine works of Apuleius employ a purely metrical system for we have detected differing rhythmical styles in the works of Lactantius, Jerome, Ambrose, and Augustine'.

cases, as mentioned in relation to Hildebrand's view above, the technical and perceived dry style of the work has been used to argue against authentic Apuleian authorship. In other cases, particular features of the text have been picked out as being representative of Apuleius' style and used as evidence that the work was his.[356] In section 5 of this introduction in which I discussed the introduction and use of terminology in this text, I argued that style cannot be used as evidence of authorship because this is something which could be easily emulated. Furthermore, the style of a logical text such as this is bound to be more reflective of its content than of any particular author.[357]

Since arguments which have proceeded in this way have thus far proved to be unfruitful, I now aim to consider the authenticity of the text from the point of view of content rather than style; this is an aspect which has been neglected by those concerned with the authenticity of the text in the past.[358] Although this approach will not allow a definitive conclusion to be made about Apuleian authorship, it will highlight previously unexplored features which allow us to weigh up the possibility that such a text could have been composed against a Middle Platonist background of the second century A.D.

The identity of the character 'Sergius', introduced in Chapter 1, is the first aspect of the text, chronologically speaking, which invites speculation about the dating of the work.[359] The best known Sergius, as far as modern scholarship is concerned at least, is the late fourth or early fifth-century grammarian. There is also, however, the first-century 'Sergius Plautus' who is referred to as 'Plautus' in Quintilian.[360] The term the author ascribes to Sergius has its first appearance in Cicero:

> '*ubi est illa definitio, effatum esse id quod aut verum aut falsum sit?*'[361]

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[356] For example, see commentary note on 189.4-8 which points out Prantl's view that the lengthy list of gerunds at the beginning of the work is characteristic of Apuleian style. See above for other features of the text which Londey and Johanson claim to be evidence of Apuleian authorship.

[357] I have identified a number of other points in the text which could be construed as Apuleian in style, for which see commentary notes on the use of hair as an analogy for useless parts of speech (192.4); the use of language which is also found in the *De mundo* (192.5-6); the use of litotes (193.15-16); and the use of diminutives (201.4-5). However, I do not wish to use these examples towards an argument for or against authenticity for the reasons already mentioned.

[358] Moreschini, 2015: 205.

[359] See commentary note on 190.4-5.

[360] *Inst.* 2.14.2; 3.6.23; 10.1.124.

[361] *Luc.* 95.

Seneca also uses the term *effatum* as one of a number of synonyms for something which is '*enuntiativus*':

> '*Non corpus' inquit 'est, quod nunc loquor, sed enuntiativum quiddam de corpore, quod alii effatum vocant, alii enuntiatum, alii dictum'.*[362]

It is possible that Seneca could be referring to 'some Stoics' and 'other Stoics' here. It seems strange that a 'Stoic philosopher of the first-century A.D.'[363] would not be mentioned by Seneca at all. However, it is entirely possible that Sergius' life post-dates Seneca's death in 65 A.D; if this is the same Sergius Plautus, to whom Quintilian refers, usually simply as 'Plautus', he would surely have to belong to the second half of the first century A.D.[364] In Quintilian's work, Sergius is only once referred to as 'Sergius Plautus' and not even on the first occurrence of his name. It is possible that, if the author *is* referring to the same person here, he used his *nomen* rather than his *cognomen* to avoid confusion with Titus Maccius Plautus. This confusion surrounding the identity of Sergius in the *Peri Hermeneias* could easily be avoided if he qualified Sergius as a Stoic as Quintilian does. Elsewhere in this text, authors who are mentioned are explicitly associated with their philosophical school.[365]

There is a similar passage in *Noctes Atticae* where Aulus Gellius lists the terms used by certain Latin writers for the Greek term ἀξίωμα;[366] as in *Peri Hermeneias* Cicero and Varro are mentioned alongside their respective terms but Sergius is not. The exact extent of 'all' the evidence to which Barnes refers when he says that 'Sergius Plautus is generally dated to the first century A.D.; but in truth all our evidence is consistent with a date in the first century B.C.',[367] is unclear, that is to say, whether he has identified more than the references from Quintilian mentioned above. We can only speculate on the identity of Sergius in this context as the limited evidence is far from conclusive. The possibility that this Sergius is entirely unknown to us ought not to be discounted.

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[362] *Ep.* 117.13.
[363] Londey and Johanson, 1987: 76.
[364] Quintilian 35-c.90 A.D (*OCD*).
[365] See e.g. '*licet Antipatro Stoico,*' (200.16-17), '*Aristoteles… Theophrastus et ceteri quinque enumerant.*' (212.12-13), and '*Aristo autem Alexandrinus et nonnulli Peripatetici iuniores*' (213.5-6). The example '*Apuleio … philosophum Platonicum Madaurensem*' (192.11) is also a case of this.
[366] *N.A.*16.8.
[367] Barnes, 1997: 4 n.14.

As described above, both Gellius and the author ascribe the term *proloquium* to Varro but, whereas in *Peri Hermeneias* Cicero is said to have called the same thing *enuntiatum*, Gellius says the following:

> *a M. autem Cicerone, "pronuntiatum," quo ille tamen vocabulo tantisper uti se adtestatus est, "quoad melius," inquit, "invenero."* (*NA*.16.8.8).

pronuntiatum is not a Ciceronian coinage, although he is the first to use the term in this context, which accounts for his dissatisfaction with it. The anecdote to which Gellius is referring occurs in *Tusc*.1.14 where Cicero offers the term as a makeshift translation of ἀξίωμα. It is worth pointing out here that Gellius is only dealing with the term ἀξίωμα and its Latin equivalents, not πρότασις as our author is: '*Graeci* πρότασιν *tum* ἀξίωμα'.[368]

In the context of describing the tripartition of philosophy, the author uses the phrase '*plerisque videtur*'[369] which suggests that by this time, whether in the second century A.D. or later, this tripartition of the areas of philosophy was no longer exclusive to the Stoics. This is in contrast to the division of philosophy, which is accompanied by the emphatic *hinc ordiemur* in the *De Platone*.[370] This suggests that either the order of philosophical topics no longer held any significance by the time the *Peri Hermeneias* was written, or that the author of this work did not feel the need to associate himself strongly with a particular division. Whatever the case may be, this evidence suggests that it is doubtful that this was written by the same author as the *De Platone*, or even around the same time.

Where the author gives an example of the way in which either the subject part or the predicate part of a proposition may be extended into multiple words, he represents 'Apuleius' as '*philosophum platonicum Madaurensem*'.[371] The use of this epithet is present in epigraphical evidence in the form of the base of a statue which, according to its location and date and the absence of a more obvious candidate, is presumed to be dedicated to Apuleius. Gaisser suggests that it was erected 'either in his lifetime or not long afterward'.[372] In terms of textual evidence, this lengthy designation is more similar to descriptions of Apuleius found in later works by other authors than in Apuleius' own texts, for example, he

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[368] 190.5-6.
[369] 189.1-2.
[370] 92.1. See also commentary note on 189.1-3.
[371] 192.11. See also commentary note on 192.11.
[372] Gaisser, 2014: 55.

is called '*platonicus Apuleius*' by Augustine,[373] '*Apuleius Madaurensis*' by Cassiodorus[374] and he is referred to as '*platonicus philosophus Apuleius*' in the *Anonymi Contra philosophos*.[375] Collectively, these references suggest that the epithet used here is an amalgam of all those by which Apuleius has been known but after his own lifetime.

Sandy has commented that the kind of education Gellius and Apuleius would have had at roughly the same time, whether actually both under Calvenus Taurus or not, would have been ossified and would have been based on a rather standardised curriculum: it is implied that this curriculum contained logic in some form. In terms of this area of their education, he comments that 'the impression that emerges is that of two enthusiastic but puzzled amateurs doing their best to combine the difficult and imperfectly understood lectures that they attended in Athens with equally confusing and even contradictory written treatises and attempting to produce a coherent amalgam from these divergent sources'.[376] Gellius in fact describes his experiences studying logic rather briefly at *N.A.*16.8. That the respective works of each author are the results of a similar education is reflected in the number of similarities in language the two authors share when discussing matters related to physics and ethics. Three examples of this would be their use of the terms *disparilitas*,[377] *inconcinnitas*[378] and *incorporeum*;[379] the last of these is a particular point of interest in terms of the development of Latin philosophical language since Gellius uses this term as an example of a Latin coinage from a Greek term:

> '*vetus atque perpetua quaestio inter nobilissimos philosophorum agitata est, corpusne sit vox an incorporeum. hoc enim vocabulum quidam finxerunt proinde quod Graece dicitur* ἀσώματον' (*NA.*15.5.1-2).

In light of the examples above and the fact that both authors supposedly studied the same topics in a similar way, it is striking that, other than the introductory section of *Peri Hermeneias*, there is no such similarity between the parts of the works ascribed to each author which deal with logic or dialectic. It is also interesting that, whereas Gellius says that

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[373] *C.D.*8.14; 10.27.
[374] *Inst.*2.3.18; 2.4.7; 2.5.10.
[375] *Disp.*4.542.
[376] See n.106.
[377] *De Plat.* 115.1; *N.A.*3.1.15; 6.3.47.
[378] *De Plat.*115.1; *N.A.*2.26.4.
[379] *De Plat.*92.8; 93.9; 101.7; *N.A.*5.15.1.

Cicero called an axiom, '*pronuntiatum'*,[380] our author says '*Cicero enuntiatum'*.[381] This was the improved term found in *De Fato*, which Cicero promised in the earlier *Tusc.*1.14. Gellius cites '*quoad melius…invenero*,' in our text, Cicero actually says, '*si…*': 'if he could find a better one.' It is possible that the author of *Peri Hermeneias* was aware that *enuntiatum* was the improved form of the term which Gellius cites. Also, as discussed in the previous section, Gellius' initiation into logical study is distinctly Stoic in its roots[382] to such an extent that it seems that a text like the Latin *Peri Hermeneias* was not available to him. Even if the text itself was not available to Gellius, if the *Peri Hermeneias* were written by Apuleius, the ideas contained within the text themselves would surely have been available to Gellius but there is no sign in his *Noctes Atticae* that they were.

As discussed above, Moreschini says that the presentation of logic in this text and in Alcinous' *Didaskalikos* is at odds and therefore suggests that the two texts are not contemporary with each other in the way that the *Didaskalikos* is with the *De Platone*.[383] At this point, I wish to highlight a number of features of the text which, to my knowledge have not been previously discussed collectively, and could be considered to have their origins in the Middle Platonist tradition.

The most explicit of these is the reference to Plato's *Theaetetus* at the beginning of Chapter 4.[384] The passage concerned[385] also brings to mind a passage from the subsequent dialogue, the *Sophist,* in which the same noun and verb distinction is discussed but in more detail.[386] Londey and Johanson have suggested that the author was confusing the *Theaetetus* with the *Sophist,* in which Theaetetus appears as a character, assuming that he must have meant to refer to the more comprehensive discussion of the topic found in the latter.[387] Dillon, however, has discussed the importance of the *Theaetetus* to the Middle Platonists with regard to logical doctrine;[388] the anonymous commentator on the *Theaetetus,* for instance,

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[380] *N.A.*16.8.8.

[381] 190.5.

[382] His main points of reference in *N.A.*16.8 are Varro and Aelius Stilo who, Cicero tells us (*Brut.*206), belonged to the Stoic school.

[383] A comparative study of these two texts with a view to identifying a common source has been carried out by Göransson, 1995.

[384] 191.16.

[385] *Theaet.*206d.

[386] *Soph.*261-262.

[387] 1987: 84 n.2.

[388] Dillon, 1993: 61; 172. For details see commentary notes on 191.16; 191.16-17. See also Fletcher, 2014: 28, 254, who also discusses the significant role held by the *Theaetetus* in Middle Platonic doctrine; *cf.* Tarrant, 1983, who argues that the date of the anonymous commentary on the

recognises the use of the third syllogistic figure in this dialogue.[389] These factors suggest that referring to the *Theaetetus* at this point was not necessarily accidental as Londey and Johanson suggest; it could be indicative of the Platonic leanings of the author of our text.

The similarities and differences between Martianus Capella's book on syllogistic theory and the Latin *Peri Hermeneias* were described above. There is, however, another difference to mention which puts our text closer in line with the Platonic tradition than with Martianus' text: in the context of the description of indefinite terms, after saying that they do not define what something is, our author describes them in the following way:

'*sed tantum ostendunt aliud praeter hoc esse*'[390]

Martianus only says that indefinites say what something is not, and not what it is.[391] The way in which our author adds that they show that the designated term is 'something other' than this corresponds to the analysis of the negative particle 'not' in the *Sophist.* In the same way as indefinite terms in our text designate 'something other', the negative (ἀπόφασις) is described as indicating only 'something different' to the words to which it is prefixed and not 'the opposite'.[392]

In light of these Platonic examples, the author's use of *pugna* in the context of propositions which are contrary or contradictory[393] is worth pointing out in terms of how this type of language fits into a Platonic setting. Londey and Johanson believe that the term *pugna* reflects a 'Stoic way of viewing relations between propositions'.[394] Although Londey and Johanson have acknowledged the polemical way in which the author treats the Stoics throughout the rest of the work elsewhere,[395] they do not attempt to justify this uncontroversial use of what they perceive to be Stoic language here.[396] Of course, it must be taken into account that the nomenclature of argument and of battle inevitably has overlaps, but in light of the Platonic allusions described above in relation to the *Theaetetus*

Theaetetus must be before the second century A.D. because the interests reflected in its fragments are more in line with earlier philosophical activity.

[389] Dillon, 1977: 279 n.1.

[390] 193.13.

[391] 399. For which, see commentary note on 193.12-13.

[392] *Soph.*257b9-4c2. See commentary note on 193.12-13.

[393] 194.4-5.

[394] 1984: 172.

[395] 1987: 113-118.

[396] See commentary note on 194.4-5.

and the *Sophist*, it is tempting to see the use of *pugna* in this text as picking up on the metaphors of fighting which are present throughout this pair of dialogues.[397]

It is clear from the above that the treatment, both direct and indirect, of Platonic material found in the *Peri Hermeneias,* which does not appear to have been considered before, could well have fitted into a Middle Platonic context. The next question to ask based on this is whether or not it could reasonably belong to Apuleius. There is no conclusive evidence, either in this text or in any other, to entirely discount this possibility. One minor piece of evidence which has recently come to light which could support Apuleian authorship in light of these Platonic features arises in the newly edited *Expositio*; a synopsis of the *Sophist* appears in this text illustrating Plato's treatment of dialectic in which it is said that '*definit deinde orationem et ait complecti eam nomina et verba'*.[398] This, of course, matches the citation not to the *Sophist,* but to the *Theaetetus* in Chapter 4 discussed above even in terms of the use of the verb *ait* referring to Plato. This, however, is far from conclusive and cannot usefully be added to any other evidence to form a strong case for Apuleian authorship.

iv) Conclusions

The factors which I have taken into consideration when examining the authenticity of this text have not provided a completely conclusive account but they have, nevertheless, provided some new angles to the debate. The main outcome is that the linguistic evidence and the content of the work present opposing cases; the linguistic evidence is better placed to argue against Apuleian authorship and for a composition date later than the second century A.D., but before the mid sixth century A.D. On the other hand, the Platonic aspects of the text described above show that it is not beyond the realms of reason to date the work to the second century A.D.

It was shown in section 4 of this introduction that the nature of the similarities between Alexander and *Peri Hermeneias* are not such that they can be suggestive of a date for our work; as was discussed in this section, it is chronologically possible that the wealth of material upon which Alexander was drawing would also have been available to an author in the second century A.D., whether Apuleius or not. It is also possible, however, that the *Peri Hermeneias* was composed after Alexander's commentary. Although this aspect of the

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[397] For a detailed discussion about Plato's elaborate use of combat and battle as a metaphor in the *Theaetetus* and in the *Sophist* see Herrmann, 1995.
[398] *Expositio* 30.16.

work has not given us a clear view about the date of the work, it has given us a very clear view about the milieu to which it belongs which has not been the case in the previous major works on the text.

Although my conclusion regarding the authenticity of the text has resulted in *aporia,* the above analyses have provided a clear idea about the way in which the study of this aspect of the text ought to proceed. The success with which Stover has ascertained the Apuleian authorship of the *Expositio* using computational analysis[399] suggests that the same procedure could effectively be carried out on the *Peri Hermeneias*. My attempt at such an analysis on a much more modest scale, which was discussed in section 5, I hope has shown that this would be a worthwhile endeavour. Affirming or denying authenticity in this way ought to provide greater support for assessing manuscript readings when taking into account all known manuscripts of the text as I suggested in section 3 of this introduction. Thomsen-Thörnqvist discusses the loss of features of Boethius' style due to inexpert scribal copies of his works;[400] knowledge about the authorship of the *Peri Hermeneias,* one way or another, ought to assist in the restoration, of any currently covert stylistic features and therefore help this text to avoid suffering the same fate. Having said this, it may be the case that the text will require the editorial work described above *before* undergoing such computational analysis in order for this to be carried out effectively. It is not clear to me at this stage which of these tasks should be undertaken next; it would seem to be the case that, in fact, each one would benefit the undertaking of the other. At any rate, it is clear that establishing the text and examining its language through computational analysis are the next logical steps in ascertaining its authenticity.

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[399] See introduction section 5.
[400] 2016: 373.

8) The aim of this commentary

The initial aim of this commentary was to explore the use of Latin logical terminology throughout this text as a means of determining its place in the development of logic more accurately than has been done previously. In this respect the intended outcome was to verify and, where necessary, to correct the generalisations and hypotheses which had been proposed by the four previous studies.[401] Broadly speaking, these hypotheses relate either to the meaning of the content of the text, or to the meaning of the author's particular use of terminology, or even to the authorship of the text; the authors of three out of four[402] of the main works take it for granted that this work was written by Apuleius and therefore that it is necessarily fixed to a date of composition in the second century A.D. Furthermore, these works are all presented in monograph form which rely on the earlier of the two modern editions of the text, Thomas's 1908 Teubner edition. For my own commentary, I have used Moreschini's 1991 Teubner edition, which, in fact, other than including readings from a handful of manuscripts omitted by Thomas, does not differ from the earlier edition in any significant way.[403] The close reading of the text which was necessary for the commentary form of this thesis allowed the conclusions presented throughout this introduction to be brought to light. This commentary, therefore, serves to provide detailed evidence for these conclusions which, in summary, are as follows:

i) The number of similarities between Alexander of Aphrodisias' commentaries and this text very strongly suggests that the author made use of a Greek source. The order of composition matches Alexander's commentary on Aristotle's *Prior Analytics* so closely that it is more than likely that he was following a single source and not using, 'a patchwork method of composition' as Sandy and others suggest.[404] I do not firmly propose that the author of the *Peri Hermeneias* used Alexander of Aphrodisias as his source; a small number of differences between the two texts could be considered to be indications that each text represents a slightly different stage in the development of logic. Nevertheless, in the absence of greater evidence, I would not discount it as one

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[401] See p6-9.
[402] The exception is Lumpe, 1982: 18-19, who believes that the work was more likely to have been written by a fourth-century grammarian.
[403] This matter was discussed in introduction section 3.
[404] See n.106 and n.107.

possibility. Another possibility would be that the author was using a source which predated Alexander but which Alexander made use of himself, such as the works of his teacher Herminus, who is known to have written similar commentaries on Aristotle's texts.[405] In which case, it is perfectly possible that the author of this text was Apuleius. At any rate, in light of the comparable order of exposition in Alexander and in our text, it is preferable to posit one source which is no longer extant rather than a number of such sources.

ii) The introduction of new terminology throughout the text is extremely well thought out and is very formulaic in its presentation. The style of terminology itself differs from that which we find in the *De Platone*; a text of a similarly technical nature which is considered to be genuinely Apuleian. In the *Peri Hermeneias* the purpose of the neologisms is always clear and is rarely added purely for *variatio* or any other kind of literary display. It could be said to be Aristotelian in that it shares common features with Alexander of Aphrodisias, who can be treated as representative of the Aristotelian commentary tradition. The non-technical style of much of the new terminology introduced is indicative of the didactic purpose of the text. Based on these findings, a glossary of terms is included as Appendix B. My examination of the way in which the author sometimes uses two different terms for different aspects of the same logical feature has allowed me to correct parts of Londey and Johanson's glossary where they consider two such terms to be entirely synonymous. Furthermore, the numerous close parallels which I have identified between this text and Alexander of Aphrodisias' commentary on the *Prior Analytics* have provided strong grounds in many cases for positing a more suitable Greek equivalent to the Latin terms than Baldassarri has given, thus making it clearer how this text relates to the Greek tradition.

iii) The main purpose of this text is didactic as opposed to literary display. This is in contrast to the Apuleian *De Platone* which shares some didactic features, but linguistic creativity is an at least equal consideration in this text whereas in the *Peri Hermeneias* this holds a less significant role than the purpose of educating beginners in logic. The examination of this aspect of the text, which

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[405] Lumpe, 1982: 24 suggests Herminus as a possible source for the author's treatment of the five types of predicables. See commentary note on 197.10-13.

has not, to my knowledge, been considered before, has provided a satisfactory explanation for the author's use of idiosyncratic terminology and for his particular method for ordering premises within syllogisms in his work neither, of which have previously been accounted for in a satisfactory manner.

iv) The factors which may be considered in relation to the authorship of the text present a divisive conclusion. Whereas those considering the authenticity of the text in the past have tended to focus on stylistic aspects of the text, such as language which may or may not be seen as typically Apuleian, I have worked on the assumption that this is not a reliable indicator of authorship as such stylistic features would be easily imitable. The discussions in sections 2 and 5 of this introduction concluded that the material covered in the text could plausibly have belonged to the second century A.D. and that, therefore, Apuleian authorship is not entirely impossible. On the other hand, I agree with Moreschini's conclusion[406] that the language used in this text is more in line with a date later than the second century A.D. It is surely the case that evidence of this nature carries more weight than the content of the work when establishing its date and that arguments based on content cannot be made with as much authority. It is possible that the logical material available to an author writing in the fourth-century A.D. would also have been available to an author in the second century A.D. but the same cannot reasonably be said for the language used to compose the text. Examination of the work with regard to its authenticity has suffered in the past due to the fact that, often, those dealing with this question do not fully take the logical content into account[407] and those who have examined the content in the past have had to rely on an insufficiently coherent text. Since my comparison with Alexander of Aphrodisias' commentary has served to make the text more coherent and since I have considered the question of authenticity from the point of view of both language *and* content, the following tentative conclusion about this aspect of the work has been reached: the Middle Platonic content of the work could plausibly have its origins in a Greek text from the second century A.D. which served as a source for our text.[408] Although there are certain features of this text which are

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[406] See n.216 and n.217.
[407] See n.320.
[408] Herminus was suggested as a possible source above.

considered to be Apuleian in style, their use in this context, I would argue, is un-Apuleian and is more likely to be an example of imitation of Apuleian style rather than Apuleius writing himself. Moreschini's analysis of the language used within the text complements these two factors in showing that the text was composed after the second century A.D. and, therefore, by an author other than Apuleius. In light of Stover's recent, successful use of computational analysis on the *Expositio* to determine that this text was written by Apuleius with more or less complete certainty, I suggest that this is the next logical step to take with the text of the *Peri Hermeneias* to provide more certainty for this conclusion.

Such conclusions could not have been reached without the close reading of the text required by a line-by-line commentary which is the form that the rest of this thesis takes and is, to my knowledge, the first such commentary on this text to be produced.[409] As well as these conclusions, this particular methodology has also led to another outcome; it has become clear that the state of the text as it has been presented in the two modern editions is not fit for purpose but there is scope for it to be rehabilitated into a more coherent form. This commentary takes guidance from Greek sources, such as Alexander of Aphrodisias, in order to suggest more plausible readings and conjectures to the most opaque parts of the text. Its aim, therefore, is to lay the groundwork for such an edition to be completed in the future.[410]

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[409] Baldassarri, 1986 provides a commentary and Italian translation of the text but his commentary is rather more synoptic in form and does not contain any substantial discussion of linguistic matters or the question of sources. Londey and Johanson, 1987 have given an English translation of the text, which is preceded by an introduction which describes, among other topics of a general nature, the logical background to the *Peri Hermeneias,* its technical terminology, and the outline of the logical system, all of which is based on the assumptive premise that this text is definitely by Apuleius.

[410] Intentions to produce such an edition have been made known by scholars in the past but so far none have come to light. Bianchi, for example, announces her intention to produce her own edition of the text in her 1995 article about the indirect tradition of the *Peri Hermeneias* through Martianus Capella, Cassiodorus, and Isidore of Seville. See also Harrison, 2000: 12 n.46, who reports that Susanne Bobzien was working on a commentary on this text at the time his own work was published.

Commentary

The commentary is divided into the same 14 chapters by which Thomas (1908) divides the text. Each section begins with a brief synopsis of the contents of the chapter[411] and gives the page and line references for where it appears in Moreschini's 1991 edition. The page and line references for the lemmata also refer to Moreschini.

The type of comments made are of a similar variety to that found in Alexander's commentary on the *Prior Analytics* 1-7 as described by Barnes et al.: 'there are textual notes; there are explications of points of language; there is much explanatory paraphrase of {the author's} argument'.[412] In many cases, Alexander's commentary has provided the means by which the author's argument is made clear in my own commentary. Also in the manner of Alexander, I aim always to make my own judgement plain and only very occasionally 'set out the different possibilities without indicating a preference'[413] for a particular point of view.

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[411] For a table which outlines the full contents of the text as it compares to Alexander of Aphrodisias' *in Analytica Priora* 1-7 see p20-21.
[412] Barnes et al., 1991: 9.
[413] Barnes et al., 1991: 9.

Chapter 1

189.1-190.8

After the text opens with the tripartite division of philosophy and the author explains that the part of philosophy to which this exposition belongs is the logical part he gives a list of different types of speech before introducing statements or 'statemental utterances' as the topic of his work. The author also lists the various ways in which the Greek terms ἀξίωμα and πρότασις have been rendered by Latin writers in the past before settling on the term *propositio* as his preferred equivalent term.

189.1 *Studium sapientiae … vocamus***:** This definition of philosophy, which appears to have been coined by Cicero (*De off.*2.5; *Tusc.*1.1. See also *De inv.*1.4; *Off.*2.57; *Tusc.*1.1), is intended to capture the full meaning of the Greek noun φιλοσοφία; *studium* for φιλο- and *sapientia* for σοφία. The expression tends to be used thereafter only by philosophical authors or in texts of a technical nature (e.g. Sen. *Vit. Beat.*24.1; 3; Cels. 1.2.14; Quint. *Inst.*1.14.5; 12.1.19; 12.2.8. See also *Expositio* 27.30 in which Plato's views about the education of the youth are summarised from *Epinomis* 991c in the following way: *dialecticam nominat, cui subiungit studium sapientiae, id est philosophiam*). A case may be made for reading *quam* (BFDSW) instead of *quod* (A)*.* The relative pronoun would then agree with *philosophiam* rather than *studium* making this a clear example of attraction of the relative pronoun whereby, as Langslow describes, the relative pronoun agrees with its predicate in the relative clause rather than its antecedent in the main clause, in which the relative is 'in the accusative as object of a verb of naming' (Langslow, 2000: 83-89), here, *vocamus.* One of the examples cited by Langslow is comparable to this instance in that the relative pronoun agrees in gender with the Greek term rather than with the Latin antecedent: *non omnis enuntiatio, quod ἀξίωμα dialectici appellant, aut vera aut falsa erit* (Cic. *De fat.*20). The fact that the author of *Peri Hermeneias* circumscribes *studium sapientiae* with '*quam philosophiam vocamus'* suggests that he is setting his vocabulary at a level to initiate an audience which is new to this discipline.

189.1-3 *plerisque videtur … rationalem***:** The tripartition of philosophy into these three parts is ascribed to the Stoics by Diogenes Laertius (VII 39) whereas Gersh says that 'the ancient evidence unanimously declares that the formal tripartition of philosophy stems from the early Academy' (Gersh, 1986: 75; *cf.* Baldassarri, 1986: 68). The order of the division here, Physics, Ethics, Logic, is the same as that found in Cic. *Tusc.* 5.68, *Luc.* 116;

129; 142, Diogenes Laertius 3.56, Alcinous, *Didask.*3.1 (Gersh, 1986: 74). The order Physics, Logic, Ethics is found early on in Apuleius' *De Platone* (1.187) where biographical details about Plato are given; the three topics are described in association with the Pythagoreans, the Eleatics and Socrates respectively and in the chronological order in which Plato is said to have encountered them. Another order, Ethics, Physics, Logic, is found later in *De Platone* 1.189. This second list is accompanied by '*hinc ordiemur'*; the first person plural verb suggests that this was the order to which Apuleius subscribed even though the structure of his *De Platone* (Physics, then Ethics) is in keeping with the more frequently found order described above. The fact that a different order of the division is found here in *Peri Hermeneias* to the order accompanied by '*hinc ordiemur'* in *De Platone* is not sufficient to make judgements about the authenticity of the work since Cicero also lists the topics in a different order in different works; as well as the order described above, Ethics, Physics, Logic is found in *Acad.*15-19 and *De leg.*1.60-62, Physics, Logic, Ethics in *De fin.*5.10-11 and Ethics, Logic, Physics in *De fin.*4.5*ff* (Gersh, *op. cit.*: 75-76 n.83). The elementary nature of the text suggests that the mention of the tripartition is simply part of the general definition and description of philosophy with which he begins the work and that there is nothing to be read into the order in which the topics are presented here.

189.3 *de qua nunc … rationalem***:** Some scholars have perceived the use of *nunc* as a way of introducing this text as the third book of the *De Platone*, whether by Apuleius, or as a later addition by another author thereby accounting for the missing but projected third book (see, for example, Prantl, 1855: 580, who considers this work to be incomplete). Hildebrand believes that 'a grammarian of the third or fourth century made up for this lack' after Apuleius did not carry out his intention to do so (see Sullivan: 1967, 10). The Lewis and Short Latin Dictionary also refers to the *Peri Hermeneias* as '*De Dog. Plat.* 3' (see introduction section 7 on the authenticity of the work). This implies that *nunc* is being used with the sense of contrast to what has gone before (*L&S* s.v. A1). Although logic was clearly considered to be part of Plato's philosophy from the Hellenistic period onwards (for this see Dillon, 1977: 49-51 and Gersh, 1986: 75 n.82), the two books of *De Platone* are very different in style and scope to the *Peri Hermeneias,* which makes it seem unlikely that they all belonged to one treatise. The two books of the *De Platone* give a handbook-style overview of Physics and Ethics without going into much specific detail whereas the *Peri Hermeneias* gives a comparatively detailed account of one particular area of logic, the categorical syllogism. It is more likely therefore *nunc* here is being used without the sense of contrast to these texts and simply refers to the text in its own right (*L&S* s.v. A3) and that,

therefore, the *Peri Hermeneias* ought to be considered as an entirely separate work (see introduction section 7 i).

189.4 *qua continetur … disseramus oratione***:** Prior to this text*,* the expression '*ars disserendi'* is used, and was most probably coined, by Cicero to render the Greek διαλεκτική in Latin (Cic. *De fin*.1.8.26; *De orat*.2.157). Baldassarri also mentions *De fat*.1.1, where Cicero states that what the Greeks refer to as λογική he calls *ratio disserendi* (Baldassarri, 1986: 68)*.* The phrase *ars disserendi* becomes the standardised label for the practice of dialectic, which is evident from around the twelfth century onwards e.g., Adam Balsamiensis' *Ars Disserendi* (1132). There is a notable shift between the way in which the author of the *Peri Hermeneias* uses the term *oratio* here and elsewhere in the text (191.17, 19-20, 20; 192.4, 5, 12; 200.10, 13). It is clear from the list of *species* which follows that here the term is referring to the practice or skill of oratory as a whole (*OLD* s.v. 9; *L&S* s.v. II). The passages listed above however, show the term being used to refer to a sentence or statement, which is particularly clear from the translation of Aristotle's definition of the syllogism (*An.Pr*.24b19-21, see also *Top.* 100a25-26) found in Chapter 7 (200.10-12), where *oratio* is the equivalent Latin term for Aristotle's λόγος (see note on 189.4-8). That this was a common usage of the term and that this Latinised definition of Aristotle's syllogism was in circulation is shown by Gellius *N.A.* 15.26: *'"Syllogismus est oratio, in qua concensis quibusdam et concessis, aliud quid quam quae concessa sunt, per ea quae concessa sunt, necessario conficitur"'*. Our author renders Aristotle's definition of a syllogism into Latin in a similar way in Chapter 7, for which see note on 200.9-12.

189.4-8 *variae species … metum incutiendi***:** Prantl (1855: 579 n.1) considered this rhetorical flourish in the form of an extended list of gerunds to be characteristic of Apuleius and therefore evidence of authentic Apuleian authorship (see note on 190.12 for the use of *aias* which Londey and Johanson, 1987: 16 see as typically Apuleian). There is a comparable list of gerunds in *DdS* 6.134 (16.4-7). It cannot, however, reasonably be taken as anything more than evidence for Apuleian *style* (for which, see introduction section 5iii n.356 and n.357). When listing types of things, the author usually gives the total number of items contained in a particular list, for example, the four types of propositions (193.14-15), the five predicables (197.8-10), the three figures (199.2), the number of combinations and moods in each figure (202.18-203.3). The use of *variae* here is distinctly vague in comparison, which suggests that he was not sure of the exact number of the types of speech. Indeed, Nuchelmans comments that 'among the many controversies between the

Peripatetics and the Stoics there was one concerning the exact number of kinds of speech: the former preferred a canon of five, while the latter kept to a canon of ten '(Nuchelmans, 1973: 98). It must be a coincidence that the total number of types our author lists here is fifteen; it cannot be the case that this list is simply a combination of the types listed by the Peripatetics and the Stoics; apart from anything else, none of these fifteen types directly corresponds to the type which is *pronuntiabilis,* which is introduced on the following Teubner page as the topic of this work (190.2-3). In which case, rather than creating a confusing list of fifteen types in the way that some have suggested (e.g. Schenkeveld, 1984: 300, Thomsen-Thörnqvist, 2008b: 128), it may be the case that the author is simply intending to draw a twofold distinction, in a similar way to the original distinction drawn by Aristotle between λόγοι in general and ἀποφαντικὸι λόγοι in *De interpretatione* 17a1-8; in the same way as Aristotle categorises the study of λόγοι which are not propositional as belonging to the study of rhetoric or poetry, our author gives examples of modes of expression which properly belong to *oratio* as a discipline (189.4); this list of fifteen *variae species* is therefore intended to be a list of examples of one kind rather than a list of fifteen distinct kinds of speech which, in itself is separate from statements which are *pronuntiabiles* and which are *veritati aut falsitati obnoxia* (190.2-4). This, in turn, explains the anomalous use of the term *oratio* mentioned above (see note on 189.4). Ammonius, in his commentary on Aristotle's work (*in De Int.*5,1*ff*), maps the five Peripatetic types of speech onto the two sets of capacities of the soul, 'intellectual (*gnôstikai*) and life-sustaining (*zôstikai*) or appetitive (*orektikai*)' (trans., Blank, 1996: 14). 'The four types of sentence other than the assertoric proceed from the appetitive capacities… Only the assertoric sentence proceeds from the intellectual capacities' (*loc. cit.*). The tradition described here is analogous to the distinction drawn by our author; all of the fifteen types of speech listed here relate to the appetitive capacity of the soul in that they are concerned with evoking an emotion of some sort as opposed to the type of speech listed among the Peripatetic λόγοι or the Stoic λέκτα and among which a proposition is classified and which proceed from the intellectual capacity of the soul.

189.8-190.1 *in quibus … genus plurima***:** This lengthy description of the skills associated with excellent orators is similar in form, if not in length or precise content, to Cicero's Platonic ideal of an orator:

Is est enim eloquens qui et humilia subtiliter et alta graviter et mediocria temperate potest dicere… Is erit igitur eloquens, ut idem illud iteremus, qui poterit parva summisse, modica temperate, magna graviter dicere (*Orat.* 100-101).

Unlike this Ciceronian description in which the mark of an ideal orator is one whose style suitably fits the subject matter, our author's description of an excellent orator is one who can subvert his content to make it seem to be the opposite of what it is, that is to say, presenting what is false as true and *vice versa*. This type of inversion of the truth described by the author is a skill more associated with the Sophists than recognised as a skill in oratory itself as it is defined by Cicero. The purpose of the list, however, is to set up the topic of this work as that of categorical propositions (*sola ex omnibus veritati aut falsitati obnoxia* 190.3-4) in complete contrast to these.

189.10-190.1 *lata anguste … posse efficere*: Moreschini follows Thomas and Colvius in positing a lacuna between *usitata nove* and *extenuare magna*. The only phrase in this list which is not presented alongside a counterpart in reverse order is *vulgata decenter* which suggests that a phrase such as '*decentia vulgariter*' is also missing. This is similar to the proposed *vulgata recenter, recentia vulgate* as Meiss and Goldbacher have in their texts but *decenter* would be a more likely antithesis of *vulgata.* This may appear to be strange advice but it simply forms a direct antithesis of what has gone before in exactly the same way as the other antithetical pairs and it is also an example of the type of sophistical practice described in the note above (189.8-190.1). Taking into account Meiss' proposal to include brackets around '*nova usitate, usitata nove*' opens up the possibility that the lacuna occurred after *decenter* and that the hypothesised antithetical phrase to '*vulgata decenter*' formed part of the missing text. It seems unlikely that the verb *extenuare* just after the proposed lacuna could apply to anything other than *magna* given the contrasting phrase which follows. In which case, it is likely that another infinitive has also fallen out along with the opposite phrase to *vulgata decenter*. It would then appear that '*nova usitate, usitata nove*' is misplaced. Therefore, I suggest that it ought to be placed between *angusta late* and *vulgata decenter* (see Appendix A). This arrangement suggests that the lacuna contains a phrase to contrast *vulgata decenter,* of the sort suggested above, and an infinitive, such as *proferre* as Colvius suggests, to apply to the preceding adverbial statements.

190.2-3 *quae pronuntiabilis appellatur*: This is the first of only two uses of the term *pronuntiabilis* which is unique to this text (see also 200.13-14). It is one of a number of

instances of the author attempting to Latinise a term, perhaps from a Greek source, in a similar way to the two terms rendered *verbum e verbo* below (190.6-7. See introduction section 5 for the author's method of introducing new Latin terminology). The suffix -*bilis* suggests that the most appropriate translation for this new term would be 'sayable' with the corresponding suffix in English. The Greek term λεκτός has the same meaning in its general uses (*LSJ* s.v. II 'capable of being spoken') and could, therefore, be used to refer to all of the speech acts listed at the beginning of this chapter. It is unclear why the author chooses such a general term to refer only to the type of speech which is either true or false; it is possible that he intends for *pronuntiabilis* to convey *propositio* and the Greek ἀξίωμα only when it is qualified by '*absolutam sententiam comprehendens'* and '*veritati aut falsitati obnoxia'* (see Bobzien, 2003: 85, who describes the way in which the Stoics defined ἀξιώματα as 'self-complete' sayables and *op. cit.*: 87 for the added qualification that they are either true or false. See also Diogenes Laertius 7.65).

190.3-4 *sola ex … falsitati obnoxia*: Londey and Johanson perceive a shift in the use of the term ἀξίωμα, between earlier Greek use, for which they cite evidence from Sextus Empiricus and Diogenes Laertius, and the way in which Latin writers, such as Cicero, Gellius, and Apuleius, render the term. The latter, they say, incorporated truth and falsity into the definition of an axiom whereas for the earlier Greek authors truth or falsity was a *feature* of an axiom but not part of its definition (Londey and Johanson, 1988: 331). They include Apuleius among the Latin authors who give evidence for this conceptual change (*op. cit.* 332). Whether or not this is the case here, however, depends on the sense in which *obnoxia* is taken: all senses in the *OLD* apart from 1 and 2 imply liability but not necessity (*cf. OLD* s.v.3 'liable, exposed to harm, danger*',* s.v.4 'subject to harm, punishment etc*',* s.v.5 'liable to fall (into an undesirable form of behaviour etc.)'. Later on in Chapter 4, however, the author implies through the use of the particle *ideo* that being true or false is in fact a defining feature of a proposition (191.18). Similarly, Cicero shows an awareness that being true or false is not an original defining feature of an axiom*,* but one which Chrysippus tried hard to convince people was part of its definition (*De Fat.*21) nevertheless he says that this is a defining feature in *Luc.*95. Aristotle defines a proposition (ἀποφαντικὸς λόγος) at the beginning of *De interpretatione* as the only type of sentence (λόγος) that has truth or falsity in it (*De int.*17a1-5). At the beginning of the *Prior Analytics,* on the other hand, he defines a premise (πρότασις) as a universal or negative statement which is either universal, particular or indefinite but having truth or falsity does not form part of its definition (*An.Pr.*24a16-22). The distinction between ἀποφαντικός λόγος and πρότασις is clear enough in Aristotle from

the fact that each is treated in a separate work and, of course, that they are referred to by two different terms. Alexander discusses these two separate accounts at the beginning of his commentary (*in An.Pr.*10,11-11,14). Our author conflates the two into the single Latin term *propositio* which, on the one hand, he uses to refer to the kinds of statements which are discussed in Aristotle's *De interpretatione* and which occupy the first four chapters of his own work, and on the other, to refer to the types of premises which form combinations and syllogisms as are demonstrated throughout the other 10 chapters of his work. For the difference between πρότασις and ἀπόφανσις in other works see, for example, Ammonius *in An.Pr.*13,17-14,4; 15,30-16,9; Philoponus *in An.Pr.*11,25-36 (see also Lee: 1984, 32 whose work includes discussion about Alexander of Aphrodisias, Ammonius and Philoponus but not this text and Maier 1990 II 2 360-63).

190.4-5 *quam vocat Sergius effatum***:** See Londey and Johanson, who say that '*effatum* is attributed to Sergius, a Stoic philosopher of the first century A.D., for whom it was almost certainly a Latinisation of Greek ἀξίωμα. The term is also used in Cicero, *Luc.*95; and it occurs, without attribution, in Seneca *Epistulae Morales* 117.13' (Londey and Johanson, 1987: 76). The identity and date of Sergius, however, is debatable (for a discussion on the identity of Sergius see introduction section 7 iii).

190.5 *Varro proloquium***:** See Gellius (*N.A.*16.8) who confirms this subscription to Varro and who indicates that the term was also used by Varro's teacher L. Aelius Stilo (see Londey and Johanson, 1987: 77). Varro's use of the term is not evident from any of his extant works.

190.5 *Cicero enuntiatum***:** Londey and Johanson say that *enuntiatum* is Cicero's preferred Latin term for ἀξίωμα (1987: 76) in *De Fato* but, in fact, this term only occurs twice in this text (*Fat.*19; 28); he uses his other own coinage *enuntiatio* more frequently, which is introduced in the way typical for his neologisms (*De fat.* 20) See Londey and Johanson, 1988: 328-329 for other Ciceronian coinages based on the verb *nuntio*. There are only four examples of the substantive *enuntiatum* cited in the *TLL* (Sen. *Ep.*117.13; the two uses in Cic. *Fat.* cited above, and here in this text). *enuntiatio* is far more common (*OLD* s.v.2b) and is used elsewhere in this text rather than *enuntiatum* (196.6; 207.2).

190.5-6 *Graeci* πρότασιν *… tum rogamentum***:** πρότασις is the standard term used throughout *Prior Analytics* to denote either premise of a syllogism (*LSJ* s.v. II.1) and a pair of πρότασεις denotes a syllogistic combination of premises. Frede makes this point and says that while πρότασις became the standard Peripatetic term after Aristotle, ἀξίωμα was

adopted into Stoic terminology (1974b: 32 n.1. He cites the following passages as examples of Aristotle's use of both terms: *Top.*155b15; 156a23; 159a4; 179b14; *An.Pr.*62a13. He also cites Diogenes Laertius 2.112 in which the mention of Clinomachus the Megarian, he says, points toward the possible Megarian rather than Stoic origins of the expression). Distinctions are drawn between the Peripatetics and Stoics later in the work, most notably in Chapter 13, where the different ways in which they express syllogisms are described (212.4-12), but no such distinction is made here. The non-differentiating way in which our author treats these two Greek terms, which is highlighted by the single use of *tum* (L&S s.v. B1) with the non-specific *Graeci*, could either indicate that he was making direct use of Aristotle's texts in which both terms are used, or it could represent a fusion of Peripatetic and Stoic terminology and, in this way, can be compared to Galen's treatment of the same terms; 'he never mentions any difference of denotation' (Nuchelmans, 1973: 89-90). Nuchelmans says that 'while Varro, Cicero, and Sergius translated ἀξίωμα, Apuleius tries to translate *protasis'* (1973: 120), the use of *tum* perhaps suggests that the author considered these two Greek terms to be synonymous with one another (for the difference between these two and also a problem and an assumption see Alex. *in An.Pr.*44,20-25. There is a comparable passage in our text which provides clarification on the use of syllogistic terminology, for which see 199.9-15).

The term *propositio* is also used by Cicero in *Orat.*3.203 to mean 'a statement of facts or substance of a case' (*OLD* s.v. 3b) and in *De inv.*1.62 to mean 'the major premise of a syllogism or *epichirema'* (*OLD* s.v. 4b). Martianus Capella makes a direct reference to *De inv.* (399) and he consistently uses *propositio* in the same sense as Cicero does in this work (414; 416; 422), which Ferré translates as '*la première prémisse'*. Martianus Capella's use of the term *propositio* does not coincide with any passages in which he discusses truth and falsity; he uses the term *proloquium* in this sense instead i.e., *proloquium dicitur, ita ut iam necessario aut verum sit aut falsum aut dubium* (390). Ferré's translation of *proloquium* in Martianus Capella as '*la proposition'* demonstrates the influence of the use of *propositio* with this sense in *Peri Hermeneias* on later logical terminology. Boethius' definition of *propositio* shows that, in his time, various terms with the same meaning were used interchangeably: *'propositio est oratio verum falsumve significans, ut si quis dicat "caelum esse volubile"; haec et enuntiatio et proloquium nuncupatur'* (*De top. diff.*1.2.1). The term *propositio* is used with different meanings even within the *Peri Hermeneias,* in Chapter 7, for example, the author explains that a question posed (*propono*) to an interlocutor is called a *propositio,* if the interlocutor accepts the question, the *propositio,* although it continues

to be referred to by this name, becomes an *acceptio* (199.12-15. See Barnes et al., 1991: 22 for a similar conflation made by Alexander in his use of the term πρότασις, which he uses to mean both a 'proposition' and, in the more specific sense, 'premise'. They say that 'it is not always clear when *protasis* means 'premise' rather than 'proposition').

Aristotle's *De interpretatione* is concerned with propositions (ἀπόφανσις), which are, by definition, either true or false (17a1-5). Premises (πρότασις) in the *Prior Analytics* are not defined in this way but are said to be members of pairs 'of contradictory statements' if they are demonstrative and to be the 'answer to a question which of the two contradictory statements is to be accepted' (*An.Pr.*24a22-25). Our author uses *propositio* to refer to both. In which case, Londey and Johanson are correct in saying that the author's term *propositio* 'is a Latinisation of *protasis*,' but not in saying that *protasis* 'is the standard Aristotelian term for a proposition' (Londey and Johanson, 1987: 78). Since the *Peri Hermeneias* combines elements from two different works of Aristotle, the *De interpretatione* in the early chapters (1-4) and the *Prior Analytics* in the later chapters (5-14), the use of the single term, *propositio,* to convey both a proposition and a premise may simply be an attempt to avoid confusion among his audience. It may also, however, reflect a more widespread conflation of these two terms. The modern English term 'proposition', for example, is used to mean a statement which is either true or false but also simply an opinion (see McGrath, 2014).

190.6-8 ***ergo verbum e verbo … dicetur propositio***: Here, *protensio* is given as a *verbum e verbo* translation of the Greek πρότασις; a substantive formed from the established verb *protendo* in the same way as πρότασις is formed from προτείνω.

It is less obvious how *rogamentum* was derived from ἀξίωμα if this was the intention. The *LSJ* compares the verb ἀξιόω to the Latin verb *postulare,* which could be seen as a synonym of *rogare.* The author may simply have in mind the very first stage of dialectic exchange where the interlocutor is first presented with a question which he must accept in order for it to become a premise of the syllogism. This seems likely in light of the fact that author clarifies his use of *propositio* later where he makes it clear that a question is being posed which must then be accepted as true by the interlocutor in order for the syllogism to proceed (see 199.11-15).

The phrase *verbum e verbo* was introduced by Cicero who demonstrated the method itself in his philosophical Latin writing (see Powell, 1995: 276-8). He usually concludes that this is an undesirable way of turning philosophy into Latin from Greek; for example, in *Luc.* 17 he

gives *perceptio* and *comprehensio* as Latinisations of the Stoic term κατάλειψις, the latter being a more literal translation (*si verbum e verbo volumus*), and by implication, a less appropriate rendering as it is a direct calque of the Greek. In *Luc.* 31 *comprehensio* is also introduced as a literal translation of κατάλειψις with the same expression. In *De fin.* 3.15, translating *verbum e verbo* is said to be the mark of a clumsy translator (*interpretes indiserti solent*). In a similar way to this passage from *Peri Hermeneias* a more familiar term with the same meaning is to be preferred, '*cum sit verbum quod idem declaret magis usitatum'.* In *De fin.* 3.52, Cicero again emphasises that *verbum e verbo* translations are to be avoided where possible (*re enim intellecta in verborum usu faciles esse debemus*). The term '*producta'* is given as a literal translation of the Greek προηγμένα (*id erit verbum e verbo*) but then a series of more familiar Latin terms are offered, '*promota et remota vel... praeposita vel praecipua'* (note the use of *vel* which is similar to the way in which our author uses the same particle to introduce new terminology e.g., 200.8-9. See also introduction section 5 on terminology). In a similar way to this passage, *veriloquium* is given as *verbum e verbo* in Cicero's *Topica* 35 for the Greek ἐτυμολογία. This type of translation is our author's preferred method for rendering Greek logical terms into Latin (see Table 3 in introduction section 5 v for examples), hence *ego* (W[2] *Moresch.*) although *ergo* is a possible *lectio difficilior* (BCFADSW). Unlike the rest of the *verbum e verbo* Latin terminology introduced and used throughout the text, *protensio* does not appear again and this is only one of three uses of *rogamentum* in the text (in 193.4 and 199.10 it is qualified by *illativum* and is given tentatively as an explanatory definition of *illatio*). *propositio* is the term used throughout because it is *familiarius*; it also appears frequently thoughout Cic. *De Inventione,* in Varro *L.L*, Seneca and Quintilian and also in Gellius 2.7.21 and 14.2.19.

Chapter 2

190.9-16

The author explains that there are two different types of propositions and conclusions, categorical (*praedicativa*) and conditional (*condicionalis*), and gives an example of each kind. He then announces his intention to talk about the categorical kind since these are prior to conditionals of which they form a part. Although he gives an example of a conditional proposition, these are not covered in this work.

190.9-10 *Propositionum igitur … duae species***:** Here, the author is drawing a distinction between propositions (*propositionum*), which were introduced in the previous chapter (190.5-8), and the conclusions (*conclusionum*) which follow these. In his later discussion about syllogistic combinations, however, he uses the term *illatio* to refer the conclusion (see 199.9-11) and *conclusio* to refer to a whole syllogism (see, for example, 200.8-9 where it is defined as such). Cicero also uses *conclusio* to mean the whole syllogism rather than just the conclusion. For example, it is clear from what follows *Socratica conclusione* (*Tusc.*5.47) that he is referring to an argument as a whole, similarly the phrase, *conclusio Stoicorum* (*Tusc.*5.82) seems to refer to an entire argument. Furthermore, *rationis apta conclusio* (*De orat.*3.203) implies the use of a logical syllogism as a whole (Mankin, 2011: 294). He also uses the verb *concludo* to mean 'to express something as a syllogism' (*De fin.*2.104. Compare *Luc.*26 where *conclusio* is given as a translation of ἀπόδειξις). See note on 200.2-9 for a fuller discussion on our author's use of this term.

190.10-11 *altera praedicativa … si dicamus***:** The use of *praedicativa* corresponds to Alexander's general use of κατηγορικός to mean simple (*simplex*), or uncompounded, propositions (the Greek term is also used specifically to mean affirmative propositions, for this see Barnes et al., 1991: 30-31). The first person plural verb *dicamus* suggests that this work was intended for instructional purposes (for other examples which are suggestive of the didactic purpose of this work see introduction section 6).

190.11 *Qui regnat, beatus est***:** This example is very similar to a number of passages in Cicero, where the views of the philosophical schools on happiness are frequently presented in syllogistic form. For example, in *Tusc.* 5.43 Cicero tries to show that virtue as sufficient for happiness is a view shared by the three main schools, although each school defined

happiness in a different way. *Luc.*134 shows that the specific view that a man who is wise is happy had its origins in Theophrastus or was at least held by him: '*praesertim Theophrasto multa diserte copioseque contra dicente. Et hic metuo ne vix sibi constet qui cum dicat esse quaedam et corporis et fortunae mala, tamen eum qui in his omnibus sit beatum fore censeat si sapiens sit*' (*cf. De Plat.*136.24-137.5; 2.253). The difference, Moreschini says, between *vita beata* which is defined by virtues (of the soul) and *vita beatissima* which is defined by external goods in addition is a distinction made by Aristotle and which Antiochus adopts, as described in *De finibus* 5.81 (Moreschini, 1966: 99). Beaujeu, who cites this observation by Moreschini, points out that, although this idea is found in Cicero (*De fin* 5.65, 81; *Acad.*22; *Luc.*134; *Tusc.* 5.21), it had already been outlined by Speusippus and Xenocrates (Beaujeu, 1973: 303, n.6).

190.11-12 *altera substitutiva ... si aias***:** The earliest extant uses of *condicionalis* are found here and in Gaius, where it is used to describe the condemning of a defendant (*condicionalem condemnationem*), which would be carried out only under certain conditions (*Inst.* 4.119. See introduction section 5 n.176 for other examples of legal terminology in this text). This is the first recorded use, however, of *substitutiva.* Its introduction here is similar to the way in which the new terms *protensio* and *rogamentum* (190.6-7) are introduced alongside *propositio* (190.7-8) and is also typical of the way in which new terms are often introduced in Apuleius' *De Platone* whereby they are placed alongside an established term, often joined by an enclitic or a particle denoting comparison which elucidates the meaning of the new term (for examples of this see introduction section 5). This new term is formed from the verb *substituo* used in the sense 'to set' or 'to place next to' viz. another statement (*L&S* s.v. 1.; *cf. OLD* s.v.1, which shows that this use is post-Classical), hence the use of the cognate verb, *substituo* below (190.13-14). The use of a newly coined substantive alongside its cognate verb is another frequently used method of introducing neologisms in this text (for other examples see 191.1-2, 3-4; 196.15-21; 199.9-11, 11-12). However, the verb is used in a legal context with the preposition and noun phrase *sub condicione* by Gaius (*Inst.* 2.179. See also *OLD* s.v. 5 meaning 'to substitute (an heir), i.e., to arrange that he will inherit if the person first named as heir is unable or unwilling to do so'). In the same way that *protensio* is derived from πρότασις above (190.6-7), *substitutiva* is a direct calque of ὑποθετικός; *sub-* for ὑπο- and -*stitutiva* formed from the verb *statuo* just as -θετικός is from τίθημι. Baldassarri suggests that ὑποθετικός is the equivalent Greek term for both *condicionalis* and *substitutiva* (Baldassarri, 1986: 102, 107)

but it is clear that, rather than being entirely synonymous, *condicionalis* is one example of *substitutiva*; 'a hypothetical proposition is either a conditional ('implication') or a disjunction ('conflict') (Barnes et al., 1991: 56 n.25. See also Barnes, 2007a: 523). Based on the description and the example of a conditional statement which follows, it seems that, in this case, as well as joining a less well-known term with an already established one as described above, the particle *vel* also serves to introduce a particular example of *substitutiva* rather than a synonymous term for it (*L&S* s.v. C: 'In adding an instance implying that other instances might be mentioned at will'). The example of a 'substitutive' statement which follows is specifically a conditional statement, as the gloss-like explanation in brackets explains (190.13-14. See Thomsen-Thörnqvist, 2008b: 130 n.21.9: 'With Boethius, as with Apuleius, the only type of compound sentences mentioned is the conditional'). *'composita est'* (190.12) and *'praedicativa … est … velut elementum substitutivae'* (190.14-16) are descriptions more similar to Aristotle's explanation of compound statements in *De int.* 17a20 *ff.* Here, Aristotle's explanation of a compound statement 'is one made up of simple statements joined together' and there is no suggestion of a conditional element. Ammonius' analysis of this passage provides a close parallel to our text, in which he says of simple and compound statements that:

> 'one of them is the simple assertion and the other is a compound of several, not of several words (*lexeis*) but of several sentences, i.e. the sentence which has its unity by a conjunction, either predicatively or hypothetically, calling it a compound of the simple sentences, that is, of two affirmations, or two negations, or an affirmation and a negation' (*in De int.* 78,1-5).

Boethius similarly defines a compound statement in general terms: 'wherever a sentence has more terms and its parts exceed the number of two terms, they are said to be combined sentences' but then, like our author, gives a conditional statement as one example of a compound statement, ''if it is day there is light'; 'for it is day' and 'there is light' are two simple sentences which when joined make one combined statement (*in De int.*115.25*ff*. See Blank, 1996: 156 n.264).

Londey and Johanson cite *aias* as one of a number of examples of the use of archaisms which give evidence for Apuleian authorship (Londey and Johanson, 1987: 16). At best, this could only be evidence of Apuleian style, not of authorship. The third person singular form

of the same verb is used elsewhere in the text with Plato and later Aristotle as its subject (191.16; 213.14). Given that uses of this verb are by no means limited to archaic Plautine comedy or Apuleian works but are in fact found in a wide variety of genres, both poetry and prose, more or less continuously from Plautus to Apuleius, it is a strange choice to cite as evidence of Apuleian style. It can be said, however, that the use of the second person singular form of *aio* is rare and is nearly always paired with the verb *nego,* as in Plautus *Rud.* 430; 1329*.* Gellius also pairs it with *nego* and the two verbs seem to be used in a technical sense in this dialectical context meaning 'to affirm' and 'to deny' respectively (*N.A.*16.2.1; 5; 9). The same antithesis is created by Gaius (*Inst.* 4.17a; b). The combination of this second person singular '*aias'* and the first person plural '*dicamus'* above (190.10-11) suggests that this text was used for educational purposes and represents a dialogue of sorts, imagined or otherwise, between a teacher and student (for other examples of this sort see introduction section 6).

190.13-14   *substituis enim … non sit beatus***:** For the introduction of the neologism *substitutiva* alongside its cognate verb and for other examples of this sort see note on 190.11-12 above and introduction section 5.

190.14-15   *nos nunc … dicemus***:** Some have understood the sense of *nunc* here to be one which creates a contrast between the present and a future discussion and that, therefore, the author had intended to treat conditional as well as predicative propositions and that some of the text is missing (compare the use of *nunc* at 189.3, for which see note on 189.3). The introduction to the *Peri Hermeneias* sets out its agenda in a similar way to Aristotle's work of the same title (*De int.* 17a1-11, see also 17a21-24). In light of this, it is clear that rather than referring only to a section of the work which is missing, *nunc* refers to the work at hand as a whole which is concerned solely with categorical syllogisms. In addition, *quia* introduces the author's rationale for speaking about categorical statements and not conditional statements and suggests that the author did not intend to treat the latter type of statement in this work. Elsewhere in the text, signposting techniques are often used to indicate the introduction of a new topic and to indicate when he is deferring more complicated information until a later stage, for example, *per impossibile* moods are mentioned at the end of Chapter 10, but the author promises to deal with them later on: *de qua propositione dicemus expositis modis tertiae formulae* (207.14-15).

190.15 *natura prior est*: Alexander poses the question, 'which syllogism is first, the categorical or the hypothetical?' (*in Top.* 218,4-5) but does not offer his own opinion on this matter (see Frede, 1974a: 30-32 for further discussion about the history of the debate surrounding the priority of categorical over propositional logic and vice versa). Our author's comment here is similar to one made by Galen (*Inst.*17,9-14) who says that 'in a sense, categorical syllogisms are prior because hypothetical syllogisms presuppose the categorical premises they are made up of' (Frede, 1974a: 32. See also note on 190.15-16 below).

190.15-16 *velut elementum substitutivae*: *velut* suggests that *elementum* is intended to be taken metaphorically rather than as the established technical term for a part of a 'substitutive' statement. The *velut* particle may be comparing this idea to the way in which the term is commonly used in philosophical contexts (its first uses are found in Lucretius, where the noun *elementum* is coined as an equivalent for the Greek στοιχεῖον (compare Quintilian who often refers to Aristotle's categories as *elementa,* e.g., *Inst.* 3.6.23). It is rarer for the noun *elementum* to be found in the singular as it is here. This also appears to be the only instance where the noun is used to denote a part of something which is itself also divisible into parts. This may also account for the use of the particle *velut*, that is to say, a predicative statement is an element of a conditional statement, but a categorical statement is itself made up of individual parts or elements, namely a subject and a predicate. Alexander of Aphrodisias describes the formation of such a statement, not as one statement placed alongside another but as 'continuous or conditional statements' (*in An.Pr.* 17,30). Elsewhere Alexander says that continuous (συνεχής) was the word used by the earlier thinkers (i.e., probably by the early Peripatetics) for conditional propositions (*in An.Pr.*262, 32-5; 390, 3-4). About this terminology, Barnes et al. say that 'the idea is that a conditional proposition links two things together and so makes them continuous' (Barnes et al., 1991: 65 n.79. This matches, for example, Boethius' explanation of such a statement *in De int.*116.3-5). 'It is true that there were different views about conditionals in antiquity' (Barnes, 2007a: 399).

Chapter 3

190.17-191.15.

This chapter focuses on ways in which propositions vary in terms of quantity, universal (*universalis*), particular (*particularis*) and indefinite (*indefinita*) and in terms of quality, affirmative (*dedicativa*) and negative (*abdicativa*). The author also points out that the Stoics create a paradox for themselves by asserting that a proposition cannot be truly negative without having a negative particle which is prefixed to the whole proposition.

190.17-190.18 *sunt et aliae ... quantitatis quidem***:** The use of *quidem* followed by *autem* (191.1) in order to introduce quality and quantity suggests imitation of a Greek source (*L&S* s.v. *autem*: II A b 'Preceded by *quidem,* as in Grk. μέν – δέ' (for other examples of this see 194.6-7; 196.1-2; 213.17-18)). *qualitas* is introduced explicitly as a new coinage in Cicero *Acad.* 1.22 as an equivalent for the Greek ποιότης. *quantitas* appears to have been introduced in a similar way by Vitruvius (1.2.2) as an equivalent for ποσότης. The author of *Peri Hermeneias* and Martianus Capella (340; 363; 373; 396) appear to be the first to use the Latin terms to denote the difference in quality and quantity a given premise may have in this logical sense. The use of the terms for this purpose has remained in the traditional terminology (see Cook: 2009, s.v., 235-237).

190.18-19 *aliae universale … spirans vivit***:** Sullivan points out that 'the expressions which Apuleius uses to signify universal quantity (*omnis, omne; nullus, nulla, nullum*) are employed by him almost always in the singular number – indicating clearly that the term which these expressions modify is to be taken in a distributive, and not in a collective, sense' (Sullivan, 1967: 32). There are, in fact, no instances in the text where the author uses the universal quantifier in the plural number in his examples of moods, nor is the particular quantifier used with a plural verb throughout the examples of moods. In fact, the only instance of a particular quantifier being used in the plural is the example of a particular proposition in this chapter (see note on 190.19-20). Every example of a mood containing a particular proposition throughout the rest of the work is singular. I can find no instance where *aliquis* or any of its various forms are used to express particular quantity in examples of propositions or of moods and their conclusions in the way that Sullivan suggests (1967: 32).

Mates points out that Stoics do not have a universal quantifier in their statements (Mates, 1961: 32). Sedley and Long also point out that Stoic propositions are limited to particulars:

'"Something" is the highest genus, including as it does incorporeals and fictional entities as well as bodies… Despite its supremacy for some Stoics… one class of items, universals, is excluded from it or belongs to it only in a 'quasi' sense (Long and Sedley, 1987: 164). This aspect of Stoic logic is not relevant to an introductory discussion about the kinds of premises which are used to form the sort of Peripatetic syllogisms which are the focus of this work, and so it is unsurprising that it is not mentioned by our author here.

190.19-20 *aliae particulares … non spirant***:** In light of the form the rest of the example propositions and premises take throughout the work (see note on 190.18-19) the reason for the plural *quaedam animalia* and the plural verb *spirant* here is not entirely clear. It is perhaps the case that the author simply wished to draw a sufficiently clear distinction between the particular premise and the example of an indefinite one which follows. Furthermore, as mentioned above, the author always uses the two quantifiers in the singular number in order to make it clear that the statement is to be imagined in a distributive rather than collective sense (see note on 190.18-19); '*omnis voluptas bonum est*' would mean 'every pleasure is a good (thing)' (193.17-18) and '*quaedam voluptas bonum est*' means 'a certain pleasure is a good (thing)' (193.20-21). At this preliminary stage in the work, a particular statement expressed in the plural number was perhaps considered to sound more natural.

190.20-21 *aliae indefinitae … an aliquod***:** The adjective *indefinitus-a-um* is first found in Gellius with the general meaning 'unlimited, endless', in which sense it is used to describe a discussion which is hard to follow (16.2.3), and in the grammatical sense, 'belonging to the infinitive mood' (1.7.6 and 1.7.13). It seems that the author is attempting to introduce this established term *indefinitus* into a logical context here based on the explanatory definition using the verb *definio* with the negative particle *non* to represent the prefix *in-* of the term (see note on 191.1-2 for other examples of this method of defining terms in this chapter and introduction 3)*.* In the same technical and logical sense with which the term is used here, Martianus Capella and Boethius use the term to define an indefinite proposition as one which is not quantified or qualified in any way. Baldassarri (1986: 103) gives ἀδιόριστος as the equivalent Greek term for eight out of the 11 uses of the term in the text (190.20; 193.9; 196.7; 212.14, 15; 213.1; 213.4 *bis*.). ἀδιόριστος is listed as a logical, technical term used exclusively in contexts such as this, and mainly by Aristotle (*LSJ* s.v. See e.g. *An.Pr.*26b23; *An.Post.*639a22). Baldassarri gives ἀόριστος as the equivalent for *indefinitus* where it is used in Chapter 4 (193.11) and twice in Chapter 6 (198.11). This term is also mainly found in philosophical contexts but it has a broader variety of uses than

ἀδιόριστος (e.g. *LSJ* s.v. A2 *limitless* e.g. Epicur.*Fr.*202,203; s.v. II *indeterminate* e.g. Pl.*Leg.*643d; Arist.*Met.*1087a17), it is used by Chrysippus to mean 'indefinite' with reference to propositions (e.g. *Stoic.*2.5). Bobzien points out that this was the standard term for an 'indefinite assertible' in Stoic logic (Bobzien, 2003: 90). The fact that in this context it is being used to describe terms, rather than propositions, as indefinite demonstrates the use of originally Stoic terminology for originally Peripatetic concepts (compare the use of *indemonstrabilis* for which see notes on 205.21-206.2). In this regard, it is notable that in the three instances where Baldassarri has suggested that *indefinitus* is being used to mean ἀόριστος as opposed to ἀδιόριστος, the author is describing the Stoic concept of 'indefinite', that is, 'one that consists of an indefinite word or words and a predicate (*aoristos*), *e.g.* "Some one is walking," or "There is some one walking"; "He is in motion" (DL. 7.68-70), as opposed to the Aristotelian concept of indefinite (*adioristos*) which entails a complete lack of any type of quantifier (*An.Pr.*24a20-21). The author's examples of indefinite terms, *non homo, non animal* (193.11), more closely resemble denials which contain 'a negative part or particle and a predication: such as this, "No one is walking"' (DL VII.70).

Augustine (*De dialectica* 2.5.15; 2.6.4; 3.6.10) Martianus Capella (396) and Boethius in his commentary of Aristotle's *Peri Hermeneias* (*passim*) all give the same example of an indefinite proposition, '*homo ambulat'.* Alcinous also uses a similar example, *Socrates is walking* (*Didask.*6.1). Dillon comments that '"Socrates walks" is not a Platonist example, but becomes normative in later Platonist and Aristotelian commentary' (Dillon, 1993: 78). The example our author provides, '*Animal spirat',* is unique, which suggests that these texts share a common tradition of which *Peri Hermeneias* is not a part. Mates notes that 'what the Peripatetics called "indefinite" propositions (e.g., "An animal is breathing") would be "intermediate" propositions according to the Stoics. *cf.* Apuleius, *In De Interp.,* ed. Oud. 266' (Mates, 1961: 30 n.18). Mates also describes the way in which, according to the Stoics, definite and indefinite propositions are related, that is, 'the indefinite proposition cannot be true unless the corresponding definite proposition is true … Similarly, the intermediate and definite propositions are said to be related in such a way that if an intermediate proposition is true, then for some particular person the corresponding definite proposition is true' (Mates, 1961: 30). As Alexander points out, Aristotle 'does not discuss indeterminate propositions because they are not useful for syllogisms and because they are equivalent to particular propositions' (*in An.Pr.*30, 31). Aristotle is concerned with the quantity of a proposition, or rather, of the subject within a proposition, only in terms of

how this affects the outcome of a syllogism as shown in *An.Pr.* 29a27-29: 'It is obvious also that in all the figures if the particular affirmative is replaced by the indefinite the result will be the same syllogism.' See also, 26a29-30: 'Thus we shall have a perfect syllogism. Similarly too supposing the proposition BC to be indefinite, provided that it is affirmative; for we shall have the same syllogism whether BC is indefinite or particular'. Aristotle's definition of an indefinite proposition is as follows:

> 'a statement which applies or does not apply without reference to universality or particularity' (*An.Pr.*1.24a20-21).

Based on this definition, it seems that the author has demonstrated Aristotle's explanation of such a statement perfectly, that is, one which simply does not make reference to universality or particularity and which bears no significant relation to any other statement of a different quantity. *tutius est* and *ex incerto* (190.22) show that the author was aware of this uncertainty from a linguistic point of view. Sullivan points out that from the point of view of linguistic usage, an indefinite proposition can be interpreted either as being true for a particular proposition or as being true for a universal one but rightly concludes that the main point of concern is logical usage (31). *non enim definit utrum omne an aliquod* (190.21) makes it clear that the meaning the author intended can be translated into English without a definite or indefinite particle or any other kind of quantifier, as in, 'Animal breathes'.

190.21-191.1 *pro particulari … quod minus est*: This maxim-like statement conveys a didactic tone (the point is repeated at 213.1. For another example of this sort of pithy statement see note on 213.9-10. See also introduction section 6). Baldassarri points out that the author does not identify 'singular' as a type of quantity and suggests that he considers this to be understood in the same way as 'particular' but also that, more likely, he does not follow '*l'empirismo gnoseologico fondante*' of the Stoic doctrine involving singular terms (Baldassarri, 1986: 70). Sullivan similarly comments that singular propositions are missing from our author's treatise and says that he gives no indication why this is so' (Sullivan, 1967: 32). As much as criticism of Stoic views forms a significant part of the early chapters of the *Peri Hermeneias* (see for example, 191.6-12; 200.16-19; 201.4-8), it is unlikely that here the author simply missed an opportunity to refute the Stoics; the disagreement described by Baldassarri above is of a more epistemological than logical nature and would therefore not be appropriate to the context of this short logical treatise. It is more than likely that, at the time our author was writing, singular terms would be

considered to count as a particular in terms of quantity without the need for further comment, that is to say, their omission is due to the same reason for the omission of indefinites in Alcinous' handbook (Dillon, 1993: 78). It is important to remember that the equivalent concept in Aristotle's syllogistic would not refer to propositions as singular (or universal or particular) but to the *terms* within the propositions as singular etc. In this respect, Lukasiewicz's suggestion as to why singular terms were omitted from Aristotle's syllogistic theory is more plausible than Baldassarri's conjecture: 'Syllogistic as conceived by Aristotle requires terms to be homogenous with respect to their possible positions as subjects and predicates. This seems to be the true reason why singular terms were omitted by Aristotle' (Lukasiewicz, 1957: 7). Lukasiewicz has previously pointed out that, as described in *Prior Analytics* (Lukasiewicz, 1957: 4), premises vary in terms of quantity, but the terms within them are always universal (*op. cit.*: 4. See also Patzig, 1968: 4-8). It is Alexander (*in An.Pr.*100, 11 *cf.* 65,26) who points out that 'the very definition of the premise given by Aristotle has application to universal terms alone and is not suitable to individual or singular' (*ibid.* n.4). Aristotle himself does not mention singular propositions when he lists the ways in which a premise can differ in terms of quantity at the beginning of *An.Pr.*24a18-23. In light of this, the lack of mention of singular propositions in this text and the lack of indication as to why this is so is unsurprising.

191.1-2 *qualitatis autem … aliquid de quopiam*: For *autem,* which corresponds to *quidem* (190.18), see note on 190.17-190.18. The new term *dedicativae* is closely followed by the verb from which it originates, *dedico,* in order to make its meaning clear. The same method is used for the introduction of the term *abdicativus* (191.4-5. See also *substitutiva* 190.13-14. A full list of neologisms which are introduced in this way is provided in Table 1 in introduction section 5). Martianus Capella also uses these adjectival forms (*passim*, but see esp. 329; 396; 397) but does not use the verb forms. At 409, he uses the rare adverbial forms '*dedicative'* and '*abdicative'.* The former also appears in Augustine, *Contra Iulianum* 4.768 and Julian of Eclanum, *Ad Turb.* 4.2.272 (both from fifth century A.D.), the latter is a *hapax legomenon*.

191.2-3 *Virtus bonum est*: The same example of an affirmative premise is found in Quintilian (*Inst.*5.14.21) as an example of a major premise and in Martianus Capella (407), where it forms part of a conclusion which is inferred as part of a conditional syllogism, *confinis conclusio,* as opposed to a conclusion which follows from the premises and which forms a predicative syllogism. It is notable that this example of affirmative premise and the

example of a negative premise which follows (191.4-5) are, according to the categories of quantity stated previously (190.20-21), indefinite statements in that they lack a quantifying particle. In this respect, the types of examples which appear in the introductory chapter of the *Peri Hermeneias* closely resemble those given in Aristotle's *De interpretatione.* The examples which appear in the later chapters of the *Peri Hermeneias,* which demonstrate all of the moods in each of the three figures, are more similar to the examples from the *Prior Analytics* which contain quantifying particles, *omnis, nullum, quoddam, quoddam … non* as Ross describes:

> 'In *De Int.* 7a … entities are divided into *ta katholou* and *ta kath'ekaston,* and propositions are divided into (1) those about universals, (*a*) predicated universally, (*b*) predicated non-universally ; (2) those about individuals… The treatment of the matter in the *Prior Analytics* is, by comparison, more formal. It ignores the question whether the subject of the judgement is a universal or an individual, and classifies judgements according as the word 'all', or the word 'some', or neither, is attached to the subject' (1949: 289 n.17).

191.3 *dedicat enim … inesse bonitatem***:** For the definitory use of *dedicat* see note on 191.1-2. The use of the compound verb *inesse* (191.3, 5) shows that the author has grasped the essential point of predication in Aristotelian syllogistic; that a given predicate is *in* the subject of which it is predicated (*L&S* s.v. 'to be in or upon.' II Trop., 'of abstract things, 'to be contained in, to be in, to belong or appertain to'). In this way, it corresponds to the Greek verb ὑπάρχειν which Aristotle uses throughout *Prior Analytics* to denote the same concept. The Latin verb also avoids the possible ambiguity carried by the verb *esse* which can either be used as the copula or on its own to mean 'to exist' (*L&S* s.v. 1 A 1). Seneca uses this verb of things which possess *e.g.*, life: *placet enim satis et arbustis animam inesse* (*Ep.*58.8).

191.3-5 *aliae abdicativae … inesse bonitatem***:** The formulaic way in which the author explained the function of affirmative premises (*dedicativae* 191.1) by using the cognate verb of the new term (*dedicat* 191.3) is mirrored precisely in the way in which he introduces the term *abdicativae* alongside *abdicant* to refer to negative premises. See note above on 191.3 for the use of *inesse*.

191.6-7 *at Stoici hanc … non esse***:** Alexander also discusses the form of negation described here although he does not specify, in the way that our author does, that it is a Stoic view:

So Aristotle says that 'Socrates is not white', and not 'Socrates is not-white' is the negation of the affirmation 'Socrates is white'. But there are people who think that not even a proposition taken in this way is a negation. For they think that one should not just posit what negates before 'is' or before the predicate; rather a negation has what negates placed before the entire affirmation or proposition. And they think that the negation of 'Socrates is white' is 'It is not the case that Socrates is white' and not 'Socrates is not white' (*in An.Pr.*402,1-7).

With '*evenit cuidam … non esse'* the author rephrases and unpacks the statement which has just been given (*hanc*) in order to make clear what the first statement implies about existence from a Stoic point of view (for the way in which the use of *cuidam* alters the type of statement see note on 191.7-8 below). The sharp transition to the Stoic view indicated by *at* and the author's refutation of the Stoic view at the end of this section create distance between their views and his own.

191.7-8 *ergo dedicat … quid sit*: I suggest reading *dicit* (BCFW) rather than *dedicat* (AS) as it fits the sense better (see note on 209.4 for a comparable change from the same two variations at 209.4). The affirmative quality of this statement is implied by the fact that something has happened to it; from a Stoic point of view, a statement which begins with anything other than a negative particle, is always affirmative and never negative. Bobzien explains that 'each time the first word of the sentence indicates to what type a simple assertible belongs' (Bobzien, 2003: 88); the nominative case of *voluptas* (191.4) in the first example suggests that this statement would be considered to be a 'predicative' (κατηγορικός) assertible although, as Bobzien points out, examples of this sort 'are extremely rare in Stoic logic' (Bobzien, 2003: 89). The use of *cuidam* (191.7) in the second example, on the other hand, indicates that this statement should be categorised as an 'indefinite' (ἀόριστος) assertible according to the Stoic division (for other examples of this type see Bobzien, 2003: 90. See also Diogenes Laertius 7.70). However, as Cavini says, '*Apuleio non mostra di conoscere il repertorio degli enunciati stoici, o, in ogni caso, preferisce la più tradizionale classificazione peripatetica*' (Cavini, 1985:81).

'*quid sit*' recalls Seneca's attempt to render the Greek τὸ ὄν, 'that which exists' by *quod est* because there is not a suitable equivalent Latin noun (*Ep.* 58.7); to predicate something of a subject using the copula *est* is, therefore, to say what it is (*id est*) and to affirm that it exists. The *quod est* referred to in this letter, Caston says, 'is not Stoic but Middle Platonic'

in that it is setting up a Platonic six-way division of being (Caston, 1999: 151 n.10. See also Mansfeld, 1992: 84-85).

It is clear from the use of the interrogative pronoun, *quid,* and the use of *inquiunt* which create direct speech that a dialectical situation is to be imagined. 'The Stoic view of argument had a dialectical background in which each premise was posed as a question to an interlocutor and required his agreement' (Long and Sedley, 1987: 218, see also 189). Compare '*si qui ita rogaverit'* below (191.12-13 and also 199.12-14 and note on 201.8-11).

191.8-10 *idcirco dedicativa … non videtur esse***:** *et* makes better sense of the passage than *ei* (191.9) which Colvius first suggested. The particle *et* in this way acts as this particle frequently does throughout this work, taking the second position in the clause: 'For which reason, it is affirmative, they say, because in that which it denied it was, it also affirms what does not seem to be' (for comparable uses of *et* see introduction section 5).

191.10-11 *solum autem … praeponitur***:** In referring back to *abdicativum,* the relative pronoun *cui* makes it clear that the scope of the negative particle (*negativa particula*) covers the premise as a whole. This may not have been clear from the prefix of the verb *praeponitur* alone; without the reference to the whole premise (*abdicativum*) it may be understood mistakenly that the negative particle applies only to the subject term, the first word in the premise. In this way, the author's explanation adequately represents the scope of the negative particle which, in Sextus Empiricus' comparable explanation of Stoic negatives (*M* VIII 89), is represented by the verb κυριεύω (Mates, 1961: 134).

191.11-12 *verum hi quidem … ita rogaverit***:** *in aliis* looks forward to the refutations of the Stoics found in Chapter 7 where, firstly, Antipater the Stoic is criticised for accepting syllogisms with a single premise (200.15-18) and then the Stoics are collectively refuted on account of their moods which contain conclusions which do not differ in any way to what has been accepted in the premises (201.4-8). The use of the verb *rogo* recalls the newly coined substantive in Chapter 1, *rogamentum* (190.7)*,* which was offered as a *verbum e verbo* Latinisation of the Greek ἀξίωμα*.* This coinage is reflective of the question and answer style of dialectic (see note above on 191.7-8). In this context, therefore, the verb *rogo* means something like 'to claim or to put forward a statement which is to be accepted'. Its use with this sense in a logical context appears to be unique to this work. It is cited as a technical term in *L&S* (s.v. B1, 3) but only in a legal and publicist context meaning 'to propose a new law' or similar. In this way, it corresponds to the Greek verb ἀξιόω*,* in the same way as the substantive *rogamentum* corresponds to ἀξίωμα*.* Aristotle uses this verb

in a similar sense (*An.Pr.* 37a10 *cf.* 41b10). It is unclear why Baldassarri has suggested the middle/passive form of the verb, ἀξιοῦσθαι, as the Greek equivalent (1986: 106).

191.12-13 *Quod nullam substantiam habet, non est*: This statement summarises the Stoic view presented more fully by Seneca that there are things which are, or which exist but which have no *substantia*:

> *'"In rerum," inquiunt, "natura quaedam sunt, quaedam non sunt. Et haec autem, quae non sunt, rerum natura complectitur, quae animo succurrunt, tamquam Centauri, Gigantes et quicquid aliud falsa cogitatione formatum habere aliquam imaginem coepit, quamvis non habeat substantiam'* (*Ep.* 58.15).

In the passage above, Seneca has used *substantia* to mean physical material. Elsewhere, however, his uses of *substantia* are not limited to that of a corporeal substance; he often uses the term to render the Greek οὐσία as well, meaning 'being', not necessarily in a materialistic sense. 'He proposes to render *ousia* by *essentia'* but this 'translation remains isolated, and Seneca resorts more often to *materia* or *substantia'* (Armisen-Marchetti, 2014: 218 n.4). In light of the use of *aliquam* in the passage cited above, *nonnullam,* which I suggest as a variant for *non* below (see note on 191.14-15), could be intended to carry the same import as a way of referring to the quasi-existence of incorporeals which, although they are not ὄντα, are 'somethings'. Brunschwig's discussion shows that the Stoics counted λεκτά, examples of which we are dealing with here, as one of four such incorporeals (Brunschwig, 2003: 212-213).

191.13-14 *cogentur enim … quod non est*: The author argues that the Stoic criterion for a premise to be genuinely negative contradicts their criterion for what qualifies the existence of something and therefore, when the ontological doctrine is presented as a logical proposition it creates a paradox: '*Quod nullam substantiam habet non est*' (212.12-13. See note below on 191.14-15 for the textual variation which more clearly demonstrates the author's analysis of this paradoxical statement). *secundum quod dicunt* reminds the audience that the primary concern here is logical validity, whereby a conclusion must follow from a given pair of premises, rather than any other kind of truth. In this way, it looks forward to the description of proof *per impossibile* throughout Chapter 12 (209.10-212.3), a form of argument which, according to the author, is designed to refute those who reject a conclusion resulting from premises which they accepted (209.17-18). In this way, the verb *cogentur* here serves a similar purpose to *compelluntur* in the passage from Chapter 12 (210.1). Similarly, the verb *confiteri* conveys an accusatory tone (*L&S* s.v. all senses) in the

way that *impudenter* does in Chapter 12 (209.18). It also draws attention to the fact that the author is refuting the Stoics and distancing himself from their views in the same way as the use of *at* (191.6) above. In a similar way to this Plutarch intentionally presents the Stoics' views on 'being' as paradoxical (*Comm. Not.* 1073D-E. See Caston, 1999: 151-52, who identifies and disambiguates the two distinct senses which the Stoics apply to being, that which is ontologically marked, meaning 'to exist', and the copula, meaning 'to be', which exonerates them from this perceived paradox). The following passage shows that, according to the Stoics, a proposition can be made up of corporeal and incorporeal entities:

> 'Of these (viz. the signification, the signifier, and the name-bearer) , two are bodies - the utterance and the name-bearer'; but one is incorporeal – the state of affairs signified and sayable, which is true or false.' (Sext. Emp. *M*.8.70- SVF 2.187).

As Long and Sedley explain, 'the nouns, conjunctions etc. are commonly treated as *parts* of the complete sayable. Yet although the complete sayable, like its incomplete counterpart, is itself an incorporeal 'signification' it does not follow that every one of its constituent parts is, taken individually, an incorporeal signification' (1987: 201). This creates a strong case for *nonnullam* as the correct reading which, I suggest, ought to be accepted rather than *nullam* (see also notes on 191.12-13, 13-14).

191.14-15 *quod nullam substantiam habet*: As described above, the author perceives a paradox between the Stoic rule for negation (191.10-11) and the proposition which denies the existence of something which has no substance (191.12-13) but which is not preceded by a negative particle. Sullivan, however, argues that it is unlikely that the Stoics could be refuted in the way that the author of the *Peri Hermeneias* is suggesting here; he says that, 'we know that in the sort of proposition which the denoted by the term "negation" the Stoics had a means whereby they could deny the existence of a thing without committing themselves to that thing's existence, simply by prefixing a negative particle to the proposition which positively asserts the existence of thing' (Sullivan, 1967: 48). It seems that the author has a different way of understanding the effect of the negative particle to the way in which it was intended by the Stoics; Goulet proposes two hypotheses about the way in which this Stoic method of negation might be understood: *'si la négation précède tout l'affirmative correspondante, est-ce parce qu'elle nie à la fois l'existence du sujet et le prédicat ou qu'elle nie la réalité du rapport entre le sujet et le prédicat? La première interprétation correspond à la theorie stoïcienne exposée par Apulée et attribuée à ses adversaires par Alexandre d'Aphrodise, la second correspond à la conception d'Aristote,*

rappelée d'ailleurs par Alexandre 404,35-36' (Goulet, 1978: 185). The example proposition used here by our author, which has *'quod nullam substantiam habet'* as the subject, indicates clearly that, as Goulet points out, he follows the first of these two interpretations of the Stoic rule for negation. Goulet argues that it can't be the first hypothesis that the Stoics had in mind because this makes it impossible to categorise this type of proposition to any one of the particular types. He says that the second hypothesis must be the correct one; it is the author of the *Peri Hermeneias,* therefore, who is mistaken. Goulet goes on to say that '*les stoïciens pouvaient exiger que la négation soit placée devant toute la proposition sans pour autant que le problème de l'existence actuelle du sujet ait été soulevé'* (Goulet, 1978: 185. Bobzien, 2003: 90 makes the same point)*.* It is clear, then, that the problem which our author identifies with this rule as it is applied to the proposition he sets out to refute is not one which the Stoics would have considered relevant themselves; Cavini points out that the author of the *Peri Hermeneias* and Alexander of Aphrodisias had different concerns regarding the existential import of the subjects of propositions to the views reported by Diogenes Laertius and Sextus Empiricus: *'Le testimonianze di Apuleio e Alessandro di Afrodisia integrano quella di Diogene relativamente agli enunciati semplici, suggerendo un diverso criterio, quello della distinzione tra affermazione e negazione e relative presupposizioni esistenziali, semantiche e temporali'* (Cavini, 1985: 84). Our author's misinterpretation of the existential import of Stoic negation lends plausibility to the reading *nonnullam* (BAS[2]) over *nullam* (191.14); the use of *nonnullam* makes his criticism of the Stoics explicit: 'they are forced to admit that what is not (*quod non est*) *does* exist (*esse*), because it has *some* substance (*quod nonnullam substantiam habet*)'. The elementary level of the text has already been established (see introduction section 6), which makes the latter reading, '*nonnullam',* which serves to explain his interpretation of Stoic negation, seem far more likely than '*nullam',* which simply reiterates the point made above without providing any further clarification. The point may, then, be boiled down in the following way: they say that what has no substance does not exist. It is the case that there is something which has no substance and which therefore does not exist. By qualifying the substance in this way its existence is acknowledged, in which case, it does have *some* quality of being (*nonnullam substantiam).*

Chapter 4

191.16-193.13

In this chapter the author distinguishes between the subject and the predicate parts of a proposition, both of which may be composed of one or several words, and describes two ways in which the parts can be distinguished from one another – predicates encompass more things than subjects and predicates are always defined by a verb rather than a noun. When a property of the subject serves as the predicate this forms a proposition which is equipollent since both parts can be interchanged without the meaning of the proposition being altered. The author also states that, just as whole propositions can either be definite or indefinite, subjects and predicates are also either definite, e.g. man, animal or indefinite, e.g. not man, not animal.

191.16 *ceterum propositio***:** The way in which Chapter 4 begins with *ceterum* (*L&S* s.v. II A 3) and then by introducing the authority of Plato suggests that the criticism of the Stoics, which began in Chapter 3 (191.6-15), continues. For the introduction of the term *propositio* as an equivalent for the Greek terms πρότασις and ἀξίωμα see 190.5-8.

191.16 *ut ait … Theaeteto Plato***:** Moreschini's *apparatus fontium* points us towards *Theaet.* 206d for this reference. Londey and Johanson suggest that the author is confusing the *Theaetetus* with the discussion at *Sophist* 261-262, 'in which the noun verb analysis of the proposition is treated in more explicit detail' (Londey and Johanson, 1987: 84 n.2, *cf.* Baldassarri, who adds *Crat.*431B as another Platonic passage dealing with the same topic (Baldassarri, 1986: 71 n.10). Since the character, Theaetetus, is involved in this discussion about ὄνομα and ῥῆμα in the subsequent dialogue, the *Sophist*, this would be an understandable slip to make on the part of the author. In the *Theaetetus* passage, Plato says that part of rational explanation is to express one's thought through speech by means of verbs and nouns but he does not explain that a combination of one of each of these two units forms a proposition which is either true or false in the way that the author of the *Peri Hermeneias* suggests:

> τὸ μὲν πρῶτον εἴη ἂν τὸ τὴν αὑτοῦ διάνοιαν ἐμφανῆ ποιεῖν διὰ φωνῆς μετὰ ῥημά
> των τεκναὶ ὀνομάτων (*Theaet.*206d).

There may, however, be a significant reason behind the author's reference to the *Theaetetus,* rather than to the *Sophist,* in this text. When Arius Didymus discusses the topic of the final good for man (τέλος) in terms of its 'answering to the tripartite division of philosophy, he sees the subject being dealt with from the logical [perspective] in the *Theaetetus* (176a-e)' (Dillon, 1993: 172). Alcinous prefaces his discussion on dialectic (ch.5) and syllogistic (ch.6) with a description of the *kritērion* as the tool for acquiring knowledge (ch.4) and, 'the *Theaetetus,* as we are informed by the Anonymous *Theaetetus* Commentator (2.11*ff*), was declared by some Platonists to be concerned with the *kritērion'* (Dillon, 1993: 61). In addition to providing a preliminary for the exposition of logic, *Theaetetus* (152d) has been seen by some commentators, e.g. the Anonymous Commentator, as employing Aristotle's Categories (*ibid.* 85). The author may indeed have both the *Theaetetus* and the *Sophist* in mind.

191.16-17 *duabus paucissimis … partibus constat*: Martianus Capella provides a similar definition for what he calls *proloquium* (393), the term which our author ascribed to Varro in Chapter 1 (190.5). Varro (*L.L.*8.4.11) gives a definition for *partes orationis* which is similar to the definition given by the author for *propositio.* It is unclear why the author refers to the parts of speech as *paucissimis* and what he means by this. Moreschini equates the meaning of *paucus* with *parvus* and says that such a use is indicative of fourth-century authorship (see introduction section 5 n.216). Stover translates *paucissimis hominibus* (*Expositio* 13.18-19) as 'special men' which lends support to Londey and Johanson's translation as 'very special' (Londey and Johanson, 1987: 84). This meaning is not, however, supported by any entries in *L&S* or *OLD* and leaves the sense with which the author is using it here in this passage quite opaque. Londey and Johanson's suggestion that the author means to refer to the *Sophist* rather than to the *Theaetetus* at the beginning of this chapter begins to have more weight when this passage is examined closely. Our author appears to be unique in referring to the noun and the verb as the 'smallest' parts of speech; this is unsurprising given that, in practice, neither the noun nor the verb is necessarily the smallest part of speech. Since he has the dialogue *Theaetetus* and perhaps also the character Theaetetus from the subsequent dialogue, the *Sophist,* in mind at the beginning of this chapter (191.16) he may also have the same passage from the *Sophist* in mind, in which the combination of a noun and a verb form the first and shortest form of discourse: τῶν λόγων ὁ πρῶτός τε καὶ σμικρότατος (*Soph.*262c4). Another meaning of the superlative form of the adjective in the ablative plural is 'in just a few words' or 'very briefly' (*OLD* s.v. 6b) which would fit the context well. Apuleius uses the comparative form of the adjective with this

meaning in *Apol.*89. The surrounding context, however, suggests that what the author means to say is that 'a proposition consists of *at least* two parts of speech, a noun and a verb' (see *OLD* s.v. 1b 'at the fewest' or 'at the least' e.g., Plin. *Nat.*10.62). This is the most plausible meaning for the superlative since, after this definition, he first of all lists the other types of words which may be included in a statement (192.1-3) and then he goes on to describe the way in which each of these parts may be extended into more words (see 9-12).

The verb *constat* (191.17) is most frequently taken with the ablative (*L&S* s.v.B5) but it is also found with the genitive (*L&S* s.v. B6). Whether the author confused the reference, or the text is incorrect, it would make sense, based on the passage from the *Sophist* for the meaning to be: 'A proposition consists of two parts of speech at least.' The *co-* prefix of the verb is more resonant of the idea of the 'co-mingling' of the noun and the verb as it is expressed by the words κεράση and συμπλοκή in the *Sophist* 262c than the simple explanation of speech by means of 'μετα' nouns and verbs in the *Theaetetus* 206d. Similarly, Martianus Capella describes the way in which nouns and verbs *iuncta sint* (395).

191.17 *nomine et verbo***:** The terms here are being used in the strictly grammatical sense; *nomen* to mean 'noun' corresponding to the Greek ὄνομα rather than simply 'name', and *verbum* to mean 'verb' (*OLD* s.v. 2) to correspond to the Greek ῥῆμα (rather than the non-technical use of *verba* as it is used later to mean 'words' in a general sense at 192.10). Alexander has a similar explanation about the formation of a simple proposition using a noun and a verb:

> 'He deals first with propositions (περὶ προτάσεως) because he is going to give his account of terms by way of propositions. The terms in a simple (ἐν ἁπλῇ) proposition are noun and verb' (*in An.Pr.*14,27).

About this passage Barnes et al. say that 'this grammatical analysis of propositions is at odds with the standard logical analysis into subject term and predicate term: the predicate term is not a verb – it has the same logical syntax as the subject term, with which it is interchangeable' (1991: 61 n.25). Indeed, nowhere in the *Prior Analytics* does Aristotle analyse premises (προτάσεις) in this way. It is however, the way in which the propositions (ἀπόφανσεις) are described in *De interpretatione* (*De int.*16a1-3). After defining noun and verb (ὄνομα and ῥῆμα), it is established in Aristotle's *De interpretatione* that a statement

(λογός) consist of these and a statement which has either truth or falsity in it is specifically called a proposition; the majority of the examples of such propositions which can be broken down into the parts noun and verb contain the verb εἶναι. Then, in the early stages of the *Prior Analytics*, he makes clear the transition between considering statements in terms of noun and verb and in terms of a subject term and a predicate term:

> By a term (Ὅρον) I mean that into which the premise (πρότασις) can be analysed, viz., the predicate and the subject, with the addition or removal of the verb to be (εἶναι) or not to be (μὴ εἶναι)' (*An.Pr.*24b16-18).

The passage above, which has been considered to be controversial by both ancient and modern interpreters (Barnes et al.: 61 n.52) makes it clear that in premises which form a syllogism, the verb is always εἶναι, which can be taken as read and omitted, and is paired with a term which can be interchanged with the subject term. In this respect, the subject term and the predicate term are, to borrow Barnes' phrase, 'syntactically symmetrical' (1983: 280 n.2). By saying this, Aristotle makes it clear that the analysis of a proposition in terms of the practice described in the *Prior Analytics* is no longer concerned with a noun and a verb but with a subject term and a predicate term, which, in normal parlance are linked by a verb, usually 'to be' εἶναι but sometimes also by ὑπάρχω (see note on 212.6-7), but since it is the function of the terms and not of the verb in this work which is the concern, the verb can be omitted. In the examples of syllogistic moods with real terms rather than the letters which Aristotle usually uses, these are the same types of sentences as were discussed in the *De interpretatione* but they are now being considered from a logical rather than grammatical point of view (see, however, Alexander's explanation of this passage in which he suggests that Aristotle advises the removal of the verb 'to be' so that it is not misinterpreted as a third term 15,5-16).

Baldassarri also comments that Apuleius has different terminology for the grammatical aspect of a proposition and the logical aspect of a proposition, namely, noun/verb and subject/predicate (1986: 72 n.12). This isn't exactly surprising since, in this chapter, the author is paving the way for the transition between the exposition in Aristotle's *De interpretatione,* which treats sayings formed from nouns and verbs in a proposition, and the exposition in the *Prior Analytics* which presents the relationship between two terms within a premise and how these are combined with another premise to form a syllogism.

191.18 *Apuleius disserit*: The use of Apuleius' name in this example of a proposition has been treated by scholars, such as Zeller (1881) and later Meiss (1886), as evidence that the work is authentically by Apuleius (for this argument, and others, for and against the authenticity of the *Peri Hermeneias* see Sullivan, 1967: 12*ff*. See introduction section 7). Apuleius does use his own name in *Apol.* (9; 17; 27; 48; 53; 82; 83; 102) but in every case in this speech he is quoting someone else who is referring to him or addressing him. He also uses his own name in an extract from *Florida* where he is describing the particular skills of Empedocles, Plato, Socrates, Epicharmus, Xenophon and Xenocrates based on the 'cups' they have drunk from (20) and ends with his own name, '*Apuleius vester'*. The instance of sphragis in our text, however, has also led others to think that such use of his own name excludes the possibility that he is the genuine author of the text (e.g. Hildebrand and Goldbacher, for which see Sullivan *op. cit*; Londey and Johanson, 1987: 13). Indeed, as frequently as Apuleius uses his own name in his own works, other authors use names other than their own for the purpose of giving examples. For instance, Martianus Capella, in his passage which deals with this topic, uses Cicero's name as an example: *'Cicero disputat'* (393). This is more similar to Aristotle's practice of using Socrates in his examples rather than his own name (e.g. *De Int.*7.17b28-9 *cf.* 2.16.b1; 7.17b2). Varro uses his own name in his own work '*ut ex his feminae declinarentur, ut est ab Terentio Terentia'* (*L.L.*8.7 *cf.* 8.14) as well as the names of others for the same kind of examples, for example: *nunc fieri in multis rebus binas, ut Metellus Metella, Aemilius Aemilia* (*L.L.*9.38.55). In light of the two previous notes relating to Platonic dialogues in this chapter (191.16, 16-17), it is also relevant to point out that in the *Sophist,* the Stranger presents Theaetetus with two examples involving his own name as examples of true and false statements, 'Theaetetus sits,' and 'Theatetetus flies' (263a-c). The presence of Apuleius' name in this text therefore, cannot reasonably be used to argue either for or against genuine Apuleian authorship as it is clearly a common feature of texts both to use one's own name and of someone else in examples in order to demonstrate a feature of language or logic.

191.18-19 *quod aut verum aut falsum … propositio est*: The causal force of *ideo* reinforces the idea that being true or false is a defining feature of a proposition (*OLD* s.v.1 (with causal clause) and 2 (absol.): 'for the reason that'). Compare *veritati aut falsitati obnoxia* (190.4) which was used to similar effect alongside the introduction of the term (see note on 190.5-6).

191.19-20 *unde quidam … perfecta oratio***:** It is unclear to whom *quidam* refers (191.19). Based on the description of the belief that a noun and a verb can create a complete sentence, it is possible that it implies *grammatici*, who are mentioned on the following Teubner page (192.3). Plutarch describes the same and equally anonymous belief (*Quaest. Plat.* 1010b). Cherniss includes a list of other works which mention the same view (Cherniss, 1976: 112-3 n.b – of particular note is Ammonius 'who with explicit reference to the *Cratylus* and the *Sophist* asserts that Plato anticipated Aristotle in holding it (*De int.* 40,26-30)'). Given that this view and the view about the parts of speech which grammarians count are complementary rather than contradictory to each other, *autem* (192.2) serves to introduce an additional, explanatory note meaning, for example, 'indeed.' (*OLD* s.v. 3, 4 *cf. L&S* s.v. B5) rather than to create a contrast between two views. By using *oratio* (191.20) rather than *propositio* at this point the author is making the point that a noun and verb can form a complete statement but cannot necessarily form a complete proposition since the combination does not necessarily create a meaning which is true or false – propositions are, by definition, either true or false (see 190.3-4; 191.18-19). In this way, *oratio* here corresponds to the way in which Aristotle uses λογός. Martianus Capella provides a more comprehensive explanation:

> *Quod ergo fuerit iunctum ex nomine et verbo, si plenum nomen et plenum verbum sit, necessario facit sententiam, sed non necessario facit proloquium, si nihil est quod iam et affirmari et negari potest. Et supra diximus multa dici plena sententia quae tamen affirmari et negari <non> possint* (392).

As shown in the passage above, *proloquium* is the term used by Martianus Capella for what our author calls *propositio* (see 190.5 where *proloquium* is ascribed to Varro). *propositio* however, is used consistently by Martianus (414; 416; 422) to mean the major premise (*OLD* s.v.4b *cf. L&S* s.v. III 'the first proposition of a syllogism). This suggests that, on this point, our author and Martianus Capella are drawing from different traditions. Sullivan dismisses this distinction as 'one of relatively few differences in terminology between Martianus and Apuleius' (Sullivan, 1967: 171). Since, however, *propositio* is introduced as a more familiar synonym for Varro's *proloquium,* meaning a statement, and thereafter seems to become the established term for a complete 'statement' or 'utterance', this difference in terminology would appear to represent a more significant difference as well as its own linguistic one.

192.1 *abunde sententiam comprehendant*: This phrase recalls the first half of the definition of a proposition found in Chapter 1 (*absolutam sententiam comprehendens* 190.2-3). Only by comparing these two passages does the idea, which Martianus Capella explains (see note above), become clear.

192.1-3 *adverbia autem et pronomina … quae grammatici numerant*: Diogenes Laertius (7.71-4) explains the importance, according to the Stoics, of conjunctions in forming a complete statement. This is at odds with what the author reports Plato as saying at the beginning of Chapter 4 - he also goes on to emphasise the irrelevance of words like conjunctions 'which the grammarians count'. The generalising *cetera* suggests that there is a level of uncertainty in the actual number of parts of speech. In a similar vein, Quintilian writes that there was disagreement about how the parts of speech ought to be counted and that the Stoics added to a list of three which Aristotle and Theodectes originally counted (*Inst.* 1.4.1-5); his phrase '*quamquam de numero parum convenit'*, in particular, suggests that this was a somewhat arbitrary matter. Daniel Taylor outlines the development of the number of parts of speech. He agrees with our author in saying that 'Plato is the first to divide sentences into nominal and verbal components' before Aristotle added σύνδεσμος 'which means roughly "connective" but which includes prepositions as well as conjunctions, and ἄρθρον... "article"' (Taylor, 1996: 13). As well as a level of uncertainty, *cetera* also conveys the idea that these other parts of speech are irrelevant to the present study which focuses on logical propositions rather than the grammatical structure of sentences and so the distinction between noun and verb made by Plato is the only one which matters.

192.4 *navium aplustria*: *aplustre*, which is a calque from the Greek ἄφλαστον, is relatively uncommon and is generally only found in verse where it refers to the ornamental stern of a ship (e.g. *Lucr.* 2.551, 4.436; Manil. *Astron.* 1.681; Sil. 10.321, 14.421; Juv. 10.133). The implication of its use here indicated both by its meaning (*OLD* s.v. 'the ornamented sternpost of a ship') and perhaps also by the fact that it is a term found more commonly in poetry than prose is that it is ornamental rather than having a useful role, which could be seen as an example of a typically Apuleian rhetorical flourish (For other examples of such rhetorical flourishes see e.g., the list of gerunds at the beginning of Chapter 1 189.5-8). The comparison between parts of speech and unnecessary ornamental additions is one which Plutarch uses in describing Homer's verse:

'Homer too, who excelled in marshalling words, attaches articles to few of his nouns, as it were crests to helmets or handles to goblets that do not require them' (*Quaest. Plat.* 1010d. Trans., Cherniss, 1976).

This passage comes just after Plutarch's discussion about the fact that the Romans have eliminated all prepositions and admit none of the words called articles. Since this is a comparison between Latin and Greek, it may be possible that here our author is emphasising the irrelevance of such words, not only because of their uselessness in a logical context, but also because they are redundant in Latin language in general, since his aim in this work is to Latinise logic.

192.4 *pilos***:** This word, meaning hair, is frequently used to denote insignificance in Classical Latin (*OLD* s.v. b *cf. L&S* s.v. II B). It is possible, based on the context, that this is the implication here. However, the term is only used as a designation of insignificance when the noun is singular and when it is joined with a negative particle e.g. '*ne pilum quidem*' (Cic. *Att.*5.20.6). Other examples of the noun in the plural (*OLD* s.v. *cf. L&S* II B in plural, 'a garment or fabric made of hair') do not appear to be used with this metaphorical meaning. In which case, it is possible that the comparison with hair is being used with a different effect. 'Hair of men' is put alongside '*navium aplustria*' which is mentioned for its decorative appearance (see note above) – it is likely, therefore, that *pilos hominum* is also being used to convey the idea of decoration rather than use. The disregard of decorative hair is completely at odds with Apuleius' treatment of the aesthetic qualities of hair in his authentic works. Englert and Long (1973: 236) refer to *Met.*2.9.1-3 which demonstrates Lucius' obsession with hair. Walsh writes that this interest of Lucius reflects Apuleius's own interest (Walsh, 1970: 152). Similarly, Finkelpearl compares the way in which 'Lucius loves hair in all its styles and is adamant about the need for hair as adornment' and Apuleius' writing style, which 'is in no way unadorned' (Finkelpearl, 1998: 66). In this way, the mention of men's hair as analogous to the parts of speech which only adorn a sentence rather than adding to its function, could be a direct reference to Apuleius, previously mentioned (191.18), one which Apuleius would be unlikely to make himself based on his treatment of hair in his authentic works. Although mainly in poetry, the use of hair as an analogy for literary style is fairly common, 'even Cicero, in the course of very straightforward prose, explicitly compares unadorned women to "true" Atticist oratory' (Finkelpearl, 1998: 65) in *Orator* 23.78. The

description of the hair of the personified Dialectic in Martianus Capella is also significant in this regard:

Cui crines tortuosi decentique inflexione crispati et nexiles videbantur. Qui tamen deducti per quosdam consequentes gradus ita formam totius capitis circulabant ut nihil deesse cerneres, nihil superfluum detineres (328).

With regard to this passage, Ferré suggests that Apuleius' description of feminine hair in the *Metamorphoses* may have served as a model, although the description is an inversion of the one found here. He also says that the hair described here is Greek and in this regard, it reflects the fact that logic is of Greek origin (2007: 68 n.17, 18). Based on the hair analogy given above, it would seem that this is a commonly used image and it gives further impetus to the argument that, by comparing the uselessness of men's hair to the uselessness of grammatical particles in a proposition, the author of the *Peri Hermeneias* is trying to distance the logic he writes about from Greek as far as possible in order to fully integrate it into Latin (see 192.4).

192.5-6 *in universa compage … deputanda*: *compages* (192.5) is used by Apuleius to mean the structure of the stars and the world (*De mundo* 1; 32 *cf.* pseudo-Apuleius, *Asclepius* 10.49). Gellius uses it in a similar way to mean the structure of the world (*N.A.* 7.1.7). It is perhaps possible that the combination of *universus* here, in the sense of 'general' or 'collective (*L&S* s.v.; *cf. OLD* s.v. 1, 3), and *compages* is a pun on the use of these terms in *De mundo,* which would explain why *compages* is never otherwise found in a linguistic or logical context. This could either be an indication that Apuleius himself wrote the *Peri Hermeneias* and transferred the meaning of the terms from a cosmological context, as he had used it before, to a logical context or that a pseudonymous author, who was familiar with *De mundo,* used this 'Apuleian' combination to complement the use of Apuleius' name as an example in a similar way to the analogy involving hair above (192.4). There are no examples of *compages* cited in either *L&S* or *OLD* which show that it was ever used in the sense of the 'general structure of speech' outside of this text, which suggests that it is intended to continue the construction metaphor which began with *navium aplustria* (192.4).

192.5-6 *vice clavorum … glutinis deputanda*: The analogy used here, which continues the construction metaphor (see note on 192.5-6), between nails, pitch, and glue and the parts

of speech which act as 'connectors' is popular. As Barnes says, 'it is one of several similar metaphors which Plutarch uses in his essay on the parts of speech (*Quaest. Plat.* 1009f-1010d); and it is elaborated by Ammonius' (Barnes, 2007a: 232). It is also found in Dexippus' *Questions and Answers on Aristotle's Categories* (*in Cat.* 32.17-26).

192.6-7 *ex duabus praedictis … velut subdita***:** Baldassarri comments that the author borrows the Stoic term *pars* and he extends the original meaning of the term, '*le parti del discorso,*' to also include '*gli elementi funzionali della proposizione*' (Baldassarri, 1986: 72 n.12). It is quite a stretch to suggest that *pars* is a Stoic term; there is no Latin word which conveys the same meaning as the Greek term μέρος, in any context, more appropriately than *pars.* Furthermore, the Greek term is not used exclusively to denote Stoic concepts; Aristotle, for example, refers to 'τὰ μέρη τῆς λέξεως' (Arist. *Poet.*1456b). Besides, the author has qualified his use of the term here by adding the adjectives *subiectiva, subdita,* and *declarativa* which, after their introduction here, are used as substantives on their own without *pars* (192.13; 197.18; 204.3, 7; *cf.* however, 193.10; 196.16-18; 207.1, 21, 22; 208.21 where they qualify *particula*). Of the two terms which are introduced to denote the subject term, *subiectiva* is used throughout the rest of the text whereas the few uses of *subdita* are confined to this chapter (192.19, 20, 21; 193.5); this second term was perhaps only added pleonastically in order to clarify the exact meaning of *subiectiva* (compare the two uses of *illativum rogamentum* in Chapter 7, which was introduced to enhance understanding of *illatio* 199.9-10) and to emphasise the focus of this chapter, which is the relationship between the subject and the predicate; a given subject is said to 'belong to' or to be held 'under' the particular group of things which is expressed by the predicate (for the introduction of these terms with the particle *velut* see introduction section 5). The prefix *sub-* in these terms reinforces the subordinate role of subjects and this is continued by the preposition *sub* used below where the author explains that many subjects other than Apuleius can be contained 'under' the same predicate (192.15-16). In this way, the terms successfully convey the idea behind Aristotle's use of the verb ὑπάρχω to describe the same relationship between a subject and its predicate. The difference in subject matter and terminology between Aristotle's *De interpretatione* and *Prior Analytics* (see note on 191.17) is represented in this text which draws from both works, and this point in the text marks the transition between them. Here the author refers back to *nomen* and *verbum* introduced above (*praedictis* 191.17) which are the consituent parts of a statement as discussed in *De interpretatione* and now maps them onto subject (*subiectiva vel subdita*) and predicate (*declarativa* see below 192.7-9) as they will be identified in the part of the *Prior Analytics*

which contains the exposition about syllogistic combinations (see note on 191.17. Compare Martianus Capella: *Nam sunt proloquii partes duae: quae in nomine, una, subiectiva dicitur, quae in verbo, altera, declarativa* 393).

192.7-9 *altera declarativa … faciat Apuleius***:** Compare the use of *faciat* to the description of a Stoic proposition in which *quid evenerit ei* was used to describe the subject and therefore to affirm its existence (191.8).

192.9-10 *eadem vi … verba protendere***:** The term *verba* is used here in a non-grammatical sense to mean simply 'words' (compare the use at 191.17); either part of a proposition (*utramvis partem*), that is, the subject (*subiectiva velut subdita*) or the predicate (*declarativa*), can be expressed with more words and still retain the same meaning (*eadem vis manente*). The author is required to revert to technical grammatical terminology further on when he explains that the declarative, or predicate, part is always expressed by a verb and never by a substantive (193.6). The use of *vis* in the context of language and with the meaning 'meaning' appears to have originated in Cicero, who commonly combined the term with *verbi* (e.g., *Orat.*72, *De inv.*1.17; *De fin.*3.51). This corresponds to the use of the Greek δύναμις found in, for example, Plato *Crat.* 394b1 (*LSJ* s.v. III). The elementary and non-technical nature of this description and the examples which follow suggest that this text was intended for a non-specialist audience (see introduction section 6). This explanation and the example which follows (see note 192.11) would appear to correspond to Aristotle's discussion about the distinction between single words and phrases or sentences (*De int.*16a21 *ff*), which Ackrill describes as brief and obscure (1963: 115).

192.11 *philosophum Platonicum Madaurensem***:** About the Aristotelian passage which corresponds to this example (*De int.*16a21ff. See note on 192.9-10 above), Ackrill says that Aristotle 'does not explain what he means by saying of a part of an expression that it does, or that it does not, have significance in that expression 'in its own right' or 'in separation'' (1963: 115). Although Aristotle's discussion centres around examples of compound nouns whereas our author's own example is in the form of a series of separate terms, it is clear that it is this aspect of Aristotle's discussion which our author has in mind. The way in which he has interpreted this point of Aristotle's discussion, which Ackrill describes as 'obscure', is also made clear from the form of his example. Aristotle gives two examples to illustrate his point; the first involves a noun meaning 'good steed' (κάλλιππος) and the second 'pirate vessel' (ἐπακτροκέλης); both compound nouns in Greek. About the parts of both of these terms, he says the following:

'The steed (ἵππος) has no meaning apart, as it has in the phrase 'a good steed' (κάλλιππος). It is necessary to notice, however, that simple nouns differ from composite. While in the case of the former the parts have no meaning at all, in the latter they have a certain meaning but not as apart from the whole. Let us take 'pirate-vessel' (ἐπακτροκέλης), for instance. The 'vessel' (κέλης) has no sense whatever, except as a part of the whole' (*De int.*16a22-28).

Aristotle surely cannot mean that either ἵππος or κέλης have no meaning whatsoever at all, since both terms are established nouns in their own right, but rather, he means that they are not sufficient to accurately designate the good-steed or the pirate vessel respectively on their own. In our author's example, *philosophus* expresses a meaning when used on its own, as does *Platonicus* and *Madaurensis* but each of these terms alone does not adequately designate Apuleius because each of them can designate far more than just Apuleius; in this way, what the author says about predicates (*alias quoque subiectivas comprehendens* 192.14) also applies to the extent of terms when not used in conjunction with others. Only when they are combined do they provide an expression which is equivalent in meaning to 'Apuleius' (for these types of desginations see also 197.18-198.1). The point, therefore, is that only the combination of the three adequately represents Apuleius as well as the designation 'Apuleius' itself. It appears that this is the way in which Ammonius also took Aristotle's passage:

'Thus, in the case of the name *'Kallippos'* the *'(h)ippos'* by no means signifies an animal of this kind [i.e. a horse], although in the phrase '*kalos hippos'* it happens to signify it, nor in '*ekpaktrokeles',* which is the name of a piratical boat, does 'keles', nor in any other such name. For such names signify simple thoughts, even if some seem to have composition in their word-structure, just as sentences signify compound thoughts, according to what was previously defined about them (18,22*ff*)' (*in De int.*33,15-20. Trans., Blank: 1996).

philosophum Platonicum Madaurensem is unlike any reference Apuleius makes to himself in his works of confirmed authenticity. In *Met*.11.27, the character Lucius is identified as 'a man from Madaura.' The designation *philosophus,* in reference to Apuleius, appears frequently throughout the *Apology*, although this is usually used in a way which suggests that he is simply repeating the charges made against him using the same words as his accusers rather than unambiguously calling himself *philosophus* (see however, '*philosophus debet'* in *Apol*.103, which is the only reference Apuleius makes to himself as a philosopher

without any apparent irony). Elsewhere he refers to Plato and Platonists but usually from a detached point of view. For example, he is criticised for owning nothing but a wallet and staff, which he says is untrue at any rate, and then goes on to say that this is not even the mark of Platonic philosophers but of the Cynic school (*Apol.*22). Elsewhere he refers to Platonists with varying degrees of attachment and detachment: *meminerit* (*Apol.* 39) could either mean that he simply has in mind (*OLD* s.v.1) or that he is remembering from experience (*OLD* s.v.2). He refers to *Platone meo adhortante* (*Apol.* 41) but he never describes himself with the adjective '*platonicus*'. The lengthy designation found here is more similar to descriptions of Apuleius found in the works of other, later authors than references in Apuleius' own texts, e.g.: '*platonicus Apuleius*' (Aug. *Civ.*47.8.24, 47.9.3, 47.10.27); '*fertur etiam Latino sermone et Apuleium Madaurensem instituta huius operis effecisse*' (Cass. *Inst.* 2.5.10); '*platonicus philosophus Apuleius*' (Anon. *Contra phil*.). This could suggest that the author of the *Peri Hermeneias* is creating an epithet which amalgamates all of those by which Apuleius has previously been known (for a discussion about this designation in relation to the authenticity of the text, see introduction section 7).

192.11-12 *dicas eum uti oratione*: For other uses of the second person singular which convey the didactic tone of this text see 190.11-12; 198.16-17; 205.4 and introduction section 6. *oratio* was previously synonymously with *ars disserendi* (see note on 198.4).

192.13 *subiectiva minor … declarativa maior*: The author explains that, on the whole, the subject part of a proposition is the smaller part (*minor*) and the predicate is the larger part (*major*). This text does not refer to premises or, more correctly, terms as being either major or minor. Alexander of Aphrodisias' comprehensive description of the distinction between these types of premises (*in An.Pr.*47,29-48,7) elucidates the orignal Aristotelian passage where a definition is given of the major and minor terms within a combination: λέγω δὲ μεῖζον μὲν ἄκρον ἐν ᾧ τὸ μέσον ἐστίν, ἔλαττον δὲ τὸ ὑπὸ τὸ μέσον ὄν. (*An.Pr.*26a22-23). Tredennick (1949: 212-213 n.*a*) boils down Aristotle's definition into the same idea as our author's explanation of major and minor in Chapter 4 (192.13); the extension of the term is the feature which defines it as major or minor, not its position in either of the premises or the conclusion. Although the author does not refer to premises as containing either the major or the minor term, he acknowledges this important aspect of syllogistic validity by being consistent in his ordering of the premises and then by referring to either the first or second premise (see note on 204.3-6 from which point onwards the position of the major and the

minor term becomes relevant for the purpose of conversion). The point being made here, however, relates not to this aspect of formal logic but to the extent of the predicate term; these predicates often (*plerumque*), but not always (see note below 192.16-18), represent a larger (*maior*) group than the subject which belongs to a smaller (*minor*) category which falls under the predicate (see 197.8-198.4 and notes 197.10-13 to 198.1 for the types of predicates, their extent, and the way in which they can affect conversion).

192.16-18 *nisi forte … equi hinnire***:** If the predicate happens to be a property (*proprium*) of the subject, as neighing is of a horse, it is not the case that the subject is smaller and the predicate is larger (192.12-13) because a property such as 'neighing' is equal in extent to its subject 'horse'. *forte* looks forward to the explanation of the five predicables (197.9-17) where it is explained that there is a one in five chance that a predicate will be a property. The contrast conveyed by the normal use of *at* is unexpected at this point where the author is providing an explanatory note rather than a point of contrast. It seems, however, to match the use of the Greek adverb ἔτι when it denotes continuation (*LSJ* s.v. 1. See introduction section 5 v for the Greek style of this text) – *at* used with this sense in Latin generally belongs to the Vulgar period (*L&S* s.v. I A, 'often uses *at* as a mere continuative, where even *et* or *atque* might stand') which could indicate that the date of composition was much later than the time of Apuleius.

192.18-22 *et idcirco … equus est***:** When the predicate of a subject designates a property (*proprium cf. proprietas* 197.10) of that subject, the two terms are equal (*par*) in extent (see note above 192.16-18) and the predicate part does not have a larger (*maior*) extent than the subject as it usually does (see note on 192.13). In these cases the two terms may swap positions and the truth value of the proposition would remain the same. This is also the case when the predicate denotes the definition (*definitio*) of the subject; this is explained more fully in Chapter 6 where the author sets out the rules for material conversion which are based on the five types of predicables (197.17-20. Compare Arist. *Top.* 102a19-32 where he describes a property as belonging to a subject alone and as being 'predicated convertibly (ἀντικατηγορεῖται τοῦ πράγματος) of it'). For *subdita* (192.20, 21) see note on 192.6-7.

Quintilian also uses the participle *hinniens* as an example of a property of a horse and comments on how commonly 'horse' was used for such examples: '*ut si finias equum (noto enim maxime utar exemplo) hinniens,*' (Quint. 7.3.3; see also Varro: '*vocabula et verba ut homo et equus et legit et currit*' *L.L.* 8.11). This example must have become *notum* since it has its roots in Plato and Aristotle: Plato gives an example to demonstrate the

consequences of the suggestion that names belong to things only according to custom and habit rather than nature, i.e., that which a private individual calls 'ἄνθρωπος' and which the state names 'ἵππος' is the same thing (*Crat.*385a). A similar example is introduced into the context of properties used in propositions by Aristotle, who offers the word ἱμάτιον used to mean both horse and man as an example of an affirmation which is not single when a word has two meanings (*De int.* 8.18a20*ff*). The adjective *hinnibilis* only appears in this work. Harrison has cited this linguistic innovation as an example of typical Apuleian style (Harrison, 2002: 12 n.45). The presence of this kind of idiosyncrasy could support the argument for authentic Apuleian authorship but it could equally be an example of another author giving an example with an intentionally Apuleian flavour (see note on 189.4-8 for another example of this) to complement the use of his name in the examples given above (191.18; 192.7, 10, 15).

192.22-23 *at non itidem … vices possis***:** The swapping of terms described above, with the same meaning remaining, cannot be done when the subject and predicate terms are not equal (*impares*) in extent, specifically, when the predicate is either a genus, difference, or an accident (see 197.20-198.1). The use of the verb *convertere* (192.23 see also 192.25) anticipates the fuller discussion about logical conversion in Chapter 6 (196.15-198.17). The type of conversion referred to here is, quite clearly, conversion of terms (see Barnes, 1983: 303, who points out that Alexander distinguishes it from other sorts of 'conversion' as 'ἀντιστροφὴ τῶν ὅρων'. Galen sensibly uses a separate term, ἀναστοφή, for this form of 'conversion', and he warns against the danger of confusing it with ἀντιστροφή proper, or contraposition: *Inst. Log.* vi. 3-4'. Our author does not have a specific way of referring to the conversion of terms; he only distinguishes between 'simple' conversion, which involves converting only the conclusion and the conversion of the premises which he refers to in a non-technical way, '*altera propositionum conversio*' (see notes on 198.7-8, 9). This corresponds to Aristotle's discussion about the transposition of nouns and verbs (*De int.*20b1-13) where he says that such a change does not alter the meaning. In his commentary on this passage, Ackrill points out that 'Aristotle does not make clear here what in general would count as transposing the name and the verb in a sentence. Nor is his account of names and verbs elsewhere sufficiently clear and comprehensive to enable one to say whether he is justified in claiming that no such transposition affects significance' (Ackrill, 1963: 145. Compare Boethius who, when commenting on the same passage, explains that for philosophical purposes, changing the order of nouns and verbs should not alter meaning but such a change may have a different impact in oratory and poetry *in De*

*int.*344,28-345,6). This discussion, however, differs from that given by our author at this point since he has now made the transition from noun and verb to subject term and predicate term in his text (see note on 191.17).

192.23-193.3 *non enim … alia innumera***:** Although the proposition 'Every man is an animal' is true, the proposition in which the subject and predicate terms swap position 'Every animal is a man' is false because the extent of each of the terms is unequal (see note above on 192.22-23). This is because animal (*animal*) is not a property (*proprium*) of man in the way that neighing (*hinnibile*) is a property of horse (*equi*), rather, it is the genus of man (see 197.15) and therefore it could also be predicated of a number of other (*alia innumera*) subjects.

193.3-4 *agnoscitur hic … proponatur***:** The verb *agnoscitur* suggests that the author's aim was to teach students how to recognise particular parts of a proposition, in a similar way to the use of the verb *discernitur* further on (193.7-8). *hic* must mean 'here' in this context (*L&S* s.v. D2; *OLD* s.v. 3a) as there is no obvious masculine noun for it to agree with as a demonstrative pronoun. By saying 'here', the author is presumably referring to the examples he has just given above. He is about to explain to his audience how to distinguish a predicate term from a subject term even when the order in which they are presented has been changed and, as in the previous example, when the predicate and subject are equal parts because the predicate describes a property of a subject. The phrase *converso ordine rogamentum* is, of course, referring back to the change in order demonstrated in the previous examples but it also shows that the author is using a consistent order for presenting the subject and predicate within a premise (see note on 212.7-8). This is one of three uses of the term *rogamentum,* which was introduced in Chapter 1 as a *verbum e verbo* rendering of ἀξίωμα (190.6-7). The third use appears in Chapter 7 where it is qualified by the adjective *illativum* to create a synonym for *illatio* meaning 'conclusion' (199.10).

193.4-5 *plura comprehendere … quam subdita***:** This explanation demonstrates the comparison which was drawn previously between the subject which is minor and the predicate which is larger; the first of these is *minor* and the second is *maior* (192.13) because many subjects can be contained within one predicate (192.15-16).

193.6 *numquam vocabulo … terminatur***:** The author made the point earlier that a predicate, which is represented by a verb, says what a subject does e.g., *quid faciat Apuleius* (192.8-9). Compare the previous, non-technical use of *verba* to mean 'words' (192.10). The

distinction between the author's use of *vocabulum* and *nomen* is unclear. See *L&S vocabulum* s.v. II, in grammar a substantive, both in gen. and as an appellative noun in partic. (in contradistinction to *nomen*, as denoting a proper name). Varro also describes Aristotle's distinction between noun and verb using *vocabulum* and *verbum* (*L.L.*8.4.11, 8.4.12) but then appears to treat *nomen* as a synonym of *vocabulum* (8.4.13). Quintilian (1.4.20) shows that there is some disagreement about the extent to which the terms *nomen, vocabulum* and *appellatio* ought to be distinguished. However, for our author's purpose, *vocabulum* could refer to a linguistic element which is taking the place of a subject within a proposition without being a proper name. In this case, it is likely to be an attempt at naming the indefinite particles which are introduced and described below (193.9-11). Compare the characteristic by which Aristotle distinguishes nouns and verbs; nouns are without a connotation of time, i.e., as opposed to verbs (*De int.*16a20-21. See Ackrill's note: 115).

193.6-8 *praecipue etiam … discernitur*: *a pari* refers back to the part of the previous Teubner page where the author first gave an example of this (192.18-19). For *discernitur* see 193.3 above.

193.8-12 *id etiam … non animal*: It seems that *id* here is, unusually, being used in a 'forward looking' sense and refers to the similarity between propositions and their terms which are about to be described (see Panhuis, 2006: 36-37 for uses of the pronoun *is* and its declined forms. For the use here see *L&S* s.v. D. See also Pinkster, 2015: 1145-1146 for other examples of the cataphoric use of *id*). In this case, however, there is no particular substantive which follows. Compare *illo* 200.18 which also appears to be 'forward looking' although this is a more normal use for this pronoun. See note on 200.18-19 and introduction section 5). Since the author is about to describe the way in which propositions are similar to the terms within them because both can be either definite or indefinite, this indicates that it possibly refers back to the neuter noun *vocabulo* (193.6), a term which the author likely introduced to encompass subjects which could be denoted by indefinite particles as much as definite particles (see note on 193.6). Aristotle uses the same example to demonstrate indefinite nouns (οὐκ ἄνθρωπος) which, he says, are used for all kinds of things, those which are non-existent as well as those which exist (*De int.*16a30-33. For indefinite verbs see *De int.*19b9).

193.12-13 *non enim … praeter hoc esse*: Martianus Capella defines indefinite terms in the following way:

'ideo indefinitum est, quia negas tantum hoc esse, non dicis quid sit' (399).

This corresponds to only half of our author's definition of indefinite terms, namely, *cum hoc non sit* (193.12). This shows that Martianus Capella interprets the force of the particle *non* the same way in which it was used by the Stoics to negate whole propositions (see note on 191.10-11). Our author, on the other hand, acknowledges the possibility that the thing which is designated by the indefinite particle could be an infinite number of other things instead of what it is not by saying *aliud praeter hoc esse* (193.13). The particle *non,* therefore, is being used in a different way to the negative particle which is homonymous. In this respect, is in line with Aristotle's definition of indefinite nouns which he calls ὄνομα ἀόριστον (see note on 193.8-12 above). This is also the way in which negatives are treated in Plato's *Sophist* as is most clear from the following two passages which are close in succession:

> STR.: 'When we say not-being, we speak, I think, not of something that is the opposite of being, but only of something different' (*Soph.*257b3-4. Trans., Fowler: 1921).

> STR.: 'Then when we are told that the negative signifies the opposite, we shall not admit it; we shall admit only that the particle "not" indicates something different from the words to which it is prefixed, or rather from the things denoted by the words that follow the negative' (*Soph.*257b9-4c2. Trans., Fowler: 1921).

This similarity is significant in light of the reference to Plato's *Theaetetus* at the beginning of this chapter and which is also similar to a passage from the *Sophist* (see note on 191.16-17). These passages therefore, along with the relevant passage from Aristotle cited above (*De int.*16a30-33), provide much needed guidance on how to interpret this clause which Sullivan says he has been unable to do (1967: 38-39). They give grounds to his speculation that the author 'gave positive existential import to infinite (negative) terms' (*op. cit.*: 39). However, they also show that he is incorrect to conflate infinite with negative terms in this way. It is clear that the force of *non* as part of an indefinite term is to be distinguished sharply from the negating force of the particle as it is applied to Stoic negative propositions (see note on 191.10-11). In this way, it would appear that on this point our author represents a different strand of logical tradition to Martianus Capella, specifically, one which is more Platonist and Peripatetic than Stoic in origin.

Chapter 5

193.14-196.14

The author describes the ways in which each of the four types of propositions can be shown to be either true or false based on their relationship with each of the other propositions. He describes the formation of a square diagram to demonstrate each of these relationships. After the description of the square of opposition diagram, the rest of the chapter focusses on the ways in which each of the four types of propositions can be proven to be either true or false by the truth value of the other propositions within the square. He then explains what he means by 'equipollent' propositions and demonstrates how a pair of such propositions can be created by prefixing a negative particle to one of a pair of contradictory propositions.

193.14-15 *quattuor illae … affectae sint***:** This is the first time the author states definitively that there are four (*quattuor illae*) types of premise after discussing the possible variations in quantity and quality, including indefinite as a possible quantity, and giving examples of each in Chapter 3 (190.17-191.4). The use of '*inter se'* with the passive form of this verb '*affectae sint'* is rare and only two parallel examples can be found in Martianus Capella (342; 400. For other examples of vocabulary shared by our author and Martianus Capella see introduction section 7). The expression in both texts denotes how the premises relate to each other and, in this way, corresponds to Aristotle's use of the expression 'πῶς ἐχουσῶν πρὸς ἀλλήλας' (e.g. *An.Pr.*28a1-2; 43a16) which he uses to describe both how the terms within premises relate to each other as well as the premises themselves. Similarly, Alexander writes: 'he shows which of the propositions we have mentioned convert from one another and which do not' (*in An.Pr.*29,30-31. Compare διατίθημι which Baldassarri, 1986: 101 suggests as the equivalent original Greek term without any justification).

193.15-16 *quas non … formula spectare***:** In their translation, Londey and Johanson say that they have taken *non ab re est* 'in the positive sense of "useful", which is quite consistent with the introduction of a novel heuristic device' rather than 'in a less positive sense (say, as "not irrelevant")' which they see as being 'more consistent with his giving the Apuleian stamp of approval to something already in use' (1984: 173. See also Londey and Johanson, 1987: 112, which is a condensed version of the former). The distinction they describe between these two senses is not particularly convincing; their 'positive' sense of the phrase could equally be said to convey the idea they say is conveyed by the 'less positive

sense' and vice versa. The use of this phrase is more significant in terms of the style it conveys. Such use of litotes could be seen as an example of Apuleian rhetorical flourish (compare, for example, the use of litotes at *Met.*11,27,7: '*minime/non alienum nomen*' (Nicolini: 2012, 29). For other perceived examples of Apuleian flourish see introduction section 5). The use of such literary creativity, however, is more characteristic of Apuleius' strictly literary works rather than his philosophical handbooks (for a discussion which compares the colourful style of *Metamorphoses, Apologia, Florida,* and *De Deo Socratis* with the dry and technical style of *De Platone* and *De Mundo* see Harrison, 2000: esp. 13-14*)*. This suggests that its use in this text which is of a strictly technical nature is rather out of place and is therefore evidence of imitation of Apuleian style rather than of authentic Apuleian authorship. This rhetorical device is described in terms of logic over the page where the author explains that applying a negative particle to any proposition forms the equipollent of that proposition's contrary (196.8-13); it would be out of place for the author to discuss this further in terms of its use as a rhetorical device. *formula* here refers to the squared (*quadrata*) diagram but the same word is used later in the text for the three syllogistic figures (see e.g., 199.2; 203.11; 206.7; 207.16).

193.16-19 *sunt igitur ... bonum non est*: The frequent use of the subjunctive in the description of the square diagram (*subnotentur* 193.20; *dicanturque* 193.21-22; *ducantur* 193.22) would suggest that *sint* (WF Thom.) is more appropriate here than the indicative form (CABSD). The comparative form *superiore* is primarily used here to indicate the higher position (*L&S* s.v. II A) of the line marking the universals over the particulars (see note on 193.19-22 below) in the diagram but it also serves to highlight the superiority (*L&S* s.v. II B3) in terms of logical value held by premises which are universal in quantity rather than particular (the inferiority of particulars in terms of physical position and of logical worth is conveyed in the same way by the use of *inferiore* below 193.19). Now that the author is introducing the syllogistic theory behind the relation of premises he gives examples of propositions which more clearly demonstrate a subject term and a predicate term joined by the copula *est* as opposed to those with a noun and a verb which he described in the previous chapter and which relate more closely to Aristotle's discussion in *De interpretatione* than to the *Prior Analytics* (for this difference see note on 191.17).

193.19 *dicanturque … incongruae*: For the use of the subjunctive *dicanturque* see note on 193.16-19 above. The reason why the two universal premises are referred to as *incongruae* is explained below (194.6-8).

193.19-22   *item in … se hae suppares*: For the use of *inferiore* see note on 193.16-19. Aristotle tends to use the prepositional phrase ἐν μέρει to describe premises with a particular quantity (e.g., *An.Pr.*24a19, and Alexander follows him in this regard, e.g. *in An.Pr.*34,24; 37,1, 21; 95,12). Compare the adjective μερικός, which Baldassarri, 1986: 105 suggests as the equivalent term). Galen used the adverbial form of this (16.411) but there are no uses of the adjective cited in *LSJ* which are earlier than the third century A.D. Baldassarri gives πάρισος as the equivalent Greek term for *suppares*, which is found in Arist. *Rhet.*1410b1. The Latin term appears as a variant reading in Apu. *Met.*6.12: *'musicae suppari gressu'* (L&S s.v.) for *'musicae superingressa formosa saltavit'* (Teubner, 1931 and Budé, 1941). The use of the term in the *Peri Hermeneias* is its first use in a logical context in Latin and it does not appear to have become established as such. It is not even used in the later logical texts which make explicit use of the *Peri Hermeneias* (e.g., Cassiodorus' *Institutiones* or Isidore of Seville's *Etymologiarum Sive Originum*). The meaning behind this term becomes clear further on when the author describes the circumstances when each of the two *suppares* can be true (194.8-9). The term is used with more or less the same meaning by Aulus Gellius to describe Publilius as being 'about equal' to Laberius (*N.A.*14.1), which suggests that the author was purposefully using a familiar term and applying it to a technical context.

193.22-194.2   *deinde obliquae … universalem abdicativam*: Both of the lines are described as starting from the affirmative side of the square, which reflects the priority placed on affirmation rather than negation in Peripatetic logic (see introduction p30 and note on 209.3-5 for the overall prority of quantity over quality). The meanings of *pertingo* (AS) and *pertineo* (CWBD) do not differ significantly enough for either one of these variants to alter the sense of this passage.

194.2-4   *quae inter se … veram esse*: Thomas includes *contrariae* (194.3) in the diagram of the *quadrata formula* as a synonym for *incongruae* as well as the term *subcontrariae* as a synonym for *suppares* although there is no evidence for this term having been used before Boethius (*In PH.*2.7). Similarly, he labels the relationship between the universal affirmative and the particular affirmative and the relationship between the universal negative and the particular negative as *subalternae,* which is not found anywhere in the *Peri Hermeneias* but first arises in Mar. Vict. *Advers. Ari.* (1A.23.29) and is used frequently by Boethius. Londey and Johanson point out that the Goldbacher diagram, which Thomas followed, deviates

from the 'Apuleian terminology' (1987: 108-109. See note on 194.18-195.2 for a discussion about the labelling of the square diagram in the manuscripts).

194.4-5 *quae dicitur … et integra***:** Londey and Johanson see *pugna,* which is a rendering of the Greek μάχη, as indicative of 'a Stoic way of viewing relations between propositions' as 'μάχεσθαι is certainly a well-attested Stoic verb for expressing that propositions are in conflict (e.g., Diogenes Laertius, *Vitae* VII, 73; Sextus Empiricus, *Hyp. Pyrrh.* II)' (1984: 172. See also Baldassarri, 1986: 105 s.v. *pugna*). There is no doubt that *pugna* is a rendering of the Greek μάχη but it seems clear that this term was part of the nomenclature of dialectic which was present more widely than only in the Stoic tradition; Alexander, for example, uses the noun μάχη (*in An.Pr.*11,20) and its cognate verb (*in An.Pr.*17,16; 52,23) to denote the conflict between contradictory propositions. Furthermore, the Stranger in Plato's *Sophist* 260d, for example, refers to the sophist as 'not keeping up the fight' in the dispute about the nature of 'not-being' and Theaetetus, in his reply to the stranger, talks about the opponent of a sophist having to 'fight through' his defences (*Soph.*261a. See Herrmann, 1995 for a detailed discussion about the fighting metaphor Plato uses in this dialogue and in the *Theaetetus*). In the later Peripatetic tradition, the terms μάχη and ἀκολουθία are used by authors such as Alcinous (*Didask.* 158.16-17) and Alexander of Aphrodisias (*in An.Pr.*11.19-20) to distinguish the two types of hypothetical propositions which indicate a conflict and a connection respectively (for a discussion about the ways in which these terms, which were originally Stoic, were adopted by Peripatetics and Platonists for use which was at odds with Stoic logic see Bobzien, 2002: 388 n.82). Although *pugna* on its own is widely attested in logical contexts which are not specifically Stoic, the combination of *perfecta pugna* quite clearly resembles the Stoic τέλεια μάχη. This is a phrase found in Galen (*Inst.* 9.7-10.3) to describe the 'complete incompatibility {which} obtains when *p* and *q* cannot be both true and cannot be both false' (Burnyeat, 2012: 194 n.115); this is exactly the situation the author of the *Peri Hermeneias* describes between the two sets of *alterutrae* (194.13-15. Compare *pugna dividua* below).

194.5 *at inter ... pugna dividua est***:** The adjective *dividuus* is not included in either of the glossaries of Baldassarri or Londey and Johanson. It must mean 'half' rather than 'divisible' (*L&S* s.v.1) or 'divided' (*L&S* s.v. 2) in a general sense. As a comparable example, see Pliny the Elder, who uses the term to refer to a 'half moon' (*Nat. Hist.* 2.215. See *L&S* s.v.), which is also the way in which Apuleius uses the adjective in *DdS.* 1.7. It is specifically a half conflict because, out of the two sets of differences in propositions, it is only one in terms of quality

not quantity. This means that in a give set of *suppares* or *incongruae* both may not be true at the same time but they may be simultaneoulsy false (see 194.11-13 and note on 194.13-15 below). It corresponds, therefore, to the Greek ἐλλιπὴς μαχή which Galen uses to refer to 'contrariety', or, 'incomplete incompatibility' (*Inst.* 33,6-14. See Burnyeat, 2012: 194 n.115. Compare *perfecta pugna,* for which, see note on 194.4-5). Another *inter* before *incongruas* would make it clearer that the conflict is one between the two *incongruae* and another one between the two *suppares* rather than one between the *incongruae* and the *suppares*.

194.6-8 *quod incongruae … simul mentiuntur*: A contrast is drawn between *incongruae* and *suppares* by the balancing phrase introduced by *quidem* and closely followed by *autem* (for other examples of this see 190.18-191.1; 196.1-2; 213.18-214.1). The equivalent Greek term for *mentior*, ψεύδεσθαι, which Baldassarri suggests in his glossary (1986: 104) is indeed used by Aristotle (*De int.*16a3) to mean 'make a false statement'. Cicero, in fact, uses the adverbial form of this verb to render the adverbial form of the Greek verb above (*Div.* 2.4.11) to refer to the 'liar fallacy'. At this point, the meaning behind the term *incongruae,* which was previously introduced in the description of the square diagram (193.19), is made clear; they can never become true at the same time (*numquam fiunt simul verae.* Compare the use of the verb *congruo* to describe the condition upon which the convertibility of a given proposition relies 197.8-9). The privative prefix *in-* (*L&S* s.v. III) supplies the same part of the meaning as *numquam*. In a similar way, the *sub-* prefix of *suppares* is not only reflective of the position of this pair of propositions in relation to the *incongruae* (*L&S* s.v. 1), but in its transferred sense (*L&S* s.v. III. B 3) it is also indicative of the propositions being a little less than equal as they have the potential to become true at the same time but only in some cases. The author previously used the phrase *mutata vice* in Chapter 4 where he discussed the possibility that the subject and the predicate of a proposition could switch places with one another (*mutata vice*) and, only when the predicate of the original proposition happens to be a property or a definition of the subject, have exactly the same meaning as before (192.16-22). Here, he uses the phrase to point out that the situations in which the *suppares* are either true or false are the direct opposite of the situations in which the *incongruae* are either true or false. His repeated and mirrored use of the terms *numquam* and *interdum* serves to highlight this parallel of opposites.

194.8-11 *interdum tamen ...revincit alteram*: This *hapax legomenon 'revictio'* is not listed in Londey and Johanson's glossary of terms. The way in which it is paired with the verb

confirmat mirrors the way in which the cognate noun of the verb *confirmat* is paired with *revincit* below (194.10. For other uses of this verb see 194.16; 17)*.* This point of style may explain the reason for the choice of *revictio* over the established *refutatio* which has the same meaning. This term was first used by Cicero in *Top.*93 and adopted by Quint. (*passim,* see esp. 3.9.1 and 5.14.21 where the term is defined) and found in Martianus Capella (507). This type of third-declension feminine noun is typical of the kind of coinage Apuleius makes in his philosophical works (see introduction section 5), which may either suggest genuine Apuleian authorship or imitation of Apuleius.

et is the second in a pair (see 194.9 for the first). It is not uncommon for one of such a pair to introduce a negative word or statement (*L&S* s.v. *et* I2) however the placement of *non* in the second part of this pair is rather unusual. Another phrase in which *non* is positioned in a similar way is found in Chapter 7 where it is difficult to reach a satisfactory sense by treating *non* as prepositive to *idem* (201.4-5). Given the subject matter of this text, it is plausible that the author is using the negative particle in the way that he describes its use in negative propositions. By prefacing the entire sentence, or clause, *non* may be translated as 'it is not the case that…' rather than simply 'not'. The author ascribes this use of the negative particle to the Stoics (191.10-11) but it seems clear that he is using it himself in this text.

194.11-13 *de incongruis qui … alteram ponit***:** The verbs *pono* and *tollo* were later used to form the names of types of hypothetical propositions *modus ponens and modus tollens* etc. Although this type of hypothetical logic is not in itself treated in the *Peri Hermeneias* (for a discussion of the origin of these terms and the origin of these types of arguments see Bobzien, 2002)*,* the methods by which the author shows that a given proposition can be either accepted or refuted can be seen to be a proto-form of these *modi*. For example, *qui utramvis posuit, utique alteram tollit* (194.11-12) describes a *modus ponendo tollens* type of argument and, similarly, *qui utramvis tollit, utique alteram ponit* (194.12-13) describes a *modus tollendo ponens* type of argument. The use of the relative pronoun in lines 11 and 12 clearly creates the context of a dialectical argument as it is presented in Aristotle and in Plato's *Sophist* (see also 195.3).

194.13-15 *enimvero de alterutris ... alteram comprobat***:** The intensifying prefix *co-* on the verb '*comprobat'* (*L&S* s.v. *cum* 3b2) reflects the complete way in which one alternative refutes the other and, therefore, there is a *perfecta pugna* between them. This is also the case for the use at 194.15 and for the perfect participle *comprobata,* which describes the

way in which a universal proposition is able to confirm its particular (194.16). This is in contrast to the way in which a particular proposition is not able to confirm its universal, for which the same participial verb, *probata,* is used without the intensifying prefix (194.18). This reflects the incompleteness of the *pugna* between these two types of proposition (see notes on 194.4-5 and 194.5 for the two different types of *pugna*). This distinction is perhaps comparable to that found in Alexander between δείκνυμι and ἀποδείκνυμι; the former is sometimes used in its general sense meaning 'to show' but is sometimes also used more specifically to mean 'to demonstrate', whereas the latter is always used in the specific sense 'to demonstrate' (Barnes et al., 1991: 20. See Alexander *in An.Pr.*32,33-34 where the two verbs are used in a discussion about the way in which Aristotle conducted proof using 'of every' and 'in as in a whole', i.e., universals, as opposed to particulars). Compare the use of the verb *approbatur,* which is reserved for proof which is carried out *per impossibile* (207.13-14; 208.27).

194.15-16   *ceterum universalis … utique infirmat***:** If either universal premise is true (*universalis comprobata*), then the particular premise of the same quality will also be true (*particularem suam confirmat.* See also 196.2-3). However, if either universal premise is false (*revicta*), then the particular premise of the same quality will not necessarily also be false (*non utique infirmat*). Sullivan sees the inclusion of these laws of subalternation as 'an advance of logical doctrine when compared to that of the Stagirite' (Sullivan, 1967: 148). Rose, however, points out that these laws are not entirely absent from Aristotle: 'in spite of the absence of any doctrine of immediate inference in Aristotle, he does take subalternation for granted in the sense that he realizes that if the universal statement is true, the corresponding particular statement is true. The clearest indications of this are in the *Topics* 109a3-6; 119a35-36' (Rose, 1968: 85). Rose also points out that Aristotle uses the rules of subalternation in the *Prior Analytics* (Rose, 1968: 88)*.* In the following passage, for example, he shows how a universal proposition implies the particular statement of the same quality:

> 'Again, let us take the premises as affirmative, and let the universal relation be the
> same as before; *i.e.,* let M apply to all N and to some O. Then it is possible both for N
> to apply to all O and for it to apply to no O. Examples of terms where it applies to
> none are white – swan – stone; but it will be impossible to find examples where it
> applies to all O, for the same reasons as before; and our proof must be drawn from

the indefinite nature of the particular premise' (*An.Pr.*27b23-28. Trans., Tredennick, 1973).

Throughout our text the introduction of a logical rule or a specific part of a proposition is signposted by an explanation of the function of the given rule or part and a name which encompasses the definition (see for example, *substitutiva* 190.11-14; *indefinitae* 190.20-21; *dedicativae* 191.1-2; *abdicativae* 191.3-4; *declarativa* 192.8-9; *incongruae* 193.19; *suppares* 193.22; *alterutrae* 194.2-3; *aequipollentes* 196.5-6). Our author simply refers to the relation between the subalterns with the possessive adjective, *particularem suam* (194.15) and *universalem suam* (194.17). The lack of a more technical definition of the relation of subalterns suggests that the author did not recognise this as a significant law. Furthermore, the use of *utique* throughout his explanation of the subalterns (194.16 *bis*; 17-18; 18) suggests that, like Aristotle, he took these relations for granted (*L&S* s.v.1), but it also emphasises the necessity by which these relational rules exist. Alexander, however, refers to the subalterns as ὑπάλληλοι; this, as well as his term for the subcontraries, ὑπεναντίαι, are found first as logical terms in his commentary (Barnes et al., 1991: 106 n.29); these terms compared to the distinctly non-technical designation for subalterns in our text quells the suspicion, which may be provoked based on the striking number of similarities shared by these works, that the *Peri Hermeneias* may postdate the commentaries of Alexander of Aphrodisias (see introduction section 4). For *revicta* (194.16; 17) see note on 194.8-11.

194.17-18   *particularis autem … non utique confirmat*: The phrase *versa vice* (194.17) provides clarification in a similar way to *mutata vice* used above (194.7-8). The phrase may lead a scribe to think that the situation is a complete and direct opposite of the one regarding universals, which was described before, which may have led to the omission of *non* (194.18) in some manuscripts (CABSD). The parallel in the situations described here, however, is not as direct as the one described above. As described above (194.8-9) both types of particular premise can sometimes be true at the same time, therefore, if both '*Quaedam voluptas bonum est*' and '*Quaedam voluptas non bonum est*' are true at the same time, it is the truth of the second proposition which makes the universal of the first false because the particular negative is the *alterutra* of the universal affirmative. For the use of *probata* for this type of particular see note on *comprobat* above (194.13-15).

194.18-195.2 *haec omnia … infra scriptis*: It is clear from the way in which the author introduced the *quadrata formula* and described the lines which joined it up (193.16-194.2) that it is not simply the propositions which are written below, as Moreschini's text and Londey and Johanson's translation both suggest, but rather the form of the square diagram (*quadrata formula* 193.15-16) which demonstrates the relationships between the propositions. *haec omnia* refers to these relationships which the author has just described (193.19-194-18), what is 'drawn below' is surely the diagram which explains 'these things' not just the propositions themselves. In this way, *scripta* (BCFADSW), as a neuter plural, would be a more appropriate reading than *scriptis*, which Moreschini has, agreeing with *propositionibus.* Thomas' edition and Sullivan's work give a different diagram to that given in Londey and Johanson's text (1987) and Moreschini's edition (1991). Thomas uses Latin vocabulary in his diagram which is not found in our text but which is found in the versions of the diagram which appear in most manuscripts (AWBSD). Londey and Johanson are consistent in using the same vocabulary as our author and their diagram would seem to be an honest portrayal of the square of opposition as it is described in this chapter. It is this diagram which is reproduced in Moreschini's edition. Londey and Johanson say that although scholars disagree on the precise details of the square diagram, they agree that its position ought to follow the words, '*haec omnia ita esse, ut dicimus, ex ipsis propositionibus facile ostenduntur infra scriptis*' (after 195.2 in Moreschini's text). Ferré's comments, that the diagram '*ne figure qu'à l'état de glose marginale dans les manuscrits DHNV et ces manuscrits ne représentent pas l'état de l'archétype puisque l'archétype, on peut le penser, se reconstitue par l'accord des manuscrits ABDR,*' (Ferré, 2007: 110 n.239) and Moreschini's assertion in his *apparatus criticus* that no square diagram matches the description given in text are mystifying since five out of the seven digitised manuscripts have one and Radiciotti's article (2008: 123) contains a plate of the diagram as it appears in M (for details about the manuscript M see introduction section 3 n.73). For reference to diagrams of the arrangement of terms in the different syllogistic figures see Alex. 72,10-15; 78,1-5.

195.3 *certum est enim … proposuerit*: The use of the pronoun *qui* reinforces the idea of a dialectical context (for a similar instance see also 194.11-12). For the aspect of dialectical practice alluded to here, which relies upon agreement between the interlocutors, see 199.12-13 where the meaning of the term *propositio* is compared to *acceptio* and is explained using its cognate verb which is also used here (*proposuerit*).

195.4-6 *destruitur autem ... sive subneutra*: Either of the two types of universal premises can be destroyed in three ways (this point is made again in the context of proof *per impossibile,* for which see note on 211.18-212.3); either if its particular (*particularis eius*) is false, or the other universal premise (*incongrua*), or the particular which is its contrary not only in quantity but also in quality (*subneutra*), is true. This is the first of only two uses of the term *subneutra,* which is unique to this text (see 196.4 for the second use). Londey and Johanson say that this is simply a synonym for *alterutra* (1987: 79. See also Moreschini's *apparatus criticus* which shows that four manuscripts have been corrected from *subneutra* to *alterutra*). Londey and Johanson themselves comment on the care with which the author uses and introduces technical terminology into this text (1987: 50. See my introduction section 5); it seems unlikely therefore that he should introduce a synonym in this way without good reason. It does appear that the two terms denote two different types of contradictory expressions; the two uses of *subneutra* (195.6; 196.4) involve a relation of alternates where the universal proposition is false and therefore the particular, which is of weaker value, is true. It seems that *alterutra,* on the other hand, is reserved for the same relation of alternates but when the universal is true and the particular is false. ἀνασκευάζω is used by Aristotle in the same way in which *destruitur* is being used here (*An.Pr.*43a2. See Baldassarri, 1986: 103 and *LSJ* s.v. A5. *cf.* κατασκευάζω s.v. A8 for *instruitur* 195.6).

195.6-7 *instruitur autem ... falsa ostenditur*: Either of the two types of universal premises is proved to be true (*instruitur*) if the particular which is its contrary not only in quantity but also in quality (*alterutra eius*) is false. For the Greek equivalent of *instruitur* and for the use of *alterutra* to denote this particular type of contrary relationship, in which the universal is true, see note on 195.4-6.

195.7-196.2 *contra particularis ... vera ostenditur*: Either of the two types of particular premises are only destroyed if the universal premise which is its contrary not only in quantity but also in quality (*alterutra eius*) is proved to be true (*vera ostenditur*). For the pairing of *quidem* with *autem* see 190.17-191.1; 213.17-18; 194.6-8. For the use of *alterutra* to denote this particular type of contrary relationship, in which the universal is true, see note on 195.4-6.

196.2-4 *instruitur autem ... sive subneutra*: If the universal affirmative premise is true, then the particular affirmative premise will also be true (see also 194.15-16). Similarly, if the universal negative premise is true, then the particular negative premise will also be true (*si universalis eius vera est*). Either particular premise will also be true if the other particular

premise is false or if the universal premise, which is its contrary not only in terms of quantity but also in quality (*subneutra*), is false. For the use of this term to denote this particular type of contrary relationship see note on 195.4-6).

196.5-7 *eadem servabimus … simul falsae*: The term *aequipollens* is introduced here as a definition for propositions which carry the same meaning but are expressed using a different set of words. The author uses his usual method of introducing a new abstract noun or adjective which is to combine a verb form which is cognate with the noun he is defining (see for example, *indefinitae* 190.20-21; *dedicativae* 191.1-2; *abdicativae* 191.3-4; *revictio* 194.9. For full discussion on this characteristic of the text see introduction section 5). Here, however, the verb used (*possunt*) is not a direct cognate of the noun, which would be *polleo*; *cf. valeo* (196.12). The inclusion of this definition suggests this idea is being introduced for the first time; Baldassarri's glossary gives ἰσοδυναμοῦσα as the equivalent term, which means 'to have equal power' (*LSJ* s.v.). ἰσοδύναμος is a term used by Alexander of Aphrodisias in his *Quaestiones* 1.135 but apparently not in the sense in which it is used here. *enuntiatione* here means a set of words in very general terms (see note on 207.2-3 for its use meaning 'premise'. See 190.5 where the cognate term *enuntiatum* is ascribed to Cicero).

196.7-8 *altera ob … et particularis*: The phrase *altera ob alteram* shows that the author considered the relation between these two to be one of implication or inference. As the author stated previously in Chapter 3, indefinites can be taken to have the same value as particulars; that is to say that if an indefinite proposition is true, this implies that the particular form of it is also true and *vice versa* (190.21-22).

196.8-9 *item omnis … eius aequipollens*: *in principio negativam particulam* recalls the Stoic view discussed in Chapter 3 that, in order to make a proposition negative, the negative particle (*non*) must be placed at the very beginning of the proposition (191.10-11). This is a rule which the author follows himself (see 194.10; 201.4-5). To create equipollent statements out of a pair of contradictories, the author advises placing a negative particle before either one of the two contradictory propositions to make it equal in meaning to the other, thereby changing the quality from affirmative to negative. In the example given, 'every' becomes 'not every' and is equipollent to 'some' and he says that this must apply to the other three types of premise (196.13-14), so that 'not every' becomes 'not not every' and is equipollent to 'some', 'some' becomes 'not some' and is equipollent to 'not every' and 'not some' becomes 'not not some' and is equipollent to 'every.' It can be said,

therefore, that the specific difference between two equipollent propositions is one of quality, which is no doubt what led our author to remind us of indefinite and particular propositions at this point (196.7-8).

Sullivan says that, 'in his direct treatment of the squared formula, Apuleius does not present the laws of contradiction (the laws pertaining to "eithers") in the form of equivalences; when he deals with equipollent propositions later in his treatise, however, he does put them forward as logical equivalences' (1967: 68), but is unclear why the author would put the laws of contradiction across in the form of equivalences at all since the kinds of propositions created out of equipollence in the way that he describes have no use in his explanation of the valid moods in each of the three figures. Sullivan also says that 'regarding Apuleius' theory of equipollence (namely, that the negation of a proposition is logically equivalent to that proposition's contradictory opposite), we have not found (as yet) any corresponding doctrine stated explicitly by Aristotle' (1967: 148-149). As mentioned above, the inclusion of a definition of *aequipollens* suggests that it is a new idea. However, this explanation of equipollent propositions appears to correspond in part to Aristotle's discussion in *De Interpretatione* about terms; the Kneales say that 'Aristotle considered the use of privative terms and allowed that 'Every man is not-white' could be said to entail 'No man is white' (*De int.* 20a20), but rejected the converse entailment, which is required for obversion, on the ground that 'is not-white' might be taken in a narrower sense than 'is not white' (n.2: *An.Pr.*51b8) (Kneale and Kneale, 1962: 37).

196.9-11 *ut cum sit … negatio praeponatur***:** The earliest uses of the term *negatio* are found in Cicero and then in Apuleius (a number of other such shared terms are found in the authentic works of Apuleius, for which, see introduction section 5). In Cicero the term is used to denote a negative statement as a whole (*L&S* s.v. and *OLD* s.v. 1; *cf.* 2 'the action of negativing' as in Cic. *De inv.* 1.42), it is used in a similar way by Apuleius to mean a 'refusal' (*Met.*10.4.239). This is also the term Boethius uses to translate Aristotle's ἀπόφασις and to refer to a negative statement (*in De int.*13,25*ff*). The text here, however, and Londey and Johanson's English translation (*cf.* Baldassarri's Italian translation, 1986) interpret *negatio* as a synonym of *negativa particula* which came before (196.9). It is hard to see why the author would use an already established term in this slightly transferred sense as a synonym for *negativa particula.* It seems more likely that he is using this term in its established sense as a definition of that which has taken place to change the affirmative proposition (*assumat in principio negativam particulam* 196.8-9). This is more in keeping with the way in which

the author introduces concepts at each stage in the work, that is, to provide an explanation of a particular aspect or topic using a verb alongside a cognate substantive which encompasses the whole idea (see introduction section 5); it is not his practice to introduce terms simply for *variatio* (see note on 195.4-6 for the distinction between *suppar* and *subneutra* which modern scholars tend to consider as entirely synonymous). This use of *negatio* would in turn make it more likely that *proponatur* (PD)*,* 'is put forward' rather than *praeponatur,* 'is placed first' is the correct reading, and that the abbreviation has been misread (for the different but consistent uses of these two verbs see note on 213.14-15. CASW abbreviate this verb to '*pponatur'* and do the same for the noun *'propositio'* which makes it likely that the verb, similarly, has *pro-* as its prefix) and also that *ei* is an abbreviated form of *eius* which has been mistaken for the dative. A translation of this would then be 'if its negation is put forward, it would be...'.

196.12-13 *tantundem valens … est bonum***:** For other uses of the verb *valeo* in the sense of logical equivalence see 190.21-22 for the equivalence of indefinites and particulars. See also 213.17; 214.5, 17 for valid, as opposed to invalid combinations of premises; *cf.* the synonymous use of *possunt* above (196.6).

196.13-14 *hoc in ceteris … intellegendum est***:** The intention that this work should provide a brief introduction to syllogistic logic and should provide students with the opportunity to practise what they are learning is evident in statements such as this which leave it up to the audience to fill in the gaps themselves. A similar statement is made at the very end of the work, where the author invites anyone to test the validity of the syllogisms he has demonstrated using the five predicables (215.7-8).

Chapter 6

196.15-198.17

Our author's explanation of conversion, which is the topic of this chapter, differs in presentation from the traditional explanation which distinguishes *conversio simplex* from *conversio per accidens* and both of these from obversion. The order of composition in this chapter is interesting in that the author blends aspects of formal and material conversion together. Aristotle's doctrine on the conversion of the four types of propositions, which comes from *An.Pr.*1.2.25a5-26, is concerned only with formal conversion, that is, according to the quality and quantity of the premises. The author's discussion about the five types of predicables, which relates to material conversion, has its origins in Aristotle's *Topics* (e.g. 102b2-19) where only four predicables are introduced: definition, property, genus and accident.

He begins by saying that the universal negative and its alternate, the particular affirmative, can always swap their subject and predicate terms with the truth value of the proposition remaining the same and so these propositions are said to be 'convertible' (*conversibiles*). He then explains that this is not always possible for the other two types of propositions; their capacity for this sort of conversion depends upon the type of predicable which forms the predicate term. This type of material conversion was first mentioned in Chapter 4 where the author points out that the proposition '*qui equus est, hinnibile est'* can be converted to '*quod hinnibile est, equus est'* with the truth value remaining the same because the predicate *hinnibile* happens to be a property of the subject *equus* and is therefore equal to it (192.16-22. There is a similar 'preview' of conversion in Martianus Capella 375 before the topic is discussed in detail in 397-400). In this chapter, the author adds that this is also the case for propositions which have a definition of the subject as their predicate. Property and definition are two of the five types of predicate; the other three are genus, difference and accident. The author says that each of the four types of propositions, which were discussed in the previous chapter, must be tested with each of the five types of predicate to see if the proposition still has the same truth value after the conversion of its terms. Since universal affirmative and particular negative propositions are only convertible if the predicate is a property or definition, and not if it is a genus, difference or accident, they cannot be said to be convertible (*conversibiles*) in this way. He then explains that testing propositions in this way shows that particular negatives cannot be converted at all and that universal affirmatives can be converted but only particularly (*particulariter*). He spends less time

discussing the second type of conversion which involves a combination of obversion and contraposition in traditional logic and which can be used for those propositions which do not conform to simple conversion; the terms of a proposition are changed from definite to indefinite as well as the order of the terms.

196.15-19 *conversibiles propositiones ... aut falsitatis*: The term *conversibiles* is introduced in the way that is usual for neologisms; it is closely followed by the established cognate verb which reveals its meaning, in this case, the verbal expression is *inter se versare vices* (196.18. See introduction section 5). The author defines only universal negative and particular affirmative propositions as being convertible because their truth value (*condicione veritatis aut falsitatis*) remains the same if their subject and predicate parts are switched. He later says that, because the subject and predicate parts of universal affirmative and particular negative propositions can only occasionally be converted with the truth value of the proposition staying the same, they are not called convertible (197.6-7). Londey and Johanson cite the term *vices* as one of a number of examples of words 'often associated with Apuleius,' they say that 'various derivatives of *vices,* which seem to be a favourite of Apuleius (*vicem, invicem, vices, vice, vicissim-* all occur quite frequently)' (1987: 16). The entries for *vicis* in *L&S,* however, and a word search on the Library of Latin Texts reveal that this term and its various derivatives are commonly used by a very wide range of authors; it is not at all restricted to uses in Apuleius or even to the sort of archaic uses which Apuleius may have borrowed and cannot, therefore, be used to argue for the authentic Apuleian authorship of this work (see introduction section 5 for a discussion about Stover's analysis of function words as a more effective method of testing the authorship of texts. For *condicione veritatis aut falsitatis* (see note on 197.7-8 below).

196.21-197.2 *item ut ... animal homo*: This example of a universal negative proposition, in which the predicate *animal* is the genus of the subject *homo*, clearly demonstrates the author's point that the form of a universal negative proposition allows conversion even if the subject and predicate parts are unequal. In this case, the extent of the predicate is larger than the subject (see below 197.17-198.1).

197.2-4 *pari ratione ... grammaticus est*: Even though the predicate *grammaticus* in this example is an accident of the subject and is therefore smaller than the subject *homo*, the form of this proposition, a particular affirmative, means that it can always be converted and retain its truth value (see below 197.17-198.1) in the same way as in the universal negative propositions above (*pari ratione*).

197.5-7   *quod duae … conversibiles dicuntur***:** The two other types of proposition, the universal affirmative and the particular negative cannot always (*semper*) convert in this way and so they are not defined as convertible (*conversibiles*) in the way that universal negatives and particular affirmatives are although (*quamquam*) they can sometimes be converted; *interdum,* therefore, refers both to the instances in which the predicate of these propositions is equal to the subject, that is, when it is either a definition or a property (see below 197.17-20) and to the fact that universal affirmative propositions can convert if their quantity is changed to particular, which is explained below (see 198.3-4).

197.7-8   *nam quod … certe repudiatur***:** The passive form of this verb *fallitur* is most frequently used of persons (*L&*S s.v. 1). The English, 'to be declared falsely' (*L&S* s.v. 2a), rather than 'to be false or mistaken' (*L&S* s.v. 1a, 1B), best conveys the author's meaning here. As shown above, the author takes false propositions into consideration in his account of convertible propositions; a proposition need not necessarily be true, but in order to be convertible it must be so if the original proposition from which it was converted was true (as in 196.20-21; 197.3-4), likewise, a proposition which was originally false must produce a false proposition by conversion (as in 196.21-197.1). This is also why he uses *condicione* with the genitives *veritatis aut falsitatis* above (196.18-19) rather than simply saying *veritas aut falsitas.* The moralising tone conveyed by *repudiatur* (*L&S* s.v.) contributes to the didactic purpose of the work, for which see introduction section 6.

197.8-9   *ergo unaquaeque … conversa congruat***:** Each of the four types of predicative proposition (*unaquaeque propositio*) which were introduced previously (193.14-15) ought to be tested against the five different types of predicables in order to check that it is still either true or false after conversion (see note on 197.7-8). In particular, this applies to the universal affirmative and particular negative, which are not *convertibiles* in themselves (see note on 197.5-7). The use of the verb *congruat* recalls the use of the cognate but antonymous term *incongrua* to describe contrary relations on the square of opposition diagram (193.19; 194.5, 11; 195.6).

There is great variation in the way in which the five predicables are referred to, which our author calls *significationes* here (see also 215.8 *cf. species* 198.17). Baldassarri gives σημασία as the equivalent Greek term (1986: 106) which shares the same general meaning, 'expression' as *significatio* (*cf. L&S* s.v.1 and *LSJ* s.v. 2.2. The Latin term is also used in various technical senses; e.g. in rhetorical language meaning 'emphasis' *L&S* s.v. II C or in a grammatical sense meaning 'sense', 'meaning' or 'import' *L&S* II D, neither of which could

usefully be applied here). In their general senses, neither this Latin term nor the Greek term convey the concept which the author is trying to convey here; he does not mean to say all of the expressions themselves but all of the *types* of expressions. In this way, his use of the term *significatio* is synecdochical of the established general sense; the cognate verb below serves to explain the way in which he is using this noun here (*quicquid de eo dixeris, aut proprium eius significaveris … ut orator* 197.14-17. For other examples of this method of explaining his use of new terminology see introduction section 5). In this instance, the use of this term has an added benefit for introducing the predicables to an audience of beginners in logic, who are familiar with the idea of *significationes* themselves but not yet the groups into which they are divided.

Martianus Capella refers to the group as a whole as *haec quinque* (398). Boethius uses *res* (*in Isag.*1 10.17; *in Isag.* 2 348.2). Cassiodorus refers to the topic of Porphyry's *Isagoge* as *de partibus quinque* (*Inst.*2.8). In Greek, Porphyry himself rarely refers to the predicables collectively, and when he does, he simply uses a demonstrative pronoun (e.g. αὗται *Isag.*22,12). Aristotle, who originally counted only four types of predicables, refers to them not by any specific name but as 'the four' (*Top.*101b25; 108b21). Similarly, Alexander has no collective term for what he first introduces as 'the four species of problems' (τέσσαρα εἴδη ὄντα τῶν προβλημάτων. See Van Ophuijsen, 2001: 154 n.339).

Moreschini has placed a crux before *reperienda* (BCFADSW have *repperienda*); Thomas' conjecture, *experienda,* seems entirely plausible in light of the context and the definition of this term (Compare *L&S*: s.v. *experio* 'To try, prove, put to the test' with s.v. *reperio* 'to procure' or 'to find again'). Furthermore, as Lumpe points out, the author refers back to this topic in the final chapter (Lumpe, 1982: 39) where he says: *facile est experiri per illas supradictas quinque significationes* (215.7-8). The author is very consistent and formulaic in his use of vocabulary (see introduction section 5), which suggests that Thomas is correct in positing *experienda* here.

197.9-10   *nec universe … sunt istae*: The meaning of this statement is not entirely unambiguous. This is not helped by the great variety of readings for *nec universe verae* (*unum vere* C : *unum verae* W[2]DB : *unum vere* P : *universales vere* A : *universaliter verae* S : *tantum verae* W). Lumpe discusses the variety of ways in which editors have dealt with this passage (Lumpe: 1982, 39) all of whom, of course, predate that of Moreschini. In spite of the obscurity of this expression, the point being made becomes clearer when it is

considered in light of the following passage from Aristotle's *Topics* in which he discusses the role of the four different types of predicables within a statement:

> 'But we must not for this reason seek for a single (μίαν) method of inquiry which is generally (ἐπὶ καθόλου) applicable to all of them; for it is not easy to discover, and if it were to be discovered, it would be wholly obscure and difficult to apply to our present treatise' (*Top.* 1.6.102b37-38).

This comment comes after Aristotle has said that every type of predicable, which would be classed among genus, property or accident, can also be applied as a definition. Whether or not the author had direct access to this text, it seems clear that this is the original idea to which he is referring here. This relevant passage does not help with the textual variants in our own text, however, since it contains Greek terms, indicated by parentheses, which correspond to both *unum* and readings involving *universal-* . The case is the same for Alexander's comments on this passage (*in Top.*55,2). It seems that the point has been boiled down in our text to the extent that it no longer makes sense without knowledge of the wider context of Aristotelian logic and dialectic. It is interesting, however, that shortly after discussing this section of Aristotle's text cited above, Alexander ascribes the method of treating all predicables as one and the same to Theophrastus (*in Top.*55,23-26). Huby compares this passage with a passage of Proclus' commentary on Plato's *Parmenides* (635.2-12; 124B in Huby)*,* in which Theophrastus is said to link accident and property together. Huby puts this difference in presentation of Theophrastus' treatment of the predicables down to the fact that, while Alexander is a 'reliable witness with a profound knowledge of Peripatetic logic', 'Proclus' account is detailed and plausible, and these views might have been held at different times' (Huby, 2007: 165-6). Alexander of Aphrodisias serves to unpack our author's point here:

> 'Anyone who tries in this way to bring <the predicables> all under one single method will embark upon an indistinct treatment that is hard to use. For by Aristotle's earlier claim, it was impossible to find, but by the present one the method would, as we have explained, be unclear and hard to use even if it could be found. But if a method is given for each one in particular of the four kinds here set out, proceeding from the things peculiar to each of them, distinguished and defined along clear cut lines, this will be easier and clearer: it is more convenient and clearer to speak of the accidental in particular through the means by which it can be established or disproved, than to say, as if one were attacking by argument levelled

at the definition, 'of all the things said about the definition these ones also serve to establish the accidental, and these to disprove it', and so with the other predicables' (*in Top.*56,30-57,8).

Further manuscript evidence is required to fully understand this passage. Based on the passages discussed above, however, which clearly refer to the same point, it is reasonable to guess that the original text contained more words than we have in the transmitted versions and that, at one point *unum* was included as a contrast to *quinque* (197.10) and that *universe* was also used adverbially to qualify the act of testing every predicable in one way which Aristotle advises against (this is not at all unlikely in light of *Expositio* 29.6 in Stover's edition where, in the context of the synopsis of Plato's *Parmenides 'universum et unum'* appear in conjunction). The point is clearly that the convertibility of every proposition must be tested and that there is no single way which applies universally to all.

197.10-13 *sed quinque solae***:** The introduction of the five predicables at this point marks the shift in the topic of conversion from formal logic, according to the quality and quantity of a proposition, to material logic, according to the type of predicate contained within the proposition. Aristotle's *Topics* lists only four predicables, property, definition, genus and accident (*Top.*101b40). To this, Porphyry adds a fifth predicable, *species*, which is also found in Cassiodorus who refers directly to the *Isagoge* (*Inst.* 2.8). The use of *solae* suggests either that the author was aware that, at some stage, others counted more than five by the time he was writing or that the five were considered to be canonical. However, his list differs from that of Porphyry and that of Quintilian in the earlier Latin tradition. Barnes lists a variety of sets of predicables which shows the variety of ways in which they were interpreted and used. He also highlights the use of νῦν (*Top.*101b24) at the point where Aristotle identifies the four different predicables as showing that this was not necessarily intended to be definitive (Barnes, 2003: 30-31). In a similar way, *solae* here perhaps serves to show that the current list is specifically intended to serve the purpose of the text at this point which is to demonstrate and to test conversion (see also note on 197.12-13).

Alexander's explanation as to why Aristotle omitted species from his list of predicables, on the grounds that species can only be predicated of individuals (*in Top.*39.2-10), also serves to explain why our author would have omitted this group. Martianus Capella refers to *haec quinque* (398) but includes species as well as the five described by our author giving a total of six (344-348). However, he explains that *formae* (more commonly referred to as *species* in the context of predicables) are subordinate to *genus* (*subditae generi*) (345), which

explains why he also does not take species into account in the list at 398. He also discusses them again in his chapter on rhetoric (476-481) (for *species* and *differentia* as types of predicables see note on 197.15-16).

Barnes (2003: 31 n.36) and Lumpe (1982: 24) both assert that our author is not indebted to Porphyry for his treatment of the predicables. Lumpe's suggestion that our author's treatment was influenced by a later Peripatetic tradition such as Herminus' commentary on Aristotle's *Topics* is plausible in light of the fact that there are a number of similarities between the *Peri Hermeneias* and Alexander of Aphrodisias' commentaries (see introduction section 4).

197.10-12 *aut enim ... aut accidens*: The introduction of the five predicables as a method for testing the convertibility of propositions calls for the more technical term *proprietas* (*L&S* s.v. 2) as opposed to the more general *proprium* which was used in Chapter 4 to describe the predicate *hinnibile* which, as a property, is equal to its subject *equus* (192.16; 18). In a similar way *finis* (197.11) is used interchangeably with *definitio* (197.29) but there is not a detectable distinction between these. Quintilian uses both *finitio* and *finis* to mean 'definition' and says that either of these terms is acceptable (*Inst.*5.10.54). Similarly, Van Ophuijsen (2001: 155 n.340) comments on the way in which Alexander appears to use *horos* and *horismos* largely interchangeably even within the same line (*in Top.*41,22).

197.12-13 *nec praeter haec … in ulla propositione*: The qualifying phrase here, *in ulla propositione,* serves the same purpose as the use of *solae* above (197.10) that is, to clarify that, while the author may recognise that further divisions of the predicables could be made, such as genus into species, these are not relevant for his purpose of explaining the conversion of propositions. In this way, he is limiting the information he gives to that which is necessary to the topic at hand (see introduction section 6).

197.13 *ut si hominem ... eo dixeris*: The verb *substituo* usually means 'to set, put, place or lay under' (*L&S* s.v. 1) or 'to substitute' (*L&S* s.v. 2). It was used in Chapter 2 to refer to the condition which is 'set next to' a simple proposition to create a hypothetical proposition (190.13). Based on this earlier use, we can infer that here, the author means 'to put forward' man (*hominem*) as the subject of a proposition. The prefix of the verb *sub-* recalls the earlier uses of the same prefix to explain the subordinate relation of subject to its predicate (see 192.7, 15-16). Similarly, the use of *dixeris* recalls the earlier definition and explanation of

the function of a verb or predicate term, that which says something about the subject (*quae dedicant aliquid de quopiam* 191.2).

197.14-15 *aut proprium … cachinnabile*: *cachinnabile* only appears elsewhere in Apuleius *Met.*3.7.57 where it is used to qualify the action of laughing *risu* rather than to denote the action itself. *cachinnabile* is close in form to the Greek καχάζω (see Ernout-Meillet: s.v. *cachinno* - '*Quelquefois, en poesie, employé pour rideo, risus, a l'imitation du grec* καχάζω'). Porphyry uses γελαστικός, which, as Barnes points out, is not an Aristotelian example but became a stock example of a property (Barnes, 2003: 208). It is not clear where this example would have originated '(although Aristotle affirms that 'man alone of animals laughs': *PA* 673a821)' (Barnes, *loc. cit.*). Thomsen-Thörnqvist cites the following Greek examples of the use of γελαστικός to compare with Boethius' use of *risibile:* Amm. *In De int.*108.10; Alex. *in An.Pr.*25.9; Philop. *in An.Pr.*39.22 (2008b: 137 n.24.8). Martianus Capella also uses the same adjective to denote the capacity for laughter as a property which is unique to man (348; 354; 398 *ter*). Our author's use of this unusual calque from the Greek rather than the more common *risibilis* is indicative of a Greek source (see introduction sections 2 and 3).

197.15-17 *aut genus … ut orator*: The example of a genus, *animal*, is the same as in the example given above (197.1-2).

197.15-16 *differentiam … rationale*: Compare the following passage from Quintilian in which he discussed examples of predicables in a similar way:

> *''homo est animal' non est satis, id enim genus est: 'mortale' - etiam si est species cum aliis tamen communis finitio: 'rationale' - nihil supererit ad demonstrandum quod velis'* (*Inst.* 5.10.56).

Although the authenticity of the above passage has been questioned (Russell, 2001: 394 n.54), it helps to elucidate the meaning of *differentia* which our author has in mind. Further on, Quintilian defines *differentia* in the following way:

> *'illud quoque differens vocant, cum genere in species diducto species ipsa discernitur. Animal genus, mortale species, terrenum vel bipes differens'* (*Inst.* 5.10.61).

Genus is a group of 'many things which are different in species' whereas *species* is usually taken to be the definitive word here. Our author, however, has used *differentia,* which he perhaps saw as more useful for his own purposes in that the term is more transparent in its function as a predicable than *species.* '*Differentia* in Cicero, like Aristotle's διαφορά can

mean the specific difference which marks out the *forma/εἶδος* as well as the various *formae/εἴδη* which are distinguished by their "specific differences"' (Reinhardt, 2003: 269. See also Arist. *Top.*102a31-2). Our author's use of *differentia* to denote this type of predicable rather than the more traditional *species* would help to avoid confusion since he has already used this term elsewhere in the text to refer to predicables collectively (198.17) and in a general sense (189.2, 5; 190.10; 200.13).

197.16   *definitionem … mortale*: This example of a *definitio* is the same as that given by Quintilian (*Inst.*5.10.56) and a number of others (Lumpe, 1982: 40). For the origin of this stock example of a definition see DeDurand, 1973.

197.17-198.2   *quippe omne … esse conversibilis*: For Londey and Johanson's thoughts about the term *vicissim* with regard to Apuleian authorship see note on *vices* 196.18. This is one of the three features of a premise which Aristotle lists (*An.Pr.*25a1-3), the other two, that it is either affirmative or negative and is either universal or particular or indefinite were discussed separately by our author in Chapter 3 (190.17-191.2). Our author then splits the five predicables into two groups, the first of which contains definition and property, which can be swapped with the subject and be converted to a proposition with the same truth value, and the second of which includes the genus, difference and accident, which cannot be swapped with a subject and be converted. In the passage mentioned above Aristotle makes a similar division into three types: applies, necessarily applies or possibly applies. The method of presentation used by the author to demonstrate which predicables can become the subject and which cannot bears resemblance to disjunctive (*aut potest ... aut non potest* 197.16) and conjunctive (*si potest ... sin autem non potest* 197.19-20) forms of argument; each of the two possibilities are set out with the kind of markers which are found in connective syllogisms through which (*per haec*) the conclusion that particular negative premises are not convertible is reached and is introduced by *igitur*:

Every (*omne*) predicate can either become a subject or it cannot:

If (*si*) it can, it is a definition or it is a property,

If (*si*) it cannot, it is either (*aut*) a genus or difference and belongs to the definition, or (*aut*) it is an accident.

Therefore (*igitur*) particular negative premises are not convertible.

By using this method of division, the author comes close to splitting the predicables into just two groups; those which allow conversion of the terms regardless of the type of

premise and those that do not (compare the two accounts about the way in which Theophrastus categorised the predicables discussed in note on 197.9-10).

198.3-7 *universalis autem ... animal homo*: Universal affirmatives may be converted if their quantity is changed to particular; this is conversion *per accidens* (this is not the way in which the author refers to it himself but see Sullivan, 1967: 72) and is based on the following inference: If all men are animals, although not all animals are men, it must be the case that *some* animals *are* men. This can be explained by the fact that, as discussed in the previous chapter (194.15-16), universal propositions, if true, imply that the particular statement of the same quality is also true and particular affirmative propositions are convertible into themselves. The Kneales question whether this mode of inference 'to subalterns is valid within the scheme now under consideration' (Kneale and Kneale, 1962: 58), but Aristotle himself does seem to be using this method in his explanation of conversion. He says that 'the affirmative [universal], though necessarily convertible, is not so as a universal but as a particular statement: e.g., if every pleasure is good, some good must also be pleasure' he then goes on to state the validity of converting particular affirmative statements, like the one just inferred from the valid universal affirmative 'if some pleasure is good, some good will also be pleasure' (*An.Pr.*25a8-12). Particular negative propositions, on the other hand, are not convertible at all, Aristotle says that this is because 'it does not follow that if "man" does not apply to some animal, neither will "animal" apply to some man' (*An.Pr.* 25a13-14).

Since the predicate *animal* is the genus of the subject *homo* and is therefore unequal to it, this is an ideal predicate for showing that a universal affirmative proposition in itself is not convertible. If, for example, the predicate were *cachinnabile,* to take the author's example of a property, this type proposition could be converted and retain its truth value; just as it is true that:

Omnis homo cachinnabilis est is true

The following is also true:

Omne cachinnabile homo est.

This is because, as a property of *homo,* the predicate *cachinnabilis* is equal to it. Similarly, if the predicate were a definition*,* this would also be equal to the subject *homo* and, therefore, would allow this type of proposition to be converted and retain its truth value.

198.7-8: *verum hoc … reflexio nominatur***:** This is the first occurrence of the term *illatio* which is used to mean 'conclusion'; it is defined as such in the next chapter where, in the usual way, its meaning is explained by its cognate verb *infertur* (199.9-11). The term *conclusio* was previously used to mean 'conclusion' as opposed to the propositions which come before it (190.9), the use here, however, means a whole 'syllogism', and this word is used frequently, although not exclusively (see, for instance, 201.10-11), throughout the rest of the text with this meaning (see 200.7-9 where *conclusio* is defined as 'syllogism' rather than 'conclusion' and see note on 200.2-9. Compare Londey and Johanson's glossary: 1987, 75). This simple type of conversion (*in simplici conversione*) is applied to the conclusions of syllogisms (*in conclusionum illationibus*). This is elucidated in Chapters 9-11 (203.11-208.27) concerned with the syllogistic combinations in each of the three figures. By referring to this type of conclusion as *reflexio* here, the author makes it perfectly clear exactly what is taking place when he says *reflexim inferas* each time the conclusion of a combination is indirect. For the first figure, for example, see 203.14-15, 21; 204.11-12 (see also the definitions of *reflexim* and *directim* 200.4-7).

198.9-12 *altera propositionum ... indefinita est, definita***:** This 'other' type of conversion is a combination of what is commonly referred to as obversion and contraposition. Martianus Capella distinguishes between this and simple conversion in a similar way, by referring to the latter as *prima conversio* and conversion by obversion as *secunda conversio* (400)*.* The non-technical way of referring to this type of conversion as simply 'another conversion of propositions', suggests that it was not an established method at the time when this text was written (for the types of conversion and the ways of distinguishing them and referring to them by other authors see note on 192.22-23). The laws of obversion and contraposition are never used or mentioned by Aristotle (Patzig, 1963: 144) although he does discuss some instances of obversion in *De interpretatione* (Parsons, 2012). As the author says, definite terms become indefinite ones; *homo,* for example, becomes *non homo* and *animal* becomes *non animal.* Once again our author is perfectly in line with the Greek Aristotelian commentary tradition (see introduction section 4); as Thomsen-Thörnqvist notes, 'conversion by contraposition is never explicitly mentioned by Aristotle, but both Alexander and Philoponus deal with it (Alex. *in An.Pr.*46,6-8 *cf.* Philop. *in An.Pr.*42,9-13) and may ultimately be drawing on Arist. *Top.*113b19-23' (2008b: 166). The distinction between this type of term and *non* when used as a negative particle is made clearer in English by the use of a hyphen; 'man', for example becomes 'non-man' rather than 'not man' (see note on 193.12-13 for Sullivan's interpretation of indefinite terms).

198.12-13 *hanc conversionem ... particularis abdicativa*: These two types of propositions are referred to as '*reliquae'* in the sense that they are not *conversibiles* because they are unable to convert 'formally' (compare 196.15-19).

198.16-17 *id ita esse ... per illas quinque praedictas species*: The use of the second person singular in the verb *explorabis* is one of a number of verbs in this person which is indicative of the didactic purpose of this work (see introduction sections 3 and 4). *species* here denotes the group of predicables which are referred to as *significationes* elsewhere (see 197.8; 215.8. Compare Cassiodorus who lists *species* as one such predicable in *Inst.* 2.8).

Chapter 7

198.18-202.15

This chapter describes the formation of syllogisms. The author begins by describing a syllogistic pair which he calls *coniugatio propositionum;* a combination of two premises share a common term and produce a conclusion. These three statements form a syllogism which our author usually refers to as *conclusio*. The common term will either be the subject in both premises, or the predicate in both premises, or it will be the subject in one and the predicate in the other. The author discusses how these possible positions of the common term in each of the two premises affect the truth value of the conclusion. The author provides a word-for-word translation of Aristotle's *Prior Analytics* 24b18-20 which defines a syllogism, and he analyses the meaning of each part of it in a style which is similar to Alexander in his commentary on Aristotle's *Prior Analytics*. Based on this Aristotelian definition of a conclusion, he goes on to refute the Stoic Antipater of Tarsus for counting single premise-syllogisms as valid. He also criticises the Stoics more generally for using non-differently concluding arguments and duplicated arguments. He also highlights the difference between proper syllogistic argumentation and induction, namely that necessity is lacking in the latter. The contents of this chapter and the style in which it is written bear striking resemblance to Alexander of Aphrodisias' commentary on Aristotle's *Prior Analytics.*

198.18 *coniugatio autem … se copulantur*: The English translation of the term *coniugatio* is considered to be 'syllogism' (*L&S* s.v. 2C), but it is quite clear that, in fact, the term refers to only a part of a syllogism, namely, the combination of two premises which form a syllogistic pair. Our author refers to the whole syllogism further on as *tota ratiocinatio* which he defines as *collectio vel conclusio* (200.7-8). Aristotle himself did not have a dedicated technical term for what our author calls *coniugatio.* This is made clear by Alexander's explanation of Aristotle's use of διὰ τίνων καὶ πότε καὶ πῶς in his explanation about how syllogisms are effected (*An.Pr.*1.4.25b26-8):

> Since syllogisms come about by means of a particular compounding of premises, he added 'when' and 'how' to 'by what means'. 'When' signifies the combinations and figures: in the figures and combinations in which syllogisms come about the premises must share a term. (*In An. Pr.* 42.2-5).

Alexander calls a syllogistic pair συζυγία (*in Top.*21.5, 11, 15; 74.32; 76.3; 91.28-9; 95.14). He also uses the term συμπλοκή in the same work to refer to non-syllogistic pairs 21.18, 25; 26.16.

198.18 *conexio*: Earlier examples of this term are almost entirely confined to Quintilian (L&S s.v.B e.g. *Inst*. 5.14.6; 17; 19; 22) where it is used to mean, 'a conclusion, a logical sequence'. Although the use here, which is the only one in this text, shares the same logical context as those in Quintilian, it does not share the same technical application; rather than as a technical term for the conclusion which results from the two premises, it is simply being used to refer to the link between the two premises. Examples of this term used in this general sense of 'connection' are very late (e.g. *Isid. Orig.* 18.12.6; Serv. *Ad Verg. A.* 9. 517).

198.18 *aliam communem particulam*: *aliam* (BCFADSW), which refers to the middle term, may have been used to refer to the fact that, unlike the subject and the predicate terms in a proposition, which have already been described (192.6-9), the middle is 'another' term which binds two such propositions together. However, the fact that the defining part of this term is that it is '*communis'* and that the middle term could be either a subject or a predicate, an indefinite pronoun is perhaps to be expected; Martianus Capella's comparable description of the common term provides good reason for taking *aliquam* instead of *aliam*: *praedicativus <syllogismus> est in quo sumpta ita sibi nexa sunt ut aliquo extrinsecus addito suppleantur* (408) and Thomas' *apparatus criticus* reports that one manuscript from Chartres, for which he uses the siglum C (Klibansky and Regen, 1993: 142), has *aliquam* (see Appendix A)*.* The common term corresponds to Aristotle's μέσον, 'middle term', which Aristotle defines in the following way: 'by "middle term" I mean that which is both contained in another and contains another in itself, and which is the middle by its position also' (*An.Pr.*25b36-37). The fact that our author calls this *particula communis* rather than using a term which is etymologically linked to the Greek μέσον appears to have led Baldassarri to believe that the author is referring to something other than Aristotle's middle term (1986: 79 n.27). It is clear, however, from the way in which the author goes on to describe the position of the common term in each of the three figures that the common term denotes the term which is shared by a syllogistic pair in each of the three figures just as Aristotle's middle term denotes the term which is shared by a syllogistic pair in the first figure. Alexander's general description of the middle term (*in An.Pr.*53, 5-8) is comparable with the one found here. He also points out that Aristotle does not give a general account of the middle term and that the definition quoted from Aristotle (*An.Pr.*25b32-6) refers only to

syllogisms in the first figure as this is the only figure in which the middle term actually occupies the middle position (*in An.Pr.*53, 5-8). Our author's choice of *communis particula*, rather than a term with connotations of position, appropriately conveys this. In a similarly useful way, Barnes refers to the way in which the three figures are determined by the 'role' of the middle term, as well as the position (1983: 296). See also Barnes et al., 1991: 108 n.39 for Alexander's use of τάξις to refer both to the role of a term and its position.

particula is used here to denote what Aristotle calls a 'term'; this is the meaning of the majority of uses of this word throughout the text but there are a few instances where it is used in the established, grammatical sense to mean 'particle' (*L&S* s.v.B), specifically, 'negative particle' (191.11; 196.9; 210.7, 14).

198.20 *possunt ad … consentire*: For this use of *conclusio* to mean the 'conclusion' of a syllogism see also 190.9; 201.11, 12; 202.2, 7; 210.4. Elsewhere, however, the author uses the same term to mean a whole syllogism (see note on 198.7-8; 200.2-9. See also 199.5, 7; 200.18; 202.9-10, 17-18; 203.5; 209.15). Since there are certain combinations which produce more than one type of conclusion, and therefore, more than one type of syllogism (see, for example, the direct and converse moods of the first figure 203.11-204.14), it is clear that the meaning of *conclusionem* here is 'conclusion' and not 'syllogism'.

198.21-199.1 *necesse est … subiecta sit*: This is the case for the syllogistic pairs in the third figure, which are enumerated in Chapter 11 (207.16-208.27).

199.1 *in utraque declarans*: This is the case for the syllogistic pairs in the second figure which are described in Chapter 10 (206.7-207.15).

199.1-2 *aut in altera subiecta, in altera declarans*: In spite of this description, the examples of the moods of the first figure, which are set out in Chapter 9, show that the common term in this figure is in fact the predicate in the first premise and the subject in the second (this is pointed out by both Sullivan, 1967: 81, and Londey and Johanson, 1987: 45). The example Martianus Capella gives of a syllogistic pair from the first figure matches the order in which the middle term is presented in our author's example of moods from the first figure:

> *'Omnis voluptas bonum est; omne bonum utile est'. videmus utique nec totum quod supra positum est dictum, sed unam inde partem sumptam declarativam quae secundo proloquio facta est subiectiva* (408).

His description of the position of the common term in the first figure below, however, shows that he considered both of the possible orders to be valid and the order in the example above to be one of two possibilities:

> *prima est in qua declarativa particula superioris sumpti sequentis efficitur subiectiva, aut subiectiva superioris declarativa sequentis* (408).

Our author's description mirrors Aristotle's usual presentation of the terms within a syllogism more than his own; in Aristotle, it is the case that the common term is the subject in the first premise and the predicate in the second but it is also the case that, unlike in our author, the predicate term usually comes before the subject term in each proposition. For example, where our author would say:

Every A is B

With A being the subject and B the predicate. Aristotle presented the same type of proposition in the following way:

A is of every B

In this example, A is the predicate and B is the subject. Alexander makes it clear that Aristotle's convention is a result of his use of 'of every' and 'of none' as a way of making the subject and the predicate better known but normal syllogistic usage is the other way round (*in An.Pr.*54,22-29).

199.4 *non numeri ratione … conclusionum dignitate***:** The Greek ἀξίωμα is generally used to mean 'worth' or 'quality' (e.g. *LSJ* s.v. A4), which is conveyed accurately by the Latin *dignitas* (*L&S* s.v. 1). Chrysippus used ἀξίωμα to denote a 'logical proposition' (*LSJ* s.v. II.2).

There is a great deal of discrepancy among the manuscripts over *non numeri ratione.* Although it is syntactically balanced with what follows (genitive ablative *conclusionum dignitate*), it is not an entirely satisfactory reading in terms of its sense, the banality of which is conveyed by Londey and Johanson's translation of the phrase: 'This ranking is not numerical but rests on the worth of the conclusions' (1987: 93). In the following chapter of our text the author tells us the number of moods and syllogistic combinations which lead to true conclusions (*intra certum numerum* 202.17). Since the first figure contains six different pairs of premises and nine moods (202.18-203.1) as opposed to three pairs and four moods in the second figure (203.1-2) and five pairs and six moods in the third (203.2-3) the first figure would still be ranked first if considered in terms of the number of valid

conclusions it contains. Compare Martianus Capella, who explains the order of the figures only in terms of the worth of conclusions (409). In the following chapter, however, he lists the number of moods within each formula in a way which makes it clear that the first mood exceeds the other two in this respect as well (410). Our author also introduces the number of moods and combinations within each figure *intra certum numerum* (202.17) which suggests that this was taken into account in the ranking of the figures; he lists the total number of possible pairs of premises in Chapter 14 and eliminates those which are not syllogistic pairs in each of the three figures (213.11-215.4). In this way, based on our author's presentation, the figures are ranked according to the worth of their conclusions as well as, not instead of, the number of syllogistic combinations. Alexander repeatedly refers to the number of moods being 'this many' within each figure (for example, *in An.Pr.*51,24; 34). The combination of these factors makes a strong case for the reading accepted by the editor Colvius (1588): '*non tantum enumeratione*' (W), so that the passage would mean: 'This order is not only directed by a counting up but also by the worth of the syllogisms'.

conclusio has been taken to mean 'conclusion' here by Londey and Johanson (*loc. cit.*) but the meaning of *conclusio* in the majority of uses within this text is 'whole syllogism' (see notes on 198.20; 200.7-9). There is a similar crossover in terminology perceived by Alexander in Aristotle; he says that 'here he calls the conclusion a syllogism' (*in An.Pr.*53,19). This instance is entirely analogous to the use of *conclusio* in this passage; Aristotle says:

> 'When three terms are so related to one another that the last is wholly contained in the middle and the middle is wholly contained in or excluded from the first, the extremes must admit of a perfect syllogism (συλλογισμός)' (*An.Pr.*25b32-6. Trans., Tredennick, 1973).

Just as the worth of a syllogism depends upon the worth of its conclusion, in Aristotle's passage, it is necessary for there to be a perfect syllogism because it is necessary for there to be a perfect conclusion from the combination. In Alexander's commentary the ranking of the figures and propositions is considered in terms of whole syllogisms rather than only in terms of their conclusions:

> When both premises are universal and affirmative, the conclusion too is such. And it is reasonable for this syllogism to hold the first rank; for in its conclusion it

possesses both what is superior in quantity and what is superior in quality (*in An.Pr.*51,9-12).

It is more than likely, therefore, that our author is also considering the worth of whole syllogisms, in which case *conclusionum* (199.5) ought to be translated as 'syllogisms' rather than as 'conclusions' as the former is implicit in the latter (see note on 200.7-9).

199.5-8   *quippe ultima … abdicativas tantum*: See note on 207.17-20 where it is explained why only particular conclusions are possible in the third figure and why there may be universal conclusions in the second figure but they can only ever be negative because any combination of two affirmatives is invalid in the second figure (see 214.14-16). For the superior logical worth of universal, and therefore of the second figure over the third, see Alex*. in An.Pr.*48,13-15.

199.8-9   *et ideo … illationum concluditur*: For the explanatory force of *ideo* (*L&S* s.v.1) compare Alexander's language for justifying the primacy of the first figure:

> 'It is reasonable (εἰκότος) for that figure to be first in which the middle term is middle not only in its relation to the extremes but also in order and in position; for since (γὰρ) the middle term explains the generation of the figures, it is reasonable that it should also be authoritative in the matter of their order' (*in An.Pr.*47,20-25).

Every type of conclusion (*omne genus illationum*) refers to all of the four types of premise described above, which also apply to conclusions (see 190.9); universal affirmative and negative and particular affirmative and negative.

199.9-11   *dico autem … et infertur*: Although the term *illatio* was first used in the previous chapter (198.8), the author's usual method for introducing a neologism alongside its cognate verb is applied here to explain its meaning, 'conclusion'; *infero* indicates that the *illatio* is literally that which is inferred from the acceptances. The use of the adjective *illativum* to qualify the already established term *rogamentum* (190.7; 193.4) also serves to elucidate the meaning of this term. Compared to the way in which terms are usually introduced in this work by a passive verb such as *nominatur* (198.8) or *dicatur* (198.18), the first person singular verb *dico* suggests that *illatio* is a departure from standard terminology. Indeed, this is likely to be the case since, other than this text, its first use is found in the fourth-century pseudo-Marius Victorinus, *De Physicis* 4.1297 and Augustine, *Serm.* 280.1282.17.

199.11-15 *acceptio est propositio … appellatur propositio***:** The use of *acceptio* in this text is more technical in contrast to its earlier use in, for example, Cicero's *Topica* 8.37 where it is defined in a general sense as 'a taking, receiving or accepting' (*L&S* s.v. 1). Here it specifically means that which has been accepted as a proposition (*L&S* s.v. B). The relevance of the sense of this term and how it compares to *propositio* can be seen more clearly from its use in the context of proof *per impossibile* in Chapter 12. Indeed, it is only in this chapter in which it is first introduced (199.10, 11, 14, 16; 200.8, 16; 202.6, 11) and in Chapter 12 in the context of demonstrating proof *per impossibile* (209.17-18; 210.6, 13) that *acceptio* is used since it is this aspect of a proposition, that it becomes such after being *accepted* by an interlocutor, which is most relevant and, in this way, it serves to emphasise the absurdity of those who do not agree to a conclusion which is formed from propositions which they themselves have accepted (see 209.17-18). This explains why everywhere else, as he says, *propositio* is used. This is a particularly clear example which demonstrates the care with which the author chose and used his terminology (see introduction section 5). For the first time in the text the term *propositio* appears alongside its cognate verb *propono* at this point which clarifies its meaning and qualifies the sense in which it has hitherto been used and will be used throughout the rest of the work. *communiter appellatur* recalls the way in which the term was first introduced (190.7-8). Here it explains specifically that *propositio* is commonly used in place of the term *acceptio,* which more accurately represents the process of agreement the premise has gone through to become a valid premise as part of a syllogism. Boethius calls the same thing a *propositum* (*in Top. Diff.* 1177C7), that which is put forward (*propono*) in the form of a question to be either accepted or denied by the interlocutor. In this way, it is comparable to Aristotle's use of the Greek term πρότασις as described by Ross (1949: 288 n.16. See also 190.5-6).

199.16-17 *huic iunge … et concessam***:** The imperative *iunge* expects involvement on the part of the audience (see also 202.4 in this chapter. For a full discussion about the didactic language used in this text see introduction section 6). *propositam* and *concessam* are the two requirements for a *propositio* to become an *acceptio* (see note on 199.11-15)*.*

199.18-200.2 *primi modi ... honestum est***:** *primi modi* is to be understood specifically as the conclusion of the first mood of the first figure. According to the definition above (199.10-11), *illativum* implies *illativum rogamentum,* 'the concluding premise'. The examples given of a conclusion drawn directly (*directim* 199.18-200.1) and conversely (*reflexim* 200.1-2) are those which will be described in Chapter 9 (hence *mox ostendemus*)

as the first and fifth moods of the first figure respectively where it is explained again that the second of these is inferred from the same combination but conversely (203.11-16). The term *reflexim,* which corresponds to the Greek κατ'ἀνάκλασιν, 'may go back to Theophrastus' (Barnes et al., 1991: 136 n.157), who was responsible for adding the five additional moods to Aristotle's perfect four in the first figure.

Compare the use of *modus* here to the diminutive form *modulus* used later in this chapter (201.4). If the use of these two forms is intended to indicate any sort of distinction, this is unclear (see note on 201.4-5).

200.3-4 *quia particulariter … universalis dedicativa*: See 198.3-4; 203.16-17.

200.4-7 *dico autem … versa vice*: As seen, for instance, in the combination and conclusion of the first mood of the first figure which is drawn directly (*directim* 203.13-14) where *iustum* is the subject term in both the combination and the conclusion and *bonum* is the predicate term in both the combination and the conclusion. The terms have swapped roles (*versa vice*) in the conclusion of the fifth mood which is drawn conversely (*reflexim* 203.15); *bonum* is now the subject term and *iustum* is now the predicate term. For this type of conversion (*reflexio*) see 198.5-8.

200.7-9 *tota ratiocinatio … conclusio nominatur*: The author now makes a point of clarification in his use of terminology. Prior to the introduction of this definition, the term *conclusio* is used to mean 'conclusion' as distinct from the premises which form the combination (190.9. See also note on 198.20). Here, he suggests the term as one of two ways of referring to the whole syllogism. The disjunctive *vel* invites choice between the two terms as a matter of preference (*L&S* s.v.1. See introduction section 5ii). Since the conclusion in a syllogism is the result of the two premises which have come before it, its meaning is the result of the combination of them and it therefore would not be possible without them. In this way, the sense of '*conclusio*' encompasses and represents the meaning of the whole syllogism and can therefore rightly be referred to by the same name. The author is not so much using the term in a way which is entirely distinct from what has gone before but is rather qualifying (or clarifying – he appears to use *conclusio* to mean 'syllogism' without comment at 198.8) the full sense of the term which he has previously used (for further discussion on the use of *vel* to introduce new terminology see note on 209.11-12 and introduction section 5). Sullivan recognises this use of *conclusio* to mean 'an entire inference' but does not draw this connection to its use meaning 'conclusion' and

treats the two uses as distinct (1967: 78). Londey and Johanson suggest that *illatio* is simply a synonym for *conclusio* but the author's definition of the latter makes it quite clear that there is a difference. Whereas a *conclusio*, as described above, has a meaning which is the result of the combined meanings of the two premises before it, which is clear from the prefix *con-*, *illatio* simply represents the form of such a statement and its position within the syllogism, that is, after the *coniugatio*. This is a relevant distinction for the author to make since there are more possible combinations than there are true syllogisms (see 202.17).

In this text *collectio* appears only once more (200.16) whereas *conclusio* is the term most commonly used to mean a whole syllogism (see note on 198.20. In some cases, it is ambiguous whether the conclusion or the whole syllogism is being referred to, for example, see 199.5, 7; 202.17-18; 203.5), but, for the reason discussed above, this does not affect the author's meaning (see note on 199.4 for Aristotle's use of the term συλλογισμός).

200.9-12 *secundum Aristotelem … ipsa concessa*: This quote originates from Aristotle's *An.Pr.*24b18-20*.* A similar definition taken from *Topics* 100a is found in Gellius (15.26. See note on 189.4) and is also cited at the beginning of the section of Alexander's commentary on the *Topics* which is concerned with the syllogism as distinct from other types of argument (*in Top.*7,5 *ff*)*.* It is also used by Alexander to introduce his section of commentary concerned with the structure of a syllogism (*in An.Pr.*16,19). Its use here is similar to this formulaic way in which Alexander introduces a section of his commentary with the relevant quote from Aristotle (see also note on 200.13-16. As made clear by Thomsen-Thörnqvist, 2008a: xxv, this is a feature which is common to a number of Greek commentators on Aristotle and which is also present in Boethius' work on the syllogism. See introduction section 4).

200.13-16 *in qua definitione … fit collectio*: The *orationis species* are listed in Chapter 1 (189.4-8), after which the author defines the term *propositio* as that which is *pronuntiabilis* (190.2-8) and as the only type of statement to be either true or false (190.3-4. See also 191.18). The point that a syllogism cannot be made from only one acceptance is also discussed by Alexander who also explains Aristotle's use of the plural in 'things posited' in a similar way (*in An.Pr.*17,11-12 see also *in Top.*8,15). The method of analysis of Aristotle's text used here which involves verbs of speaking to refer either to Aristotle himself or to the quoted passage and which pick out and explain individual words in the passage closely resembles the style of commentaries of the likes of Alexander and Ammonius (*pluraliter*

dictum est quia... 200.15-16. See also *idcirco in definitione dixit* 201.2-4; *quod in eadem definitione necessitas comprehensa est* 202.1-2. For other similarities between our author and Alexander see introduction section 4). The repeated use of *et* (200.13, 15 introduces these two separate aspects of the definition in the way that καὶ ... καί does in Greek (*L&S* s.v. II I. For other examples of Greek style in this text see introduction section 5).

200.16-18 *Antipatro Stoico … vivis igitur***:** Compare Alexander *in Top.* 8.16-25 where this type of syllogism is similarly associated with the Stoic Antipater. Elsewhere, Alexander refers to those who accept single premise syllogisms in relation to the quote from Aristotle cited above (*in An.Pr.*17,13) as simply 'more recent thinkers', which suggests that other Stoics may also have held this view.

200.18-19 *cum sit illo … vivis igitur***:** Here the author demonstrates this syllogism in its full (*plena*) form; Alexander's commentary explains the reason behind writing the single premise syllogism in this way:

> The so-called single-assumption arguments are sometimes thought to be syllogisms inasmuch as when you hear them you add the second premise because it is well known (*in An.Pr.*17,19-21).

He gives the following, comparable, example:

> You are breathing,
> Therefore you are alive,
> seems to be a syllogism because the hearer himself adds the second premise:
> Everyone who is breathing is alive,
> which is well known. Were this not well known, no one would concede the
> conclusion
> Therefore: you are alive. (*in An.Pr.* 17,19-24).

If following this method, the assumed second premise in our author's example would be 'Everyone who sees is alive' but instead he puts it into the form of the first Stoic indemonstrable, *modus ponens*: 'If *p* then *q; p;* therefore *q'. illo modo* looks forward to the *plena* form of the syllogism which follows (*OLD* s.v. *ille* 3c, introducing a direct statement. Compare the forward-looking use of *id* 193.8 and see note on 193.8-12).

200.19-201.2 *item quia concludere … sed quod negatum***:** Again, the author's point is opaque without the clarification offered by Alexander's more comprehensive treatment of

the same topic. It is clear from the repeated *praeter illa* (201.3) which was included in the Aristotelian quote cited above (200.10-12) that the conclusion of a syllogism must say something other than that which had been conceded in the two preceding premises (compare Alexander *in An.Pr.*13-14). Alexander's comment on the purpose of a syllogism as a means of justification is required to clarify what our author means by 'we want to conclude what has been denied' (201.2):

> 'A syllogism is a type of justification; for when you syllogize something, you justify and prove it by means of certain things – that is to say, when you syllogize, you justify a disputed point by means of things which have been justified' (*in An.Pr.*43.6-9).

This is further clarified by his summary of the way in which a justification is formed:

> 'So he produces a justification by way of the one part, which he uses to establish the other; and the argument proves an unknown and disputed (ἀμφισβητουμένου) part by means of a known and justified part' (*in An.Pr.*43,25-27).

Sullivan (1967: 159) uses Mates' description of a Stoic type four undemonstrated argument to explain the author's point here, which Mates defines as follows: 'that which, employing a disjunction (exclusive) as one premise and one of the disjuncts as the other, infers the contradictory of the remaining disjunct as its conclusion' (Mates, 1961: 72). Since our author is criticising the Stoics and creates distance between their views and his own by use of the first person plural form of *volumus* (201.1. Also by the particle *at* before *Stoici* 191.6), it seems highly unlikely that he is referring to the Stoic fourth indemonstrable in the way that Sullivan suggests (*loc. cit.*). Furthermore, it seems clear that the use of *negatum* clearly points towards the 'disputed part', which is proved by means of syllogistic justification, to which Alexander refers in the passage above (see also *in An.Pr.*43,6-9). It seems more likely that the author of the *Peri Hermeneias* had this in mind rather than the Stoic disjunctive argument which Sullivan suggests. It is perhaps the case that the author is actively demonstrating the point that the practice of condensing arguments in the way that the Stoics do makes them incomprehensible. At any rate, it is clear that he is condensing the point from a fuller treatment, the sort of which is found in Alexander, who, aside from this text, offers the earliest extant example of criticism of this sort directed towards the Stoics.

201.2-4 *idcirco in definitione … necessario evenire*: For the commentary style of this explanation see also 202.1-3 and notes on 200.9-12; 200.13-16.

201.4-5 *supervacanei sunt … differenter peragentes***:** This word order is atypical, but the example which follows makes it clear that the author is referring to what Alexander calls 'non-differently concluding arguments' (ἀδιαφόρος περαίοντες) (*in An.Pr.*18,17. See Bobzien, who suggests that the {Greek} name of these arguments is 'presumably based on the fact that it is irrelevant for their validity what comes in as second disjunct', 2003: 109-110). In this case *non* clearly goes with *differenter* rather than *idem* as Londey and Johanson (1987: 95) and Sullivan (1967: 159) have taken it in their translations. Furthermore, the repeated use of *idem* (for the second see 201.6) makes it clear that it is not being used as the declining pronoun meaning 'the same' but as a particle to introduce a comparison between two things. Sullivan has 'inserted "namely" into [his] translation to indicate that Apuleius is not rejecting *all* Stoic moods as superfluous, but only those which he exemplifies' (*loc. cit.*), but this is indicated clearly enough by this repeated use of *idem,* which, in each case, introduces an example of the mood which is being rejected; two types of Stoic arguments, on the one hand (*idem*) non-differently concluding ones, and on the other (*idem*) duplicated ones. A comparable use of repeated *idem* is found in Cicero who uses it to draw a comparison between two different characteristics both belonging to speeches: *videmus enim fuisse quosdam qui idem ornate ac graviter, idem versute et subtiliter dicerent* (*Orat.*22. See *L&S* s.v. II B2; *cf. OLD* s.v.8 although there are no examples of its repeated use). The choice of this expression, which is identical to the Greek expression in terms of its syntax, over an established Latin term, *indifferenter* for instance, is indicative of a Greek source (see introduction section 5). Frede (1974b: 184 n.21) comments that the Greek term διαφόρος is found in the manuscripts of some texts (Alex. *in Top.*10,8; 10,10; *in An.Pr.*18,17; 164,30; Ammon. *in An.Pr.*27,36; 28,8; 32,13) but ἀδιαφόρος is found elsewhere in Alexander (*in Top.*566,26) and elsewhere in Ammonius (*in An.Pr.*28,5), in Galen (*De Hipp. et Plat. dog.* II 3 S.182) and in scholia on the *Topics* (294b26). Furthermore, Wallies (1883) has ἀδιαφόρος rather than διαφόρος in his edition of Alex. *in Top.*10,8. He goes on to say that Prantl supported this reading based on the way in which our author has rendered the phrase here as *non idem differenter* and also suggests that *idem* should be before *non* and that this was due to the *non* being added at a later stage above the line and subsequently being positioned in the wrong place in the line; it is entirely plausible that this kind of correction occurred in one of the earliest manuscripts. Pinkster, however, gives four examples of the negation *non* used in Cicero's Latin to show that this particle is sometimes placed 'before the word(s) they have as their scope' and are 'sometimes separated by one

or two words' (2015: 731), which shows that a textual emendation is not necessarily needed to understand that, here, *non* applies to *differenter.*

The diminutive *moduli* is usually used in senses which are technical but which are completely unrelated to the meaning of *modus* as it is being used in this text: e.g. in Vitruvius 5.9.3; 3.3.7 'a module' (*L&S* s.v.2), in Fronto, *Aquaed*.36 'a water metre' (s.v.3). There is no evidence that the Greek diminutive τροπάριον, which Baldassarri tentatively suggests as the equivalent was ever used in this logical sense to mean 'mood' (1986: 104). Diminutives are a common feature of Apuleius' style (Harrison, 2000: 18 n.71: 'For Apuleian diminutives see Koziol: 1872, 260-6 (still the best collection).'). They do not commonly appear in his philosophical works but they are something of a trademark feature in his novel (for another example of Apuleian style which is out of place in a philosophical context see note on 193.15-16. See also introduction section 7). This context, which is geared towards criticising the Stoics, may suggest that the force of the diminutive here is derogatory. This option gains plausibility when it is considered in light of the way in which Alexander describes such forms of argument:

> 'This sort of thing may indeed have a syllogistic figure and a syllogistic combination, but it is certainly not a syllogism. For syllogisms are instruments, and they are introduced for some useful purpose – for proving something. Hence what is not useful is not a syllogism' (*in An.Pr.*18,19-22).

This passage suggests that our author's use of the diminutive *modulus* is intended for those forms of argument which have the appearance of a syllogism but which lack a useful purpose. This, however, leaves the use of *modulus* to refer to moods belonging to the Peripatetic figures unexplained (see 202.18; 203.1, 2). These few uses may simply be employed by analogy to this use before the term *modus* is consistently used throughout the chapters in which the syllogistic combinations in each figure are demonstrated. Compare Martianus Capella who calls a mood '*modus'* (*passim* but esp. 411-413), and a figure '*forma'* (e.g., 409-413). There are four instances of *formula* throughout Martianus, which Ferré says could be understood to mean syllogistic figure in a metaphorical sense (2007: 69 n.19. See introduction section 7).

201.5-6 *aut dies est aut nox … dies est*: The conclusion is missing from this example with begins in the form of a Stoic fourth indemonstrable. Based on the above description of this type of argument, it was perhaps considered too obvious to be included.

201.6-8 *idem geminantes … ultro conceditur***:** For *idem* see note on 201.4-5. *geminantes* are duplicated arguments, which, as is the case here, are often discussed alongside non-differently concluding arguments (Bobzien, 2003: 109. See Alexander who describes them as 'included' in the latter *in An.Pr.* 18.17). *sine controversia,* in the same way as *quod negatum* (201.2), reinforces the purpose of a syllogism which is to prove something which is disputed by means of things which are known or undisputed (*cf.* Alex. *in An.Pr.*43,11-12), which is not accomplished by these types of Stoic arguments.

201.8-11 *illud potius … et in propositione*: The variety of manuscript readings for *nam aliud collegi* (201.10) make it difficult to make sense of this part of the text. For *nam aliud*: *nam male est* Z ; *nisi aliud* S ; *non male cett. codd. Gold.*, and for *collegi*: colligi S ; *colligere cett. codd. Gold*. Based on the author's use of direct questions in other parts of this text it is quite possible that such a question is being posed here and that *num* precedes *aliud collegi praeter quod accepi* rather than *nam* (201.10. See note on 205.13-15. Compare Alexander *in An.Pr.*18,22-30 for similar uses of direct questions in his commentary. The passage in English would then be as follows (compare Londey and Johanson's translation, 1987: 95):

> 'When I say 'If it is day, it is light, but it is day: Therefore it is light,' did I conclude anything beyond what I accepted?

This in turn makes sense of the transition into the refutation of the syllogism which follows (201.12) and it is also in keeping with the dialectical method described previously where the author explained that a syllogism begins with propositions which are put forward as questions (*si quis ita proponat* 199.12) to be agreed to by the interlocutor in order to become the kind of acceptances (*acceptio* 199.14) from which a valid conclusion may be drawn (I am very grateful to Carlotta Dionisotti who suggested *num* for the first of the two instances of *nam* in this line on the grounds of possible textual error without having the point of reference of the preceding passage, regarding the distinction between *propositio* and *acceptio,* the context of which, as well as the other use of direct questioning in the text, provides a great deal of plausibility to this conjecture).

201.11-15 *hoc tamen ita refutabimus … utique et luceat*: *hoc* refers to the rhetorical question in the suggested reading which the author posed above, 'Did I conclude anything beyond the acceptances?' as was the case with the previous syllogism, *idem geminantes* (201.6-7). The conclusion, *igitur lucet,* in this syllogism appears to be the same as was in the

premise, *lucet*, but is, in fact, different. In the conclusion *lucet* is the accepted premise which states that 'it is now light' (*nunc lucere*). In the first premise, however, *lucet* is included only as a consequent of the conditional (*tantum consequens esse*) and not as a premise in its own right. In this way, the syllogism is an example of a Stoic first indemonstrable; this type of argument 'is composed of a conditional and its antecedent (as its premises), having the consequent of the conditional as its conclusion' (see Bobzien, 1994: 136. See also Sextus *M.*8.224 and Diogenes Laertius 7.80). The conjunction *ut* and the subjunctive verb *luceat* go together to form a purpose clause which is split by the separate conditional clause introduced by *si*: 'so that, if it is day, it is certainly also light'.

201.15-202.1 *multum autem refert … aliquid quiddam praecesserit*: To affirm (*affirmes*) is to assert something as either true or false (*L&S* s.v. 1; 2) and therefore to create a valid syllogistic premise (see 191.3-4; 191.18-19) as opposed to a well-known consequence. *praecesserit* is to be understood in the sense of 'precede' as an occurrence rather than as a premise in a syllogism in that it follows necessarily but not syllogistically (see note above on 201.11-15).

202.1-3 *quod in eadem … inductionis distingueretur*: For this commentary style of analysis see also 201.2-4 and note on 200.13-16 (see also introduction section 4 for its use in the Greek commentary tradition). The author is about to describe, with an example, how the type of syllogistic argument with which his work is concerned is distinguished (*distingueretur*) from induction.

202.3-4 *nam et … quaedam conceduntur*: The difference between syllogistic justification and induction is that in induction 'certain things are accepted', specifically, parts of things rather than whole things, as demonstrated in the example which follows (202.4-8). Compare Alexander's explanation of induction (*in An.Pr.*18,9-12; 43,30*ff*).

202.4 *ut puta*: For the instructional use of the imperative see note on 199.16 (see also introduction section 6).

202.4-8 *homo inferiorem malam … malam movet*: Alexander uses the same stock example to demonstrate induction and points out that it results in a plausible conclusion but not a necessary one:

> 'Induction is a path by way of known and justified particulars toward the universal which is unknown. Both these things (induction and paradigm) contain plausibility but not necessity (*in An.Pr.*43,27-44,2).

Other uses of this example are found in Sextus, *PH* II 185; Ammonius *in An.Pr.*28,32-29,2, 2; Philoponus, *in An.Pr.*34,21-6 (Barnes et al., 1991: 104 n.12).

202.8-11 *quod cum sit … acceptionibus continetur***:** The author uses the example of the crocodile (as the stock example usually does. See note on 202.4-8 above) to show that because an induction is based on parts (*homo, equus, bos, canis*) rather than on the whole as syllogistic justification is (see note on 202.3-4), the conclusion, which must be accepted if the premises are accepted (*in conclusione non licuisset recusare*), will be fallacious (*potes ... illationem ipsam non recipere*) because there is at least one other part for which the conclusion is not true (*sit in crocodilo falsum*).

202.11-12 *et ideo ... necessario evenire***:** *in ea* refers to the definition cited previously (200.101-12) and is one of a number of instances of the author referring back to the quotation as he analyses and explains the reason behind Aristotle's use of particular words or phrases (see also 200.13; 201.2; 202.1, 12). For this method of exposition see also 201.2-4; 202.1-3 and note on 200.9-12. Necessity is what distinguishes syllogistic from the type of induction described here (*cf.* Alex. *in An.Pr.*44,1), which is why the term (*necessario*) was included in Aristotle's definition.

202.12 *ne ultima quidem ...non fore***:** The preposition *ex* highlights the point that the conclusion of a syllogism derives 'out of' the propositions which precede it. Compare *in ipsis acceptionibus continetur* (202.10-11).

202.14-15 *ac de his quidem satis dictum***:** This closing phrase matches the way in which Alexander ends his discussion on induction after he says that justification through induction is discussed by Aristotle at greater length in the second book of *Prior Analytics* (*in An.Pr.*44,5); he has said enough 'for present purposes' of discussions about categorical syllogisms. We can assume that this is also the force behind our author's comparable closing comment. This formulaic expression is used frequently in Cicero's *De inventione* to mark the end of particular topics of discussion (1.26; 1.30; 2.115, 166, 178), including induction (1.56) and in Boethius (*De Arith.* 2.43.183; *in Porph.* 2ed. 5.24.347; *in Cic. Top.* 1.273.11; 3.317.9; 3.320.46; 5.363.9 (for an account of the didactic features of this text see introduction section 6).

Chapter 8

202.16-203.10

This very brief chapter outlines the number of different moods and different syllogistic pairs or combinations from which moods can be formed in each of the three figures which were introduced in Chapter 7 (199.2-9) and acts as an introduction to the next part of the work. The following three chapters treat each of the three figures in order. The author also describes the kinds of combinations from which valid conclusions cannot be made; those which contain only particulars or only negatives. He also explains that if any affirmative premise is combined with one negative premise the conclusion will be negative and that if any universal premise is combined with one particular premise the conclusion will be particular.

202.16 *nunc tradendum ... et coniugationibus*: Martianus Capella has a similarly brief chapter to this which opens in the same way (410). Cassiodorus also introduces the different moods within each figure in a similar way and he refers his readers to the *Peri Hermeneias,* which he ascribes to Apuleius, for a fuller treatment (*Inst.*2.12). Our author distinguishes combinations (*coniugationibus*), that is, syllogistic pairs of premises, from moods since it is the case that certain syllogistic pairs can produce two separate moods (see 198.18). For example, the combination which forms the first mood of the first figure produces a conclusion directly but the same combination produces a conclusion indirectly to form the fifth mood of the first figure. For the use of *modus* see note on 201.4 which compares the use of *modulus* (202.18; 203.1-2)*.* One suggestion for the interchangeable use of the two terms in this chapter could be the very similar ways in which this chapter and a number of other texts begin which suggests that this was a standard way to introduce new chapters in a work. It is therefore possible, that the author lifted this set phrase '*nunc tradendum est quibus modis…'* from another text and returned to using his own *moduli,* which he introduced in the previous chapter (201.4), throughout the rest of the chapter.

202.17-18 *fiant intra certum … verae conclusiones*: *certum numerum* refers to the fact that there are more possible combinations than those which produce *verae conclusiones* (202.17-18). This is also presumably the reason behind the use of *soli* (202.18). This is made clearer in Martianus Capella's comparable account: *nam recipiunt intra certum numerum, extra quos modos quicquid conclusum fuerit non est temere concedendum* (410) and in Alexander's preliminary discussion of the ways in which syllogisms come about before his treatment of each of the three figures:

> For syllogisms come about by means of certain kinds of premises and in figures (which he will discuss), and in these figures they come about according to a particular conjunction of the premises with each other. For in each figure there are both non-syllogistic and syllogistic combinations, depending on the particular compound of the premises (*in An.Pr.*42,10-14).

In this way, *certum numerum* in our text is comparable to κατὰ ποιὰν τῶν προτάσεων πρὸς ἀλλήλας συμπλοκήν in Alexander's text above. Our author, however, enumerates and then eliminates the non-syllogistic pairs in the final chapter (213.11-215.7) and only presents the valid moods in each figure in Chapters 9 – 11.

202.18-203.3 *in prima formula … coniugationes quinque***:** For *soli* see note on 202.17-18. *reperiuntur* indicates that the moods and combinations 'are found' (*L&S* s.v. II B1) by means of testing all of the possible ones. Similarly, Alexander often uses the passive form of εὑρίσκω to refer to the syllogistic combinations and syllogisms as 'being found' (e.g., *in An.Pr.*51,24-25, 26; 61,20), which suggests that it is up to one who is engaged in logic to find them. Aristotle, on the other hand, does not refer to specific combinations which lead to certain moods, he only says whether or not there will be a syllogism; he uses various verbs with connotations of 'being' to denote the presence of a valid syllogism in the *Prior Analytics* (e.g. συλλογισμὸς ἔσται τέλειος *An.Pr.*32b5; ὁ αὐτὸς γίγνεται συλλογισμός 33a13).

203.3-6 *de quibus hic … falsa conducere***:** The order of the figures (*suo ordine*) was described in the previous chapter (199.4-5). The use of the reflexive possessive pronoun (*suo*), rather than the genitive *eorum,* is surprising given that the verb *demonstrabo* is first person singular and so order (*ordine*) is not its subject. It may be suggested that such a use of the reflexive pronoun is colloquial, but De Melo points out that, for this to be the case, we would expect to see more instances of the reverse situation; *eius* being used where we would expect *suus* (2010: 91). De Melo also refers to a number of instances where Plautus, whom we know Apuleius was fond of imitating, uses '*suus* where one might expect *eius'* (2010: 99), which he says are more likely to be true colloquialisms. The context of the use here, in fact, lends itself well to the third context in which *suus* is used over *eius* which De Melo describes: 'The third context in which *suus* rather than *eius* is used has to do with the original meaning of *suus,* which seems to have been 'his own' rather than just 'his'. Thus if speakers want to emphasise the close connection between two elements, they can use *suus* non-reflexively' (2010: 90. See also Woodcock, 1959: 24 and Palmer, 1994: 40-44 for the use of *suus* when it refers not to the grammatical subject but to the logical subject); the

author previously described the rationale behind the order of the figures (199.2-9) which he refers back to (202.18-203.3) just before saying that he will now set out the combinations and moods within these. In this way, he emphasises a distinction between the order of the figures and the order of the combinations and moods; although both orders are based on the same principles, the order of the figures is concerned only with the worth of the conclusions which can be drawn in each figure (see 199.5-9) whereas the worth of the premises within the combination is also taken into account in the order of moods. A translation such as 'in their own order' for *suo ordine* rather than simply 'in their order', according to De Melo's comments, fits this context well.

The combinations which are referred to by *neque ex particularibus solis … falsa conducere* (203.4-6) are those which are possible but which are omitted from the descriptions of each figure because they do not produce a valid conclusion. There are 16 possible different types of combination of each of the four types of premise, for which reason the moods are counted *intra certum numerum* (202.17) and *soli* is used when enumerating the nine moods in the first figure (202.18). These invalid combinations are enumerated and discounted systematically in Chapter 14 (213.11-215.7). The expression *ratam fieri conclusionem* is similar to one used in the previous chapter, in which it was said that, in order to be *ratam*, the conclusion of a syllogism must be formed from the premises which precede it (202.14. Compare the use of *inrita* to denote an invalid combination at 205.16). The phrase here is comparable to Aristotle's συλλογισμὸς ἔσται τέλειος both in meaning and in syntactical structure (e.g., *An.Pr.*26a27-28; 32b39; 33a22; 35a34). Based on the author's usual method of introducing and defining terminology throughout this text (see introduction section 5) *concludere* (W) is to be preferred to *conducere* (BCFADS) (203.5-6) owing to the proximity of the cognate term *conclusio* (203.5). For the unusual placement of *et* see note on 194.10; 198.3; 200.13-15; 203.5.

203.6-8 *item quamlibet … ceteris praevalet*: It is made clear by Aristotle and Alexander that a single premise is not sufficient to produce a conclusion and that a syllogism must consist of two premises (e.g., Arist. *An.Pr.*34a16-19; 40b30-7; 53b16-23; Alex. *in An.Pr.*17,10; *cf.* this text 200.10-12, 15-16). Elsewhere, however, it is made clear that one syllogism must consist of no more than two premises, otherwise there will be several syllogisms (Arist. *An.Pr.*41b36-42a40). Ross's explanation of this passage makes it clear why this is the case: 'Every proof requires three terms and no more; though (1) there may be alternative middle terms which will connect two extremes, or (2) each of the premises may be established by

a prior syllogism, or one by induction, the other by syllogism. In both these cases we have more than one syllogism' (Ross, 1949: 376). There is no indication within our text that the author took polysyllogisms into account (See, however, note on 203.11-12); he defines a combination of premises (*coniugatio*) as that which *possunt ad unam conclusionem consentire* (198.20) without mentioning any exceptions to this. The phrase *quamlibet multis dedicativis* (203.6), therefore, must simply serve as hyperbole to emphasise the force of a negative to cancel out an affirmative and of a particular to cancel out a universal (203.9-10); no matter how many premises of the stronger quality or quantity were to be added to a premise of the weaker quality or quantity, the conclusion is only ever as valid as the weakest quality and quantity within the combination.

203.8-10 *similis etiam … facit illationem*: For the plural *universalibus* see note on *quamlibet multis dedicativis* (203.6-8).

Chapter 9

203.11-206.6

Chapters 9 to 11 describe and give examples of all the valid moods in each of the three figures. This chapter begins with the first figure in which, the author says, there are nine moods and six different syllogistic combinations. That this is the longest of these three chapters is due both to the fact that the first figure has the largest number of moods (see note on 199.4) and to the fact that in Chapters 10 and 11 the author shows that the majority of moods in the second and third figures can be 'reduced' to the first four indemonstrable moods. At the beginning of Chapter 7 the author tells us that the syllogisms (*collectiones*) in the first figure are those in which the middle term is the subject term (*subiectiva*) in one of the premises and the predicate term in the other. The author's method is to describe each of the four indemonstrable moods in turn and to show in each case which other mood is produced when the conclusion is converted or, in the case of the fourth mood, which two other moods are produced when the two premises in the combination are converted. This makes very clear the way in which the imperfect moods are related to the indemonstrables. Whereas Aristotle and Alexander systematically deal with all possible combinations in turn, both valid and invalid, our author does not mention the invalid combinations until Chapter 14 (213.11-215.7) because at this point he is only concerned with the moods produced from valid combinations. He also waits until Chapter 13 to make reference to the commonly recognised fact that Aristotle listed only four moods for the first figure and that Theophrastus added the other five (212.12-14 *cf.* Alex. *in An.Pr.* 69,26-70,21). At the end of this chapter he clarifies by the use of two analogies what it means for a mood to be 'indemonstrable'.

203.11-12 *igitur in prima formula … dedicativum universalem directim*: The author's use of *formula* corresponds to Aristotle's σχῆμα meaning syllogistic 'figure', which Londey and Johanson (1987) systematically translate as 'formula'. An example of this mood was given previously to demonstrate the way in which a conclusion is drawn from a given combination of two premises to form a syllogism (199.15-200.1). Martianus Capella specifies that the universal affirmative comes from precisely two universal affirmatives (411). The author does not explicitly spell out this number in the way that he enumerates, for example, the number of types of propositions (*duae species* 190.10), parts of speech (*duabus paucissimis orationis partibus constat* 191.16-17), the number of types of predicables (*quinque solae* 197.10), the number of figures of syllogisms (*tres igitur formulae fiunt* 199.2) and the

number of combinations and moods within them (*in prima formula novem soli moduli, sex autem coniugationes reperiuntur; in secunda quattuor moduli, tres coniugationes; in tertia sex moduli, coniugationes quinque* 202.18-203.3). Although each of the syllogisms described here have two premises, compare the use of *quamlibet multis* in the previous chapter when referring to the way in which a negative premise will make the quality of the conclusion negative no matter how many affirmative premises are added to it (203.6-7), which I suggest is a form of hyperbole. Aristotle's definition of perfect syllogisms, however, is followed by a description of imperfect syllogisms which, he says, require more propositions than those from which a necessary conclusion follows (*An.Pr.*24b22-26), which the author may also have had in mind when he used *quamlibet*.

203.14-17 *at si reflexim inferas ... quintus modus*: The use of the verb *inferas* makes it clear that the only part of the syllogism which changes when it is collected *reflexim* as opposed to *directim* is the conclusion, that which is designated by the verb's cognate noun, *illatio* (see also 203.21; 204.11-12)*.* This is in contrast to the use of the verb *conducere* which describes the conclusion of moods which are collected *directim* (203.12, 19; 204.9, 15-16). For the eighth and ninth moods (205.6-7, 11) the verb *conduco* is used to explain how their conclusion is drawn (205.6, 11) even though they are converse moods of the fourth indemonstrable. In these cases, however, this verb is more appropriate than *infero* because the conversion which takes place does not involve the conclusion (*illatio*), rather, the combination is converted (205.2-3). *reflexim* was defined above, in contrast with *directim,* as the mode of conclusion in which the terms change their positions (see also the use of *reflexio* to describe this type of conversion earlier 198.7-8); a predicate term in the combination becomes the subject term in the conclusion and a subject term in the combination becomes the predicate term in the conclusion (200.4-7).

203.16-17 *nam sic tantum … supra docui*: *sic* refers specifically to the fact that the universal affirmative premise must change its quantity to particular when it is converted. This was described above as the 'simple' type of conversion (198.3-7. See also 200.3-4).

203.17-204.1 *secundus modus est … sextum modum effeceris*: The second and the sixth mood share the same combination of premises but whereas the second mood collects its universal negative conclusion *directim* (200.4-6)*,* the sixth mood collects a conclusion of the same quality and quantity *reflexim* (200.4-7).

204.1-2 *nam ut dictum est … universalis abdicativa***:** The indirect conclusion of the sixth mood has the same quality and quantity as the direct conclusion of the second mood because universal negatives such as this convert into themselves (*in se*), that is to say, unlike the universal affirmatives, their quality and quantity remain the same but their subject and predicate terms are switched over, as was explained previously (196.19).

204.3-6 *tantum meminisse … prior intellegatur***:** The way in which this point begins with the caveat '*meminisse debemus'* continues the didactic tone which is notable elsewhere in the work (see introduction section 6). The subject term is taken from the affirmative premise in the second mood because, in this premise, the predicate term is the middle term and since this mood is collected directly (*directim*), the subject term in the conclusion must come from a subject term in the combination just as the predicate term in the conclusion must come from a predicate term in the combination (compare the way in which the conclusion is drawn *reflexim* as discussed in the note below on 204.6-7). With this rule in place, the order of premises within a given syllogism is unimportant; our author clearly acknowledges this by saying: *licet ante abdicativa enuntietur.* The use of *licet* paired with the subjunctive verb puts this order of presentation across as a mere possibility but one which will not be demonstrated because it does not reflect the order in which the terms will appear in the direct conclusion. This consistency in the presentation of the order of premises has been mistaken by some as the author's belief in a set premise order; Lukasiewicz reports that Waitz, for example, believes there to be a set rule for the order in which premises are presented and criticises Apuleius for changing this order (Lukasiewicz, 1957: 33). The consistent order of the premises in this work, however, is not due to the author's belief about such a rule, but rather, it is due to the didactic purpose of the work; the given order makes the relation between the terms in each syllogism as clear as possible to beginners in logic and the case is the same in Aristotle. Patzig explains that 'it is not by chance that Aristotle generally held to the order in which the first premise contains the middle term and the predicate of the conclusion and the second premise the middle term and the subject of the conclusion. For if the order of the premises is of no account for the *validity* of a syllogism, it is extremely important to its *evidence'* (Patzig, 1968: 60. See also Rose, 1966). In the same way as Aristotle, our author presents the premises in the order which demonstrates their validity most evidently. In this way, *in ceteris* (204.5) ought to be understood as 'in the rest of the examples given in this very text and specifically those with a direct conclusion', rather than as the rest of the possible moods more generally. Indeed, it is the case for all of the examples in this text that the premise containing the minor term,

that is, that which is to be the subject in the conclusion, comes before the premise containing the major term, the predicate of the conclusion, in moods collected directly and the premise containing the major term comes before the minor term in moods collected conversely. This is an inverted form of Aristotle's presentation which our author discusses further on (212.4-10). Therefore *eam* (204.4), that is, the affirmative premise (*dedicativa* 204.3) is to be considered first (*priorem*) because in this text the first position in a combination represents the minor premise and in moods with direct conclusions the subject term in the conclusion is taken from the subject term in the minor premise.

204.6-7 *in sexto autem … ex abdicativa*: The subject term in the conclusion is taken from the negative premise in the combination in the sixth mood. What is not made clear by the text is that this subject term has come from the predicate term in the negative premise because it has been collected conversely (*reflexim*) and therefore the terms have swapped positions (compare the way in which the conclusion is drawn *directim* as discussed in the note above on 204.3-6); the subject term for the conclusion has been taken from the predicate term in the combination. This is the only difference (*sola differentia*) between the two moods because negative premises, such as the conclusion produced in the second mood, convert into themselves (see 196.15-19; 204.1-2). When concluded *reflexim*, therefore, their terms simply swap positions and there is no change in the quantity of the proposition.

204.8-13 *tertius modus qui … modum feceris*: For the use of *conducit* for conclusions which are drawn directly (*directim*) as the third mood is and *inferas* for those which are drawn conversely (*reflexim*) as the seventh mood is see note on 203.14-17.

204.13-14 *nam ut dictum est … particularis dedicativa*: See 196.16-19.

204.14-16 *quartus modus est … abdicativum particulare directim*: For *conducit* and *directim* see note on 203.14-17 and on 204.8-13.

204.18 *ex hoc modo contrariae vices inveniuntur prioribus*: This statement is in contrast to Alexander of Aphrodisias who does not describe the eighth and ninth moods as conversions of the fourth in this way (*in An.Pr.*110,12-21) and to Martianus Capella (411) who says that the fourth mood cannot be converted because its conclusion, a particular negative, cannot be converted (see 198.2). I have not found any other texts where the eighth and ninth moods are presented as being generated from the fourth indemonstrable.

204.19-205.2 *octavus et nonus … fiat abdicativa***:** *illationem, non* and *reflexam* all go together as in, 'the eighth and ninth moods preserve the conclusion of the fourth mood unconverted'. *eius illationem* refers to the conclusion of the fourth mood (204.17-18), which is shared by the eighth and ninth moods. It is not converted (*non reflexam*) as is the case with the other, previously mentioned converse moods (*ut illi*), because particular negatives such as this cannot be converted (see 198.2). Instead, the premises in the combination, which precedes the conclusion, are converted to equipollent propositions; the terms in the negative premises are simply swapped over (for this type of conversion see 196.19; 204.1-2, 6-7). The order of the combination is changed (*mutatoque ordine*) so that the negative premise is placed first (*prior fiat*) for no reason other than to serve as a teaching aid to show how the conclusion is drawn conversely (*reflexim*) in these moods as opposed to the conclusion which is drawn directly (*directim*) in the fourth mood. For an explanation about the reason behind the order of premises in this work see note on 204.3-6. In the fourth mood the subject in the conclusion is taken from the subject of the middle term in the combination whereas in the eighth and ninth moods, the subject in the conclusion is taken from the predicate of the middle term in the combination.

205.4-7 *nam et si … abdicativum reflexim***:** For similar uses of *et* see 194.10; 198.3; 200.13-15; 203.5. The use of the second person singular *convertas* (205.4) serves the didactic purpose of the text (for other examples of this see introduction section 6). Londey and Johanson (1987: 97) correctly translate *subicias* as 'place under' (*L&S* s.v. 1) as opposed to 'substitute' (*L&S* s.v. B2) since the negative premise of the fourth combination takes the first position for the eighth and ninth moods and the particular affirmative is placed beneath it (see notes on 204.3-6, 19-205.2).

The phrase, '*quam converterat particularis eius dedicativa'* is rather obscure (205.5)*.* About the verb *converterat* Londey and Johanson say: 'Apuleius has us obtain the conjugation of the eighth mood from that of the fourth by placing under the converse of the universal negative *universalem dedicativam, quam converterat particularis eius dedicativa.* In order to make both logical and grammatical sense of this, we have been forced to take *convertere* to mean 'to be the converse of'' (1987: 96 n.6). They therefore translate this line in the following way: 'place under it a universal affirmative, of which its particular affirmative [i.e., that of the fourth] had been the converse' (1987: 97). The Latin verb *convertere* is frequently found in the passive voice in this text (197.3, 6; 198.4, 5; 200.3; 205.20) with the noun *propositio* as its subject. This is also the case in Martianus Capella and in Boethius*.*

The other, active uses are either second person singular (192.25; 196.20; 197.1; 205.4, 18) or, on a couple of occasions, first person plural (205.16; 207.7-8), which implies that conversion is a process undertaken by those engaged in logic (compare the use of the verb ἀντιστρέφειν in Alexander described by Barnes et al., 1991: 31, which 'sometimes takes a personal subject' but 'more often the subject is a proposition'). The third person singular use here is a one-off. Furthermore, it is unclear why the pluperfect tense would be used and why the change from a particular affirmative to a universal affirmative took place when particular affirmatives usually convert into themselves (196.15-19). Just as this phrase is obscure, it is strange and perhaps erroneous to describe the eighth mood as being 'produced' from the fourth in such a way (see notes on 204.18; 205.4-7). Other authors only ever describe the syllogistic combination associated with this mood as being 'reduced' to the fourth but not produced or generated by the fourth.

Comparing Alexander's discussion of this type of syllogism helps to unravel our author's comments:

> 'Take first the non-syllogistic combination in the first figure with 'A holds of every B' and 'B holds of no C'. In this combination there is no deduction from A to C. This is why the combination is non-syllogistic, being of no use with regard to the point at issue. Yet something can be deduced syllogistically from the minor to the major term' (*in An.Pr.*109, 30-110, 1).

As mentioned previously, Alexander presents the invalid as well as valid syllogisms in his discussions about each of the figures. The combination Alexander describes above is that of the eighth mood described in our text, formed from a universal negative and a universal affirmative. 'B holds of no C' corresponds to *Nullum turpe honestum* (205.7-8) and 'A holds of every B' corresponds to *omne honestum iustum* (205.8). The combination is non-syllogistic because the minor premise (B holds of no C) is negative and so a conclusion cannot be drawn *directim* (see Arist. *An.Pr.*26a39-b10 and Alex. *in An.Pr.*63, 9-14). The type of deduction referred to in the extract above, 'from the minor to the major term' corresponds to what our author refers to as *reflexim* (see also 200.4-7; 203.14-17; 204.6-7), whereby the subject term in the conclusion comes from the predicate of the middle term in the combination and the predicate term in the conclusion comes from the subject of the middle term in the combination. Alexander goes on to explain that the reason something can be deduced from this combination is because, when converted, a syllogistic combination is produced from which a conclusion can be drawn directly:

'If both premises are converted, we get 'C holds of no B' and 'B holds of some A' (since the universal affirmative converts with the particular). From these premises it can be deduced that C does not hold of some A, where C takes the place of the major term in the conclusion and A that of the minor, conversely to how they were supposed' (*in An.Pr.*110,1-5).

The converted combination described above is of the same form as the fourth mood as it is described by our author; 'C holds of no B' corresponds to '*Nullum honestum turpe*' (204.16-17), 'B holds of some A' corresponds to '*Quoddam iustum honestum est*' (204.16) and the conclusion 'C does not hold of some A' is of the same form as '*Quoddam igitur iustum non est turpe*' (204.17-18). Alexander's presentation makes clear the conversion from the universal affirmative in the eighth mood to the particular affirmative in the fourth mood and, in this way, successfully shows the way in which the eighth mood can be reduced to the fourth. The relation as it is explained in our text, that is, by the conversion of the particular to the universal, however, is hard to accept. This begs the question whether our author was mistaken in saying that the fourth mood generates the eighth. Indeed, it appears that he is alone in describing their relation in this way (see notes on 204.18; 205.4-7). If *iam* below (205.19) is taken to refer to the present point in time as opposed to the specific point in the text above (205.3-6), it suggests that this is an innovation. The use of *iam* with immediate reference is more likely based on the other uses of this particle in the text (see note on 212.12-15).

The use of the pluperfect tense in *converterat* is puzzling. The most plausible explanation for this would be that it represents the order of exposition in the source the author was using. As Patzig discusses, 'in each figure Aristotle surveys the sixteen pairs of propositions which can be constructed by permutation of the constants, *a, e, i,* and *o.* He always investigates first the pairs consisting of two universal propositions… Then come the pairs constructed from one universal and one particular proposition… and finally the purely particular pairs' (1968: 168). Alexander follows this order in his commentary (see especially *in An.Pr.*53,30-61,5 for the combinations referred to here). Accordingly, the combination of the eighth mood, which is invalid for Aristotle's first figure (*An.Pr.*26a2-9), is described before the combination of the fourth, perfect mood of the first figure (26a26-30), the first having a universal affirmative, containing the major term, and the second having a particular affirmative, containing the minor term. It is possible then, that the pluperfect *converterat* reflects this sequence. Although Aristotle's method of presentation is not

reflected in our text, it is likely to be the case that a passage similar to those cited from Alexander above was exactly the sort of passage our author was working from and which he inverted to describe the generation of the eighth mood from the fourth. In which case I would take the particle *quod* (WPD) here instead of the relative *quam* (AS) since its explanatory force seems more appropriate in light of the comparable use of (ἐπεί) 'since' in the passage from Alexander cited above (*in An.Pr.*110,1-5) and would translate the clause in the following way: 'because its particular affirmative had converted' that is, from the universal affirmative which was in the immediately preceding invalid mood.

Sullivan says that our author does not appear to recognise the fact that 'the substitution of MaS for SiM in this deduction is justifiable only by appeal to a rule corresponding to the law of propositional logic' (Sullivan, 1967: 95). The rule to which Sullivan refers comes from Chapter 8 (203.4-6), where the author says: *neque ex particularibus solis neque ex abdicativis solis ratam fieri conclusionem, quia saepe possunt et falsa conducere.* About this rule, Sullivan says: 'It is a necessary condition for the validity of a collection that at least one of the propositions in its conjugation be a universal one, and it is necessary that at least one of the conjugation's propositions be affirmative. Apuleius requires, moreover, that if one of the premises is negative then the illation inferred must be negative; and, further, he demands that if one of a conjugation's propositions is particular then that collection's conclusion must likewise be particular' (*op.cit.* 84). It is hard to see how exactly this law relates to the issue at hand since neither the eighth mood nor the fourth mood consists of negatives alone nor of particulars alone. The form of the eighth mood is invalid because the minor premise is not affirmative but negative. This problem is solved when the premises are converted, that is, when they swap positions and when the universal negative converts into itself and the universal affirmative converts particularly. The substitution of MaS for SiM, then, is justifiable due the terms of the rules pertaining to reduction to the indemonstrables, but it cannot be justified as the result of the fourth mood producing the eighth because the conversion of a particular affirmative results in another particular affirmative and never in a universal affirmative. This is further evidence that our author was incorrect in saying that the fourth mood produces the eighth (see note on 204.18).

205.9-11 *nonus quoque … conducti reflexim*: The types of premises which form the combination of the fourth mood, universal negative and particular affirmative, are both convertible in themselves (196.15-19), and so the terms within each premise simply switch positions to form the ninth mood and the order of the premises is inverted for the purpose

of clarity (see note on 204.3-6). This makes the conclusion which is shared with the fourth mood one which is drawn conversely (*reflexim*) from the combination rather than directly (*directim*) as it is in the fourth mood*.*

205.13-15 *cur autem … ratio est*: The placement of *cur* which is closely followed by *quia* (205.15) suggests that the author is posing a rhetorical question, to encourage involvement on the part of his audience: 'But why does the fourth mood alone produce two moods and the rest one? The reason is this' (for another example similar to this see note on 201.8-11).

205.15-17 *primi modi … aut tertia*: The combination of the first mood consists of two universal affirmative premises (203.11-12). Converting both of these would produce a combination of two particular premises which cannot lead to a valid conclusion (see 203.4-5). It is for this reason that it is described as *inrita* as opposed to *rata* (for uses of this antonym in the sense of a valid conclusion see 202.14; 203.4-5). The comment '*fiet aut secunda formula aut tertia'* (205.17) refers to the fact that in the second figure (*secunda*) the middle term (*communis particula*) is the predicate term in both premises (199.1), which would be the case if the second premise of the first mood is converted and that in the third formula (*tertia*) the middle term is the subject term in both premises (198.21-199.1), which would be the case if the first premise of the first formula is converted. The comment is generalising rather than specific because converting the first mood in the ways described does not, in fact, produce any valid moods belonging to the second figure. If, however, only the first premise of the first mood is converted, this would create the second mood of the third figure (207.24-26) and if only the second premise is converted this would create the third mood of the third figure (208.2-3).

205.17-19 *ita secundi … quarto gigni*: Converting both of the premises of the second combination would produce a particular affirmative from the universal affirmative and a universal negative from the universal negative with the position of the terms switched over. This is the form of the ninth mood as it is described above (205.9-11) and where it is shown that this mood is 'generated' from the fourth mood (*ex quarto gigni.* See also 204.18-205.3, 9-13). For *iam ostendimus* see note on 205.4-7 and 212.12-15. The use of *gigni* corresponds to the Greek γίγνεσθαι which Alexander uses to refer to the 'generation' of the imperfect moods (see also 206.5-6). On two occasions the author uses the verb *nascor* from the same root (*gnascor*) as *gigno* for the same purpose (207.9; 208.23-4). Aristotle uses the verb γίγνεσθαι but this is to refer to whether or not a valid syllogism is 'produced' form a certain set of premises (e.g. *An.Pr.*26b18; 27a16) or to the production of a syllogism belonging to a

certain figure (e.g. *An.Pr.*27a13) and Themistius records that, 'the view that the two figures are generated from the first is held neither by Aristotle nor Theophrastus nor Eudemus, but by the modern Peripatetics.' (*Max*. 314. For a discussion about our author's view of generation and reduction see introduction section 4). Barnes et al. report that Alexander took an 'interest in the generation of the syllogistic figures' and that he 'may have contributed something to the method of 'reducing' all syllogisms to the first two syllogisms of the first figure' (1991, 11-12. See e.g. 71,12-21; 94,10-17; 95,14-24; 97,14-30 *cf.* 136,1-2). Lee (1984: 121) believes that Alexander's use of πάλιν (*in An.Pr.*97, 27-30) shows that he considered genesis to be logically prior to analysis. Maconi (1985: 96), who discusses Lee's view, does not agree that this particle implies logical priority. As Barnes et al. (1991: 171 n.24) point out with reference to the same passage, 'Alexander, in trying to correlate generation with analysis, conflates figures with syllogisms: the figures, properly speaking, are generated but not analysed or proved (it makes no sense to speak of proving a figure); the syllogisms, properly speaking, are analysed or proved but not generated'. Maconi takes a more sympathetic view towards Alexander's approach in saying that the passage cited by Lee (*in An. Pr.*97,27-30) 'shows that Alexander has understood a fairly simple logical truth about proof procedures. If a second or third figure syllogism can be proved from a first figure syllogism by conversion, then the second or third figure can be generated from the first figure by interchange of terms' (1985: 97). It is not clear whether the conflation described by Barnes et al. originated with Alexander; at any rate it appears that our author has been misled by the same kind of conflation evident in Alexander, whereby he sees generation and reduction as straightforwardly reciprocal; when discussing analysis, or 'reduction' as he calls it, this is always with reference to the moods - this is correct by all accounts - but he also discusses generation with reference to the moods within the figures and never to the figures themselves (205.14; 207.9; 208.3-4). The error in this approach is most evident from his explanation about the eighth mood being generated from the fourth indemonstrable (for discussion on this point see note on 205.4-7).

205.19 *quia universalis… converti potest***:** For the conversion of universal affirmatives to particular affirmatives see 198.3-4.

205.21 *sin alteram … aut tertia***:** If only the first premise of the second mood, the universal affirmative, is converted to its particular affirmative, this makes the middle term the subject term in both premises and forms the fifth mood of the third figure (208.9-13). If only the second premise of the second mood, the universal negative, is converted, this makes the

middle term the predicate term in both premises and produces the combination of both the first and second moods of the second figure. As the author points out when he gives examples of these moods, they share the same syllogistic combination and only differ in the order in which their premises are presented (206.16-207.3).

205.21-206.2 *ex hisce … indemonstrabiles nominentur***:** Out of these (*ex hisce* 205.21) nine moods (*modis novem* 206.1), the first four, which were drawn *directim* (203.13-14, 19-21; 204.10-11, 16-18), may be called 'indemonstrables'. The subjunctive *nominentur* which introduces the term *indemonstrabiles* suggests that this was not established technical vocabulary in Latin before this text. Indeed, the earliest examples of this term other than in this text are found in Boethius (*in. Peri Herm.* 5.10.351; *De top. diff.*1.4.31; 2.3.11), Martianus Capella does not have a term to refer to indemonstrable moods. The author's explanation of the term which follows is also suggestive of its novelty. It clearly corresponds to the Greek ἀναπόδεικτος which, as Mates (1961: 63-4) shows, was used to mean two different things by the Stoics: 'it is used both of arguments that simply have not been demonstrated and also of arguments that do not need to be demonstrated.' The second of these Stoic uses corresponds to the definition given here. Aristotle uses ἀναπόδεικτος to mean 'impossible to demonstrate' (*An.Pr.*57b33) which corresponds to the first of the two Stoic definitions Sextus Empiricus gives of the term (*Adv. Log.* II.223). He uses the adjective τέλειος to refer to the moods which are perfect and do not require demonstration; this corresponds to the second of Sextus Empiricus' two definitions (*loc. cit.*). Alexander's commentary on the *Prior Analytics* provides an example of the conflation of Peripatetic and Stoic terminology: 'The word was used by the Stoics of the basic arguments in their logical system, and it is generally supposed that the Peripatetics came to adopt Stoic terminology. We are told that the Stoics used the word ἀναπόδεικτος in the sense of 'not needing demonstration' and it is likely that it should be construed in the same way in Alexander' (Barnes et al., 1991: 21 *cf.* Bocheński, 1947: 58). Lloyd points out that using the originally Stoic term in this way 'mistakenly suggests that the imperfect moods required demonstration, that they were theorems whose necessity derived from axioms (the perfect moods), in other words that the perfect moods corresponded to the Stoics' famous 'indemonstrables' or 'undemonstrated' and reduction to the Stoic 'analysis'' (Lloyd, 1990: 24-5). Alexander, in fact, tends to describe such moods as both 'perfect *and* indemonstrable' (24, 4; 54, 11; 55, 4; 113, 6). In this way he is appropriating what the Stoics call 'indemonstrable' (see Mates, 1961: 64 n.30; 132) with Aristotle's perfect syllogisms,

that is, those which do not require any additional premises to make the conclusion apparent (see Arist. *An.Pr.*24b23-25. See also Patzig, 185 n.12; Lukasiewicz, 1957: 43-47).

206.3-5 *universi maris … manifesti sint*: In order to explain the term *indemonstrabilis,* the author refers to an estimation of the whole sea and the squaring of a circle as comparable examples in terms of their capacities for demonstration. I have not found any other analogies which involve an estimation of the whole sea. Thomas' *apparatus criticus,* however, reports that Meiss considered *universi maris* to be the title of a book (1908: 188). Aristotle uses the example of squaring a circle in his *Categories* in a discussion about objects which exist and knowledge about these objects which exists but which cannot exist without the object itself existing. He says:

> 'Take the squaring of the circle, for instance, if that can be called such an object. Although it exists as an object, the knowledge does not yet exist' (*Cat.*7b31).

This passage is often referred to by the ancient commentators. For example, by Ammonius:

> 'He therefore says that if indeed the squaring of the circle is something to be known although the knowledge of it does not yet exist' (*Cat.*75, 11-19).

And by Simplicius:

> 'He demonstrates this in the case of squaring the circle; for since this had not yet been discovered' (*in Arist. Cat.* 192.12-29).

The squaring of the circle is also discussed by Boethius (*in Cat. Arist.* II 231B) who, according to Chadwick (1981: 149), follows Porphyry (*in Arist. Cat.* 120, 15) in saying that a method has since been found. The key word which each of these passages have in common when referring to the squaring of the circle is οὐδέπω; it is a type of knowledge which does 'not yet' exist. Only a handful of manuscripts have *non* in this line (only W from the digitised manuscripts) which all of the editors have followed in spite of the majority reading being *nondum* (BCFADS)*.* This is surely the correct reading, not only due to its being a likely *lectio difficilior* to *non,* but also in light of the passages above which all refer to knowledge about squaring a circle in the same way. The miscopying of *non* for *nondum* can easily be explained as a case of haplology between *-dum* and *dem-* with which the following verb begins. This particle would however, require a tense other than *demonstrentur.* Moreschini's *apparatus criticus* records five variant readings for *demonstrentur,* which suggests that in the manuscripts the end of this verb was abbreviated and hard to decipher (*demonstrans*

CWPBSD : *demonstratum* A : *demonstrabiles* W[2]). However, following this, the majority reading is '*ei sit ut*' (BCADSW. See also Moreschini's *apparatus criticus*) rather than *sicut* which the editors have (206.4). This leads towards a plausible solution in forming a perfect passive tense with *demonstr-*. This, of course, would require *sint* rather than *sit* as above (which W has as a correction above the line. See also CaK in Moreschini's *apparatus criticus*); this could realistically be conveyed in an abbreviated form which was mistaken for *sit* (I am grateful to Professor Jonathan Powell for suggesting this emendation). In which case, the passage should read:

'quod nondum demonstrati sint ut circuli quadratura'

'Which have not yet been demonstrated like the squaring of the circle'.

In this way, it is clear that the author is presenting two different forms of comparison to indemonstrable moods rather than presenting his audience with an apparent tautology as appears in the printed text. This, in turn, corresponds to the twofold way in which he describes these moods: *tam simplices quam manifesti* (206.4-5). Simple, as opposed to the estimation of the whole sea which is not possible and clear as opposed to the squaring of the circle which is possible but has not yet been demonstrated. I take the reading *sunt* in 206.5 (W) rather than *sint* (PBD) as it more appropriately introduces what the indemonstrables actually are as opposed to the types of knowledge to which they were compared and which they are not (206.5-6).

206.5-6 ***ipsi ceteros … ex se impertiant***: *ceteros* refers specifically the rest of the moods, rather than the rest of the figures. For the use of *gignant* see also 205.14. For a discussion about the 'generation' of imperfect moods see note on 205.17-19**.**

Chapter 10

206.7-207.15

This chapter describes the types of syllogisms which form the four moods in the second figure in the same way as the moods of the first figure were described in Chapter 9. The author also demonstrates the way in which the first, second, and third moods of the second figure can be reduced to the second, third and fourth indemonstrable moods respectively. He mentions that the fourth mood can be proved only *per impossibile* and promises to return to this subject once he has finished listing all of the moods.

206.7-8 *primus modus … formula est*: Without the introductory phrase, *nunc formulae modos trademus secundae,* the chapter would begin in a way which is more similar to the beginnings of Chapter 9 about the first figure (203.11) and Chapter 11 concerning the third figure (207.16). It is clear enough from the sentence which follows (*primus modus in secunda formula est* 206.7-8) that the chapter is concerned with the moods of the second figure. For these reasons, it seems unlikely that it formed part of the original text (see Appendix A). It is possible that it was added to bring the focus back to the exposition of the figures and their moods after the diversion at the end of the previous chapter about the indemonstrables (206.1-6).

206.8-9 *qui conducit … directim*: For the use of *conducit* with the adverb *directim* see note on 203.14-17. Sullivan points out that the form of second figure combinations means that an emendation to the requirements for a conclusion to be drawn *directim* is needed: 'Apuleius appears to consider that the fact that the particle occurring as the subject of the illation likewise occurs as the subject in its premise constitutes a sufficient condition for saying that the illation is inferred "directly" in the second formula' (Sullivan, 1967: 98). Due to the placement of the middle term in the second figure (199.4), it is, of course, not possible for the predicate term in the conclusion to be drawn from a predicate term in the combination (see note on 207.17-20 where the text makes it clear how *directim* and *reflexim* apply to the second and third moods).

206.11-12 *hic redigitur … secunda propositione*: Since the second premise is a universal negative, it converts into itself (196.16-19); it retains the same quantity and quality but its terms change position. As a second figure combination, the middle term is initially the predicate term in both premises (199.4), but once the universal negative premise has been converted, the middle term is the subject term in this premise, and so the combination

demonstrates the criterion of the first figure that the middle term be the subject in one premise and the predicate term in the other (199.1-2). In second figure moods which can be reduced to one of the indemonstrables, it is the premise which contains the major term which is converted. In each case, this is the premise which takes the second position in the combination based on our author's order of presentation (see also 207.7-8). The verb *redigo* corresponds to ἀνάλυσις in that it is used to refer to imperfect moods which are 'reduced' to indemonstrable moods as a way of proving their validity (for other uses see 208.18, 23, 26; 209.7; 215.3-4). See note on 205.18-21 for a discussion about the relation between reduction and generation.

206.12-207.2 *secundus modus … ad illationem*: As the example syllogism of the second mood shows (206.14-16), the combination of this mood is the same as that of the first except that the premises are presented in the opposite order. In the second figure the middle term is the predicate term in both premises in the combination (199.4), for this reason, both terms in the conclusion must be taken from the subject terms in the combination. This means that there are two possible options for the subject term and two possible options for the predicate term in the conclusion. The result is two possible conclusions, both of which are drawn from the same combination directly. That the first and second moods share the same combination and the third and fourth have their own explains why there are only three conjugations in the second figure. Sullivan, however, believes that the author is incorrect in this matter since 'in terms of the basis on which Apuleius originally distinguished conjugations… these two combinations of premises are logically distinct (since order of premise is one of the factors defining a conjugation); the first combination of premise instantiates Conjugation 2, whereas the second exemplifies Conjugation 6' (1967: 99). It is Sullivan, however, who is mistaken in saying that the order of premises is a factor which defines a conjugation. The author himself does not say this. In fact, at one point he says the exact opposite (204.5). He orders the premises in each combination in a certain way purely for didactic purposes (see note on 204.3-6). There is a rule about the order of terms within premises but not of the premises themselves, and even this only applies to the first figure in which a discernible order is present because the middle term is the subject in one premise and the predicate in the other. The author does not explicitly demonstrate the validity of the second mood in the way that he does for the others but *hic coniugatione non differt a priore* (206.16-207.1) implies what Sullivan makes clear: 'that it {the second mood} can be reduced to the first mood of this formula and through that mood to the second indemonstrable' (1967: 100). To go back to our author's

definition of a combination, it is the quality and quantity of each premise and the position, or role (see note on 198.18), of the middle term in each of the two premises which characterises the combination, he makes no mention of the order of these premises (198.21-199.8). For this reason, the syllogism of the third mood as a whole is logically distinct from the second but the combination shared by each, as our author says, is not.

207.2-3 *quoniam ita … non potest*: *enuntiatio* was previously used in a more general sense to mean 'expression' and was paired with *alia* as a way of explaining what it means to be an equipollent proposition (196.6). Here it is being used in a more technical sense to mean premise. Its cognate term, *enuntiatum,* was ascribed to Cicero in Chapter 1 (190.5-6). *quod* refers to the practice of changing the order of the premises (*variatus est enuntiationis ordo*). It is not, in fact, the case that the order cannot be changed but rather that the order cannot be changed with the result of a different conclusion. This can be seen if we take the second indemonstrable and present it in the order opposite to that in which our author presented it, but without converting the premises (203.19-21):

Nullum honestum turpe,
Omne iustum honestum:
Nullum igitur iustum turpe.

Even though the order of premises has changed, the same conclusion results due to the fact that the middle term is in the same position in each premise as it was beforehand. The subject term in the conclusion is still taken from the subject of the middle term and the predicate term is still taken from the predicate of the middle term in the combination. It is clear then that the author uses the order of premises simply as a demonstrative tool which makes the position of the middle term clear and consistent to learners of logic (see note on 204.3-6 and introduction section 6). In this way, the conjunction *quoniam* combines a temporal and a causal notion (*OLD* s.v. 2); the action '*variatus est enuntiationis ordo'* has been carried out visually before his audience. The subject term is now drawn from the negative premise, this is not as a result of the change of order but the change of order serves to make this clearer.

207.3-9 *tertius modus … ex quo hic nascitur*: So far, in this chapter the author has described the way in which the first two moods of the second figure can be converted or 'reduced' (*redigitur*) to the second indemonstrable of the first figure. *fit* here can be understood to convey the same process as *redigitur* (*cf.* 206.11 for *redigitur.* See 205.16,

17, 18, 21 for comparable uses of forms of *fio*). As was the case for the first mood of the second figure, it is the premise containing the major term, *universalem abdicativam* here, which is converted in order to reduce the mood to an indemonstrable (*cf.* 206.11-12 for the first mood). For this mood the author also states that it was 'generated' from the fourth indemonstrable as well as saying that this is the mood to which it is reduced. It is unclear why the same point was not made about the generation of the second mood of the second figure from the second indemonstrable. For *ex quo hic nascitur* see note on 205.17-19.

207.9-14 *quartus modus … per impossibile approbatur*: The conclusion of the fourth mood is a particular negative which cannot be converted (see 198.2). The combination contains another unconvertible particular negative and a universal affirmative, conversion of which would result in an invalid (*inrita*) combination of two particulars (see 205.16). For this reason the validity of this mood must be proven *per impossibile* (for a description of this method of proof see Chapter 12, 209.9-212.1).

207.12 *quoddam iustum non est malum*: *igitur* after *quoddam,* which Goldbacher's and Thomas' editions include (CAS[2]) is reasonable in light of the fact that this is the way in which the conclusion of a syllogism is normally indicated in this text. This is the same practice as is found in Martianus Cappella (e.g. 411-413) and in Cassiodorus (e.g. *Inst.* 2.12). In Greek, Alcinous uses ἄρα (158,40-159,5) where he reports Plato's use of the different figures in the *Alcibiades* and the *Parmenides*. Diogenes Laertius (e.g. 7.78) also uses ἄρα to introduce the conclusion of Stoic arguments where *igitur* would be used in Latin (for the use of *igitur* and ἄρα in syllogistic logic see note on 212.6-7). Since this would be the only instance in the text where a conclusion is not introduced by *igitur* it seems correct to add it here. This marks an important distinction from the way in which our author presents syllogisms compared to Aristotle; Lukasiewicz states a general rule that 'no syllogism is formulated by Aristotle as an inference with the word 'therefore' (ἄρα), as is done in traditional logic… We do not meet them until Alexander. This transference of the Aristotelian syllogisms from the implicational form into the inferential is probably due to the influence of the Stoics (Lukasiewicz, 1957: 21). Lukasiewicz points out one example of such a syllogism in Alexander (*in An.Pr.*47,9) where 'we find a syllogism in concrete terms with ἄρα' (21 n.1), but Barnes et al. delete the concluding statement (1991: 108 n.35, 217). Alexander does, however, introduce conclusions with ἄρα when describing Stoic syllogisms (for example, *in An.Pr.*17,21-25; 18,5, 17, 19) and later in his commentary where he discusses the way in which different conclusions may come about from the same combination in the different

figures (*in An.Pr.*382,11 *ff*). Furthermore, contrary to Lukasiewicz's assertion that ἄρα is never used by Aristotle to form an inference, Patzig highlights some exceptions to this: 'such forms do in fact sometimes occur in Aristotle, in places where interpolation is inconceivable (e.g. *An.Pr.*49a32-5; *An.Post.*75a9-11; 78b24-8). The majority of these cases, however, concern arguments with concrete terms' (1968: 4). Another such example occurs at *An.Pr.*64a1-4. These instances, however, fall outside of the systematic treatment of the syllogism in the first seven chapters of the *Prior Analytics*. Our author's examples of syllogisms are only ever demonstrated using concrete terms which would explain his use of *igitur* and the inferential form of his syllogisms can, like those of Alexander, be put down to Stoic influence. His exclusive use of concrete terms to demonstrate syllogistic moods might suggest that here we have work from a later stage in the development of logic than Alexander. The way in which our author describes the types of premises used to form each mood and introduces the examples of them with either *ut* or *velut* can be seen to display his awareness that what he is presenting are mere examples of rules rather than the paradigms themselves.

207.13-14 *hic solus ... impossibile approbatur*: Proof *per impossibile* is explained and demonstrated in Chapter 12 (209.1-212.3). For the use of the verb *approbatur* for this type of proof see note on 194.13-15 (see also 208.27).

207.14-16 *de qua propositione … tertiae formulae*: The use of the first person plural verb *dicemus,* as well as the withholding of more complex information about the proof of the fourth mood *per impossibile* until Chapter 12 (209.10-210.4) is indicative of the didactic purpose of this text. Rather than being used in the technical sense in which it is used throughout the text to mean 'premise' or 'proposition' (*L&S* s.v. III), *propositione* here is being used in the general sense to mean 'subject' or 'theme' (*L&S* s.v. III B1). A comparable use of the cognate term *propositum* is found in Chapter 1 (190.2).

Chapter 11

207.16-209.1

The six moods of the third figure are set out in this chapter and examples of each are given as before. The author then points out that the first three moods of this figure are reduced to the third indemonstrable, that the fourth and fifth are reduced to the fourth indemonstrable, and that the sixth mood can only be proved *per impossibile* just like the fourth mood of the second figure. In the third figure, the middle term is the subject term in both premises.

207.16 *in tertia … modus est***:** For the introduction of this chapter see note on 206.7.

207.17-20 *tam directim … bonum honestum***:** It was explained previously that the term *directim* refers to the types of conclusions in which the subject term is also the subject of the middle term in the combination and the predicate term is the same as the predicate of the middle term in the combination (200.4-6). The term *reflexim* is used when the opposite is the case (200.7). This definition cannot stand for the third figure in which the middle term is the subject term in both premises (198.21-199.1) and, therefore, both terms in the conclusion must come from the predicate terms in the combination. Nor can the original definition of *directim* apply to the uses in the second figure; all of the four moods listed in this figure are said to be drawn directly even though both terms in these conclusions are drawn from the predicate of the middle term in both premises. In this way, the antonymous terms as they are used here must have a slightly different application to how they were defined and used with reference to the first figure. Sullivan suggests that the author now wants to say that 'a conclusion is inferred directly if and only if *either* the particle that occurs as subject in the conclusion occurs as subject in its premise *or* the particle that occurs as predicate in the conclusion likewise occurs as predicate in its premise *or* both' (1967: 103. See also 98 for the amended definition with reference to the second figure). Sullivan adds that 'if the second conclusion as well as the first one… were considered to be inferred directly (as the former, as well as the latter, is in terms of the amended definition), then Apuleius' subsumption of these two conclusions in one mood would have greater plausibility' (*loc. cit.*). The only difference being that in the 'directly' drawn conclusion the subject term in the conclusion comes from the predicate in the first premise and the predicate term comes from the predicate in the second premise and in the 'conversely' drawn conclusion this order is reversed. Since our author *does* consider the second

conclusion to be drawn *reflexim,* Sullivan's solution does not suffice and so another solution is required. It is best to begin by considering why the author considered all of the moods in the second figure and all of those in the third figure, apart from the second conclusion of the first mood, to be drawn *directim* in spite of the fact that the position of the middle term in each of these figures means that they cannot fulfil both criteria described above for their conclusions to be drawn directly. An important point about each of these figures is omitted by our author but is clearly explained by Alexander:

> 'Given that the first figure has both its premises determined, the major in quantity (it is universal) and the minor in quality (it is affirmative), it stands to reason that the other figures (I mean the second and third) should preserve the proper characteristic of the premise by the conversion of which each of them was generated. The second figure was generated by conversion of the major, and it preserves the proper characteristic of that premise in syllogistic combinations – in the second figure, too, the major premise is universal in the syllogistic conjunctions. The third figure was generated by conversion of the minor and retains its proper characteristic – for in this figure the minor is again determined, as we said, inasmuch as it is affirmative' (*in An.Pr.*95,14-24).

Based on the above, when the premise containing the major term is converted in the second figure it is reduced to a first figure indemonstrable. Similarly, in the third figure, when the premise containing the minor term is converted, it is reduced to a first figure indemonstrable. In each case, the terms are then in such a position that the conclusion is drawn directly. To go back to the first mood of the second figure with the direct conclusion:

Omne iustum honestum
Omne iustum bonum
Quoddam igitur honestum bonum

Our author only refers to the premise to be converted as either the first (208.19, 24) or second (206.12) or by the form of the premise in the particular example (207.7-8) rather than that which contains either the major or the minor term. Further on he explains that the first three moods of this figure are reduced to the third indemonstrable by converting the first premise (208.18-19). This is in contrast to the process of reduction of the moods in the second figure to indemonstrables by converting the second premise (206.12). Although it is not obvious from the combination above which premise contains the major and which

premise contains the minor term, our author systematically presents the minor before the major which makes it clear that it is the first premise which must be converted in order for the mood to be reduced to an indemonstrable. After the particular conversion of the universal affirmative first premise (198.3-4) the syllogism is as follows:

Quoddam honestum iustum
Omne iustum bonum
Quoddam igitur honestum bonum

After the combination is converted in this way, it is reduced to the third indemonstrable of the first figure (204.9-11). In the first figure, the subject of the conclusion is taken from the subject term in the first premise, and the predicate term in the conclusion is taken from the predicate term in the second premise; each term retains the same function in the conclusion as it had in its premise and is presented in the order in which it appeared in the combination. Conversion to this figure, therefore, makes it clear that the conclusion is drawn directly in a way which could not be done in the third figure form. It has been demonstrated, therefore, that it is essential to reduce the moods in the second and third figures in order to test whether their conclusions are drawn directly or conversely as it is not evident from the form of the moods in these figures. This makes it apparent why the author's definition of *directim* and *reflexim* can only apply to the form which is characteristic of the first figure. The second of the two conclusions of this mood, which is described as *reflexim,* results not from converting the minor premise in the way that is correct for the third figure but from converting the major. When the universal major premise of the combination is converted it becomes a particular premise (198.3-4). This is acceptable for the third figure, in which there is only a requirement on the minor premise to be affirmative (see Alex. *in An.Pr.*95,14-24 cited above), but it is not valid for the first figure in which, not only must the minor premise be affirmative but the major premise must also be universal. This means that the third figure cannot be directly reduced to the first figure by conversion of the major premise. For this reason, the second conclusion is drawn *reflexim* as opposed to *directim.*

The author's use of *directim* and *reflexim* with reference to the second and third figures shows that he is exploiting the systematic way in which he orders the premises in each syllogism throughout the text; although he says at a number of points that the order of premises is irrelevant (see, for example, 204.5 *cf.* 205.1-2; 207.22), he consistently presents the minor before major where the conclusion is drawn directly, and the major before minor

where the conclusion is drawn conversely. This presentation has no impact on the resulting conclusion but simply provides the clarity required for didactic purposes (see note on 204.3-6). In a superficial way, therefore the definition of *directim* in the context of the second and third figures could be seen to refer to conclusions in which the terms simply appear in the same order as they do in the combination, that is, the subject term from the first premise and the predicate term from the second premise, even if the predicate term in the conclusion came from the subject term in the combination of the second premise, and *reflexim* refers to conclusions when the terms appear in the opposite order. Rather than refining the terms at this point as Sullivan suggests, the author now uses them only by way of analogy to their meaning as they are applied to the moods in the first figure. This is an acceptable use of the two terms since it is essential to reduce each mood to the first figure in order to test its validity and, in this way, it is possible to tell whether the conclusion in this mood is drawn directly or conversely.

207.20-22 *quippe non … utram prius enunties*: Goldbacher, Thomas, and Moreschini suggest deleting *que* which is added to *utra* (207.21) so that the meaning would be 'whichsoever of the two' rather than 'each' (*utraque* BCFADSW). The fact that a syllogism consists of precisely two and in light of *utram* which follows (207.22), which would be an example of the consistency and symmetry with which the author usually writes, there is no doubt that this correction is justified. The author has trained his audience to treat the first term in relation to the middle term in a combination as the subject term of the conclusion (for the introduction of this rule see note on 204.4-6). In moods with direct conclusions in the first figure, the subject term of the conclusion comes from the subject in the first premise and is therefore also the first term. Similarly, the predicate term appears in the second premise and is the second term to appear in the conclusion as the predicate. The reverse is the case in moods with conclusions drawn conversely. The order of premises is changed for the eighth and ninth moods of the first figure so that this rule is retained (205.1-2). Following this rule does not make the conclusion of the first mood of the third figure any more obvious than it would be if it were not followed; both premises are universal affirmatives and both terms in the conclusion come from the predicate of the middle term in both premises. The two possible resulting conclusions are equipollent propositions which are logically equivalent. For these reasons, it does not matter which premise is stated first. It would have been helpful for the author to add that it does not matter which premise is converted in order to reduce the mood to an indemonstrable as this is the way to

demonstrate that the first conclusion is drawn directly and the second conversely (see note above on 207.17-20).

207.23-24 *non recte … duos esse***:** It is clear from what the author of the *Peri Hermeneias* says above (207.21-22) that the two possible conclusions from the first combination do not constitute two distinct moods as Theophrastus is said to believe. Sullivan believes that Theophrastus' position is the correct one and criticises our author for not being consistent in the way in which he treats conclusions drawn conversely, saying that 'heretofore he has held consistently that two conclusions inferred diversely (i.e., directly or conversely) from the same conjugation produce different moods' (1967: 102). As examples of this perceived inconsistency, Sullivan compares the mood described here to the second and sixth moods and the third and seventh moods of the first figure, which draw direct and indirect conclusions respectively from the same combinations (1967: 102 n.107; 92-95). The author cannot be accused of inconsistency in his presentation of converse moods in the first figure and the third figure because the form of the moods themselves is not consistent. In the examples from the first figure to which Sullivan refers, the order of the terms within each premise and within the conclusion follow the pattern set out above both for direct and indirect conclusions (see note on 207.21-22); the premises are differentiated by the position of the middle term in each case. In the first mood of the third figure both premises are undifferentiated in their quantity and quality (universal dedicative) and both have the middle term as their subject term. In this case, without term variables, there is no way of distinguishing one order of presentation from the other. The conclusion which is drawn from these directly is a particular affirmative (see 207.17-20). This type of premise is convertible within itself to an equipollent proposition (196.15-19), which can also be obtained by taking the terms from the premises into the conclusion in the opposite order to how they appear in the combination. In this way, it is clear that Sullivan has mistaken an inconsistency in the way moods produce indirect conclusions in two different figures for an inconsistency on the part of the author. The expression the author uses to explain that the first combination of the third figure produces one mood with two equipollent conclusions, *tam directim quam reflexim* (207.17-18)*,* is in contrast to the usual way in which he introduces an additional mood with an indirect conclusion: *si reflexim inferas* (203.14-15, 21; 204.11-12). The formulaic manner in which our author expounds the moods within each figure makes the difference in expression a clear indication of this difference between the conversely drawn conclusion of this mood and of those in the first figure as described above.

The view that the converse conclusion implies an additional mood is also discussed by Alexander who ascribes it, not to Theophrastus, but only to 'some' (τίνες). Huby argues that, since there is no evidence that Theophrastus himself counted seven rather than six moods in the third figure, he may have discussed this additional mood outside the context of the third figure (2007: 69). She goes on to say that 'it is clear from *PA* 2.1 53a8-14 that Aristotle was thinking about all three figures in connection with the point that certain combinations of premises give more than one conclusion' (*loc. cit.*). 'Rose thinks that the case of Darapti was not all that he covered, but since the other valid indirect moods in the second and third figures which he explored would be syllogisms already, Alexander did not comment on them. Rose suggests that the whole of section 1-7 of Galen 11 could be a summary of Theophrastus' account' (Rose, 1968: 116 n.12).

207.24-208.5 *secundus modus … honestum bonum*: The second and third moods each contain the same types of premise in their combinations but each presents them in a different order.

208.11-15 *ut : quoddam iustum … particulare directim*: Moreschini's *apparatus criticus* indicates that these lines are omitted by the earliest known manuscript of the text (M. For details about this manuscript, see introduction section 3 n.73). The omission of these lines is a case of haplology; the words in line 15 have been mistaken for the same words in line 11. Cassiodorus' words regarding the repetitive nature of this text are particularly pertinent in light of this type of omission:

> *'has formulas categoricorum syllogismorum qui plene nosse desiderat, librum legat qui inscribitur Perihermeneias Apulei, et quae subtilius sunt tractata cognoscit. nec fastidium nobis verba repetita congeminent; distincta enim atque considerata ad magnas intellegentiae vias praestante Domino nos utiliter introducunt'* (*Inst.*2.12).

208.17-19 *ex his sex modis … propositione primi et secundi*: The first three moods of this figure are reduced to the third indemonstrable mood (see 204.8-11) by converting the first premise. In each case this is the premise which, once converted to the third mood of the first figure, contains the minor term. This is in comparison to the moods of the second figure which, in order to be reduced to the indemonstrable moods, convert the second premise (206.12; 207.7-8) which contains the major term. The formation of the second and the third figure by the conversion of the major premise and the minor premise of the first figure respectively is explained by Alexander (e.g. *in An.Pr.*94,12-17; 95,20-24).

208.19-23 *tertius enim … ad tertium***:** Sullivan says that 'it is not the case that the second and third moods have the same conjugation- because the second mood's conjugation is an instance of our conjugation 10 (I A) whereas the third mood's conjugation exhibits conjugation 3 (A I); hence Apuleius' claim is mistaken' (1967: 104). It is Sullivan, however, who is mistaken both in this and more generally in saying that 'Apuleius's trouble here, as in some other places, is caused by his failure to keep in mind that the order of premises is a logically important factor in identifying possible moods as well as possible conjugations' (1967: 106). The author has already said that the order of premisees does not matter with regard to this figure (207.22). Furthermore, he has also made it clear that even in the first figure, where the middle term takes a different position in each of the two premises in a combination, the order of premises may be changed without altering the resulting conclusion (204.5. See explanation in note on 204.3-6 for the author's systematic ordering of the premises and his recognition that this has no logical importance). In this respect, the combinations of the second and the third mood are the same because they both contain a particular affirmative premise and a universal affirmative premise and, in each case, the middle term is in the same position as the subject term in both premises. The only difference (*uno differens*) is that, in the third mood, the subject term in the conclusion is taken from the universal premise as opposed to the particular as it was in the second mood. In third figure moods the minor premise is converted in order to be reduced to a first figure indemonstrable (see note on 207.17-20). Accordingly, in the second mood the first premise (particular affirmative) is converted for the mood to be reduced to the third indemonstrable. Even if the order of premises is reversed, this particular affirmative premise still contains the minor term, the conversion of which reduces the mood to the third indemonstrable by one step. The universal affirmative premise, on the other hand, contains the major premise. Since this is the premise which is converted to reduce the third mood to the third indemonstrable, the conclusion must also be converted. These moods are explained by Alexander (*in An.Pr.*96,29*ff*), who places them as third and fourth in order rather than as second and third.

208.23-25 *item quartus … propositionibus eorum***:** For a discussion on the use of the verbs *redigitur* and *nascuntur* see note on 205.18-19. For *prioribus propositionibus* see note on 208.17-19.

208.25-209.1 *sextus autem … novissimi numerantur***:** If each (*utraque*) premise in the combination of the sixth mood were converted, this would form an invalid combination of

two particular premises (see 205.16). As for converting one or the other (*altera*), the same invalid combination would result if only the universal premise were converted, and the particular negative premise, owing to its form, cannot be converted (see 198.2). This is also the case for the fourth mood of the second figure (207.9-13). The author previously explained the rationale behind the order of the figures (199.4-5); here he refers to a criterion for the order of moods (compare Martianus Capella who says that the order of the moods is the same as that which is followed by the figures themselves 409). The sixth and final mood of the third figure and the fourth mood of the second figure (207.13-15) are ranked last because they can only be proved through the impossible (*per impossibile*) and this is the least direct form of reduction to the indemonstrables (for the use of the verb *approbatur* with reference to this type of proof see also 207.13-14 and note on 194.13-15). In the following chapter the author explains the reason behind the ranking of the rest of the moods in each figure (209.2-9) based on the ways in which they are reduced to the indemonstrables. Alexander gives a similar justification for the ranking of the final two moods which are proved *per impossibile* (*in An.Pr.*97,11); this is in contrast to Aristotle who presented what our author, and Alexander, call the fifth and sixth moods in reverse order. This change in order is ascribed to Theophrastus by Philoponus; 'il {Philoponus} donne comme raison de ce changement que les preuves des modes Disamis et Bocardo étaient respectivement plus compliquées que celles de Datisi et Ferison' (Bocheński, 1947: 65). Sullivan lists the different orders as they are presented by Aristotle, Theophrastus and our author (1967: 153 n.60). It appears from his note that he bases the Theophrastean order on the evidence from Philoponus. Alexander is, in most cases, a good representative of Theophrastus' amendments to Aristotle's logic (Bocheński, 1947: 16-19) but his order differs from the one ascribed to Theophrastus by Sullivan; Alexander presents Ferison before Bocardo in the way that Theophrastus is said to have prescribed, but his order is otherwise unchanged from that set out by Aristotle in *An.Pr.*31a18-32a6. It is clear that there were a number of different ways in which to order the moods in the third figure in antiquity. It is, in fact, quite possible that Theophrastus himself set out the order in different ways for different purposes and in different works (for a discussion on the evidence for Theophrastus' orders see Huby, 2007: 69). At any rate, our author makes the reason for his own order in this work clear; the moods are ordered in terms of those which are most easily reduced to the four indemonstrables, and those which are reduced to the third indemonstrable (208.18-19) come before those which are reduced to the fourth (208.23-25), and all of these come before the sixth mood which can only be proved *per impossibile.*

Chapter 12

209.1-212.3

After describing the reason behind the order of the moods in each of the three figures, the author uses this chapter to give the explanation of proof *per impossibile* which was promised previously (207.14-15). He also says, for the first time, that this type of proof is common to all the moods in every figure, including the four indemonstrables. He gives a Stoic definition of this type of proof and describes how the same thing is defined by the '*veteres*', who are likely to be Peripatetics. The author explains why this type of proof was invented and dedicates the rest of the chapter to demonstrating how proof *per impossibile* works using the first indemonstrable as his example.

209.1-3   *ceterorum autem … et illationum*: Leading on from the previous chapter in which the final, sixth mood of the third figure was compared to the final, fourth mood of the second figure since both can only be proved *per impossibile, ceterorum* refers to all of the other valid moods which can be proved in other ways. The position of *coniugationum* before *illationum* not only mirrors the order in which these parts appear in a syllogism but can also be seen to imply the more significant role of the combination than the conclusion in the ordering of the moods. That both parts of the syllogism are taken into account for their ranking is made clear by *et* (209.3. Sullivan's analysis of the ranking appears to miss this point, for which, see below in note 209.3-5)*.

209.3-5   *nam cum … universales particularibus*: I suggest *dicere* (BCFADW) in place of *dedicare* (S) since it is a more likely counterpart to *negare* which follows (see 191.7-8 for the same change) whereas *dedicare* would surely expect *abdicare* (see 191.1-5). Sullivan criticises the author for not following the rules he sets out for the order of moods within each figure; with regard to the fifth and sixth moods of the first figure he says, 'the arrangement of these two moods appears to be inconsistent with the enunciated principles and with the ordering of the indemonstrables – with the principles, since in terms of them a universal takes precedence over a particular regardless of whether the particular is affirmative; with the ordering of the indemonstrables, since if a universal abdicative is to yield to a particular dedicative… then {the second} should come after {the third}' (1967: 125). Sullivan also complains that the author 'has placed {the sixth mood} between two particular dedicatives both of which are reducible to an indemonstrable through one

conversion… according to the principles, these two particulars {five and seven} should be adjacent to one another and not have a universal abdicative inserted between them' (*loc. cit.*). Our author, however, is not guilty of either of these charges.

Sullivan's error lies in focusing on the conclusions of syllogisms in his analysis of this passage rather than considering the combinations from which these are drawn (see note on 199.4 where it is made clear that the worth of a syllogism takes into account the whole entity including the combination, not just the conclusion. See also note on 209.1-3). When setting out the author's principles upon which the order of moods is based Sullivan says, 'one principle concerns the quantity of a mood's illation, another its quality; and the third principle, to be applied to moods the illations of which have the same quantity and quality' (1967: 124. For Sullivan's interpretation of the third principle see note on 209.5-6 below). The author, however, makes it very clear through the use of *et* that the order of moods is based on the types of premises in the combinations as well as the types of conclusions (see note on 209.1-3). In this respect, although the fifth mood has a particular negative conclusion and the sixth has a universal negative conclusion, the fact that the fifth mood has a combination of two universal premises which are affirmative means that, according the author's rules (*in utrisque dedicativae* 209.5-6), it is justifiably placed before the sixth mood; although this mood has a combination of two universal premises, one is negative. With regard to the order of the second and third indemonstrables, which Sullivan believes to be incorrect, the rule about the priority of universals over particulars (209.4-5) applies not to the conclusion in the way that Sullivan has taken it but to the combination; although the third indemonstrable has an affirmative conclusion and the second a negative, the second mood comes before the third because its combination contains two universal premises as opposed to the third which contains a particular. From this, it is made clear that the priority of universal over particular is not of equal importance to the priority of affirmative over negative, rather, it is the quantity *and then* the quality which is taken into consideration; this is highlighted by *in utrisque* (209.5-6. See also Alexander *in An.Pr.*49,1-5 who makes clear the priority of quantity over quality where he states that syllogisms owe their generation to universals).

209.5-6 *et in utrisque … similes sunt*: Sullivan's explanation of the third principle upon which our author ranks the moods, which he says applies to moods which have conclusions with the same quantity and quality (1967: 125) is questionable in light of the textual issue with the line concerned (209.6). Of the seven manuscripts I have been able to consult (see

introduction section 3 n.73) none have any notation to support the addition of *si* included by Prantl, Goldbacher and Thomas and bracketed by Moreschini. With the variety of manuscript readings in mind (*dedicationibus et illationes similes sunt* C : *dedicatio et illatio similes sunt* APBSD : *et abdicatio similes sunt* W), my own conjecture, '*dedicativa abdicativo et illationes similes sunt*' is in keeping with the presentation of the other set of variables and is also based on the supposition that it seems unnecessary to mention the situations in which two or more moods may share the same conclusion. Based on the following comparable passage from Alexander, it would be more relevant in this context to mention the fact that the conclusion will be similar in terms of quality and quantity to the combination from which it is drawn:

> 'Thus that syllogisms depend on what has been posited is clear from the fact that the conclusion is similar (ὅμοιος) to what has been conceded and not to what holds by necessity. Moreover, if the conclusion were similar to what is determined in the premises, one and the same thing would always be deduced… Further, in this way it turns out that the conclusion is similar to the inferior assumption' (*in An.Pr.*51,1-9).

This discussion from Alexander's commentary about the ranking of moods gives greater plausibility to the reading *et illationes similes sunt* since he repeatedly points out that the conclusion is always similar (ὅμοιος) in quality and quantity to the premises from which it is drawn, with regard to the first figure (*cf.* for example *in An.Pr.*51,31-32). It is possible that the *si* which has been posited by the editors is a misreading of the plural ending on *illationes.*

209.6-7 *his praeponitur … indemonstrabilem redigitur*: The inclusion of the conditional particle *si* before *similes sunt* in the text of previous editors appears to have led Sullivan to believe that the principle described here is used only in cases where the conclusions of two or more given moods are the same. This principle, in fact, has universal application and is the fundamental reason behind the order of the moods; they are ranked according to which is most quickly reduced to an indemonstrable, and also, to which indemonstrable according to their own ranking. Sullivan considers this possibility but does not fully recognise its significance and implication; he suggests that 'perhaps the reason why {the fifth mood in the first figure} was placed ahead of {the sixth} is that the former reduces to the first indemonstrable and the latter to the second one. In fact, if all of the moods are looked at from this angle it will be seen that there is perfect agreement between the order of the

indemonstrables and the ordering of the derived moods according to which indemonstrable they are reduced to' (1967: 126). It is clear, however, that the order of moods which are made up of different combinations and conclusions is intrinsically linked to the position of the particular indemonstrable to which it is reduced since the four indemonstrables themselves are ordered on the rules set out in this chapter (209.3-6. For the examples of the moods themselves see 203.13-204.18). Sullivan concludes that this 'may well have served as the real operative principle for the arrangement of the derived moods' but seems to consider it to be in contrast with the rules presented here as he adds, 'notwithstanding Apuleius' claim that it was done "…on account of difference of conjugations and illations"' (1967: 126). It is, however, implicit in the reasons the author has already given but this is only brought to light by the text with the removal of *si* and the conjecture suggested above (209.5-6).

209.7-9 *qui celerius … modos esse***:** The fifth, sixth, and seventh moods of the first figure demonstrate this point in that they are reduced to their respective indemonstrables quicker (*celerius* 209.7) than any other moods because they require only one conversion (*una conversione*), specifically, the conversion of their conclusion (203.14-16; 203.21-204.1, 11-13). *certos eos modos* refers to the four indemonstrable moods (for other uses of *certos* in the sense of 'valid' with reference to moods see 213.11; 215.1). I would prefer the reading *cludendum* (APBSD) to *concludendum* (CW) since, in terms of meaning, *concludo* is more likely in this context due to its logical sense (*L&S* s.v. II D '*to conclude, infer, make an inference, to argue, demonstrate'*) which is not shared by the more general and non-technical uses of the term *claudo* (*L&S* s.v.)*.* Furthermore, *cludo* is a shortened form of *claudo* as it appears when it forms part of a compound, making the inclusion of the prefix *con-* here entirely plausible. It is most likely that *con-* has dropped off, or rather, has been abbreviated in some manuscripts.

209.9-10 *est et altera … per impossibile***:** See 206.1-6 where it is explained that the indemonstrable moods do not require any proof. The author appears to be alone in pointing out that this type of proof can be applied to the indemonstrables and in using the first indemonstrable as an example to demonstrate this type of proof (see below 210.15*ff*).

209.11-14 *appellaturque a Stoicis … contrarium reliquo***:** This is the only surviving source for the first of the four Stoic *themata* (Bobzien, 1994: 143. See also Mates' references for θέμα in his glossary of terms, 1961: 133). Mates remarks on the similarity between the author's description of this rule and the inference-schema proved by the Stoics of the form:

'If the first and the second, then the third. Not the third. The first. Therefore, not the second' (1961: 77 n.74). Bobzien notes that this 'first {Stoic} *thema* resembles the Peripatetic conversion rule for syllogisms' (1994: 144 n.20) and criticises Mignucci' interpretation that 'the Peripatetic rule covered contradictories only, and the Stoic rule had 'negation' instead of 'contradiction' (Bobzien, 1994: 144 n.20. See also Mignucci, 1993: 226-228). Bobzien says that the wording of this rule 'is in terms of contradiction and not of negation' (1994: 144), which, as she points out, Mignucci does also concede (Mignucci, 1993: 226). The word which both Bobzien and Mignucci interpret as 'contradictory' (*contrario*) is used elsewhere in the *Peri Hermeneias* with a general sense (see 194.3; 198.10; 204.18; 210.2, 3 and 210.12 where it is specifically used to refer to opposition by negation and by contradiction). The consistency with which the term is used in these instances and the fact that the author of the *Peri Hermeneias* is very systematic in his use of vocabulary more generally allow further light to be shed on his explanation of the first Stoic *thema* here. It is clear from the use of *alterutra* (209.16) in the description of the Peripatetic equivalent of the rule that, according to the author of the *Peri Hermeneias,* that this rule is formulated with regard to contradictories; this is the way in which *alterutra* is used systematically elsewhere throughout the text (see 194.4, 13; 195.7; 196.1, 9, 12, 16; 210.6, 10, 15; 214.16 and see 194.2-3 where it is defined). Bobzien and Mignucci interpret *contrario* as 'contradictory', as described above, however, our author's standard term for 'contradictory' is *alterutra.* He uses *incongrua* to refer to 'contraries' (193.19; 194.5, 6, 11; 195.6). His uses of *contrarius* elsewhere in the text, which were mentioned above, suggest that it is also being used with a general application here; that is to say, the author uses *contrario* to imply that both of the types of opposition he has already mentioned (*alterutrae* and *incongruae*) are taken into account in the first Stoic *thema*.

The ways in which the phrases *prima constitutio* and *primum expositum* are used outside this text suggest that what the author is referring to here was not an established way of referring to these rules. The use of *vel* to join the two phrases is comparable to the way in which the author used this particle previously to join the two terms *collectio* and *conclusio* as a way of referring to a whole syllogism (200.8-9. See also introduction section 5 on the use of Latin terminology and for this method of introducing new terms. Compare Kneale and Kneale, 1962: 19 who say that *constitutio vel expositum* 'sounds like a phrase of the Roman imperial administration; perhaps 'guiding principle' or 'directive''). Mates' description of the Stoic rules for analysis is as follows (1961: 77):

'By the "analysis" of an argument the Stoics meant the procedure of reducing the argument to a series of the basic undemonstrated arguments. They had four general rules (θέματα) by which these analyses were to be carried out'.

Our author perhaps felt that neither of the two terms, nor any other single Latin term, sufficed to adequately describe this Stoic θέμα, which, on the one hand is a rule which has been set out (*expositum*) and, on the other, is a process of analysis (*constitutio*), and so he used the two terms in combination.

209.14-16 *veteres autem … tolli reliquam***:** In Cicero, *veteres* is used to denote both contemporaries of Plato and those who were taught by him as at *De fin.*4.2.3., and to mean members of the Old Academy in e.g., *Luc.*132. The consensus in modern scholarship appears to be that here the author is referring to the older Peripatetic school which he is comparing to the more recent Stoics. 'These are, of course, the older Peripatetics.' (Barnes, 2012: 483 n.11. See also Long and Sedley, 1987: Vol. 2, 221, I, n.4). The *veteres* are compared to the Stoics again at 210.9. For a discussion on the use of *conclusio* in this text to mean syllogism as a whole see note on 200.7-9. Alexander's explanation about proof *per impossibile* is similar to the one ascribed to the *veteres* here:

'We have a reduction to the impossible when we hypothesize the opposite of what we wish to prove, co-assume one of the items agreed and supposed, and reject syllogistically something which is evident' (*in An.Pr.*31,11-14).

For Aristotle's own introduction and use of this type of proof (*An.Pr.*25a14-26) see Patzig (1968: 144-156) and Lukasiewicz (1957: 54-9). See note on 209.11-14 above for discussion about the difference between this rule and that ascribed to the Stoics.

209.17-18 *quae res … impudenter recusant***:** *res* refers to the other type of proof (*altera probatio* 209.9) which is carried out *per impossibile* (209.10). The definition of the technical term *acceptio* is given alongside its first use (199.11-14) where it is compared to *propositio.* The term is more appropriate here than the more commonly used (*communiter appellatur* 199.14-15) *propositio* since it emphasises the fact that active agreement is required on the part of the interlocutor in order to proceed with the argument, and it highlights the irrational inconsistency of not accepting a conclusion which was drawn from premises which were accepted. It also suggests that this work was intended to encourage the practical application of logical argument rather than to simply set it out as theory. The use

of *impudenter* could be seen to convey a certain moralistic tone (*L&S* s.v. '*shamelessly, impudently*'. See introduction section 6).

210.1-3 *dum ex eo … ante concesserant*: This section is rather convoluted but it simply represents the author's attempt to rework the Stoic and Peripatetic definitions of proof *per impossibile* he has cited above into his own words as applied to the scenario outlined above (209.17-18).

210.3 *porro contraria … ad conclusionem*: See 194.11-12. *conclusionem* appears to refer specifically to the conclusion of the syllogism in this case, but this comment also implies the whole syllogism (see note on 200.8-9).

210.4-8 *nec frustra … alteram tolli*: Barnes (2012: 483-484) argues against Ebert that the particle *at* (210.6) 'does not contrast the Stoics with the *dialectici.* Rather, it indicates that the double-barrelled sentence (*quidem/vero:* μέν/δέ) which it introduces is a qualification of what has just been said: 'The logicians were quite right to introduce their rule; but whereas the Stoics formulated it thus and so, the Peripatetics preferred a different version''. This makes good sense of the passage in which the author is clearly referring to dialecticians as a whole and to Stoics and Peripatetics as two particular groups of this whole. It was previously noted that the Stoics believed that a proposition was only truly negative when a negative particle was put at the very beginning of the proposition (191.10.11).

210.9 *omnis, non ... non quidam*: This list shows each type of quantifier, *omnis* and *quidam,* followed immediately by the same quantifier to which a negative particle has been prefixed, thus each quantifying particle is negated in the manner described above (210.7-8).

210.9-11 *veteres vero … non omnis; quidam*: For the denotation *veteres* see note on 209.14-16. That only three quantifiers are included in the Peripatetic list in Moreschini's text (210.10-11) is in contradiction to the use of *bifariam* (210.10) and to the total number of eight possible contraries to any syllogism counted below (210.12). The addition of *non quidam* (BFDSW) after *quidam* (210.11) is plausible in light of the modes of refutation of the universal negative which were described in the context of the square of opposition diagram (*aut utravis ex duabus ceteris vera, sive incongrua sive subneutra* 195.5-6) and also in light of the example proposition given as the *alterutra* of the universal affirmative (*quoddam iustum non est bonum* 210.19). *per alterutram* recalls the description of the diagonal lines placed on this diagram (193.22-194.5) and makes it clear that for the first two

variables in this list there must be a further two variables which are the contraries of each. The square of opposition diagram shows that the Peripatetics thought that '*omnis*' could be contradicted by its *alterutra* '*quidam ... non*' as well as by '*non omnis*' and that '*non omnis*' could be contradicted by its *alterutra* '*quidam*' and that is exactly what is being described here. This is made clear by the addition of the negative particle *non* after *quidam* and then a further *quidam* (210.11) as suggested above. Whereas the Stoic list pairs each type of quantifier with its contrary, which is the same quantifier with a negative particle prefixed to it (210.9), this Peripatetic list pairs the two variables which are represented in the top two corners of the square diagram followed by the pair of *subneutrae* which are their respective contraries; *quidam non* contradicting *omnis* and *quidam* contradicting *non omnis*. The use of ellipsis between the first *quidam* and *non* would help by representing how this form of negation is used in premises, that is, *quidam homo non grammaticus*, which would contradict *omnis homo grammaticus*.

210.11-16   *fiunt igitur … primus indemonstrabilis*: After explaining that there are eight contraries to any given syllogism (*unamquamque conclusionem*) because there come to be four sets of two conclusions (*conclusiones bis quaternae*) the author then demonstrates how the rules are applied to the first indemonstrable (210.15-16*ff*). The number eight is emphatically placed at the end of the clause with its verb as the first word in the sentence, perhaps suggesting that the author wishes to encourage his audience to try to work out the total number for themselves based on the information he has just given, introduced by *ut puta* in each case (210.8-11).

210.15-16   *exemplo sit primus indemonstrabilis*: For the practice of proving the indemonstrable moods *per impossibile* see note on 209.9-10.

210.17-19   *qui hanc … non est bonum*: *qui* refers to the type of person denoted by *eos* (209.17). The contrary relationship between the particular negative statement and the universal affirmative is described in Chapter 5 as *alterutra* (193.23-194.3) and is demonstrated by diagonal lines in the diagram of the square of opposition included in Moreschini's edition (195. See also note on 210.9-11 above for this form of contradiction)*.* The sense of compulsion to follow the logical rules conveyed by *necesse est* can be compared to the effect of the uses of *compelluntur* (210.1, 4) in this context.

210.19-22   *huic si … non est bonum*: See 208.13-17 for the example of the sixth mood of the third figure in full and 208.25-27 where the author says that this mood can be proved

only *per impossibile.* The contrary of the conclusion is joined to the first premise and the first premise retains its first position (compare the form of contradiction in which the contrary of the conclusion is joined to the second premise 211.6-8). The reason why it is the sixth mood of the third figure which is produced from proving the first indemonstrable in this way, and similarly, the fourth below (211.8-10) is made clear by Ross' comments on the passage from Aristotle which discusses the same type of reduction (*An.Pr.*63a8): 'Any proposition proved by a *reductio* can be proved ostensively, by the use of the same terms; and vice versa. If we take the contradictory of the conclusion of the ostensive syllogism we get the same new syllogism which was indicated in dealing with conversion of syllogisms; and we already know the figures in which these new syllogisms must be' (Ross, 1949: 456-7). In this way, when the second premise is paired with the contrary of the conclusion, a mood in the second figure is produced since this is the premise containing the major term and from which the second figure is generated (see note on 206.11-12), and when the first premise is paired with the contrary of the conclusion in the same way, a mood in the third figure is generated since this is the premise containing the minor term from which the third figure is generated (see note on 208.17-19).

211.1-2 *quod repugnat … honestum bonum*: See 210.16-17.

211.2-3 *haec per … conclusio est*: This syllogism, being the first indemonstrable (210.16-17), has been entirely opposed (for *conclusio* meaning a whole syllogism see note on 200.7-9).

211.3-5 *si isdem … duae conclusiones*: The equipollent premise of the particular negative (210.22) is formed by prefixing a negative particle to its *alterutra,* the universal affirmative (see 196.8-9). This type of contradiction, now used as the contrary of the conclusion of the first indemonstrable, is included in the Stoic list above (210.7-9) whereby a negative particle is prefixed to the original conclusion (210.17). Two more conclusions will result from a combination including this type of contrary premise in the same way as before, one with a negative particle and one which is the *alterutra* of the original conclusion.

211.6 *sic assumamus posteriorem*: Londey and Johanson translate *assumamus* as 'we assume' (1987: 103) which gives the general idea that the second premise will now be involved, but it seems that more of a contrast is intended between this verb and *praeposuimus* which was used to denote the positioning of the first premise (210.19-20; 211.5). When the first premise of the first indemonstrable is transposed into the syllogism

by which it will be proved *per impossibile,* it takes up the first position in this new syllogism. In a similar way, it seems that the use of *assumamus* is intended to carry a similar significance for the second premise, which retains its second position when transposed into the syllogism to be proved *per impossibile.* Lewis and Short give a technical definition of the verb *assumo,* which is the opposite of what we would expect in light of its use in the context here: 'in logic *to add, or join to a syllogism the minor proposition* e.g., Cic. *Inv.* 1.63; id. *Div.* 2.106; 2.108' (s.v. II.C). Our author's systematic ordering of the premises within a syllogism places the premise containing the major term in the second position in all moods with a direct conclusion. This incongruity may be explained in the following way: our author's method is an inversion of the standard Greek practice to place the major before the minor term (see note on 204.3-6), in which case the use of *assumamus* with reference to the second premise at this point may betray a Greek source for this part of the text. A clearer translation of this passage would therefore be: 'If, as we just placed the first premise first, in the same way we add the second {premise} beneath.'

211.8-11 *fit illatio … propositioni repugnat*: See 207.8-14 for the example of the fourth mood of the second figure which can be proved only *per impossibile.* The two (*duplex*) conclusions, universal negative and particular negative, are equipollent (*cf. aeque* 211.11) propositions because, without the negative particle, the universal premise is the *alterutra* of the particular negative (see 196.8-9).

211.12-16 *his quattuor … isdem mutationibus*: These four syllogisms refer to (1) the one in the form of the sixth mood in the third figure (210.22), (2) the one with a conclusion which is equipollent to this (211.4) both of which were produced from the contrary of the conclusion paired with the first premise (210.19-21), (3) the particular negative contrary of the first indemonstrable conclusion paired with the second premise to give, on the one hand, a universal negative conclusion (211.7-9), and, on the other, (4) the same combination with the equipollent, a particular negative premise as the conclusion (211.9-10). A further four syllogisms would result if, instead of the particular negative (*alterutra*) as the contrary of the first indemonstrable conclusion, the same premises were paired in the same way (*isdem mutationibus*) with the conclusion after a negative particle has been prefixed to it (see 210.7-9). The future tense *erit* (BCFDSW) is to be preferred over *erat* (A) since the changes described here (211.13) are hypothetical and have not actually been carried out. Patzig discusses Aristotle's use of the future tense of εἶναι which, he says, he often uses to express the necessity of a consequence (Patzig, 1968: 18. For a discussion on

syllogistic necessity in Aristotle see note on 212.6-7). The systematic and consistent use of terminology in this text supports the reading *mutationibus* (BCAW) more than *immutationibus* (PSD) owing to the regular use of the cognate verb *muto* in a comparable sense (192.20; 194.7, 12; 205.1; 211.13).

211.16-18 *item si … sublata illatio*: *pro eodem* (BCFDSW) is to be preferred to *eadem* (A) as it clearly refers back to the previous use of *pro eo* (211.13)*.* The contrary premise given here is the *incongrua* of the conclusion of the first indemonstrable (210.17). This relationship is described in the form of the square of opposition diagram in Chapter 5 (193.17-19; 195.4-6); the two universal premises are incongruents (*incongruae*) and cannot both be true at the same time. The author reiterates this point below, without referring back to these comments in Chapter 5.

211.18-212.3 *erunt tertiae … quod proposuimus*: The third set of four conclusions will make a total of twelve conclusions. This set applies only to those syllogisms which have a universal conclusion because, as described previously (195.4-6), this is the only type of premise which can be destroyed in three ways. This concerns five of the valid moods set out in this text: the first (203.13-14), second (203.19-21) and sixth (203.21-204.1) moods of the first figure and the first (206.10-11) and second (206.14-16) moods of the second figure. The remaining (*ceteris*) 14 valid syllogisms have only eight contraries (*solae octo*). The use of the future tense in *habebunt* and *erunt* can be explained by the fact that the author has not given examples of these conclusions, instead, he invites students to write out each mood for themselves along with their contraries in the way he has done for the first indemonstrable (212.1-3). This is in keeping with the didactic purpose of the work (see introduction section 6).

Chapter 13

212.4-213.10

In this chapter the author gives some background information about the ways in which syllogisms have previously been presented. He describes the way in which the Peripatetics used letters and the Stoics used numbers to convey each premise and the conclusion. The author shows awareness of the development of the syllogistic theory since Aristotle as he points out the fact that Theophrastus 'and others' list five indemonstrables unlike Aristotle who only listed four. He also criticises Aristo the Alexandrian and 'some more recent Peripatetics' for counting additional moods with particular conclusions where a universal conclusion has already been established; three in the first figure and the two in the second. This, he says, is entirely senseless.

212.4-6 * *ut etiam… indemonstrabilis*:** Lukasiewicz names Alexander as the first to state explicitly that Aristotle 'presents his doctrine in letters, στοιχεῖα' (1957: 8. See introduction section 4 for discussion about the concordance between our author and Alexander). The particle *ut* which is followed by the subjunctive verb (212.4-5) suggests that the lacuna at the beginning of this chapter contained a verb introducing a result clause (compare Londey and Johanson's translation, 1987: 105). This type of consecutive clause could plausibly follow from a general explanation about the way in which a specific type of conclusion relies only upon the combination of premises and the role of the middle term in accordance with the figure to which this combination belongs (see 198.21-199.8) and not to the meanings of the terms which act as the subject term and the predicate term. The author would then demonstrate this point by saying 'so that even (*etiam*) after it has been set out in the manner of the Peripatetics, with the order of premises and the parts changed around but with the function remaining, the first indemonstrable would be…'. In this way, the form of the syllogism given with letters which follows (212.6-7) acts as a form of proof for the example of the first indemonstrable the author gave earlier with the terms *iustum*, *honestum,* and *bonum* (203.13-14; 210.16-17). Alexander also uses the first indemonstrable mood as his example when he first discusses Aristotle's use of letters in his exposition of syllogistic moods. The context surrounding this discussion lends plausibility to this suggestion about the contents of the lacuna:

> 'He uses letters in his exposition in order to indicate that the conclusions do not
> depend on the matter but on the figure, on the conjunction of premises, and on

the modes. For so-and-so is deduced syllogistically not because the matter is of such-and-such a kind but because the combination is so-and-so. The letters, then, show that the conclusion will be such-and-such universally, always and for every assumption' (*in An.Pr.*53,29-54,2).

Aside from this, it is hard to determine the actual extent or the rest of the contents of this lacuna. The author may also have included a discussion about the primacy of universals; this is a topic which also arises alongside Alexander's discussion about the use of letters (*in An.Pr.*53,1-55,6). This is an aspect which is alluded to elsewhere in our text (see note on 209.1-7) but which lacks the full treatment it is given in Alexander. It would also provide the background information required to explain the Peripatetic formation of the syllogism given below (212.6-7) which uses the expression *de omni,* which is otherwise unexplained. It is reasonable, therefore, to imagine that these matters were covered in the lacuna in a similar manner to Alexander's text.

212.6-7   *A de omni … omni Γ*: Two important differences between the presentation of syllogisms by our author and by Aristotle are highlighted in this example. Firstly, our author represents syllogisms in the way associated with traditional logic, that is, either by using the copula *est* to join the subject and predicate terms (for example, when he sets out the four different types of propositions in the square of opposition diagram, 193.17-21), or, most frequently, by simply presenting the subject and the predicate terms in an order which takes the copula as read. Aristotle, on the other hand, has a more idiosyncratic way of presenting premises; he begins his syllogistic with the words '*A* is predicated of all *B*', but shortly he changes these words into the phrase '*A* belongs to all *B'* (Lukasiewicz, 1957: 18)*.* The author avoids the difficulty of explaining this by not supplying any Latin verb as the equivalent of either κατ αγορεύω or ὑπάρχω. Nevertheless, he still adequately represents Aristotle's method of presentation since, in some cases, Aristotle himself neglects to use any verb (See e.g. Arist. *An.Pr.*24b17-18 and Lukasiewicz, 1957: 18. See note on 212.8-9 for Alexander's discussion about these forms of presentation and the reason behind Aristotle's presentation). Secondly, the use of the conjunction *igitur* to introduce the conclusion of this syllogism as an inference is the same as the way in which the author introduces the conclusion to all of the examples of moods throughout the text. It does not, however, reflect the way in which the conclusion is introduced in either Aristotle or Alexander in the way that this example suggests (see note on 207.12). Aristotle usually conveys syllogistic necessity, that is, the necessary consequence of a certain conclusion from a particular set

of premises through his use of 'must' (ἀνάγκη). Our author appears to be aware of the requirement for a conclusion to be drawn by necessity from its combinations since this is a point which he highlights from Aristotle's definition of a syllogism (200.10-12; see also 202.1-3, 10-12), but this is not represented in any way in his examples of Peripatetic syllogisms (202.1-3. See also the use of *debere* 202.13. The same point is discussed by Alexander *in An.Pr.*20,30-21,9). In addition, Aristotle's syllogisms show that a conclusion only necessarily results *if* two premises are combined; he uses the particle εἰ in combination with ἀνάγκη for this purpose. As Patzig points out, this is an important indicator of relative, as opposed to absolute, necessity (Patzig, 1968: 19). Our author, however, does not use *si,* or any other form of expression to convey this aspect of Peripatetic syllogisms in his examples. The regular use of the verb *infero* (199.11; 202.6-7; 203.15, 21; 204.11-12; 211.3-4; 213.9) would suggest that he was aware that he is presenting moods in the form of inference.

212.7-8 *incipiunt a declarante ... secunda propositione***:** Rather than 'A is B' as the proposition would naturally be expressed in Latin (or English) with a subject followed by a predicate, in Aristotle, the traditional order is 'B is (said) of A'. As the author says, *incipiunt a declarante,* rather than *a subiectiva* as is the case in this text, and in Latin more generally. The particle *ideo* has more of a causal force than Londey and Johanson's translation 'and also' (1987: 105) suggests; it seems that the point here is that the Peripatetics start with the second premise *because of* the fact that they begin with the predicate term rather than the subject. The phrase *'secunda propositione',* therefore, ought to be understood only within the context of this work; it is simply 'the second premise' according to the author's method of presenting the moods. This order is the one which most clearly demonstrates the relation of the terms in the combination to the terms in the conclusion (see note on 204.3-6).

212.8-9 *hic adeo modus... talis est***:** Londey and Johanson translate these two lines as: 'Moreover, this mood, according to them, is woven backwards in this way: Every C B, every B A; therefore every C A (1987: 105).' Neither of the senses of *pertexo* cited in the *OLD* (s.v. 'To weave in full, finish weaving, b (transf.) to complete the composition of (a speech, writing etc.') help to make sense of the passage with the reading *pertextus*. A number of manuscripts, however, abbreviate the prefix so that it is unclear whether it stands for *per-* or *prae-* (CAPSD)*,* and some have *prae-* rather than *per-* (WB)*.* The two meanings of *praetexo* (*OLD* s.v. 2 'To set up or place in front'; 4 'To put forward as a pretext, pretend'),

in fact, make more sense in this context than *pertexo* in which the same syllogism is 'put forward' in reverse order (*retro*). Barnes points out that a similar passage, in which the order of the subject and the predicate terms in syllogistic language and in normal language is described, can be found in Alexander of Aphrodisias (Barnes, 2007a: 330):

> Aristotle uses 'of every' and 'of no' in his exposition because the validity of the arguments is recognizable by way of these formulas, and because the predicate and the subject are more recognizable when things are stated in this way, and because 'of every' is prior by nature to 'in as in a whole' (as I have already said). But syllogistic usage is normally the other way about: not 'Virtue is said of every justice' but the other way about - 'Every justice is virtue'. That is why we should exercise ourselves in both types of utterance, so that we can follow both usage and Aristotle's exposition.

> (*in An.Pr.*54,21-29)

As in the passage above, the point being made here is that whether the syllogism is presented with the predicate term coming first or the subject term coming first, its conclusion is derived from the combination in exactly the same way and that this method of proof does not change according to the specific terms which act as the subject and the predicate. Our author makes it implicitly clear that every example he gives of a mood *is* just an example by introducing them in each case with the particle *ut* (in the first figure, for example, 203.13, 19; 204.9, 16 *cf. velut* 205.7).

212.9-10 *Omne Γ B … igitur Γ A:* This inverted form of the paradigm above mirrors exactly the form that the author's own example of the first indemonstrable takes when written out in full with concrete subject and predicate terms in Latin (203.13-14); the middle term is the predicate in the premise in the first position and is the subject term in the second. As the author mentioned above (212.7-8), the Peripatetics, on the other hand, present the same syllogism in such a way that the middle term is the subject in the premise in the first position and the predicate in the second. It is worth remembering that when the author first describes the layout of the moods of the first figure in Chapter 7 he says that the common particle i.e., the middle term, is *in altera subiecta, in altera declarans* (199.1-2); it is this order, which he ascribes to the Peripatetics at this point in the text, which he describes. The reason for describing this order becomes puzzling when he begins to introduce examples of the moods in each figure in which the middle term is predicate in

the first and the subject in the second. Alcinous describes the middle term in the first mood as being 'predicated of the first term and the subject of the other' (*Didask.*158.32-34) which matches the practice of our author. Dillon points out that Alcinous, Apuleius and Galen are the earliest surviving exponents of this so-called Classical form which, he suggests, was 'perhaps developed first by Ariston' (1993: 80), who is mentioned later in this chapter (213.5-6). This suggests that at the earlier point in the text where he describes the presentation of syllogisms and the position of the middle term, he was relying on an earlier Greek source which represented Aristotle's own practice whereas in his own presentation of the examples of moods in each figure he represents a shift from Aristotle's original presentation to expressions which were more natural in the common parlance of both languages.

212.10-12 *Stoici porro ... secundum igitur*: This comment suggests that the Stoic numbers perform exactly the same function as Aristotle's letters but this is not the case. Barnes (2007a: 323) discusses the different ways in which each of these 'symbols' were used: 'Aristotle's letters represent only the terms within a proposition and are used simply to illustrate the 'structure' of a syllogism; they have no meaning or value in themselves. The Stoic ordinal numbers, on the other hand, represent entire premises or statements'. Reference to 'the first' or 'the second' grew out of an attempt to avoid unnecessary lengthy repetition when forming an argument according to Diogenes Laertius, from whom Barnes cites the following passage:

> 'An argumode (λογότροπος) is what is compounded from both [sc. from an argument and a mode], for example:
>
> If Plato lives, Plato breathes; but the first: therefore the second.
>
> Argumodes were introduced so that, when the components of an argument were rather long, you did not have to state the co-assumption, which was long, and also the conclusion- rather, you could continue briefly:
>
> But the first: therefore the second''
>
> (*Diog. Laert.* 7.77. Trans. Barnes, 2007a).

Our author's comment then, is rather misleading, since, unlike the Peripatetic letters which are used to illustrate only the position and function of a given term within a proposition, the Stoic numerals represent whole statements themselves which 'must have a

determinate reference' (Barnes, 2007a: 325). Barnes says that 'there is rather little positive evidence in support of Apuleius' statement that the Stoics used numerals' but 'there is no evidence against it and no one doubts it' (Barnes, 2007a: 322). This, as well as the author's presentation of Peripatetic letters and Stoic numerals as entirely analogous, suggests that he, or his source, was not aware of these fundamental differences between Peripatetic and Stoic logic (see introduction section 4).

212.12-15 *verum Aristoteles ... illationem indefinitam*: Huby points out that although she has translated *ceteri* as 'the rest' here, 'the others' is also possible (2007: 63), presumably, that is to say, the difference between all others as in, 'everyone else' and a certain set of others. The complete absence of evidence for this fifth indemonstrable outside of this text makes it seem more likely that *ceteri* refers to a select few in the way implied by the latter. This absence of external evidence for Theophrastus' fifth mood is one of the reasons why Bocheński strongly believes that the author is mistaken here and that he is confusing the additional five moods which Theophrastus added to the first figure with one new fifth indemonstrable mood (1947: 16). Sullivan and Huby, however, both believe that it is Bocheński who is mistaken. Sullivan questions why the author gives no indication as to whether the fifth indemonstrable 'corresponds to the indemonstrable Darii (1.3) or to the indemonstrable Ferio (1.4)' and comments that 'given that the indemonstrable is an indefinite mood, no indication is given as to why there is only one such indemonstrable rather than two – one to correspond to Darii and the other to Ferio' (1967: 156). Huby presents a solid case for this mood being formed from the third indemonstrable (Darii) rather than the fourth (Ferio) which also contains a particular premise (1977: 147-8). She argues that Theophrastus would be concerned that the indefinite conclusion, which the fourth indemonstrable would create, 'would be taken most naturally as a universal negative (C belongs to no A), rather than an indefinite negative' and also that 'the conclusion of Ferio itself is already indefinite' because 'Alexander … tells us that both Aristotle and Theophrastus regarded *'tini oux huparxei'* as indefinite' (*id*. 148; see Alex. *in An.Pr.* 66,1-10). The participial phrase which follows is, I would argue, directly linked to the main verb (*enumerant*) in that it explains the means by which Theophrastus (*et ceteri*) carried out the formation of a fifth indemonstrable, by exchanging the particular premise in one of the moods for an indefinite one and inferring an indefinite conclusion. According to this context, I see *Theophrastus et ceteri* as the subjects of the plural participles *iungentes* and *colligentes* (W), which I have taken in place of their singular counterparts (BCFADS), and I propose the use of a comma after *enumerant* (212.14), rather than the full stop which

Moreschini has, to make this clear. It is reasonable to suppose that the proposed lacuna which follows contained a demonstration of the formation of this indefinite indemonstrable and pointed out the other three moods in the first figure which contain a particular premise (1.4, 1.7, 1.9). This would explain the author's use of *iam* below (213.2), which suggests that he has *only* just showed them as opposed to referring back to Chapter 9 where he last showed them; when referring to parts of the text further back he tends to use expressions such as *supra diximus* (in Chapter 7, 200.14 referring back to Chapter 1, 190.3-4); *supra docui* (in Chapter 9, 203.17 referring back to Chapter 6, 198.5-7); *supra ostendimus* (in Chapter 14, 213.12 to refer back to Chapters 9-11 *cf.* 215.2-3) or *supradictas* (in Chapter 14, 215.7 referring back to Chapter 6, 197.10-12). This is the expression we would expect if he were in fact referring back to the last time moods in the first figure were referred to collectively. *iam* as we have here, on the other hand, is used to refer to points either in the immediate past (205.19) or the immediate future (203.3). This strongly suggests the 'four moods' referred to below (213.2-3) were specifically the group of moods with particular premises in the first figure which were listed in the lacuna.

212.15-213.2 *supervacaneum est ... sunt ex particularibus:* Presumably, as suggested in the note above, the missing text contained a demonstration of the way in which moods containing particulars can be doubled as moods containing indefinites. Following this lacuna (212.15), the author explains that what has gone before is unnecessary (*supervacaneum* see also 201.4) and this would appear to be the view of the majority. Alcinous, for instance, omits indefinite propositions entirely from his list of types of propositions which Dillon suggests is because he was aware that 'they were equal to particulars' (1993: 78). This type of explanation might have led to the omission of such detail from the transmitted text, particularly if it was being used for scholastic purposes. The author has already explained that indefinites should always be taken as particular (190.20-191.1), and they are only brought up at this point because this chapter is concerned with the treatment of the syllogism by different groups of people; this is a point of historical, rather than logical interest. The author makes it clear that Theophrastus considered indefinite propositions as distinct from particular propositions since he posited another indemonstrable with an indefinite conclusion. That Theophrastus paid particular attention to indefinite propositions is clear from the numerous fragments concerned with this topic in Huby's volume (1992: 140-153). This is the second of two direct criticisms the author makes against Theophrastus (see also 207.23-24). *eidem* (BF[2]W; *cf. eiusdem* C) should be

preferred over *idem* (ASD) in order to agree with *modi* in light of the sense of the passage; 'the same moods will come about'.

213.2-5 *item iam ... octo et viginti*: For *iam* see note on 212.12-15. With '*si quis velit'* the author invites his audience to do some of the work for themselves (see also 212.1-3 for a similar instance. See also introduction section 6). Here he says that it is possible to create another, indefinite mood for every particular, although it is not worth doing because they will have the same truth value as the particular. If however, the particular moods were doubled in this way, he says there will be a total of 28 moods. In a footnote to their translation of this sentence, Londey and Johanson say that 'the correct number is 29, since ten of Apuleius' 19 valid moods have a particular premise. In the translation, we have followed the Thomas text's *octo et viginti.* Earlier editors (Oudendorp, Hildebrand) have *novem et viginti,* as found in some MSS' (1987: 104 n.7). Londey and Johanson do not say which manuscripts contain this reading, and no variants are recorded in either Thomas' or Moreschini's *apparatus criticus* for *octo et viginti* to suggest this (but see AWPB. See also introduction section 3 n.73)*.* Londey and Johanson are correct in saying that ten of the 19 moods contain a particular premise (1.3, 1.4, 1.7, 1.9, 2.3, 2.4, 3.2, 3.3, 3.5, 3.6) and that by doubling these the total number is 29. However, surely a further four moods which, although they do not have a particular premise in their combination but have a particular conclusion which could also be taken as indefinite ought also to be taken into account (1.5, 3.1 with one particular conclusion inferred directly and one conversely, and 3.4). This can be assumed from *indefinitamque subiciens illationem* (213.4-5) as the inclusion of these moods, with universal premises but a particular conclusion, is not spelt out explicitly in the text as it stands but we can reasonably assume that detail of this nature was included in the missing text indicated by the lacuna which appears to lead into a discussion about particulars and indefinites (see note on 212.14-213.2 for discussion about the contents of the lacuna at 212.15). This gives a total of 14 which, when doubled, adds up to 28, the total number given by our author in the received text. At any rate, the total number of syllogisms, including those obtained indirectly from the direct ones, seems to have been far from definitive. This number is never made clear by Aristotle himself (Barnes, 2007b: 535).

213.5-9 *Aristo autem ... particulares inferunt*: Barnes points out that this is the only known evidence for Aristo adding to the number of syllogisms in this way (2007b: 535) and goes on to comment that 'the phraseology suggests that Aristo was not taken to be a Peripatetic' and that 'our other sources say that he began life as an Academic and then translated to

the Lyceum' (*op. cit.* 536)*.* The historical details which Barnes gives about Aristo's conversion to the Lyceum are commonly accepted; Chiaradonna mentions Philodemus' *Index Academicorum* (xxxv. 11-16) as an ancient source for this (2013: 38. Evidence for Aristo is collected in Mariotti, 1966 and his 'role in the early history of Aristotelian exegesis' is discussed by Hatzimichali, 2011: 41-50). I am not sure that the phraseology creates a distinction between Aristo and the Peripatetics in the way that Barnes suggests; the particle *et* could just as well be implying an addition: 'Aristo as well as the other more recent Peripatetics' as it could be drawing a contrast: 'Aristo and then some more recent Peripatetics'. At any rate, it is unlikely that such a distinction would be relevant to the author of *Peri Hermeneias* whose text nowhere suggests that he distinguished between the Peripatetics and the Academics. Barnes reads *praeter eos* for *praeterea* (213.7) with *eos* agreeing with *modos*. Rather than *universalis illationis* (AS)*,* which Moreschini has printed, I consider *universales illationes* (BCFDW) to be the more likely reading*,* which could then be an accusative plural to be paired with the preposition *praeter* (*L&S* s.v. II B2b 'in addition to') rather than the printed *praeterea.* On account of this, rather than *eos* after *praeter* as Barnes has conjectured, I suggest *eas* (213.7) to agree with *universales illationes* because this is precisely the characteristic of the five additional moods; they have particular conclusions in addition to those universal conclusions (*praeter eas universales illationes*) from which they have been inferred.

213.9-10 *quod perquam ... minus concludere:* This statement, that it is useless to conclude less when more has been conceded, is an inversion of the statement made earlier which advised the acceptance of indefinite premises as particular ones because it is safer to accept less from what is uncertain (see note on 190.21-191.1). Barnes says that it is this criticism from the author which is inept and not the moods since the subaltern mood from the first indemonstrable (Barbari) is a perfectly valid way to prove the particular form of the conclusion (Barnes, 2007b: 536). The brevity of our text, however, and its didactic purpose, which values practical utility over formal completeness (*cf.* Sharples, 2010: 96), explains why our author should present these moods in this way. The adjective *ineptum* (*OLD* s.v. 'having no sense of what is fitting, lacking in judgement, foolish, silly; *cf. L&S* s.v. 'impertinent, improper, tasteless' etc.) conveys a moralising tone, similar to that suggested by *impudenter* (see note on 209.17-18), which was used to describe those who refute a conclusion after having accepted both premises, and also to the effect of the use of verbs such as '*compelluntur'* and *'necesse est'* (see note on 210.17-19). The maxim-like quality of

these statements and this sort of language make clear the didactic purpose of the text (for which, see introduction section 6).

Chapter 14

213.11-215.12

In this final chapter of the text, the author systematically lists all 34 of the invalid combinations out of the 48 possible combinations of each of the four types of propositions, the universal affirmative, universal negative, particular affirmative and particular negative as labelled on the Square of Opposition diagram (195.2). Having shown examples for all of the valid combinations in each of the three figures in Chapters 9, 10 and 11, in this chapter, the author lists the 34 combinations which can conclude something false from true premises. This, he says, can be demonstrated by using the five predicables which were introduced in Chapter 6 (197.10-198.17) and that the conclusions of each of the established combinations show that there can be no more than 14 valid moods. Grouping and enumerating all of the invalid combinations together in this way differs from the method of exposition of Aristotle and Alexander, who both present all of the combinations systematically for each of the three figures and identify the invalid combinations as they come up in the order (for Aristotle's systematic method of expounding all of the possible premise pairs see Patzig, 1968: 168-170. See also note on 205.4-7).

213.11-12   *Omnes autem modos ... ostendimus, comprobatur:* For other uses of *certos* to mean valid and applied to syllogistic combinations see 209.8; 215.1. Moreschini's *apparatus criticus* indicates that there are a number of variants for *undeviginti* in the manuscripts. Either *unum de viginti* (S) or the more common contracted form *undeviginti* (A) is clearly the correct reading since the total number of valid combinations is, indeed, 19. At any rate, the *et* or ampersand symbol in the reading *unum et viginti* (BCFADW) could easily be the result of a misreading *de* for *et.* The author listed how many combinations there are in each figure and how many moods there are in each of these earlier in Chapter 8 (202.18-203.3).

213.13-14   *quattuor sunt ... duae universales:* The four different types of proposition were first introduced in Chapter 3 (190.17-191.5). It is unclear why the author only mentions the difference in quantity (*duae particulares duae universales*) and does not mention affirmative (*dedicativa*) and negative (*abdicativa*) as their different qualities here. In a similar way, Aristotle defines a premise at the very beginning of his *Prior Analytics* as 'an affirmative or negative statement of something about some subject. This statement may be universal or particular or indefinite' (*An.Pr.*24a16-18. Trans., Tredennick, 1949). In this passage, whether a statement is affirmative or negative is part of the definition of what a premise is. The types of this statement are then divided according to the quantity of the

subject to which they refer. Furthermore, the priority of universals and thereby of the quantity of a proposition over its quality has already been highlighted in our text (see note on 209.1-7). Our author's omission of qualitative differences here may reflect this definition of Aristotle's. It may also, however, simply demonstrate the author's effort to keep the text concise when, by this point, the distinction in quality ought to be well known.

213.14-15 *harum unaquaeque … scilicet coniungitur*: Moraux presents a clear case for *Aristoteles* as the correct reading (213.14) as opposed to Prantl, who 'was inclined to ascribe one further fragment to Aristo regarding the problem of the possible combinations of premises in each syllogistic figure' (Chiaradonna, 2013: 40); this was due to the fact that no statements similar to the one ascribed to Aristotle in this text are found in Aristotle's works themselves. Prantl therefore believed incorrectly that *Aristoteles* ought to be corrected to *Aristo*. Firstly, Moraux points out that the total number of valid moods given in this chapter is 19, which clearly does not take into account Aristo's five additional subaltern moods. Secondly, he rightly points out that although Aristotle nowhere describes that 16 possible combinations belong to each of the three figures because there are four ways of combining the four types of premise, anyone who reads chapters 4-6 of the *Prior Analytics* will notice that Aristotle demonstrates 16 combinations for each of the three figures – 12 of which are invalid in the first figure and four are valid and the same procedure is carried out for the second and third figures. He puts the comments in the text here down to the author's lack of exactitude and to changes in meaning which may have taken place between the original and his own text. It is therefore conceivable, he says, that our author's source gave the number 16. He concludes that the reference in 213.14 was mistakenly linked to the use of Aristo's name in the previous chapter (see Moraux 1973: 190-1). Alexander's comments are representative of the sort of source which Moraux suggests our author was using; Alexander first of all counts the total number of possible combinations in each figure including indeterminates which is 36 (*in An.Pr.*51,35) and he then gives the total number having set aside the indeterminates as 16 (*in An.Pr.*52,18). The table set out by Patzig shows these 16 combinations which Aristotle systematically works through in his *Prior Analytics* 4-6 (1968: 169). With regard to *sibi et* (213.15), which is omitted by a number of manuscripts (BCFDSW), it is worth noting that the only type of premise out of the four which can be paired with another of the same kind (*sibi et*) to form a valid combination is the universal affirmative (see 203.4-5), furthermore, the author states definitively that 'nothing can be concluded from two particulars or two negatives' both later in this chapter and elsewhere (214.2-3 *cf.* 203.4-5).

The possible variants *praepono* and *propono* can both be used to mean 'to place first' (*L&S* s.v. *praepono* 1; s.v. *propono* G2 'to state the first premise of a syllogism'; *OLD.* s.v. 9d) which is clearly the intended meaning to be contrasted with *sit subiecta* (213.14)*.* In this text *propono* is used only twice elsewhere; the first use (193.4) applies to premises being put forward in a general sense with no implication of prior position, and the second (199.12) is used in the sense which defines the meaning of *propositio* (see notes on 190.5-6; 199.12-15). The verb *praepono,* on the other hand, is consistently used throughout the text in the sense described above and which this context requires; it is used of negative particles which are placed before premises (191.11; 196.11; 210.7, 14), of moods which are ranked before others (209.6-7), and, as is the case here, of premises which are placed before another in a given combination (210.19-20; 211.5; 214.6; 215.1).

213.16-17 *atque ita senae ... formulis erunt*: There will be 16 possible combinations in each of the three figures. Aristotle does not state this number. It is, however, the total number given by Alexander after the indeterminates have been discounted from his total of 36 (*in An.Pr.*52,17-18).

213.17-18 *harum sex aequaliter... alteram praecedit*: Six out of the 16 possible combinations (*harum*) are not valid in any of the moods. *quidem* corresponds to *autem* (214.1) in the way that μέν precedes δέ in Greek (see note on 190.17-191.1; for other examples see 194.6-7; 196.1-2). The reading *abdicativis*, which Moreschini has, does not have any support in the manuscripts I have consulted (see introduction n.73 and Appendix A); it must, nevertheless, be correct by analogy to *ex particularibus* in the contrasting clause which is introduced by *autem* (214.1) and about which there is no discord in the manuscripts. A combination in which one negative premise precedes the other is not valid (see 203.4-5; 214.2-3).

213.18-214.2 *quattuor autem... praecedit subditur*: For *autem* see note above (213.17-18).

214.2-3 *nihil enim concludi... duae abdicativae*: See 203.4-5. For an invalid combination of two particulars see 206.16.

214.4-6 *porro ex … particulari praeponitur*: A combination with a universal affirmative before a particular is not valid in either the first or the second figure. As made clear by Alexander (e.g. *in An.Pr.*94,12-17; 95,20-24) and as implied by our author (see note on 208.17-19), being universal is the criterion for the premise containing the major term and

being affirmative is the criterion for the premise containing the minor term, which must both be fulfilled for a combination to be valid in the first figure. In the second figure only the major must be universal and in the third only the minor must be affirmative. Our author systematically presents syllogisms with the minor premise placed before the major premise (see note on 204.3-6). In this way, the invalid combination which he describes here does not fulfil the criterion, required in the first and the second figures, for the major to be universal and, for this reason, is invalid in both of these figures. In contrast, this combination forms the third and sixth valid moods of the third figure because the only criterion for validity in this mood is that the minor premise is affirmative.

214.6-7 *similiter et ... duae repudiantur*: *similiter* suggests that the author is using the same reasoning to justify the elimination of the following combinations from the first and the third figures as he used to eliminate the combinations from the first and second figures above, even though this reasoning is not made at all clear in the text (see note above for the reasons for eliminating the combination described above from the first and second figures 214.4-6). *repudiantur* (214.7) is the most plausible correction to '*ruridantur'* since this verb is used with the same sense elsewhere in the text (197.7-8; 215.6).

214.7-9 *quibus particularis … dedicativam antecedit*: The author has already categorically ruled out combinations consisting of two negatives, and two particulars in all figures, both in this chapter (214.2-3) and earlier (203.4-5), which suggests that the omission of *aut universalis … universalem aut* (214.7-8) is correct (BCFADW). In this case the combinations which are eliminated in the first and the third figures are those in which a particular negative comes first (*antecedit*) because the minor premise, which is placed first, is not affirmative as it is required to be in the first and third figures (see note above 214.4-6). Since this criterion is not fulfilled, it will still be an invalid combination in these two figures no matter what type of premise comes next. The reading *universalem* (214.9), which Moreschini has accepted and which specifies a universal affirmative, does make sense in that the only other affirmative is a particular which, of course, would lead to a combination of two particulars and the author has repeatedly said that this type of combination is invalid (203.4-5; 205.16; 214.2-3). However, the only valid combination consisting of a particular negative before a universal affirmative is found in the fourth mood of the second figure; it is valid in this figure because the major is universal (see note on 214.4-6). The reading *utramvis* (BCFADW), in this way, creates a more accurate account than *universalem*, which Moreschini has accepted, as it makes good sense and gets the point across correctly.

214.9-11 *quo fit … adhuc octonae***:** The author first of all says that, as a result of the eliminations so far, there remain six combinations in the first figure. It is made clear by the distributive sense conveyed by the adjectival form of the word (*L&S* s.v.), that the eight which are left in the second and the third figures each are a result of the six in the first since these two figures, and the combinations in them, owe their generation to the first (see note on 205.18-19. See also the explanatory force of *cum* 215.3-4), otherwise why would the author not have simply used *octo* in the same way as he used *sex* (214.10)?. Londey and Johanson's translation of *octonae* as simply 'eight' does not highlight this (1987: 105).

214.11-13 *ex quibus … particularem dedicativam***:** A combination in which a universal negative comes before a particular affirmative is not valid in either the second or the third figure because neither is the minor premise affirmative nor the major premise universal (see note on 214.4-6). This, however, is the combination of the ninth converse mood of the first figure which draws its conclusion *reflexim* (for the proof of the validity of this mood see note on 205.9-11).

214.13-16 *ex his septenis … praecedit alterutra***:** Londey and Johanson rightly point out that Prantl, Goldbacher, and Thomas are mistaken in reading *alterutra* 'since the fourth valid mood of the second formula is precisely that in which the alternate of the universal dedicative precedes it' (1987: 106 n.8. See also Alexander *in An.Pr.*85,1-5). This is also the reading Moreschini has accepted. Londey and Johanson's reading '*altera'* must be correct in light of the previous comparable use of the same pronoun to denote the second of two negative forms (213.18). Nevertheless, they say that it is hard to make sense of 'what fourth case is being rejected' (*loc. cit.*). This can be explained in the following way: the use of *vel* twice in line 15 serves to contrast the different types of premise which form an invalid combination in the second figure when joined to a universal affirmative (*L&S* s.v. *vel* B1). The use of *vel* in line 16, on the other hand, serves not to add to this list but to provide a point of clarification to *utrovis loco* (*L&S* s.v. *vel* 2a). In which case, the four combinations which are false (*quattuor falsae*) in the second figure are (1) a universal affirmative and another universal affirmative (*sibimet ipsi*), (2) a universal affirmative and a particular affirmative (*particulari suae*). They can be arranged in either way (*utrovis loco*) and still be invalid and so (3) and (4) are the same combinations but in the opposite order (*praecedit altera*).

Sullivan points out that 'Apuleius does not supply a name for the relation obtaining between universal propositions and the particulars under them' (Sullivan, 1967: 66). Thomas labels

the relation between these types of propositions as '*subalternae*' on the diagram of the Square of Opposition in his text (180.19 which matches the diagrams found in BCFADSW). The term *alter* is used twice (213.18; 214.16) to denote this type of opposition in this Chapter (see *OLD* s.v. 8 'opposite in quality (to something implied in the context') which serves the purpose of the technical term which Sullivan believes to be missing, although *alter* has a more general application than this throughout the rest of the text. However technical its use is intended to be here, it is not to be confused with the term used only in a technical sense in this work, *alterutra,* which denotes the opposing relation between a universal affirmative and a particular negative and between a universal negative and a particular affirmative which are described in Chapter 5 and are indicated by the two diagonal lines on the square of opposition diagram (see 193.22-194.5; 195).

214.16-215.1 *item propriae … dedicativae praeponitur*: The two combinations which are not valid in the third figure consist of either a universal or particular negative (*utravis abdicativa*) placed before a universal affirmative (*universali dedicativae*). This is because the minor premise, that is, the premise placed first in our author's presentation (see note on 204.3-6), must be affirmative in third figure combinations in order for them to be valid (see note on 214.4-6).

215.1-4 *reliquas certas ... redigemus*: For other uses of *certas* to mean 'valid' see 209.8; 213.11 (see *An.Pr.*29b1-26 for Aristotle's description of the reduction of all syllogisms to the universal syllogisms of the first figure). The three combinations in the second figure and the five in the third figure were listed above (*supra ostendimus*) in Chapter 8 (202.18-203.3). The causal force of *cum* makes clear what was implied earlier; that these valid combinations in the second and the third figures result from the six in the first figure (214.9-11). The conversions which take place in order for the second figure moods to be reduced (*redigeremus*) to the first figure moods were demonstrated with examples of the moods in Chapter 10 (206.11-207.9); the third figure moods and their reductions were demonstrated in Chapter 11 (208.17-25). It is interesting that, at this point, the author says that the second and the third figure moods are reduced to the six combinations (*sex coniugationes*) in the first figure since, in Chapters 10 and 11, he only describes their reduction to one of the four indemonstrables. The two additional combinations which give a total of six are those of the eighth and ninth moods which share the same conclusion as the fourth indemonstrable (204.19-205.3). It is likely that six is given as the total here for completeness because the author previously described the way in which the conversion of both premises of a mood

in the second figure produces the ninth mood (205.17-18) which, in turn, is reduced to the fourth indemonstrable.

215.5-7 *ceterae triginta … falsa concludere***:** The choice of the verb *repudio* here adds to the moralising tone found elsewhere in the text (for example, *compelluntur* 210.1,4; *necesse est* 210.18; *impudenter recusant* 209.18 and the terms used in the examples of moods, especially *iustum, honestum, turpe*).

215.7-8 *quod cuivis ... [generis proprietatis]***:** These five predicables (*significationes*) were introduced above in Chapter 6 (197.9-198.17). Moreschini and Thomas have bracketed the words *generis proprietatis* (BCFADSW) to indicate that they do not belong here. These two specific predicables provide a clear point of comparison between the two factors which make conversion possible, the types of terms contained within the premise and the form of the premise itself. A property as a predicate term will allow a premise to be convertible no matter what quality or quantity it has because the extent of a property is equal to the subject of which it is a predicate (192.17-19). A premise with genus as a predicate term, on the other hand, is not convertible unless the premise is either a universal negative or a particular affirmative, which are convertible themselves (196.15-19), because the extent of a genus is greater than the subject of which it is a predicate. They are also the first two predicables given in the list in Chapter 6 (197.10-12). The mention of these two alone, therefore, would be enough to make clear the value of the predicables in testing the validity of combinations.

215.8-11 *at ex illis … passa est***:** The six combinations in the first figure (215.3), three in the second (215.2), and five in the third (215.2) give a total of 14 (*quattuordecim*) valid combinations which were proved (*probavimus*) in Chapters 9, 10, and 11. That there are no more than these (*non plures*) is made clear (*docent*) by the conclusions (*illationes*) which, when they are drawn both directly and conversely (*cum directim tum reflexim*), give a total of 19 moods (213.11-12). Instead of *sumitur,* I would put forward *sumantur* as a conjecture with *illationes* as its subject means that the description of the way in which the moods are drawn both directly and conversely then makes clear why there are more possible moods than combinations, some direct and some converse, and therefore why it is the conclusions themselves which demonstrate the total number of combinations. This reading also solves the perceived problem with *ut* (215.10) indicated by a crux in both Moreschini's and Thomas' texts, as it simply serves to introduce an additional point with the verb taking the

same plural subject (*ipsae illationes*) as it did in the previous clause. Thus the meaning would be 'as they are drawn both directly and conversely'.

215.12 *praeterea eorum... numerus augeri*: *praeterea eorum* is the reading preferred by Goldbacher, Thomas and Moreschini, and it is the reading which Londey and Johanson have accepted in their translation: 'Their number cannot be increased beyond this' (1987: 107). The author has just said, however, that it is the conclusions themselves (*ipsae illationes* 215.10) which show that there are no more moods than have been proved above (215.9-10). The editors presumably take *eorum* as referring to the *modos,* but this chapter has focused on the number of valid combinations rather than on whole moods. In light of this, the final sentence of the text seems more likely to have begun with '*quapropter earum*' (CW) or '*propter earum*' (APBSD) referring to the *illationes* and, in this way, the causal force of these, which was explained above, is continued*.* Barnes makes the comment, which I have mentioned previously (see note on 213.2-5), that Aristotle never explicitly states the total number of valid syllogisms. The way in which the text ends suggests that its aim was to accomplish this task. This final sentence is conclusive in its tone and gives no reason to suspect that the work was left unfinished.

Appendix A

Proposed Textual Variants

Below is a list of divergences from Moreschini's edition. References are given to the page and line numbers in Moreschini's edition and to the sigla of the manuscripts I have been able to consult in digital form. These manuscripts are listed below the order in which they are recorded in Klibansky and Regen.[414] A small number my own conjectures are also listed here and are justified in the relevant lemmata throughout the commentary.

B   Bamberg

C   Corpus Christi Cambridge 206

F   Paris 6288

A   Paris 6638

D   Paris 7730

S   St Gallen 64

W   Valenciennes 406

189.1   *quam* (A) rather than *quod* (BFDSW)

189.9-10 *angusta late, nova usitate, usitata nove, vulgata decenter, decens vulgariter* rather than *angusta late, vulgate decenter, nova usitate, usitata nove* (*conj.*)

191.7-8   *dicit* rather than *dedicat* (BCFW)

191.9 *et* rather than *ei* (*conj.*)

191.14   *non nullam* rather than *nullam* (BAS²)

195.2   *scripta* rather than *scriptis* (BCFADSW)

196.10   *eius* rather than *ei* (*conj.*)

196.11 *proponatur* rather than *praeponatur* (CASW)

197.9   *experienda* rather than *reperienda* (*conj. Tho.*)

197.9-10   *unum verae* rather than *universe verae* (BDW²)

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[414] See also introduction section 3 n.73.

198.18 *aliquam* rather than *aliam* (BCFADSW)

199.4   *non tantum enumeratione* rather than *non numeri ratione* (W *Colv.*)

201.10   *num aliud collegi* (*conj.*) rather than *nam aliud collegi* (*Moresch.*)

203.5   *concludere* rather than *conducere* (W)

204.20   *reflexim* rather than *reflexam* (B)

206.3   *nondum* rather than *non* (BCFADS)

206.3-4   *demonstrati sint ut* rather than *demonstrentur.* (*conj.* from *demonstrans*

CWPBSD and *ei sit ut* CAWBSD)

206.7   *nunc formulae modos trademus secundae* (*om.*)

207.12 *quoddam igitur iustum* (CAS[2]) rather than *quoddam iustum*

209.4   *dicere* rather than *dedicare* (BCFADW)

209.6   *dedicativa abdicativae et illationes* rather than *dedicativa [et] illatio* (*conj.*)

209.9   *concludendum* rather than *cludendum* (CW)

210.11   *non quidam* added after *quidam* (BFDSW)

211.13   *erit* rather than *erat* (BCFDSW)

211.16   *mutationibus* rather than *immutationibus* (BCAW)

211.17   *eodem* rather than *eadem* (BCFDSW)

212.14   *iunguentes* rather than *iungens* (W)

212.14-15   *colligentes quam* rather than *colligensque* (W)

213.1   *eidem* rather than *idem* (BF[2]W)

213.7   *universales illationes* rather than *universalis illationis*   (BCFDW)

213.15   *sibi et* om. (BCFDSW)

214.7-8   *aut universalis abdicativa abdicativam universalem aut* om. (BCFADW)

214.9   *utramvis* rather than *universalem* (BCFADW)

215.11   *sumantur* rather than *sumitur* (*conj.*)

215.12   *quapropter earum* rather than *praeterea eorum* (CW)

Appendix B

Glossary of terms

The main purpose of this glossary is to collect the technical terminology used in the *Peri Hermeneias* and to indicate the English word or phrase with which the term is represented in the commentary. The list is not exhaustive but contains the terms which are either unique to this work, are used in a sense which is different to normal usage, or are used by the author with different senses in different places. Page and line references are given for all uses of each term. The references in bold indicate where the term is either first introduced or defined. Where a comparable context in Alexander of Aprhodisias makes the Greek equivalent term clear, this is also given.[415]

abdicare: 'to say that something is not of a given term'. Used to define *abdicativa* **191.5**.

abdicativa (ἀποφατικός): 'a negative proposition' **191.3-4**, 10; 193.17; 194.1, 2; 196.16; 198.2, 13; 199.8; 203.4, 6, 7, 18; 204.2, 5, 7, 15; 205.2, 3, 6, 7, 10, 11; 206.9, 13, 14; 207.1, 4-5, 8, 10 *bis*; 208.6-7, 7, 10, 11, 14, 15; 213.18; 214.3, 8 *bis*, 9, 12, 17-215.1.

acceptio (λῆμμα): 'a proposition which, after being posed as a question has been accepted' 199.10, **11**, 14, 16; 200.8, 16; 202.6, 11; 209.17-18; 210.6, 13.

alterutra (ἀντικειμένον): 'a contradictory' – used to describe the relationship between propositions which differ in both quantity and quality, specifically when, of the two contradictories, the universal premise is valid **194.3**; 195.7; 196.1, 9, 12, 16; 209.16; 210.6, 10, 15; 214.16; *cf. subneutra.*

approbo: 'to prove', specifically *per impossibile.* **207.13-14**; *cf. comprobo*; *probo.*

certus – a – um: '(logically) valid' **209.8**; 213.11; 215.1.

collectio (συλλογισμός): 'a syllogism' consisting of two premises and a conclusion **200.8**, 16.

colligo (συλλογίζομαι): 'to collect'. Used to define '*collectio',* which suggests that it can also mean 'to conclude' **199.10-11**; 201.7; 209.13, 18; 212.14-15.

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[415] The Greek – English index of Alexander's terminology given in Barnes et al. (1991, 234-240) has been used for this purpose. This glossary gives English into Greek as well as Greek into English. Page and line references of the uses which relate to Wallies' 1883 edition of the Greek text are given for the Greek terms.

*communis particula***:** 'the middle term' – the term which the two premises in a syllogism have in common. The author uses this phrase for this term in the second and third figures where the common term does not take the middle position as it does in the first figure **198.19**, 21; 199.3.

comprobo (ἀποδείκνυμι)**:** 'to demonstrate', particularly when the proof is a result of the validity of a universal proposition; *cf. 'probo'*, which is used when the proof is a result of the validity of a particular proposition. **194.13**, 15, 16; 213.12; *cf. 'approbo'* and '*probo'.*

*concludo***:** 'to conclude' an argument, therefore forming a whole syllogism, hence *conclusio* **199.6**, 9; 201.1; 213.10; 214.2; 215.6-7.

conclusio (συλλογισμός)**:** 'a syllogism' 198.8; 199.5; **200.9**, 17-18; 202.2, 6, 17-18; 203.5; 209.15. In some cases, the author also uses this term to refer specifically to the conclusion of a syllogism (σύμπερασμα) **190.9**; 198.20; 199.7; 201.11, 12; 202.9-10; 210.4, 12; 211.3, 5, 12, 16, 18.

*conduco***:** 'to draw (a mood) together' 205.6. Usually used of moods which draw their conclusions directly **203.11**, 18; 204.8, 14; 205.2, 6, 11; 206.8, 13; 207.4, 9, 16, 25; 208.2, 6, 10, 14 as opposed to conversely, for which the verb *infero* is used.

coniugatio (συζυγία)**:** 'a combination (of two premises)' which share a particular term in common (see *communis particula*) **198.18**; 199.17-18; 200.5; 202.16; 203.1, 2 *bis*, 16; 204.20; 205.2-3, 16, 18; 206.16; 208.20; 209.3; 213.16; 214.4, 10; 215.3, 4.

conversio (ἀντιστροφή)**:** 'a conversion' **196.15**; 198.7, 9, 12; 205.3, 10; 208.22-23; 209.8.

converto (ἀντιστρέφω)**:** 'to convert' – usually of propositions and used in the passive voice **197.3**, 6; 198.4, 5; 200.3; 205.20. Also used in either the first person plural or second person singular of those engaged in logic **192.23**, 25; 196.20; 197.1; 205.4, 16, 18; 207.7-8. Used once in the pluperfect with the third person singular active ending 205.5, hence *conversio.*

declarare (κατηγορέω)**:** 'to predicate something of a term'. Used to define *'declarativa'* **192.8**.

*declaratio***:** 'the predicate part of a proposition' **192.15-16**.

declarativa (κατηγορικός)**:** 'the predicate part of a proposition' **192.8**, 13, 19, 21; 193.3, 5, 10; 196.17-18; 197.17.

dedicare (κατηγορέω)**:** 'to say that something is of a given term'. Used to define '*dedicativa'* **191.1**.

dedicativa (κατηγορικός)**:** 'an affirmative proposition' **191.1**, 6, 8; 193.17, 23; 196.10, 16; 197.3; 198.3, 13; 200.4; 203.6, 7, 12 *bis,* 17, 18; 204.3, 8, 9, 13-14, 14-15; 205.4, 6-7, 11, 19-20; 206.8-9, 14; 207.4, 10, 16-17, 17, 25 *bis*; 208.2, 3, 6, 10, 14; 209.6; 214.6, 9, 13, 15; 215.1.

directim: Used of moods which have direct conclusions; those in which the subject term is the same as the subject of the middle term and the predicate is the same as the predicate in the combination 199.18; **200.4-6**; 203.12, 19; 204.9, 15-16; 206.9, 14; 207.5, 11, 17, 26; 208.3, 7, 11, 15; 215.11.

formula (σχῆμα): 'a (syllogistic) figure' **199.2**, 5-6; 202.18; 203.11; 205.17, 21; 206.1, 7, 8; 207.3, 15, 16; 209.1, 2; 210.21-22; 211.8; 212.2, 12; 213.3, 8, 11, 16; 214.5, 7, 10, 14, 17; 215.2. Also used to refer to the square diagram displaying the relationships between the four types of proposition 193.16.

geminans (διαφορούμενος): 'duplicating (argument)' **201.6**.

gigno: 'to generate' **205.19**; 206.6 *cf. nasco.*

illatio: 'a conclusion' of a syllogism 198.8; **199.9**; 200.6, 8; 202.9, 10, 14; 203.7, 10; 204.3, 19; 207.2; 208.22; 209.3, 6, 13-14, 15; 210.6, 8, 15 *bis,* 18, 21; 211.8, 15, 18; 212.15; 213.5, 7; 215.10.

incongrua (ἐναντίος): 'contrary' – used to describe the relationship between the two universal propositions which differ in quality **193.19**; 194.5, 6, 11; 195.6.

indemonstrabilis (ἀναπόδεικτος): 'an indemonstrable (mood)' – one which is perfect in that it does not require any demonstration **206.1-2**; 206.12; 207.8; 208.18, 24, 26; 209.7, 10; 210.16; 212.6, 13.

infero (ἐπιφέρω): 'to infer (a conclusion)' hence the cognate noun *illatio* 'conclusion'. This verb tends to be used in the passive voice for conclusions which are drawn *reflexim* rather than those which are drawn *directim* 199.11; **200.4**; 202.6-7 and the active voice is used for those who are engaged in logic and draw conclusions conversely **203.15**, 21; 204.11-12; 211.3-4; 213.9; *cf. 'conduco'.*

irritus – a – um: Of a syllogistic combination, 'invalid' **205.16**; *cf. ratus – a – um.*

maior (μείζων): 'bigger' – an adjective used to describe the predicate part of a proposition which is usually bigger than the smaller subject term as it incorporates more types of things **192.13**. In this way, it corresponds to the later use of this comparative to denote the major term or premise within a syllogism, this is also the case for '*minor*' below.

minor (ἐλαττῶν): 'smaller' – used to refer to the subject term in a proposition which usually has a smaller scope than its predicate **192.13**.

modulus: 'a mood' perhaps specifically, an invalid or non-syllogistic one **201.4**; 202.18; 203.1-2, 2; *cf.modus.*

modus (τρόπος): 'a (syllogistic) mood' **199.18**; *passim* in Chapters 9-11.

nasco: 'to generate' **207.9**; 208.23-24; *cf. gigno.*

non differenter peragens (ἀδιαφόρως περαίοντες): 'non-differently concluding (argument)' **201.4-5**.

particula: Used with *negativa* to denote a 'negative particle', i.e., *non,* in a grammatical sense **191.11**; 196.9; 210.7, 14 but also the standard designation in this text to denote 'a term' within a premise. **193.9-10**; 196.17; 198.10, 19, 21; 199.3; 200.5; 207.1; 208.21.

probo: 'to be proven'. Usually used in the passive voice of syllogistic combinations 214.12; 215.5 or of propositions 194.18 which are proven. Used once in the active voice of those engaged in logic 215.9 *cf. approbo, comprobo.*

propositio (πρότασις)**:** 'a proposition' **190.7-8**; *passim,* but also 'a premise' within a syllogism.

protensio: a calque of πρότασις which Alexander uses to mean both 'proposition' and 'premise' **190.2**.

pugna (μαχή)**:** 'a conflict' between two propositions in which they differ in quantity or quality or both. **194.4**, 5.

(tota) ratiocinatio (συλλογισμός)**:** 'the whole of an argument' i.e., a 'syllogism' **200.7-8**; *cf. collectio* and *conclusio.*

ratus – a - um: 'valid' – used of *conclusio* **202.14**; 203.4-5.

reflecto (ἀντιστρέφω)**:** 'to be converted' (mostly used in the passive voice of propositions) hence *reflexim* **203.16**; 204.1-2, 13. Used once in the active voice with the eighth and ninth moods as its subject 204.20.

reflexim: to draw a conclusion 'conversely'; the predicate in the combination becomes the subject term in the conclusion and the subject in the combination becomes the predicate in the conclusion **200.1-2**, 7; 203.14, 21; 204.11; 205.7, 11; 207.18; 215.11 *cf. reflecto.*

significatio: 'a predicable' of which there are five: property, genus, difference, definition, and accident **197.8**; 215.8; *cf. species* 198.17.

species: Used in a general sense to mean 'a type' of philosophy **189.2**, of speech 189.5; 200.13, of proposition 190.10**.** Also used to denote 'a (type of) predicable' **198.17**; *cf. significatio* 197.8.

subdita: 'the subject part of a proposition' **192.7**, 19, 20, 21; 193.5; *cf. subiectiva.*

subiectiva: 'the subject term' **192.7**, 13, 14; 193.7, 10; 196.17; 197.18; 204.3, 7; 207.1, 22; 208.21; *cf. subdita.*

subneutra (ἀντικειμένον)**:** 'a contradictory' – used to describe the relationship between propositions which differ in both quantity and quality specifically when, of the two contradictories, the particular premise is valid **195.6**; 196.4 *cf. alterutra.*

suppar: 'nearly equal' – used to describe the contrary relationship between the two particular propositions which differ in quality but which are less opposed to each other than the universal propositions are to each other **193.22**; 194.5, 7; 196.3.

verbum (ὄνομα)**:** 'a word' **190.6** *bis*; 192.10. Also used in a grammatical sense to mean 'verb' (ῥῆμα) from which the predicate part of a premise is formed **191.17**; 193.6 as opposed to *vocabulum* from which the subject part is formed (see below).

vocabulum (ὄνομα)**:** 'a name' or 'a noun' from which the subject part of a premise is formed **193.6**.

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