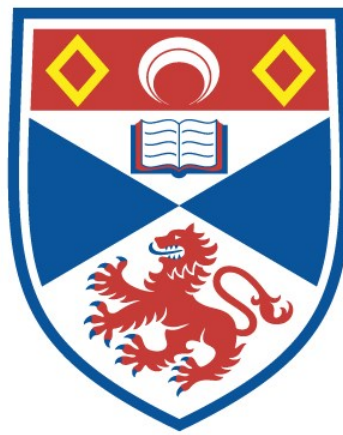


FIRMICUS MATERNUS' *MATHESES* AND THE INTELLECTUAL CULTURE OF THE FOURTH CENTURY AD

Hannah Elizabeth Mace

**A Thesis Submitted for the Degree of PhD
at the
University of St Andrews**



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University of
St Andrews

This thesis is submitted in partial fulfilment for the degree of PhD
at the
University of St Andrews

September 2016

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Abstract

The focus of this thesis is Firmicus Maternus, his text the *Mathesis*, and their place in the intellectual culture of the fourth century AD. There are two sections to this thesis. The first part considers the two questions which have dominated the scholarship on the *Mathesis* and relate to the context of the work: the date of composition and Firmicus' faith at the time. Chapter 1 separates these questions and reconsiders them individually through an analysis of the three characters which appear throughout the text: Firmicus, the emperor, and the addressee Mavortius. The second part of the thesis considers the *Mathesis* within the intellectual culture of the fourth century. It examines how Firmicus establishes his authority as a didactic astrologer, with an emphasis on Firmicus' use of his sources. Chapter 2 examines which sources are credited. It considers the argument that Manilius is an uncredited source through an analysis of the astrological theory of the *Mathesis* and the *Astronomica*. In addition, the astrological theory of Ptolemy's *Tetrabiblos* is compared to the *Mathesis* to assess Firmicus' use of his named sources. The methods that Firmicus uses to assert his authority, including his use of sources, are compared to other didactic authors, both astrological or Late Antique in Chapter 3. This chapter examines whether Firmicus' suppression and falsifying of sources is found in other didactic literature. Chapter 4 considers possible reasons for the omission of Manilius' name and also the effect that this has had on intellectual culture and the place of the *Mathesis* within it.

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Contents

Abstract.....	1
Acknowledgements.....	3
Contents	5
Introduction	8
1. Introducing Firmicus	8
2. Firmicus Maternus in Scholarship.....	10
3. Thesis Structure	12
Chapter 1: The <i>Mathesis</i> in Context: Date of Composition and Firmicus' faith	14
1. The Date of Composition	16
1.1 Firmicus.....	20
1.2 Emperor	22
1.3 Mavortius	35
2. The Religion of Firmicus Maternus	45
2.1 Firmicus.....	46
2.2 Emperor	57
2.3 Mavortius	62
Chapter 2: Firmicus' Use of Astrological Sources	68
1. Authority in Literature	68
2. Sources within the <i>Mathesis</i>	70
3. Astrological Theory	74
3.1 Horoscope	75
3.2 Zodiac.....	95
3.3 <i>Planets</i>	108
4. Conclusion.....	118
Chapter 3: The Tradition of Establishing Authority in Didactic Texts	120
1. Early Astrological Authors.....	121
1.1 Manilius.....	121
1.2 Germanicus	131
1.3 Ovid	139
1.4 Summary	143
2. Pliny the Elder	144
2.1 Sources.....	144

2.2 Details	146
2.3 Persona	149
2.4 Summary	151
3. Late Antique Didactic Authors	151
3.1 Vegetius.....	152
3.2 Palladius	159
3.3 Martianus.....	167
3.5 Summary	172
4. Firmicus Maternus	173
4.1 Didactic Persona.....	173
4.2 Religious Authority.....	175
4.3 Sources of Knowledge.....	176
Chapter 4: Possible Reasons for the Omission of Manilius' Name	180
1. Transmission	180
1.1 Astronomica	181
1.2. Tetrabiblos	183
1.3 Mathesis.....	185
2. Theory	188
2.1 Eastern Subject Matter	188
2.2 Planets and the Zodiac.....	190
2.3 Religion and Fate.....	192
3. Authority	194
3.1 Own Experience	194
3.2 Bilingual Education.....	195
3.3 Support for Theories	197
3.4 Latin Tradition	199
3.5 A New Tradition	205
4. Effects.....	208
4.1 A Diminished Tradition.....	208
4.2 Future Literature	211
Conclusion.....	214
Firmicus and Intellectual Culture	214
Summary	216
Bibliography	220

Introduction

1. Introducing Firmicus

Details about the life of Firmicus Maternus are scarce as information about his life is only found within his own texts; there are no other references. The manuscript gives his full name as Julius Firmicus Maternus, and notes that he was of senatorial rank, but there are no references to any other family members.¹ Firmicus makes it clear that he is associated with Lollianus Mavortius, the inspiration of the *Mathesis*, but there are no references to any further connections. Firmicus mentions in the *Mathesis* that he originates from Sicily: *quam incolo et unde oriundo sum* (*Math.1.prae.4*), but does not indicate any further details. Therefore, it is unknown where in Sicily he came from or whether he lived in Sicily for the entirety of his life. It is evident that Firmicus did travel at some point as he mentions how he met his dedicatee after Mavortius became governor of Campania: *occurri tibi rigore hiemalium pruinarum et prolixi itineris diversitate confectus* (*Math.1.prae.2*). Firmicus gives some information regarding his professional life. He admits that he was not always an astrologer but that previously he had been in the legal profession. He explains to Mavortius the difficulties of this career and why he grew so disillusioned with it that he decided to stop. His detailing of his tribulations gives an insight into the legal profession and how it was to work within it:

patrocinia tractantes tenuerunt causarum conflictationes et caninae, ut ita dicam, contentionis iurgiosa certamina, ex quo studio nihil mihi aliud per dies singulos nisi periculorum cumulus et grave onus invidiae conferebatur; semper enim factiosis hominibus et quos inpotentiae delectabat improbitas vel qui avarae cupiditatis instinctu alienis inhiabant vel qui miseris hominibus ex iudiciorum metu terribiles videbantur, erecta constantiae confidentia resistebam. hinc mihi malignus livor invidiae et periculorum procellae inprobiorum hominum pravis cupiditatibus parabantur. deserui itaque hoc studium (*Math.4.prae.1-2*).

¹ Holden (2011):vi. The MSS state that he is Julius Firmicus Maternus Junior V.C.

He notes that this decision left him free to dedicate his time to writing the treatise for Mavortius. However, it is not mentioned for how long he was in the legal profession, where he practised, or how successful he was.

There are two works which are attributed to Firmicus: the *Mathesis* and the *De Errore Profanorum Religionum* (DEPR). The DEPR is such a violent polemic against the pagan religions that the text has been described as “the most intemperate surviving work of Christian polemic.”² The DEPR can be dated through internal evidence to the mid-340s. Firmicus addresses both Constans and Constantius II which gives a *terminus ante quem* of 350 and he refers either to the conquest of Nisibis (346) or the victory over King Sapor (348).³ The *Mathesis* is an astrological treatise written in eight books for Lollianus Mavortius in order to teach him about astrology. Firmicus aims his text at a beginner and guides the reader through the complexities of charting and deciphering a horoscope. The first book introduces the topic and explains how a chance encounter led to the composition of the text. It then defends astrology from the variety of accusations that were traditionally pitted against the discipline, which include the argument about the complexions and characters of individuals from different countries, and the significance of Fate. Books 2-8 proceed to the astrological theory. Each book focuses on a particular aspect of the theory, which becomes progressively more difficult. Firmicus mentions an additional three texts within the *Mathesis* which he claims to have written. The first is a text written for a certain Murinus containing astrological details: *quae omnia, licet in hoc opere sparsim dicta sint, specialiter tamen in singulari libro, quem de domino geniturae et chronocratore ad Murinum nostrum scripsimus et comprehensa sunt et explicata* (Math.4.20.2). The second is another astrological text written for Mavortius: *sed haec tibi omnia ex eo libro qui de fine vitae a nobis scriptus est, ex trigono orthogono manifestius intimantur* (Math.7.7.4). The third text is one that Firmicus still intended to write about a technical aspect of astrology: *sed nolo Lolliane decus nostrum <in> istis libris Myriogenesis requiratur. Cum enim hoc opus cum favore propitii numinis mediocritas nostra compleverit, tunc tibi aliis XII libris illius operis intimabo secreta* (Math.5.1.38). However, only the *Mathesis* and the DEPR are extant, and it is unknown whether the text on the Myriogenesis was ever written. Firmicus was writing the *Mathesis*

² Cameron (2011):174.

³ Forbes (1970):9.

around the early to mid-fourth century AD. The exact date of composition is disputed and there are three dates put forward: 334-337, 337, and 355.⁴

2. Firmicus Maternus in Scholarship

Firmicus Maternus has eluded the focus of modern scholarship, and there is relatively little written about him and his texts. This is particularly so in English; Firmicus received greater attention from Italian, German, and French scholars. However, a great part of this scholarship focused on the *DEPR*, and the religious content of this text, whereas the *Mathesis* has been neglected. The first English translations of Firmicus' works were produced in the 1970s: the *DEPR* in 1970 by Forbes, and the *Mathesis* in 1975 by Bram. A second, more literal, translation of the *Mathesis* was produced in 2011 by Holden.

Scholarship focusing on the Constantinian era occasionally refers to Firmicus. For example: Setton comments briefly on the legality of Firmicus' subject matter;⁵ Bardill notes Firmicus' sentiments towards Constantine and his status as a living god;⁶ and Cameron uses Firmicus as an example for the conversion of an individual from the senatorial class.⁷ However, these references are used as detail for a different discussion, rather than receiving the focus of discussion themselves. The last major debate regarding Firmicus and specifically the *Mathesis* occurred at the beginning of the twentieth century. This discussion concerns which religion Firmicus was following at the time that he wrote the *Mathesis*, and was dominated by Mommsen, Skutsch, Wendland, Norden, and Thorndike.⁸ This debate concluded in 1923 and was not revisited by scholarship until Holden in 2011.⁹ So far, the

⁴ The date 334-337 is put forward by Mommsen; 337 by Dickie; and 355 by Holden. The majority of scholarship considers that Firmicus wrote the *Mathesis* before the *DEPR* (346/8). This will be discussed in Chapter 1.

⁵ Setton (1941):60. "Before Firmicus wrote the *Mathesis*, during the period of its composition and after its publication, it would seem to have been a work forbidden by law."

⁶ Bardill (2012):131. "Similar sentiments were expressed towards the end of Constantine's life by the pagan Firmicus Maternus in a handbook on astrology written in Italy and dedicated to the consul-elect for 338": 339 "Firmicus Maternus, who wrote a guide to astrology whilst still a pagan in 334-337, claimed that the living emperor, as ruler over the whole world 'belongs to that class of superior gods which the chief divinity has appointed for the creation and preservation of all things.'"

⁷ Cameron (2011):173ff. "We have the outline of a conversion for one minor member of the nobility, a certain Firmicus Maternus, *vir clarissimus*, inferred from his two surviving works: the *Mathesis*, an astrological work undoubtedly written by a pagan, and the *De Errore Profanorum Religionum*."

⁸ Mommsen (1894) considers Firmicus to be pagan; Skutsch (1910) argues that he was Christian; Wendland (1913) and Norden (1913) both consider that Firmicus followed a philosophical school. Wendland thinks that this school was Stoic, but Norden disagrees and thinks Firmicus was a follower of Neo-Platonism; Thorndike agrees with Skutsch that Firmicus could be Christian. This argument is discussed in Chapter 1.

⁹ In his introduction to his 2011 translation of the *Mathesis*, Holden argues that Firmicus could be working on both the *DEPR* and the *Mathesis* simultaneously and therefore he could be a Christian whilst writing the *Mathesis*.

majority of discussion concerning Firmicus and the *Mathesis* has centred around two questions: the faith Firmicus followed when he wrote it, and when the text was written. This means that a number of elements of the *Mathesis* have either been completely ignored or have received only minimal attention.

One aspect of the *Mathesis* that has not been closely addressed is how the text relates to other literature; specifically literature that is either Late Antique, astrological, or both. Goold introduces the theory that Manilius is used by Firmicus as an uncredited source for a section of the *Mathesis*, a theory reiterated by Volk.¹⁰ However, both observations focus on the use of Manilius and the transmission of the *Astronomica*, and do not elaborate on Firmicus' use of the text or any implications that this has. Concerning the astrological theory of the *Mathesis*, Barton uses it as an example to illustrate how a modern horoscope may be deciphered and interpreted, and compares it to the theories of Dorotheus of Sidon.¹¹ However, Barton does not consider the theories within the *Mathesis* in conjunction with Firmicus' sources and where he states that he obtained his information. In addition, Firmicus' persona as an author has not yet been fully examined. Edwards comments that "the professional astrologer was frequently regarded as a charlatan,"¹² and considers how Firmicus asserts himself and defends the astrological theories of the *Mathesis* against the accusation of fakery. However, Edwards focuses on how Firmicus rebukes the critics of astrology and argues for the validity of the discipline as a whole. It is not considered how Firmicus asserts his personal authority as a didactic astrological author and validates his text as the best handbook for the discipline.

The purpose of this thesis therefore is to explore the methods with which Firmicus establishes his authority as a didactic astrological author. It will focus on how he uses sources as a basis for his authority, and will consider how these methods correlate with other didactic authors, both astrological and Late Antique.

¹⁰ Goold (1977):xiv; Green and Volk (2011):9. Both note that Book 5 of the *Mathesis* bears a striking resemblance to Book 5 of the *Astronomica*.

¹¹ Barton (1994):115ff.

¹² Edwards (2014):29.

3. Thesis Structure

The two towering questions of when the text was written and Firmicus' faith at the time have been interlocked in the scholarship with many different stances put forward. Therefore, this thesis will first consider these two questions and examine the different theories. The aim of Chapter 1 is to separate these questions and consider them individually in order to untangle the theories. It tries to answer the two questions through a detailed analysis of the *Mathesis*. The information that Firmicus provides in relation to the Constantinian dynasty and his dedicatee Mavortius are considered as well as any details which Firmicus gives about himself. Together these details provide insight into Firmicus' beliefs and the social context within which he is writing the text. The answer to which religion Firmicus follows is significant as it may provide an answer to whether religious authority is used to validate his text and, if so, how.

The main part of this thesis considers how Firmicus establishes his authority and how his methods relate to the intellectual culture of the fourth century. A notable feature of the *Mathesis* is the number of sources that are named. Chapter 2 considers the concept that Firmicus uses Manilius as a source but without crediting him. This chapter therefore examines the sources which are named by Firmicus, and which sections of astrological theory he credits them with. The astrological theories of the *Mathesis* are compared with those of Manilius' *Astronomica* to see how strong the correlation between the two texts is and whether it is thus probable that the *Astronomica* was a source. The *Mathesis* is also compared with the material from a source which Firmicus names. This indicates the extent to which Firmicus uses his credited sources. Firmicus names Ptolemy as a source for a specific aspect of astrological theory and so the *Mathesis* is compared with the *Tetrabiblos*. Chapter 3 examines the methods with which Firmicus establishes his authority within the *Mathesis*, and how they compare with those of other authors writing similar texts, with an emphasis on the use of sources. There are no other extant texts which consider both astronomy or astrology and are also Late Antique, therefore the *Mathesis* is compared with texts which fall into two categories: astrological or astronomical, and Late Antique didactic.¹³ In the first category the texts of Manilius, Germanicus, and Ovid are considered, and in the second, the texts of

¹³ Volk (2002):42 states that Ovid's *Fasti* cannot be considered as a didactic poem since "there is no indication that the persona's main intent is to teach anyone about the Roman calendar, rather than simply to sing about it." However, Volk allows that the *Fasti* is written in the didactic mode. Therefore this text is included in the first category of texts, particularly as this category primarily concerns texts with astrological or astronomical content.

Vegetius, Palladius, and Martianus Capella. The texts of the first category are written in verse and date from the first century AD, whereas the second set are prose and date from the fourth and fifth centuries. Therefore, a prose text from the Augustan era which considers astronomical material is also analysed in order to bridge the two categories. The *Natural Histories* of Pliny the Elder fit these criteria. The final part of the thesis considers the possible reasons for the omission of Manilius as a named source from the *Mathesis*. Chapter 4 examines reasons which result from transmission, astrological doctrine, and literary authority. These are speculative as no motive can be discerned from Firmicus. However, the chapter also considers the effects that Firmicus' omission of Manilius' name has had on the place of the *Mathesis* in intellectual culture.

Chapter 1: The *Mathesis* in Context: Date of Composition and Firmicus' faith

Very little information regarding the life of Firmicus Maternus has survived, and as a result he is something of a mystery. This is partly because there is no record of him outside of his works and partly because there are only two extant works.¹⁴ Great differences in content, style and persona in these two works complicate our understanding and reconstruction of his life and values. In particular, there are two questions which have dominated debates on Firmicus: when did he write the *Mathesis*? What religion did he follow when he wrote it?

There are two hypotheses concerning the date of the *Mathesis*: that it was written between 334 and 337AD;¹⁵ or in 355AD.¹⁶ The date of composition is significant for a number of reasons. First, within the proposed span of time that the *Mathesis* was written, there were different configurations of emperors in power.¹⁷ Although all of these emperors belonged to the Constantinian family, some of the changes were as a result of civil unrest. Secondly in this span of years there were also changes to the laws. In particular, laws were introduced prohibiting aspects of traditional religion and anything associated with it, including astrology.¹⁸ These laws became increasingly strict over time and therefore clarity of the date of the composition allows evaluation of the *Mathesis*' relationship with contemporary law. Third is the question of the *Mathesis*' relationship with Firmicus' only other surviving text, the *De Erroribus Profanorum Religionum* (*DEPR*). This text is a violent polemic against pagan practices and beliefs and therefore must have been written at a time when Firmicus was a Christian. The *DEPR* has been firmly dated to the mid-340s and therefore bisects the timespan for the proposed composition of the *Mathesis*. This is relevant for consideration for Firmicus' faith at the time he wrote the *Mathesis*.¹⁹

¹⁴ Within the *Mathesis* Firmicus mentions three other works: a book for Murinus on the Ruler of the Chart and the Chronocrator (*Math*.4.20.2); a second book for Mavortius on the End of Life (*Math*.7.7.4); a third book for Mavortius on the Myriogenesis (*Math*.6.2.8 and 7.9.8). However, these works do not survive.

¹⁵ Mommsen (1894).

¹⁶ Holden (2011).

¹⁷ Constantine I as sole ruler until 337; Constantine II, Constantius II, and Constans as joint rulers 337-340; Constantius II and Constans as joint rulers 340-350; and finally Constantius II as sole ruler from 350.

¹⁸ See Pharr (1952):237ff. *Theo.Code*. 9.16.1 forbids soothsayers from approaching the threshold of another person (319); 9.16.4 forbids anyone from consulting a soothsayer, an astrologer or a diviner (357).

¹⁹ Forbes (1970):9 notes that Firmicus addresses Constantius and Constans and so the text must have been written before 350 and that *Persica vota conlapsa sunt* (*DEPR*.29.3) must refer to the conquest of Nisibis in 346 or the victory over King Sapor in 348.

There are three main hypotheses about Firmicus' faith at the time of writing the *Mathesis*: that he was a pagan;²⁰ that he was a Christian;²¹ or that he was a follower of a school of philosophy, which although pagan also had monotheistic tendencies such as Neo-Platonism or Stoicism.²² Firmicus' faith is also significant for a reading of some of the technical aspects of the *Mathesis*, as it may have implications for how he explains certain parts of astral theory, in particular the role of Fate.²³ This is of particular interest due to the modern view that "astrological lore's rigid definition of fate could hardly be reconciled with the Jewish-Christian faith that emphasised the sovereignty of the divine creator as well as the freedom and responsibility of man."²⁴ Therefore, if Firmicus were a Christian whilst writing the *Mathesis* it would be interesting to examine how he manages to combine these two attitudes towards Fate.

Debates in scholarship have linked the questions of when Firmicus wrote the *Mathesis* and his faith when he wrote it, so that the debates influence each other. These two questions have been interlocked to such an extent that the viewpoints in scholarship stand as follows:

- If Firmicus was a pagan then he could not have written the *Mathesis* after 346, the date of his Christian work the *DEPR*. This view rules out 355 as the date of composition;
- If Firmicus was a Christian then he could not have written the *Mathesis* before 346. The fervour in the *DEPR* indicates that it was written by a zealous new convert and therefore if he wrote the *Mathesis* as a Christian the date 334-7 is ruled out.

Thus the arguments start to circle. This paradox is observed by Thorndike who thinks that dating the text and Firmicus' faith should not be as intertwined as the scholarship has suggested. She states that "certainly the date of the *Mathesis* should be determined without any assumption as to what Firmicus' religion was when he wrote it."²⁵ This passing remark of Thorndike has much to be recommended but has been ignored by scholarship in recent decades.

²⁰ Cameron (2011).

²¹ Skutsch (1910).

²² Norden (1913). An example of the monotheistic tendencies is the belief in a single creator deity.

²³ There were many discussions in late antiquity about the concepts of Fate and Free Will. They focussed on whether Fate controlled all aspects of a man's life or if he could make his own choices.

²⁴ Dihle (1994):331.

²⁵ Thorndike (1923):527.

It is my aim to separate the questions of Firmicus' religion and the date of the *Mathesis* as far as possible. Within the *Mathesis* there are three characters who are significant in providing relevant details; Firmicus himself, the emperor, and the addressee Mavortius. These three individuals will be central to the discussion of the date of the *Mathesis* and the religion of Firmicus at time of writing.

1. The Date of Composition

The date for the *Mathesis* which has the most support was put forward by Mommsen in the late nineteenth century.²⁶ It has had a major influence on subsequent scholarship. Mommsen notes that there is a reference to an eclipse in Book 1 which has been dated to 334. He assumes that Firmicus began to write the *Mathesis* very soon after this event.²⁷ Forbes comments that Firmicus "mentions a solar eclipse in the consulship of Optatus and Paulinus, ie 334; it therefore appears that he began to write in or about that year"²⁸, and Maxwell-Stuart states "references to an eclipse of the sun on 17 July 334 suggest a rough date for when Maternus began to write it [the *Mathesis*]."²⁹ Holden opposes this view and comments that "it merely means that eclipses have happened in the past, but this is one of the more recent ones."³⁰ Mommsen also uses a horoscope mentioned in the *Mathesis* as a method for dating the text. From the information in the horoscope, he concludes that the *Mathesis* was written during the prefecture of the individual to whom this horoscope belonged. Mommsen identifies this person as Ceionius Rufius Albinus who served as prefect and consul; however, this view has been opposed by Martindale et al. who consider that the horoscope probably discusses a man recently in office who was prefect but not consul. They conclude that Publilus Optatianus Porphyrius is a better fit.³¹

Mommsen also believes that the prayer concluding Book 1 of the *Mathesis* addresses Constantine I, which provides the end date of 337. He states "der Verfasser erwähnt einerseits die Sonnenfinsterniss des 17. Juli 334 mit Angabe der Consuln und nennt an zwei anderen Stellen als damals regierende Herrscher Constantin I. und die Caesaren, schrieb also vor dem

²⁶ Mommsen (1894):468 "dass die *Mathesis* des Senators Firmicus Maternus zwischen 335 und 337 geschrieben wurde ist ausser Zweifel."

²⁷ For full discussion of the following points, see below.

²⁸ Forbes (1970):4.

²⁹ Maxwell-Stuart (2010):70.

³⁰ Holden (2011):17n.

³¹ Jones, Martindale and Morris (1971):1004.

Tode des erstgenannten 22. Mai 337.”³² However, this requires an emendation of the text. In the first modern edition by Sittl the text reads *Constantinus scilicet maximus divi Constantini filius* with no note in the *apparatus criticus*.³³ The edition by Kroll and Skutsch also states *Constantinus scilicet maximus divi Constantini filius* with no record of an alternative in the *apparatus criticus*.³⁴ However, in the addendum in volume 2 it is noted that Boll proposes the alternative *divi Constantii*.³⁵ This addendum remains in the second edition.³⁶ In the edition by Monat the text reads *Constantinus scilicet maximus, divi Constanti[n]i filius* and Monat notes that *Constantii* is proposed by Ziegler whereas *Constantini* is found in *M P R N* and *Ksz*.³⁷ Holden comments that “Boll and Ziegler would emend the text to read *Constantinus scilicet maximus divi Constantii filius*” whereas in the manuscript the Latin actually reads *Constantinus scilicet maximus divi Constantini filius* (*Math.1.10.13*).³⁸ This emendation was made in 1913 whereas Mommsen died in 1903.³⁹ This emendation has had a great significance on the dating of this text. By emending the text to read *divi Constantii filius*, it shifts the text into an earlier time and changes the social context surrounding the composition of the text. Mommsen does not explain why he considers the emperor to be Constantine I, nor notes if there are any irregularities in the text which might support this conclusion. He also does not comment on the subsequent placing of the *Mathesis* within this time period. However this view has proved very influential. Both Skutsch and Forbes refer to Mommsen’s observation regarding the dating of the text.⁴⁰ It is possible that Mommsen’s view led to Boll and Ziegler’s emendation of the text, although there is no evidence for this.

Another theory about the identity of the emperor is put forward by Thorndike. She notes that “the names Constantine and Constantius are frequently confused in the sources, however, and even while the words *Constantinum maximum principem et huius invictissimos liberos, dominos et Caesares nostros* (*Math.1.10.14*) seem to refer unmistakably to Constantine, it must be remembered that they occur in a prayer to the planets and to the

³² Mommsen (1894):468.

³³ Sittl (1894):35.

³⁴ Kroll and Skutsch (1897).

³⁵ Kroll, Skutsch, and Ziegler (1913):547 “Boll, ζ” where ζ denotes “Ziegler”.

³⁶ Kroll, Skutsch and Ziegler (1968):547.

³⁷ Monat (1992):88n *M*: Montepessulanus, 11th century; *P*: Parisinus, 11th century; *R*: Vaticanus reginae, 11th century; *N*: Neapolitanus, 15th century; *Ksz*: Kroll, Skutsch, and Ziegler, 20th century.

³⁸ Holden (2011):40. However, Holden does not note his source for this.

³⁹ The earliest date that this emendation appears is 1913.

⁴⁰ Skutsch (1910):292. “Buch II der *Mathesis* fällt ins Jahr 336 oder in den Anfang von 337”; Forbes (1970):4 “in Book 1 he [Firmicus] alludes to the rulers as Constantine and the two Caesars, his sons; this would necessarily antedate the death of Constantine on May 22nd 337.”

supreme God ... it is scarcely proof positive that Constantine the Great was still living when Firmicus published his book.”⁴¹ Forbes does not comment upon the emendation that Mommsen made, but points out that the names involved are very similar and there is scope for confusion. He admits that it is possible for the *Mathesis* to have been written at a time other than 334-7. In the most recent translation of the *Mathesis*, Holden picks up on the possibility that Thorndike expresses, that the prayer does not indicate that Constantine is alive. He states that “Constantine was already deceased and that Firmicus is merely expressing a wish for the continuation for the Constantinian dynasty.”⁴² However, Holden makes his own emendation to the text so that his translation thus reads “Prince Constantius II namely the greatest son of Constantine I.”⁴³ Holden does not show why he has emended the text; nor does he explain a second emendation. He comments that “the text has *sustentat* ‘he sustains’, but I have emended it to *sustentavit* ‘he sustained,’”⁴⁴ a change of tense which places the text after the death of Constantine the Great and into the reigns of his sons. This emendation is not found in any other edition and there is no foundation for it, other than to fit the text to his theory.⁴⁵ Holden only mentions that Boll and Ziegler’s emendation is “based on the assumption that Firmicus was writing in 335 or 336. But if he was writing after 337 and before 340 then the Latin would be correct as it stands and could refer to Constantine I and Constantine II. However if I am correct in dating this text to sometime between 346 and 354 then it should read Constantius II and Constantine I.”⁴⁶ This shows that the text is being emended to fit a theory, as opposed to the theories being matched to the text itself. Both Mommsen and Holden have thus ignored what the text actually says.

A third possibility about this passage has been raised by Dickie. His view is that “the *Mathesis* was completed in the last months of Constantine’s life in 337 or shortly after he died.”⁴⁷ This view is positioned in the middle ground between those put forward by Mommsen and Thorndike as it places the completion of the *Mathesis* in the year that Mommsen proposed, but considers the possibility that it was finished during the reign of an emperor who was not Constantine I. This possibility is referred to by Bram. Bram translates

⁴¹ Thorndike (1923):526.

⁴² Holden (2011):vii.

⁴³ Holden (2011):40.

⁴⁴ Holden (2011):40n1.

⁴⁵ Sittl (1894), Kroll and Skutsch (1897), and Monat (1992) all print *sustentat*.

⁴⁶ Holden (2011):40n1.

⁴⁷ Dickie (2012):319.

“Constantine the most great, son of the deified Constantine”⁴⁸ (i.e. the text as transmitted without emendation) but does not comment on its significance.⁴⁹

The consulship of Mavortius, Firmicus’ addressee who is also referred to as Lollianus, also caused some debate as the year he was consul does not match the preferred date of the *Mathesis*. He attained the consulship in 355, nearly 20 years after Mommsen’s proposed composition date of 337. Mommsen acknowledges that there is a substantial gap between these two dates and considers two possible solutions for this problem.⁵⁰ He first puts forward Sittl’s solution, which is that Firmicus did not hand the text over to Mavortius as soon as he had finished it, but instead kept it until Mavortius had become consul. At the point that Firmicus gave it to Mavortius he emended the text to indicate the consulship. However, Mommsen recognises that this is an imperfect solution and does not solve all the problems.⁵¹ The second solution that Mommsen considers, which he prefers, is that when Constantine I appointed Mavortius as Proconsul of Africa, he also designated him as “consul-in-waiting”, although this was not an official posting. He states that “Kaiser Constantin dem Lollianus, als er ihn zum Proconsul von Africa ernannte, zugleich das ordentliche Consulat in Aussicht stellte. Eine förmliche Designation war dies nicht.”⁵² This was the accepted view after Mommsen until Holden rejected it. Holden’s view is that since Firmicus clearly states that writing the *Mathesis* had been long delayed, and that Mavortius was consul-elect when he finished it “there seems no reason to doubt that the *Mathesis* was not completed until 354 or 355.”⁵³

It is evident that the scholarship on the date of the *Mathesis* has been variously problematic. The emendations made by both Mommsen and Holden are not explained and yet have ramifications concerning the dating of the text, the politics surrounding it and the function of the *Mathesis*. The discussion of these things has thus been suppressed. In the following subsections I will revisit the primary evidence to see what contribution to the

⁴⁸ Bram (1975):30.

⁴⁹ Similarly Quacquarelli (1988):314.

⁵⁰ Mommsen (1894):469.

⁵¹ Mommsen (1894):469. “Aber was er als ‚sehr einfache Lösung des Räthsels‘ bezeichnet, dass Firmicus die Schrift nicht in den Buchhandel gegeben habe, oder, wie er in seiner Ausgabe (vgl. die Anm. zu 2, 27, 15) diese Vermuthung modificirt hat, dass die Worte *et ordinario consuli designato* Zusatz des Verfassers bei einer zweiten Publication seien, hebt die Schwierigkeit nicht; es hätten dann doch in dieser die auf Constantin bezüglichen Stellen abgeändert werden müssen.”

⁵² Mommsen (1894):469.

⁵³ Holden (2011):viii.

question of dating the eclipse, the horoscope, the identity of the emperor, the date of Mavortius' consulship, and the order in which Firmicus wrote the *Mathesis* can make.

1.1 Firmicus

There are few overt references to contemporary events in the *Mathesis*, but the small details that can be found are useful for answering the question of when the *Mathesis* was written. The points that will be discussed here are the eclipse mentioned in Book 1 and the horoscope which appears in the second book.

1.1.1 Eclipse

In the fourth chapter of Book 1, Firmicus addresses the argument that astrology is too difficult a discipline. To counter this, Firmicus points out that various mathematical elements of astrology, such as the courses of the planets and the phases of the moon, form the foundation of the discipline. Amongst these phenomena Firmicus also describes an eclipse. He mentions *cum Sol medio diei tempore Lunae radiis quasi quibusdam obstaculis impeditus cunctis mortalibus fulgida splendoris sui denegat lumina (quod Optati et Paulini consulatu, ut de recentioribus loquar ...) (Math.1.4.10)*. This is a solar eclipse and has been dated to 17th July 334.⁵⁴ As mentioned above, scholars assumed that this detail provides the start date for the *Mathesis*, as they have focussed on the word *recentioribus* as an indication that Firmicus wrote this section of the text soon after the eclipse occurred. However, there is little evidence to support this conclusion. The next solar eclipse that could be seen over Italy did not occur until 28th May 355 and so the eclipse of 334 was the most recent one to which Firmicus could refer. The later eclipse occurred later than Holden's proposed date of 354-5, which means that this theory cannot be put aside yet. The eclipse therefore only provides the *terminus post quem* for the *Mathesis*, and not the actual start date.

⁵⁴Bram (1975):1 verified using the NASA solar eclipse page <http://eclipse.gsfc.nasa.gov/solar.html>. The eclipse is recorded as 05559 in the Solar Eclipse Catalogue and occurred on 17th July 334AD as an annular eclipse. The trajectory of this eclipse loosely tracked down the West coast of Italy, the penumbra passing over Naples with the greatest eclipse occurring over the southern tip of Italy at the site of modern San Giovanni in Fiore. Although a number of eclipses, both full and partial, occurred in the decade commencing 330AD, this is the only one anywhere near Italy and so is the only possible eclipse to which Firmicus could refer.

1.1.2 Horoscope

The next element which Firmicus provides is the horoscope mentioned in the second book. Here Firmicus uses the horoscope of an apparently well-known man to explain the theory of *antiscia* so that his student can match the information with a concrete example and thus aid his understanding. Firmicus does not provide a name with this horoscope, he simply states *cuius haec genitura sit, Lolliane decus nostrum, optime nosti* (*Math.*2.29.20). However, he provides some details earlier in the chapter about this individual:

eius geniturae pater post geminum ordinarium consulatum in exilium datus est, sed et ipse ob adulterii crimen in exilium datus et de exilio raptus in administrationem Campaniae primum destinatus est, deinde Achaiae proconsulatum, post vero ad Asiae proconsulatum et praefecturam urbi Romae (*Math.*2.29.10).

This man is identified by Mommsen as Ceionius Rufius Albinus. Mommsen notes “mehrmalige Bekleidung desselben gehört vom Ende des 3. Jahrh. an zu den Vorrechten des Kaisers und des Kaiserhauses; die einzige Ausnahme macht C. Ceionius Rufius Volusianus, der unter ganz besonderen Verhältnissen zuerst unter Maxentius die Stadtpräfectur vom 28.Oct 310 bis zum 27.Oct 311 übernahm,”⁵⁵ which correlates to *eius geniturae pater post geminum ordinarium consulatum*. Mommsen continues that the son also managed this feat “dieser sein Sohn ist Ceionius Rufius Albinus, ordentlicher Consul des Jahres 335 und Stadtpräfect vom 30. Dec 335 bis März 337”⁵⁶ which correlates to *ad Asiae proconsulatum et praefecturam urbi Romae*. Mommsen therefore reaches the conclusion that Firmicus wrote the *Mathesis* during the span of Albinus’ prefecture.⁵⁷ Neugebauer tests this theory against the astronomical data and produces a date of birth for the man in question of 14th March 303AD and concludes that the astronomical data matches Mommsen’s theory.⁵⁸

A second identity for the horoscope is put forward by Martindale et al. They agree that the situation regarding *consul ordinarius iterum* was rare, but state that they discuss “the horoscope of a man recently in office was *praefectus urbi* but not consul; the career fits best

⁵⁵ Mommsen (1894):471.

⁵⁶ Mommsen (1894):472.

⁵⁷ Mommsen (1894):472 “diesen Albinus also hat Firmicus zunächst im Sinne, den zu der Zeit, wo er schrieb, fungirenden Stadtpräfecten. Die Abfassungszeit des Werkes bestimmt sich danach enger auf die Epoche vom 30. Dec bis zum 22. Mai 337.”

⁵⁸ Neugebauer (1953):418-420.

that of Publilius Optatianus Porphyrius and no other contemporary.”⁵⁹ Ceionius Volusianus is mentioned as a possibility but is ruled out as the father had to be *paternum genus ignobile* and “does not easily fit Rufius Volusianus who probably descended from paternal ancestors who entered the state in the mid or late second century.”⁶⁰ Porphyrius was *praefectus urbi* in 329 and 333AD, which provides a slight gap between the example and the *Mathesis* instead of an immediate example. However, Martindale et al. agree with Mommsen that “the words were written in 335/7”⁶¹ and so to whom Firmicus refers does not make any difference in the question of when the *Mathesis* was written, but does highlight the problematic nature of the *Mathesis*.

So far, it can only be shown that the *Mathesis* was started at some point after 334, but not necessarily in that year, and before 355 when the next solar eclipse occurred. The identity of the horoscope does not provide any additional details which can ascertain a more exact date.

1.2 Emperor

Firmicus refers to the emperor and his family on four occasions in the first book of the *Mathesis*. The first appearance is when Firmicus mentions details of Mavortius’ career, which will be considered in section 1.3.1. The second concerns the emperor’s place in the universe and will be discussed in section 2.2.2. The third and fourth appearances are found in the conclusion to Book 1 and are the focus of this section. Here Firmicus returns to an argument which opposes astrology based on the complexions and characters of men. Firmicus explains how men’s appearances are influenced by both the five zones of heaven and the stars to produce individuals, but about their characters he states *de moribus vero gentium supervacua disputatio est* (*Math*.1.10.12). Instead Firmicus states that:

nam et Asianos plurimos videmus, immo paene omnes sobrietatis insignia praeferentes, et Graecorum levitas frequenter modestae gravitatis pondus accepit, et effrenata Scytharum rabies quacumque humanitatis clementia mitigatur... (*Math*.1.10.12).

⁵⁹ Jones, Martindale and Morris (1971):1004.

⁶⁰ Jones, Martindale and Morris (1971):1004.

⁶¹ Jones, Martindale and Morris (1971):1004.

He then uses the emperor as an example. This is followed by an invocation that the emperor and his family are kept safe and in control of the Roman Empire. The identity of this emperor has been questioned with two answers given: Constantine I;⁶² or Constantius II.⁶³ This gives a twenty year span in which the *Mathesis* could have been written. There are two sets of passages which need to be examined to determine the identity of the emperor. The first passage contains the key phrase *Constantinus scilicet maximus divi Constantini filius augustae ac venerandae memoriae principis qui ...* (*Math.1.10.13*). The key phrase in the second passage is *Constantinum maximum principem et huius invictissimos liberos, dominos et Caesares nostros ...* (*Math.1.10.14*). These two passages form the central part of the debate regarding when the *Mathesis* was written. The identity of the emperor provides a set period of time for at least Book 1 of the *Mathesis*, which would then indicate the social backdrop against which Firmicus is working.

1.2.1 Identity of the emperor

There are a number of theories concerning the identity of the emperor, as mentioned above. Given Thorndike's point that the names Constantius and Constantine are easily confused, it is useful to look at the transmission of the manuscript. Holden notes that "the text of the *Mathesis* is preserved in some 30 different MSS in European libraries,"⁶⁴ some of which only contain Books I-IV, but there are eleven listed which contain the full corpus of eight books.⁶⁵ The text is recorded in the 9th or 10th century when the archetype was written and Holden comments that it "had most likely suffered substantial losses before the archetype was copied."⁶⁶ Subsequently the text surfaces in the 11th, 12th and 15th centuries with the first complete edition of the *Mathesis* printed at the end of the 15th century. The first modern edition was compiled at the end of the 19th century.⁶⁷ This tradition transmits *Constantinus scilicet maximus divi Constantini filius augustae ac venerandae memoriae principis qui ...* (*Math.1.10.13*). The last phrase indicates that Firmicus is referring to an emperor, a point which is agreed upon by the differing opinions in scholarship. The majority consider that the

⁶² Mommsen (1894).

⁶³ Holden (2011).

⁶⁴ Holden (2011):xii. Such has been the lack of attention given in scholarship on Firmicus and his texts that he does not even have an entry in Reynold's *Texts and Transmissions*, and so information regarding the *Mathesis*' transmission is scattered.

⁶⁵ Holden (2011):xiii. The manuscripts listed are A, B, E, F, G, O, C, D, U, H, N, and W. Explanations as to what exactly each refers to can be found in Holden's book.

⁶⁶ Holden (2011):xv.

⁶⁷ Holden (2011):xxii-xxiii.

emperor Firmicus refers to is on the throne at the time that the *Mathesis* was written. This phrase can be broken into three parts: the name of the emperor in the text; what *maximus* refers to; and how *augustae ac venerandae memoriae principis qui...* can be interpreted.

The transmitted version would refer to Constantine II and would date the composition to 337-340AD. There is a possibility that this section of the text has been corrupted during transmission due to the probability that the archetype was damaged before it was copied. Taking this into account, there are three possibilities for the interpretation of this passage: Constantine son of Constantius, Constantine son of Constantine, and Constantius son of Constantine. Any of these options could be rendered obsolete by the possibility of textual corruption. However, in all the Latin editions the text reads *Constantinus scilicet maximus divi Constantini filius*.⁶⁸ The alternative of *divi Constantii* appears to be a later emendation made by Boll and Ziegler as discussed above. Since there is no indication that any corruption to the text has occurred, let alone which word or words might have been affected, there is not enough evidence to pursue this thread. Therefore my argument is that Firmicus is referring to Constantine II.

There are some complexities associated with this interpretation. The first issue comes with the word *maximus*. This is because it is ambiguous where in the sentence *maximus* should be taken, and consequently its exact meaning. The possible readings are: *Constantinus maximus, divi Constantini filius*; or *Constantinus, maximus divi Constantini filius*. This phrase can then be translated as: Constantine the greatest, son of the divine Constantine; or Constantine, the greatest son of divine Constantine. The former translation can easily be confused with Constantine the Great (I), which appears to have influenced Mommsen. In addition, there are a number of ways in which *maximus* can be understood. This is significant as it determines whether the *Mathesis* is politically charged. One translation is “eldest”. *Maximus* can be used relating to age and is usually used in the comparative or superlative with or without *natu* or *annis*. Examples include *Virg.Aen.1.654 maxima natarum Priami* and *Liv.AUC.1.3.10 qui stirpis maximus est* for use without the *natu*.⁶⁹ This meaning gives the

⁶⁸ See Sittl (1894), Kroll and Skutsch (1897), and Monat (1992). Monat however translates this as “Constantin le Grand, fils du divin Constance” thus showing which interpretation is preferred.

⁶⁹ Oxford Latin Dictionary (1982):1086.

interpretation “Constantine, the eldest son of Constantine.”⁷⁰ If *maximus* is read in this capacity then Firmicus is referring to Constantine II, by way of his relationship with his father, since Constantine II was the eldest surviving son of Constantine I after 326.⁷¹ On the other hand, if *maximus* is read as “greatest”, then this gives the effect that Firmicus is showing a marked preference for Constantine over the brothers Constantius and Constans. The political backdrop at this time (late 330s) and the confusion surrounding the succession to Constantine I means that Firmicus would then be making a political statement with this prayer, one which would cause him difficulties if he were on the unsuccessful side. Firmicus does not mention the brothers Constantius and Constans by name, which increases the ambiguity. The theme of politics will be revisited in the next section. However, this means that Constantine II is, if not in control, at least a contender for power and the first book of the *Mathesis* can thus be dated between 337 and 340AD.

The second aspect of the phrase to be discussed is the word *divi*. Given the textual crux, this could be a reference to Constantius I, since he was deified after his death and is addressed as *divi*.⁷² This would support Mommsen’s theory, that Constantine I is the emperor at the time of writing. However, the transmitted text indicates that Constantine I was definitely already dead, since he was only deified after his death. This view is held by Holden.⁷³ Constantine I’s deification is recorded by Eusebius:

κάν τούτῳ τοῦ θεοῦ πρὸς τὸν αὐτοῦ τοῖς θεράποντα εὐμένειαν ἐνδειξαμένου, ὅτι δὴ καὶ <μετὰ> τέλος αὐτοῦ ἀγαπητοῖς καὶ γνησίοις υἱοῖς διαδόχοις τὴν βασιλείαν ἐδώρεῖτο, καὶ τοῦ σπουδασθέντος αὐτῷ τόπου σὺν τῇ τῶν ἀποστόλων κατηξιοῦτο μνήμη, ὡς ὁρᾶν <ἔστι> εἰσέτι καὶ νῦν τὸ μὲν τῆς τρισμακαρίας ψυχῆς σκῆνος τῷ τῶν ἀποστόλων προσρήματι συνδοξαζόμενον καὶ τῷ λαῷ τοῦ θεοῦ συναγελαζόμενον, θεσμῶν τε θείων καὶ μυστικῆς λειτουργίας ἀχιούμενον καὶ κοινωνίας ὁσίων ἀπολαῶν εὐχῶν (V.C.4.71.2).⁷⁴

The moment of Constantine’s deification is also shown on the coinage:

⁷⁰ Of course the interpretations multiply if emendations to the text are considered, but I am working on the assumption that the Latin text is correct with Constantine son of Constantine, due to the dearth of evidence to the contrary.

⁷¹ After the death of Crispus, Constantine I’s first son.

⁷² See Nixon and Saylor Rodgers (1994):194. In the panegyric of Maximian and Constantine there is a reference to *divi Constantii filium* (VII.3.3).

⁷³ Holden (2011):40n2 states that “this indicates that Constantine I the Great was already dead when it was written; hence it was written sometime after 337. He was deified after his death.”

⁷⁴ Winkelmann (1962). All subsequent passages of the *Vita Constantini* are found in this source.

ἤδη δὲ καὶ νομίμασιν ἐνεχαράττοντο τύποι, πρόσθεν μὲν ἐκτυποῦντες τὸν μακάριον ἐγκεκαλυμμένου τὴν κεφαλὴν σχήματι, θατέρου δὲ μέρους ἐφ’ ἄρματι τεθρίπῳ ἡνιόχου τρόπον, ὑπὸ δεξιᾷ ἐκτεινομένης αὐτῷ χειρὸς ἀναλαμβανόμενον (V.C.4.73).

The mints in Gaul struck coins with “AETERNA PIETAS” and “DIVO CONSTANTINO P” on the obverse, which were produced “immediately after the death of Constantine I before the sons became Augustus and continued for some time thereafter.”⁷⁵ As Firmicus refers to Constantine I as *divus*, he must be writing after Constantine I died. This indicates a date after 337AD.

The third aspect of the phrase to be discussed is the details that Firmicus adds concerning the emperor. The passage continues:

dominus et Augustus noster ac totius orbis imperator pius felix providus princeps, Constantinus scilicet maximus divi Constantini filius, augustae ac venerandae memoriae principis, qui ad liberandum orbem tyrannicis moderationibus et ad comprimenda domestica mala favore propriae maiestatis electus est (Math.1.10.13).

The question concerning the identity of the emperor is focussed on how *qui* relates to the rest of the sentence. This is because it is not clear whether the antecedent of *qui* is *divi Constantini augustae ac venerandae memoriae principis* or *Constantinus maximus filius*. However, the antecedent of *qui* must be *divi Constantini augustae ac venerandae memoriae principis* as this is the more traditional reading, rather than relating back to the earlier part of the sentence. This is significant as the *qui* picks up the description *apud Naissum genitus a primo aetatis gradu imperii gubernacula retinens, quae prosperis nactus fuerat auspiciis*. This provides a very specific detail, that somebody was born at Naissus, which can be traced and thus indicate an identity. Therefore, if *qui* links this description to *Constantinus maximus filius*, then Firmicus is referring to an emperor born at Naissus. On the other hand, if *qui* links this description to *divi Constantini*, then Firmicus is referring to an emperor whose father was born at Naissus. This description thus definitely involves Constantine I as he was born at

⁷⁵ Sutherland and Carson (1981):33.

Naissus whereas all of sons had different places of birth.⁷⁶ Mommsen and scholars favouring the 334-7 date of composition appear to take the latter interpretation. Holden simply notes that “Constantine I the Great was in fact born at Naissus”⁷⁷ without further comment. However, as mentioned above, the theory that either Constantine I or Constantius II was the emperor whilst the *Mathesis* was written requires a textual change. Therefore I think that *qui* is linked to *divi Constantini augustae ac venerandae memoriae principis* and introduces a clause to give more information about Constantine II’s father.

The prayer in the final section of Book 1 contains the second passage which includes details regarding the emperor and his family. Here the focus is on the phrase *Constantinum maximum principem et huius invictissimos liberos, dominos et Caesares nostros ... facite ... imperare* (*Math.*1.10.14). Mommsen understands *Caesares nostros* to indicate Constantine I’s sons (Constantine, Constantius and Constans).⁷⁸ However, the fact that the sons are not referred to by name means that it is not possible to determine either how many there are (other than more than one) or who they are. Holden notes “if the phrase ‘his unconquered children’ is taken literally then these words of Book 1 could have been written at any time before the death of Constans I in 350”⁷⁹ as after that point Constantius II ruled alone. This appears to undermine Holden’s theory that the *Mathesis* was not finished until 355, but Holden also hastens to add that “this would only date the writing of Chapter 10 of Book 1 to some time prior to 350, not the *Mathesis* as a whole, for Firmicus probably wrote Book 1 first.”⁸⁰ However, there are other possibilities to explain why the *invictissimos liberos* are not named. Constantine II was unmarried and had no sons and so Firmicus would be unable to give the names of any children in the prayer. However, he can still express the hope that there would be sons in due course to continue the line. There is an example of this in *PanLat* XII(9) of 313. The author writes:

quamvis enim imperator invicte, iam divina suboles tua ad rei publicae vota successerit et adhuc speretur futura numerosior, illa tamen erit vere beata posteritas ut, cum liberos tuos gubernaculis orbis admoveris, tu sis omnium maximus imperator (XII(9).26.5).⁸¹

⁷⁶ Constantine II was born at Arles, Constantius II was born at Sirmium and the birthplace of Constans is not mentioned. See Adkins and Adkins (2014):33.

⁷⁷ Holden (2011):40n3.

⁷⁸ Mommsen (1894):468.

⁷⁹ Holden (2011):41n4.

⁸⁰ Holden (2011):41n4.

⁸¹ In Nixon and Saylor Rodgers (1994). All subsequent passages of the *Panegyrici Latini* are from this source.

At this point Constantine only had one son, Crispus.⁸² Therefore, although the author expresses hope for more children, he assumes that it is certain that more will come as shown by the phrase *liberos tuos*. Alternatively, if Firmicus was writing this section of the *Mathesis* in the interim period between the reign of Constantine I and the triple emperorship of his sons, then it would be logical for Firmicus to mention the dynasty as whole rather than individual members and thus only name *Constantinum maximum*. Thorndike's view about this passage is that it "is simply equivalent to expressing a hope that the dynasty may never become extinct, it is scarcely proof positive that Constantine the Great was still living when Firmicus published his book."⁸³ Barnes also notes that "it was obligatory to pray for the ruling dynasty to reign in perpetuity,"⁸⁴ which supports the argument that Firmicus was writing this section in the time between the death of Constantine I and when the three sons took control together. The *Constantinum maximum* would still refer to Constantine II as he was next in line for the throne at this point in time (as will be discussed in the next section). Therefore the argument that Firmicus is addressing Constantine II is still plausible.

1.2.2 Political Statement – problems of succession

The interpretation that Firmicus is addressing Constantine II has its own set of complexities. In the phrase *dominus et Augustus noster ac totius orbis imperator* Firmicus is clearly referring to just one emperor, and not to a dual or even a triple emperorship. Constantine II never had command of the entire Empire, or even half of it; instead he ruled as part of a college alongside his brothers: Constantius and Constans later managed to rule half the Empire each and then Constantius gained sole control after Constans' death. The question is thus raised as to why Firmicus singles out Constantine II from his brothers.

Between 337 and 340 Constantine II had control of Britain, Gaul and Spain; Constantius II had Asia Minor, Syria and Egypt; and Constans had Italy, Africa, and Pannonia.⁸⁵ From this it can be seen that Constans had control of Sicily, Firmicus' place of

⁸² Nixon and Saylor Rodgers (1994):333n.

⁸³ Thorndike (1923):526.

⁸⁴ Barnes (2011):169.

⁸⁵ Bowder (1978):43.

origin.⁸⁶ Constans' territory also included Rome, where it is possible that Firmicus lived whilst a defence lawyer, although this information is not included in the *Mathesis*. The topic of Firmicus' location at various points in his life has produced differing opinions. Concerning his legal career, Coman considers that Firmicus spent these years in Rome, but Heuten disputes this and notes "l'auteur [Coman] s'avance fort lorsqu'il donne Rome pour théâtre à la pratique du métier d'avocat auquel Firmicus se voua d'abord; en réalité nous n'en savons rien."⁸⁷ Barnes does not think that Firmicus spent his years as an astrologer in Sicily and states "Maternus was writing in Rome or at least in Italy," but does not provide any evidence for this.⁸⁸ If Firmicus was writing the *Mathesis* during the triple emperorship and was in Rome or Sicily, it would be more logical to name Constans in the prayer, since Constans commanded both these regions. If this is the case, then it is odd that he names Constantine instead. One reason is that Firmicus may have written the *Mathesis* not in Italy or Sicily, but in another part of the Empire. Martin has considered possible locations for Firmicus during his later life and concludes that there were two possible places: Sicily "the home of his pagan double"; or Spain as "Spain fulfils the conditions."⁸⁹ He does not consider Rome and Italy as plausible options. Spain, as mentioned above, was under the control of Constantine II and therefore a reason for Firmicus to name Constantine II is because he was the ruler of that region. Since the only evidence that Firmicus gives on this topic is the statement: *totius Siciliae situm, quam incolo et unde oriundo sum*, this argument cannot be pursued further.

Another possible reason that only Constantine II is named is that Firmicus is making a political statement within the prayer. There is a lack of contemporary sources concerning what happened in the months between Constantine I's death and the accession of his sons in a triple kingship. A massacre occurred within the imperial household that summer, which Burgess has analysed. He notes that there is no source which provides a full account of the massacre and only a few specific details. This is because authors did not know the details and those who did were not able to provide them.⁹⁰ The phrase *Constantinus scilicet maximus divi*

⁸⁶ At *Math.* 1.prae.4 Firmicus notes *totius Siciliae situm, quam incolo et unde oriundo sum*. For discussion on Firmicus' Sicilian heritage see Quaquarelli (1988).

⁸⁷ Heuten (1937):177.

⁸⁸ Barnes (2011):169.

⁸⁹ Martin (1923):325. The influence of African Christianity on the *DEPR* is one of the conditions.

⁹⁰ Burgess (2008):10. "No source provides an account of the massacre and only a few say anything specific about it at all ... no one even states where it took place. In some situations this is a result of certain authors simply not knowing any details; in other cases however, our sources did know the details and either assumed that their readers knew them as well or were unwilling (or unable) to provide them." The sources that Burgess analyses include the *Vita Constantini*, panegyrics by Libanius and Julian, Gregory of Nazianzus and Ammianus Marcellinus.

Constantini filius, whether it is interpreted as “greatest” or “eldest” son, could show an element of hierarchy within the imperial family with Constantine II placed at the top. A possible interpretation is that this is a reminder that Constantine II is technically next in line to be emperor, according to the precedent of dynastic succession set by previous emperors, and in particular by his father’s accession. Burgess notes that later sources point the blame for this massacre at Constantius as Julian “implies that Constantius was involved actively in some way in the deaths”⁹¹ and “Ammianus Marcellinus had no doubts about Constantius’ involvement in the murder of the rest of his family. Like so many others, Ammianus had no love for Constantius.”⁹² Theodoret, writing in the fifth century, commented “Constantius ... killed his relatives because he feared usurpations,”⁹³ which also seems to shift the blame onto Constantius. Constantine was the only brother of the three who did not stand to gain anything from Dalmatius’ death and so was “the one least likely to have been involved in any plot.”⁹⁴ The massacre of Dalmatius, Hannibalianus, Julius Constantius, and Flavius Dalmatius, amongst other males, would have caused disruption and confusion, especially amongst the elite classes, and seems to have occurred soon after Constantine I’s death.⁹⁵ It is possible therefore that the hiatus in government during the summer of 337 created factions, each vying for the throne, and that Firmicus is (albeit quietly) indicating his support for Constantine II in the prayer.

The phrase *totius orbis imperator* gives the impression that the system of command in place is a monarchy. It also states that the emperor has command of the whole Empire rather than just of half or of an even smaller section. This appears to support both Mommsen’s and Holden’s theories that Firmicus is addressing Constantine I or Constantius II, as both managed to attain sole command. However, there are examples from the tetrarchy in which orators would address both the entire college of rulers and individuals in the same text. Both singular and plural modes of address (*tu* and *vos*) are used depending on either whether the orator is addressing the individual emperor or the collegiate, or whether the orator is addressing an emperor who is physically present or not.⁹⁶ The orators also address an

⁹¹ Burgess (2008):16. The primary source is 270D.

⁹² Burgess (2008):19.

⁹³ *HE*3.2 in Burgess (2008):19.

⁹⁴ Burgess (2008):28.

⁹⁵ Burgess analyses the coin production and notes that coins with Constantine I’s and Dalmatius’ name cease being minted at a very similar time. He also analyses the travel times it would have taken for the three brothers to rendezvous at Pannonia and when the massacre was likely to have taken place. He concluded that it occurred very soon after Constantine I’s death.

⁹⁶ Rees (2003):447ff.

individual ruler as though he were in command of the entire Empire. A dyarchic example of this is found in *PanLat* X(2) of 289. The panegyrist addresses Maximian, reigning as part of a college with Diocletian: *sed longe illa maiora sunt quae tu impartito tibi imperio vice gratiae rettulisti: admittere in animum tantae rei publicae curam et totius orbis fata suscipere* (X(2).3.3). Later in that panegyric, the author again comments: *teque ipsum, imperator, oramus, ut etiam cum uos totius orbis securitate composita illa imperii uestri mater acceperit* (X(2)14.4). This example demonstrates the use of the singular and also the phrase *totius orbis* when addressing an emperor who was not a monarch. Another example is: *neque enim parui negotii est imperatorem totius orbis pro se peculiariter rogare* (V(8)9.3). This is from a speech of thanks to Constantine and is dated to 311 at a time when Constantine was not the sole ruler of the Roman Empire, as Licinius had control of the East and Maxentius controlled Italy, Africa and the Mediterranean islands.⁹⁷ Thus it is unclear whether the author of this panegyric intends to indicate this split in imperial government or not through the phrase *imperatorem totius orbis*. The author of this panegyric may be using the *totius orbis* to indicate his preference for Constantine over his eastern colleague Licinius and his western rival Maxentius. Therefore, it is possible that Firmicus is using this speech as a model and with the phrase *totius orbis imperator* Firmicus is addressing Constantine II as a singular emperor despite there being two others at the time, thus showing his political preference. This would date the composition of Book 1 of the *Mathesis* to within Constantine II's reign, 337-340.

The succession to Constantine I was not clearly determined and increased in complexity after the death of Crispus in 326AD who was Constantine's first son from his first marriage and thus technically his heir. This resulted in a situation in which there was no designated heir as Augustus.⁹⁸ In addition, after years of keeping the descendants of his father's second wife far removed from power, Constantine suddenly assigned his nephew Dalmatius as the fourth Caesar in 335. This move was "not popular with Constantine's three surviving sons, all of whom were now Caesars in post; they refused to recognise Dalmatius on their coinage."⁹⁹ Constantine then promoted Dalmatius' brother Hannibalianus and allowed Julius Constantius and Dalmatius the Elder, both Theodora's sons, to return to

⁹⁷ Barnes (1981):37.

⁹⁸ Harries (2012):188. Eusebius writes "on his sons he bestowed them as a father's estate the inheritance of Empire, having arranged everything as he desired" *Life of Constantine* 4.63.3. This indicates that all the sons were to inherit some portion of the Empire but with no one individual inheriting the title of Augustus.

⁹⁹ Harries (2012):186; Burgess (2008):21 also notes that between 335-7 out of the six mints that regularly struck gold coins with the emperors' names, three did not strike for Dalmatius.

prominence. This meant that there was a surplus of potential heirs and “also represented a complete reversal policy of side-lining the descendants of Theodora,”¹⁰⁰ which would have added to the uncertainty as to who would inherit. Eusebius explains:

ὥς οὖν ἐκατέρων τῶν ἄκρων τῇν ὅλης οἰκουμένης ἐκράτει τὴν σύμπασαν τῆς βασιλείας ἀρχὴν τρισὶ τοῖς αὐτοῦ διήρει παισίν, οἷά τινα πατρῶαν οὐσίαν τοῖς αὐτοῦ κληροδοτῶν φιλτάτοις. τὴν μὲν οὖν παππῶαν λῆξιν τῷ μείζονι, τὴν δὲ τῆς ἐώας ἀρχὴν τῷ δευτέρῳ, τὴν δὲ τούτων μέσσην τῷ τρίτῳ διένεμε (V.C.4.51.1).

This assigned: Britain, Gaul and Spain to Constantine II; Asia Minor, Syria and Egypt to Constantius II; and Italy, Africa and the Danube diocese of Pannonia to Constans.¹⁰¹ Constantine I implemented this system of inheritance in 335.¹⁰²

This system would give each of the sons their own territory and power. However, it was not that simple as the brothers shared their power with Dalmatius the Younger and Hannibalianus, grandsons of Constantius Chlorus.¹⁰³ These are the same nephews that Constantine I had previously prevented from acquiring power and land, and yet now he is content to give his daughter to Hannibalianus, a marriage which could enable him to make a stronger claim to the throne and confuses the succession further. The land grants gave Thrace, Dacia and Macedonia to Dalmatius the Younger and eastern Asia Minor (Cappadocia and Pontus) to Hannibalianus, taking land from Constans and Constantius II respectively.¹⁰⁴ Valesianus notes the new power balance:

*Dalmatium filium fratris sui Dalmatii, Caesarem fecit. Eius fratrem Hannibalianum, data ei Constantiana filia sua, regem regum et Ponticarum gentium constituit. itaque Gallias Constantinus minor regebat, Orientem Constantius Caesar, Illyricum et Italiam Constans, ripam Gothicam Dalmatius tuebatur (Origo Constantini 6.35).*¹⁰⁵

¹⁰⁰ Harries (2012):187.

¹⁰¹ Bowder (1978):43.

¹⁰² Cameron and Hall (1999):333.

¹⁰³ Cameron and Hall (1999):333.

¹⁰⁴ Bowder (1978):43.

¹⁰⁵ Text from Library of Latin Texts <http://clt.brepolis.net.ezproxy.st-andrews.ac.uk/llta/pages/Toc.aspx?ctx=950976>

This created a scenario in which the Empire was broken into many sections with many contenders who could claim the title of Emperor. Since these contenders were a mixture of direct descendants of Constantine I and extended family but had all been raised to an equal rank, this led to hostilities. Constantine's sons did not accept the authority given to the nephews and so the balance of power became unstable, leading to the massacre. In the end the army took matters into their own hands and bestowed the power themselves. Eusebius notes:

ὥσπερ δὲ ἐξ ἐπιπνοίας κρείττονος τὰ πανταχοῦ πάντα στρατόπεδα τὸν βασιλέως πυθηόμενα θάνατον μιᾷ ἐκράτει γνώμης, ὡσανεὶ ζῶντος αὐτοῖς τοῦ μεγάλου βασιλέως μηδένα γνωρίζειν ἕτερον ἢ μόνους τοὺς αὐτοῦ παῖδας Ῥωμαίων αὐτοκράτορας. οὐκ εἰς μακρὸν δ' ἡξίουν μὴ καίσαρας ἐντεῦθεν ἤδη τοὺς ἅπαντας χρηματίζειν ἀγούστους, ὃ δὴ πρότιστον καὶ μέγιστον τῆς ἀνωτάτω βασιλείας γίγνοιτ' ἂν σύμβολον (V.C.4.68).

The framework that Constantine I established therefore led to a situation in which for a number of months “the government was paralysed by mutual fear and suspicion between his sons and nephews and was only carried out in the name of the dead emperor.”¹⁰⁶ Eusebius notes that the dead man continued to be regarded as sovereign for a time:

αὐτὸς δὲ τῆς βασιλείας καὶ μετὰ θάνατον ἐπειλημμένος ὥσπερ οὖν ἐξ ἀναβιώσεως τὴν σύμπασαν ἀρχὴν διοικῶν, Νικητὴς Μέγιστος Σεβαστὸς αὐτῷ προσρήματι τῆς Ῥωμαίων ἡγεμονίας κρατεῖ (V.C.4.71.2).¹⁰⁷

The sons were also in a difficult position as “when Constantine died, the only reigning Augustus died as well. This gave Constantine II and Constantius no constitutional means of becoming Augustus, apart from the earlier precedent of proclamation by the army and acceptance by the senate and the people of Rome.”¹⁰⁸ Thus, the brothers needed their father's authority until they could sort the succession.

Firmicus may be unaware of these complications surrounding the succession. One possible reason why Firmicus names only Constantine II in the prayer is that he assumes

¹⁰⁶ Bowder (1978):43.

¹⁰⁷ See Grant (1993):219.

¹⁰⁸ Burgess (2008):9.

Constantine will inherit the title of Emperor by himself, since he is the eldest son, and with it the control of the entire Empire. In this situation there would be no need to mention the splitting of the Empire between the three brothers (or even the nephews), or the necessity of naming the Caesars. This would put a more precise date of summer 337 to Book 1 of the *Mathesis*; after Constantine's death but before the succession had been resolved and the triple emperor system had been set up.

On the other hand, it is also possible that Firmicus is aware of these complications and is referring to them. If this is the case then Firmicus may be making a political statement and showing support for Constantine II in the phrase beginning *qui ad liberandum orbem tyrannicis moderationibus et ad comprimenda domestica ...* (Math.1.10.13). In this passage Firmicus describes the achievements of Constantine I and it is puzzling why Firmicus lists the father's achievements rather than focusing on Constantine II. One possible reason is that Firmicus wishes to enhance Constantine II's credibility. By showing that Constantine II is descended from a line which has achieved *pro nostra semper libertate pugnans, res incertissima inter casus humanos, numquam belli fortuna decepit* (Math.1.10.13), Firmicus can then imply that the son will manage to attain similar things. This would show that Firmicus considers Constantine II to be the right choice for succeeding Constantine I as emperor. Another reason to consider is that if Firmicus is writing this at the start of Constantine II's reign, then he has not yet had much opportunity to achieve much and thus there would be little for Firmicus to include. On the other hand, by choosing to give details about Constantine II's father, more material is provided that Firmicus can use. It also indicates that Constantine II has the potential to live up to this precedent. Similarly, the following passage *consensu vestrae moderationis et dei summi obsecuti iudicio perpetua his decernentis imperia facite etiam nostris posteris et posterorum nostrorum posteris infinitis saeculorum continuationibus imperare* (Math.1.10.14) indicates hope that Constantine II will achieve many things in his rule, rather than stating how many feats he has already accomplished. Another example of this is found in *PanLat* VI(7) which although addressed to Constantine I, details a number of Constantius I's achievements.¹⁰⁹ The author notes: *dies me ante deficiat quam oratio, si omnia patris tui facta vel hac brevitate percurram* (VI(7).7) and

¹⁰⁹ Nixon and Saylor Rodgers (1994):212 notes that this speech was delivered on the anniversary of the foundation of Trier but that this date is unknown. The year is often stated as 310 but this is debated. The broad termini are 307 and 311.

then addresses Constantine: *imperatoris igitur filius et tanti imperatoris* (VI(7).10). Therefore by referring to Constantine I, Firmicus is showing support for Constantine II subtly.

Constantine II was emperor from late 337 until his death in 340. Therefore, if this text is politically neutral then Book 1 of the *Mathesis* can be dated to summer 337 since at that point it would have seemed likely that Constantine II would inherit as the eldest son and the triple emperorship had not yet been established. However, if this text is politically charged then Firmicus is showing support for Constantine II over his brothers and so in this case the *Mathesis* can be dated to between 337 and 340.

1.3 Mavortius

The *Mathesis* is addressed and dedicated to Quintus Flavius Maesius Egnatius Lollianus signo Mavortius. This man is referred to as Lollianus and Mavortius within the text (Firmicus switches between the two names) and is the one who prompted the composition of the *Mathesis*. The prologue gives some details about Mavortius' life, specifically his positions in office. These positions are also recorded on inscriptions and so can provide some external evidence about the date of the composition of the *Mathesis*. However, there is a discrepancy between the *Mathesis* and the inscriptions regarding Mavortius' consulship. As mentioned above this caused Mommsen some problems when trying to date the text and has led to Holden's argument of the much later date for the *Mathesis* of 355, the year Mavortius was consul. Firmicus addresses Mavortius throughout the text to guide him through the various theories. These guiding passages may indicate the order in which the *Mathesis* is written, which in turn may show whether the date determined in the above section is the beginning, middle, or end of composition.

1.3.1 Consulship

In the prologue to Book 1 Firmicus explains how he meets Mavortius and why he then offers to write a book relaying what the Egyptians and Babylonians knew about the power of the stars. In this recollection Firmicus notes the position that Mavortius held at that time: *nam cum esses in Campaniae provinciae fascibus constitutus, cuius te administrationis merito maxima honoris dignitate nobilitas, occurri tibi rigore hiemalium pruinarum et prolixi*

itineris diversitate confectus (Math.1.prae.2). The inscriptions show that Mavortius was Governor of Campania at some point between 328 and 335AD.¹¹⁰ Therefore it is shown that Firmicus agrees to write the *Mathesis* in this period. However it is not clear at what point Firmicus starts to write the text. The mention of the 334 eclipse means that the text cannot have been published before that date but does not indicate when Firmicus begins to start work. Firmicus confesses that the project took him a long time as he states *olim tibi hos libellos, Mavorti decus nostrum, me dicaturum esse promiseram, verum diu me inconstantia verecundiae retardavit et ab isto scribendi studio dubia trepidatione revocavit* (Math.1.prae.1), but he does not give an indication of how long that is. Holden has interpreted this statement to mean that Firmicus did not begin writing the *Mathesis* for a number of years after his initial promise.¹¹¹ The passage indicates a delay but does not show whether this delay occurred at the beginning or during the writing.

The next post that Firmicus mentions is that Mavortius was *Comes Orientis*. This has been traced to between 330 and 336.¹¹² At this stage of his career Mavortius demands the text as Firmicus notes:

nam cum tibi totius Orientis gubernacula domini atque imperatoris nostri Constantini Augusti serena ac venerabilia iudicia tradidissent, nullum praetermisisti tempus, quo non a nobis exigeres, quod tibi inconsulta pollicitatione promisimus (Math.1.prae.7).

This insistence from Mavortius seems to have been the signal for Firmicus to get on with the task and speed up production of the text. However it is still not clear whether he has already begun the *Mathesis* and set it aside or whether it is at this point that Firmicus starts writing. Therefore it can be shown that Firmicus promised to write the *Mathesis* at a point between 328 and 335 and did not hand it to Mavortius until sometime after 336.

The information that Firmicus gives in the *Mathesis* about these two posts (Governor of Campania and *Comes Orientis*) matches the evidence from other sources.¹¹³ However it is the

¹¹⁰ Iara (2015):200 *CIL* VI 30895; Jones, Martindale and Morris (1971):xxii notes that in his convention “328-34 – at some date between 328 and 334 inclusive.” Something to note is that Martindale links the date of the *Mathesis* with the dates of Mavortius’ positions, thus making them dependent on each other. I am therefore disregarding Martindale’s use of Firmicus in placing Mavortius’ career.

¹¹¹ Holden (2011):viii.

¹¹² Iara (2015):200 *CIL* VI 30895; Jones, Martindale and Morris (1971):513.

third post that Firmicus mentions which causes the difficulties. Firmicus notes: *proconsuli itaque tibi et ordinario consuli designato promissa reddimus* (*Math.*1.prae.8). The problem is how Firmicus addresses Mavortius at this point; proconsul and consul. Mavortius was proconsul of Africa between 334-7.¹¹⁴ However, Firmicus addresses him as *proconsuli et ordinario consuli designato* which suggests that Mavortius held these two positions simultaneously. Mavortius is not recorded as being consul until 355AD and thus cannot have held both positions together. This then raises the question as to when Firmicus is writing this section. Mommsen's solution, as discussed above, is to acknowledge the gap between his suggested date of the *Mathesis* and Mavortius' consulship but propose that Mavortius was in line for the consulship in 337. This consulship was then delayed and this delay is not indicated in the *Mathesis*. There are theories as to why Mavortius did not attain the consulship in 337. First Martindale et al. note that "the promised consulate did not materialise; possibly Lollianus fell from imperial power owing to the dedication to him of this work on astrology."¹¹⁵ Secondly Barnes notes that "Lollianus was deprived of the consulate of 338 to which he had already been formally designated in the political turmoil which followed the death of Constantine,"¹¹⁶ but then considers that the consulship "must have been a reward for his loyalty,"¹¹⁷ by staying faithful to the Constantinian dynasty during the usurpation attempt of Magnentius in 350AD. However they do not suggest why Mavortius later manages to attain the consulship under Constantius II. Mommsen's view is plausible as the chaos surrounding the succession, as discussed in section 1.2.2 could easily have delayed Mavortius' consulship. The members of the imperial family who survived the massacre would have supporters to reward and Mavortius may not qualify. It is also plausible that he would then have to wait until the political situation is favourable for him to be nominated again as others may be more influential than him. Mavortius' beliefs may also have influenced the consulship nominations as "Constantius showed a clear preference for Christians over pagans as consuls and praetorian prefects."¹¹⁸ It is also possible that Mavortius by supporting the wrong faction in the succession loses favour and with it the consulship. This however cannot be proved.

¹¹³ Jones, Martindale and Morris (1971):512 "his [Mavortius'] early career is on *Inscr.*3-5 ... cons Campaniae; comiti Flaviali; comiti Orientis."

¹¹⁴ Jones, Martindale and Morris (1971):513 from *Inscr.*6.

¹¹⁵ Jones, Martindale and Morris (1971):513. This theme will be considered further whilst examining Mavortius' influence on the religious elements.

¹¹⁶ Barnes (2011):170.

¹¹⁷ Barnes (2011):169. It is not made clear why this "must" have been a reward.

¹¹⁸ Barnes (2011):167.

Another solution is put forward by Holden. He comments that “Mommson was forced to conjecture that Mavortius’ consulship had been promised to him by Constantine I but held up for nearly two decades until it was finally awarded by Constantius II. But that hardly seems likely.”¹¹⁹ Holden believes that the phrase *proconsuli itaque tibi et ordinario consuli designato promissa reddimus* instead means that Mavortius had finally attained the post of consul and that Firmicus is presenting the text of the recently finished *Mathesis* to him. Holden uses this interpretation as the basis for his dating of the *Mathesis* to 355AD. However, Holden’s view does not account for the span of time between Mavortius’ posts as proconsul and consul. The records show that Mavortius managed to attain additional posts. He was Prefect of the City of Rome during 342 and was Praetorian Prefect in 355-6, but these posts are not mentioned by Firmicus at all.¹²⁰ If Firmicus had gone back to change the text to include Mavortius’ consulship then it would be fair to assume that he would also have included these accolades for his dedicatee as well. It would also have made sense for Firmicus to note any change of emperor within the prayer section at the same time. These details weaken Holden’s argument. In addition, there is the question of why Firmicus addresses Mavortius as *consul designatus* instead of simply *consul*. If Mavortius had attained the consulship at the time that Firmicus was writing surely he would no longer be “designated”. The phrase *ordinarius consul designatus* implies that Mavortius has been selected to be consul for the coming year but has not yet taken the post. The adjective *designatus* is often used to denote this meaning. Examples of this include:

*cives Romani qui Mytileneis negotiantur M Titio L/ f. proco., praef. classis, cos. desig., patron, honoris causa (Inscription 891);*¹²¹ *Q. Propertius Q. f. Fab. III vir cap. et insequenti anno pro III vir., q., pr. desig., ex. s. . viar. cur., pr (Inscription 914);*¹²² and *L. Minicius L f., augur, trib. Plebis desig., q. Aug. et pr. Patris provinc. Africae (Inscription 1029).*¹²³

There are examples of consul designates who failed to take up their position. The majority of these men died before they could undertake their duties, for example: Vettius Agorius Praetextatus who died in 384 whilst consul designate;¹²⁴ and L. Aurelius Avianius

¹¹⁹ Holden (2011):8.

¹²⁰ Jones, Martindale and Morris (1971):513. The Prefecture of Rome is noted on *Inscr.6* and the Praetorian Prefecture is noted in *CTh VI 29*.

¹²¹ in Dessau (1979):198.

¹²² in Dessau (1979):201.

¹²³ in Dessau (1979):224.

¹²⁴ Jones Martindale and Morris (1971):723.

Symmachus signo Phosporius who “is not in the consular *Fasti* and will have died when *consul designatus*. He was probably consul designate for 377.”¹²⁵ However, Mavortius is not recorded as such. This might be because he had the opportunity to take office at a later date. Firmicus also does not give any indication that Mavortius’ consulship was delayed or provide an explanation why Mavortius may have lost it the first time. This shows the lack of evidence that Firmicus went back to edit the text and weakens Holden’s argument further.

An additional complexity is that the statement *proconsuli itaque tibi et ordinario consuli designato promissa reddimus* does not show clearly whether Firmicus has fully completed the *Mathesis* and is handing it over to Mavortius, or whether this is a statement that he has finally embarked on his promise and an acknowledgement that the book will soon be in Mavortius’ hands. This means that Mavortius as *ordinarius consul designatus* could be the marker for either the beginning or the end of Firmicus’ efforts. Bram translates *promissa reddimus* “we fulfil our promise,”¹²⁶ which makes the timing ambiguous. On the other hand, Holden gives as his translation “and so I sent to you the promised work,”¹²⁷ which implies that Firmicus has definitely completed the work. *Reddimus* is the present tense and so Bram’s translation gives a better interpretation. Therefore this can be interpreted either as Firmicus is finished or is just about to start. In addition Firmicus notes *adgressi sumus tamen scribendi laborem* (*Math.* 1.prae.8) which seems to support the interpretation that he has just started and is hoping he can see it through to the finish. The problem with this interpretation is that it implies that Firmicus did not start work on the book when Mavortius demanded it as *Comes Orientis*. It seems strange for an author to offer and promise to write a text, neglect it and even when reminded about it, to still neglect to write it.

Out of these two theories, Mommsen’s theory is the more plausible. This means that Book 1 of the *Mathesis* can be placed at the end of Mavortius’ term as proconsul which is 337. This is compatible with the evidence regarding the emperor as shown in section 1.2. However, this date does not indicate when Firmicus finishes the *Mathesis*, only when the prologue to Book 1 is written.

¹²⁵ Jones, Martindale and Morris (1971):864

¹²⁶ Bram (1975):12.

¹²⁷ Holden (2011):7.

1.3.2 Order of Composition

It is proposed that Book 1 of the *Mathesis* is written in 337. However, it is not apparent whether this indicates a date towards the start or completion of the text. If Book 1 is the last book to be written, this would suggest a completion date of 337. However, if Book 1 is written first then 337 indicates a start date. The aim of the *Mathesis* is to guide Mavortius through astrological theory and so Firmicus addresses him periodically throughout the text. These passages will be analysed for any indication that Firmicus wrote the *Mathesis* in order, or if he wrote the individual books and pieced them together later.

Firmicus begins the second book with the phrase *Matheseos scripturi libros eos, qui eandem discere volunt, primum instituere debemus, ut rectis initiis formati facilius pronuntiandi scientiam consequantur* (*Math.2.prae.1*). This statement shows that Firmicus is at the beginning of writing the *Mathesis*. It also indicates that Firmicus has an overall plan for the handbook and plans to instruct his reader as thoroughly and logically as possible. He is shown to be aware that he needs to explain certain aspects of astrological theory before others so that Mavortius can follow and understand. Firmicus also sets out his aim for the text:

unde nos omnia quae de ista arte Aegyptii Babylonique dixerunt, docilis sermonis institutione transferemus, ut hi, qui ad explicanda hominum fata formantur, pedetemptim imbuti omnem divinitatis scientiam consequantur (*Math.2.prae.3*).

It would be a logical assumption that this statement would appear at the beginning of a work and so this shows that Firmicus at least planned for the information in this book to appear at the beginning. The end of Book 2 contains advice on how an astrologer should live and does not provide a link to the third book or any of the topics that Firmicus will discuss later. The third book opens with a similar statement to the one which opened the second book. Firmicus states:

Matheseos sermo totus qui pertinent ad definitionem apotelesmatum in sententias transferatur, ut patefactis omnibus atque monstratis, quae divini veteres ediderunt, studiosis huiusce artis viris tota plenissime per nos insinuetur huius prudentiae disciplina (*Math.3.prae.1*).

This appears to reiterate Firmicus' aim for the *Mathesis*. This could be a continuation of what he mentions in Book 2 or be a completely separate statement. This phrase therefore could indicate that the *Mathesis* is written in a random order and then compiled as a full text. The conclusion of Book 3, however, clearly links with the following book. After he deals with the concepts of the planets and the effects of the Moon with the Part of Fortune, Firmicus states: *quem tractatum, ne quid a nobis praetermissum esse videatur, in quarti libri principiis explicamus* (*Math.3.14.10*). This link is picked up in the following book where Firmicus says:

in hoc itaque libro id principe loco explicabitur, quod in posterioribus tertii libri partibus promissimis, idest Lunae omnes species ac formae, coniunctiones etiam, deflectiones et quicquid ac eius numinis pertinent potestatem (*Math.4.prae.4*).

This statement not only links back to the third book but also links to the topics Firmicus discusses in that book. The topics of Book 4 match what he promises he will cover in that book at the end of Book 3. The end of Book 4 also links to Book 5. Here Firmicus says: *nunc residuus tractatus ad quinti libri principia transferatur, ut explicatis omnibus atque monstratis ad partilia apotelesmata et ad sphaeram barbaricam omnis oratio transferatur* (*Math.4.25.5*). This indicates that the section on the *Sphaera Barbarica* will be in a book after the fifth, as Firmicus still needs to cover some material before he is able to explain this aspect of astrology.¹²⁸ This adds to the unlikelihood that the books are written out of sequence.

The opening of the fifth book is the halfway point of the *Mathesis*. The prologue does not link explicitly back to the fourth book but Firmicus instead says:

maxima, Mavorti, promissionis nostrae fundamenta iactavimus, et plurimum per gradus singulos crescens adultus sermo profecit. omnia enim quae ad explicandum quibusdam difficilia videbantur <et> obscuritatis ambagibus involuta, docili sermonis explicatione monstravimus. si itaque capax ingenium et flagrantis animi desiderio commotum praecedentes hauserit libros et sit oportuna stellarum radiatione conceptum ad divina istius scientiae secreta perveniet (*Math.5.prae.1*).

¹²⁸ The *Sphaera Barbarica* consists of the constellations outside of the zodiac. See Chapter 2 section 3.1.3.

This therefore shows that Firmicus intends that this is the halfway point. Firmicus notes that the fundamentals have been dealt with and he can now progress onto the more difficult aspects of the theory. Firmicus continues:

ne itaque desiderantis animi cupiditatem falsa promissione decipiam, omni invidiae livore deposito et omni desidia torpore proiecto ad cumulata matheseos secreta perveniam, ne intentio tua in ipsis principiis invidae ac malitiosae taciturnitatis vitio relinquatur. plenum itaque opus quod promisimus reddimus (Math.5.prae.2).

This suggests that Firmicus has had a break from writing the *Mathesis*, and has come back to it after a period of time. Holden notes that this is “another indication that the *Mathesis* was not written all at once but intermittently over a period of years.”¹²⁹ This strengthens the theory that Firmicus is writing the text in order. What is unclear is when this break takes place and how long it lasts. One possibility is that Firmicus reaches this point before Mavortius becomes *Comes Orientis* and demands the text. This would place Books 2, 3, and 4 of the *Mathesis* between 334 and 336 (taking into account the dates of this post and the eclipse). This would mean that if Book 1 is correctly dated to 337, this was one of the last parts to have been written and therefore the *Mathesis* was completed in 337. However, this is a very short span of time and Firmicus mentions that the writing of the *Mathesis* took a long time. Another possibility is that Firmicus begins to write when Mavortius asks for the book and this pause takes place sometime later, at a time which cannot be determined. The end of the fifth book then links to the sixth book. Firmicus says: *sed hoc explicato libro sermo noster ad sexti libri principia transferatur. illic enim omnes tibi stellarum mixturas verissimis interpretationibus explicabo, ut explicato libro intentio nostra ad specialem interpretationem apotelesmatum transferatur (Math.5.7.5)*. The sixth book does cover the influences of various planetary combinations and so this bridge gives accurate information. The sixth book does not explicitly link to the previous book but in a similar manner to the fifth book gives a short summary of the topics dealt with so far. It is noted:

frequenter Mavorti decus nostrum de mixturis stellarum sermo noster admonuit, nihil tibi aliud in omnibus sentiis, nihil in decretorum substantia nisi efficaciam mixtae

¹²⁹ Holden (2011):251n1.

temperationis insinuans, praesertim cum in genituris hominum aliud primi aliud secundi cardines faciant (Math.6.1.1).

However, Firmicus then gives an explanation as to what first and second angles are as though it is new material. There are a number of references to first angles in the fourth and fifth books for example: *praesertim si in principalibus geniturae locis fuerit inventa (Math.5.6.1)*, but Firmicus does not explain what they are until this point.¹³⁰ This is the second phrase which could indicate that Firmicus wrote the books in a random order.

In the conclusion to this book Firmicus notes the end of the sixth book and looks ahead to the seventh with the phrase *completo itaque sexto libro omne dicendi studium ad secreta libri septimi transferetur (Math.6.40.4)* which emphasises the sequence again. The seventh book opens with the astrologer's oath and does not link back to the sixth book. At the end of the book Firmicus mentions *haec tibi Mavorti decus nostrum, partili explicavimus ratione collecta ut omnia tibi secreta divinae istius artis mediocritas nostra manifestationibus intimaret (Math.7.26.12)*. This indicates that Firmicus has covered the majority of the material that he needs to and is an appropriate statement for the penultimate book. He then adds *sed his explicatis sermo totus ad expositionem Sphaerae Barbaricae transferatur (Math.7.26.12)*. Firmicus mentions a number of times that he will cover the topic of the *Sphaera Barbarica* but has not yet done so. Since this statement is also in the penultimate book, this indicates that Firmicus wrote the *Mathesis* in sequence as there is only one place that he can now discuss this topic. The eighth book is marked as the last book. Here Firmicus says:

quod itaque his libris superesse credo, hoc explicare curabo. nam aliud mihi tempus ad explicandam myriogenesim reservavi. nunc in initiis huius libri dicemus, quae signa se videant <quae se audiant, quae vero nec videant nec audiant>. totum enim hoc ad interpretationem Sphaerae Barbaricae pertinebit ... ut sic omnibus explicatis Sphaeram Barbaricam facilius assequamur et clararum stellarum efficacis licentiae potestatem (Math.8.1.10).

¹³⁰ The other references are 4.17.8, 4.17.10, 4.19.11, 5.3.31, and 5.6.6. Firmicus gives a very brief description of the angles at 5.6.6 *id est si MC <vel> horam* but the main explanation occurs at 6.1.1.

Firmicus indicates that he will be covering the topics that are left over, the ninetieth degree and the bright stars and finally the long awaited material on the *Sphaera Barbarica*. This shows that there are no loose ends and that he has covered the full theory. As such this would be a difficult book to write without having first written the previous books. Finally, at the end of Book 8 Firmicus adds: *accipe itaque Mavorti decus nostrum, quod tibi cum summa animi trepidatione promisimus, septem hos libros ad septem stellarum ordinem numerumque conpositos. nam primus liber solum patrocinium defensionis accepit* (Math.8.33.1). This suggests that Firmicus has an intended design for the work. It also indicates that this is the very end of the project and Firmicus is now able to hand over the work to Mavortius. This gives the impression that Book 8 was the last section that Firmicus writes.

It seems very likely that Firmicus wrote the books of the *Mathesis* which cover astrological theory in sequence, that is, from Book 2 to Book 8 as there are a number of links between the books and markers which indicate the reader's progress through astrological theory. It is possible that he wrote the books out of sequence and added the linking phrases later. However, if Firmicus added these phrases later, it would also have been possible for him to change the name of the emperor or to emend Mavortius' positions of office. There is also the question of whether he wrote the books covering the theory before or after the book on the defence of the practice. At the end of the first book Firmicus concludes his prayer with the request *nobis vero tenuem ingenii inspirate substantiam, ut vestro praesidio fulti facile ea quae Lolliano promisimus <compleamus> et, quicquid divino sapientium magisterio concepimus, veris sententiarum definitionibus explicemus* (Math.1.10.15). This implies that Firmicus is about to embark on his project and thus is requesting the strength to see it to the end. This therefore implies that Firmicus wrote Book 1 first and then proceeded through the books containing the astrological theory. This means that the completion date for the *Mathesis* cannot be calculated since there are no further mentions of contemporary events, other than what is mentioned in Book 1.

The evidence that can be collected about the date of the *Mathesis* is as follows. Firmicus promised to write the *Mathesis* sometime between 328 and 335, whilst Mavortius was Governor of Campania. Firmicus may have started to work on the text from 328 but the reference to the eclipse means that the *Mathesis* was not published before 334. In addition, the eclipse also provides the *terminus ante quem* of 355 for the *Mathesis* since the next eclipse, which occurred in that year, is not mentioned. If this text is politically neutral the

references to Constantine II mean that Book 1 can be dated to summer 337, before the triple emperorship was established, but if it is politically charged then Book 1 can be dated to between 337 and 340. It is likely that Firmicus wrote the *Mathesis* in sequence, from Book 1 to Book 8, and so 337-340 indicates the start date for the text. It also appears that Firmicus did not return to this Book after completing the *Mathesis* to indicate any change in emperor of Mavortius' status. This means that there are no other temporal markers, and so it is possible to note only that the *Mathesis* was completed at some point after this date but it is not possible to determine precisely when.

2. The Religion of Firmicus Maternus

The second major issue concerns which religion Firmicus follows when he is writing the text. The two extant works of Firmicus, the *Mathesis* and the *DEPR*, seem to show very different attitudes towards religion; the former deals with a subject that is traditionally thought to be a pagan discipline and the latter is described as “a bitter attack on the pagan religions from a Christian point of view.”¹³¹ Such is the apparent complete reversal of religious attitude between the two texts that some scholars doubted that the two works were written by the same individual. However, Moore's analysis of the vocabulary and syntax concluded that the *Mathesis* and the *DEPR* are written by the same Firmicus Maternus.¹³² The view with the most support is that Firmicus is a pagan when he writes the *Mathesis* and then as a newly converted Christian writes the *DEPR* inspired with the fervour of the newly converted, and possibly as a backlash against his previous beliefs.¹³³

Skutsch has a different view and argues that “Firmicus war entweder Christ in aller Form, bereits als er seine Astrologie schrieb, oder mit dem Christentum mindestens innig vertraut wie er sich ja auch von anderen Kulturen seiner Zeit nach Ausweis der apologetischen Schrift genaue Kenntnis verschafft habe.”¹³⁴ Skutsch bases his view on the prayer in the prologue to Book 5 and the astrologer's oath in the prologue to Book 7. He notes that these passages contain phrases which resemble sections of the old liturgical prayer and breaks these

¹³¹ Bram (1975):1.

¹³² Moore (1897) in his thesis “Julius Firmicus Maternus: der Heide und der Christ.”

¹³³ Bram (1975):1. “We would assume Firmicus was converted to Christianity between the writing of the two works”; Cameron (2011):174 “the *Mathesis*, an astrological work undoubtedly written by a pagan” and “if we only had his *Mathesis* he would confidently have been classed as a pagan”; Forbes (1970):13 notes that Firmicus “as a recent convert” wrote the *DEPR*.

¹³⁴ Skutsch (1910):303.

passages into individual phrases which are compared to the texts of various Christian authors. He concludes that Firmicus must have a profound knowledge of Christian Scripture which is incorporated into the *Mathesis* and therefore Firmicus is a Christian when he is writing this text.

However, Skutsch's theory is refuted by Wendland and Norden. Wendland considers that the prayer of Book 5 and the astrologer's oath are Stoic in nature;¹³⁵ on the other hand Norden bases his argument predominantly on the astrologer's oath and considers Firmicus to be a follower of Neo-Platonism.¹³⁶ The theory that Firmicus is a pagan follower of a philosophical school is commented on by Bram who notes that "he was a staunch devotee of individual astrology and rigid fatal determinism, which he combined with the more ordinary philosophical outlook of his period – a mystic blend of Stoicism and Neo-Platonism."¹³⁷ These additions to the debate have altered the dominant view slightly. The majority consider the *Mathesis* to be written by a pagan author but one who is a follower of either the Stoic, or the Neo-Platonic schools of philosophy.

There are a number of passages in the *Mathesis* in which Firmicus refers to religious elements. These consist of: two prayers (found in Books 1 and 5), an oath (Book 7), a moral code (Book 2), a creed (Book 8), and some additional shorter passages (in books 1, 3 and 8). These are predominantly found in the prologues and conclusions to the individual books. The prayer of Book 5, the creed and the shorter passages will be analysed to find any details of Firmicus' own beliefs and to see how he combined various aspects of astrology and religion. The prayer in Book 1 concerns the emperor and the moral code relates to the social context surrounding astrology at the time that the *Mathesis* is written, and so the faith of the emperor and the laws need to be taken into consideration. Firmicus asks his dedicatee Mavortius to swear the oath which has been linked to the mystery religions, and so Mavortius' own faith also needs to be considered.

2.1 Firmicus

¹³⁵ in Norden (1913):234.

¹³⁶ Norden (1913):234 "man kann hier wirklich einmal sagen daß die Wahrheit etwa in der Mitte liegt."

¹³⁷ Bram (1975):vii.

This section will consider the prayer of Book 5, the creed of Book 8 and the shorter passages in Books 1, 3 and 8. These passages together show how Firmicus combines religious and astrological concepts, such as the role of Fate in an individual's life. They may also provide an indication as to which religion Firmicus follows whilst he is writing the *Mathesis*: whether he is a pagan, or whether he is a Christian. In addition, since it appears that the *Mathesis* is written in sequence, these passages will be considered in the order in which they appear in the *Mathesis*. This will highlight any changes within the religious elements which could indicate the possibility of conversion during the composition.¹³⁸

2.1.1 Book 1

The first book provides an introduction to the *Mathesis* and contains Firmicus' defence of astrology. This section therefore shows his stance on aspects of astrological theory. He opens the discussion by showing that there are many different opponents of astrology, and each of these have their own opinion regarding the gods. He notes:

cum alii deos <non> esse dicant, alii esse quidem sed nihil procurare definiant, alii et esse et rerum nostrarum curam procurationemque suscipere, et tanta sint hi omnes in varietate et dissensione versati, ut longum et alienum sit, hoc praesertim tempore cum aliud opus adgressi sumus singulorum enumerare sententias (Math.1.1.3).

He continues to describe the various opinions held about the gods:

nam alii et figuras his pro arbitrio suo tribuunt et loca adsignant, sedes etiam constituunt et multa de actibus eorum vitaque describunt et omnia, quae facta et constituta sunt, ipsorum arbitrio regi gubernarique pronuntiant; alii nihil moliri, nihil curare et ab omni administrationis cura vacuos esse dixerunt afferuntque omnes verisimile quiddam, quod auditorum animos ad facilitatem credulitatis invitet (Math.1.1.4).

¹³⁸ It is known that Firmicus' other text the *DEPR* was written around 346 and is considered to have been written by a new convert. Therefore, as the completion date of the *Mathesis* cannot be determined, it is possible that Firmicus converted to Christianity whilst still writing the *Mathesis*. Thorndike (1923):525ff considers this possibility and concludes that the *Mathesis* and the *DEPR* are not incompatible.

This passage shows that Firmicus is open to the different theories as he accepts each possibility and does not refute any of the opinions. He implies that questioning the nature of the gods is only for credulous people rather than himself. Firmicus provides the answer of what he believes later: *quarum explicationem nunc praetermittendam puto; neque enim hoc genus disputationis intravimus nec ad haec refutanda vel confirmanda animum nostrum consiliumque formavimus* (Math.1.1.6). This suggests that either he is not a follower of any particular religion or possibly that he is questioning what he has followed and is now contemplating a change. Therefore there is the possibility of conversion. He also notes that the arguments regarding the form of the gods are relevant neither to him nor to his explanation of astrology. This suggests that Firmicus considers astrology to be separate from religion. At this point there is no evidence to suggest that Firmicus considers himself to be a pagan or a Christian.¹³⁹

The next set of arguments that Firmicus deals with concerns how the stars influence the characteristics of mankind. He comments:

unde constat generis quidem nostri substantiam et ipsam nudi ac solius corporis formam ex quattuor elementorum commixtione providi numinis artificio esse formantam, colores vero nobis ac formas, mores etiam et instituta de nulla re alia nisi stellarum perenni cursus agitatione distribui (Math.1.5.6).

This section shows that Firmicus' theories about the world involve the four elements, the planets and a singular creator. These all seem to play a part in the lives of mortals. This is similar to Platonic theories of the world, and thus supports Norden's view.¹⁴⁰ Firmicus continues:

habent enim stellae proprium sensum divinamque prudentiam; nam puro divinitatis animatae conceptu summo illi ac rectori deo, qui omnia perpetua legis dispositione composuit ad

¹³⁹ Forbes (1970):172 notes that there is only one overt statement about Firmicus' conversion in the *DEPR*. It is: *at ego nunc sacrarum lectionem institutione formatus perditos homines religioso sermone convenio* (*DEPR*.8.4). Forbes adds "Pastorino shrewdly discerns a covert allusion to earnest words that Firmicus had written in the preface to Book 5 of the *Mathesis*." Therefore even in the *DEPR*, supposedly the work of a new convert, there is an absence of evidence to Firmicus' recent conversion. It is therefore possible that his conversion took place earlier than thought. Cameron (2011):174 points out that it is possible that Firmicus wrote the *DEPR* with such zeal in order to prove that his conversion was genuine rather than from evangelical fervour.

¹⁴⁰ *Ti*.31b details the elements, *Ti*.28a6 mentions the Creator god, *Ti*.40a states that the heavenly bodies are gods. Also see Mason (2010):161ff; Norden (1913) considers that Firmicus is a Neo-Platonist.

perennis procreationis custodiendum ordinem, infatigabilibus consensionibus obsecuntur (Math.1.5.7).

This shows that he believes that there is a hierarchy of power; the planets are subordinate to this singular creator, the highest god. It also implies that the planets are not the anthropomorphic deities of the Graeco-Roman traditional pantheon as they are only *puro divinitatis animatae conceptu* and do not seem to have individual personalities or even human form. Firmicus also introduces the concept of a “Divine Mind” and says: *quis dubitat, quod per has stellas terrenis corporibus divinus ille animus necessitate cuiusdam legis infunditur, cui descensus per orbem Solis tribuitur, per orbem vero Lunae praeparatur ascensus* (Math.1.5.9). This passage also conveys ideas that match the Platonic view of the world.¹⁴¹

In the next chapter of Book 1, Firmicus contends with the set of arguments that astrology makes men turn away from the gods. Here he says:

nos enim timeri deos, nos coli facimus, nos numen eorum maiestatemque monstramus, cum omnes actus nostros divinis eorum dicimus agitationibus gubernari. colamus itaque deos, quorum se nobis origo stellarum perenni agitatione coniunxit, et maiestatem eorum gens humana supplici semper veneratione suspiciat: invocemus suppliciter deos et religiose promissa numinibus vota reddamus (Math.1.6.1-2).

From this it is apparent that Firmicus believes that gods are integral to astrology as they control life on earth and it is thus right to venerate them, which adds a link between astrology and religious practices. He also indicates that the planets are gods themselves and have some power over mortal lives. Firmicus does not specify here which gods he means and there is no appearance of the “Creator” that was mentioned in the previous chapter of the book. The mention of gods in the plural in this passage could support the theory that Firmicus is a pagan. However, this may also be a more general statement and is meant to be applicable to everybody; since there are a variety of gods worshipped in the world Firmicus includes all options. Firmicus also mentions Socrates and says *hoc debere nos facere vir divinae sapientiae Socrates docuit* (Math.1.6.3). This could be a reference to one of the philosophical schools. Bram notes that “the bulk of Book 1 is concerned with refutations of well-known

¹⁴¹ Phae.245e defines the soul and uses this definition in an argument for immortality. See Mason (2010):99ff.

arguments against astrology and fatal determinism, which had taken a strong root in Stoic philosophy.”¹⁴² This use of Stoic arguments could indicate that Firmicus was a follower of this philosophy although it is also possible that Firmicus has chosen to use the simplest method to defend his discipline with the use of these familiar arguments.

One of the main arguments that Firmicus tackles concerns the concept of Fate and its role in mortal lives. At 1.8 he mentions that there are two views regarding this: one that Fate controls everything, and a second that Fate only controls the birth and death of an individual. He notes that in the latter theory this power is termed *himarmene*. Bram notes that “Firmicus is the only Latin writer who uses the word in this way, although the philosophical position is well known. It is connected with the Middle Platonists.”¹⁴³ Firmicus argues against this position and so it can be concluded that Firmicus does not follow this particular school of philosophy, although it is not known which school it is. Firmicus makes his position clear and says:

haec nobis omnia stellarum cursibus conferuntur his nos Fortuna varietatibus conficit. unde tot exemplis ac tot rationibus moniti atque formati fatalis necessitatis legem non argumentorum licentia nec verborum copia sed veritatis probabili ac recto iudicio comprobemus (Math.1.8.1).

This affirmation that Fate controls all aspects of human life is similar to the arguments presented by the philosophical schools. It conflicts with some Christian views regarding the concept of Free Will, but not all. Hegedus notes that fatalism was the aspect of astrology that “seemed so evidently opposed to early Christian views of divine authority and human free will.”¹⁴⁴ He also notes that there are aspects of Firmicus’ theory which are compliant with Christian theories of Fate. This will be discussed in section 2.2.2. It should be noted that there is a strong link with Stoicism and astrology. Barton notes that “Greek philosophers have been given much credit for making astrology respectable in Rome, in particular the Stoic school have been cast as preachers of a fatalistic astrological creed.”¹⁴⁵ Therefore, it is possible that

¹⁴² Bram (1975):304.

¹⁴³ Bram (1975):305.

¹⁴⁴ Hegedus (2007):23.

¹⁴⁵ Barton (1994):34 notes that during the Mithridatic wars Greek culture became desirable at Rome, and astrology became popular.

the reason that there are a number of elements of Stoic or Neo-Platonic concepts in the *Mathesis* is due to astrological theories rather than due to Firmicus' own religious beliefs.

There are also religious elements in the conclusion to Book 1. This section contains a prayer which addresses the sun, but this passage will be discussed in section 2.2.1.

2.1.2 Book 3

The next short passage is found in the prologue to the third book. In this section Firmicus describes to his learner Mavortius how man was created:

scire itaque nos principe in loco oportet, Lolliane decus nostrum, quod ad imaginem speciemque mundi formam hominis ac statum totamque substantiam deus ille fabricator hominis natura monstrante perfecit; nam corpus hominis ut mundi ex quattuor elementorum commixtione composuit, ignis scilicet et aquae, aëris et terrae, ut omnium istorum coniunctio temperata animal ad formam divinae imitationis ornaret et ita hominem artificio divinae fabricationis composuit (Math.3.prae.2).

Here the Platonic concept that life is made of the four elements (fire, earth, water and air) is again mentioned. From this the creator god sounds more Platonic than Christian since in the Christian tradition God made the first man from clay rather than four elements and He created everything from scratch rather than mimicking the universe.¹⁴⁶ Therefore at this point it is more plausible that Firmicus is a Neo-Platonist or Stoic himself. Firmicus continues:

hac ex causa hominem quasi minorem quendam mundum stellae quinque, Sol etiam et Luna ignita ac sempiterna agitatione sustentant, ut animal, quod ad imitationem mundi factum est, simili divinitatis substantia gubernetur (Math.3.prae.3).

¹⁴⁶ *Genesis* 1:1-3 “in the beginning God created the heaven and the earth. And the earth was without form and void; and darkness was upon the face of the deep. And the Spirit of God was hovering upon the face of the waters. And God said ‘Let there be light’, and there was light”; *Genesis* 2:7 “then the Lord God formed the man of dust from the ground and breathed into his nostrils the breath of life; and man became a living creature.”

This shows Firmicus' perception of how astrology and religion can work together. Man is influenced by the planets, but as man and the universe are made to mirror each other the planets in turn are influenced by something else, in this case the *deus ille fabricator*. This reinforces what Firmicus mentions in the first book at 1.5.6 and so shows that there his beliefs are coherent in the *Mathesis*; there are gods, and a higher deity commands them.

2.1.3 Book 5

In the prologue to the fifth book Firmicus takes a quick pause having explained the foundations of astrology before he starts the second, more intricate half of the work (as discussed in section 1.3.2). At this point Firmicus makes an invocation in which he prays that the *Mathesis* will have divine protection and not be open to hostile attacks. This prayer is directed to *quicumque es deus* (*Math.5.prae.3*), and indicates a singular deity. This is compatible with Firmicus' earlier references in Books 1 and 3. The ambiguity of *quicumque* also links to the statement made at the beginning of Book 1, in which Firmicus states that he is not sure what to believe.¹⁴⁷ This sentiment is also echoed later in the prayer as Firmicus says *tuum sit quod ad istam nos interpretationem nescioquod inpulit numen* (*Math.5.prae.4*). Since this deity is not named at this point, it could feasibly refer to either the Platonic creator or the Christian god. The sentiment that he does not know who this deity is could also reflect a change in his beliefs. Firmicus follows this with a long set of descriptions as to the power of this deity. He notes:

quicumque es deus qui per dies singulos caeli cursum celeri festinatione continuas, qui maris fluctus mobili agitatione perpetuas, qui terrae soliditatem inmoto fundamentorum robore roborasti, qui laborem terrenorum corporum nocturnis soporibus recreasti ... (*Math.5.prae.3*).

All of these attributes indicate a creator deity who is above events of earth and not directly involved in them. Mason notes that "Plato's creator is detached from the day-to-day workings of the universe, so if there are divine powers within it (for example answering prayers) they must be distinct from him."¹⁴⁸ And so although Firmicus describes a deity that appears

¹⁴⁷ *nec ad haec refutanda vel confirmanda animum nostrum consiliumque formavimus* (*Math.1.1.6*).

¹⁴⁸ Mason (2010):166.

separate to the world, he addresses his prayer directly to him which is not in line with Platonic beliefs. Skutsch notes that aspects of this prayer are similar to passages found in other Christian authors. He compares each of the descriptions that Firmicus gives regarding this deity and finds comparisons with Minucius Felix, Novatian and Theophilus amongst others.¹⁴⁹ Examples include: *qui per dies singulos caeli cursum celeri festinatione continuas* (Math.5.prae.3) which Skutsch compares to *caelum ipsum vide quam late tenditur, quam rapide volvitur* (Min.Fel.17.5) and *qui caelum alta sublimitate suspenderit* (Novatian de trinit.vgl.9); and *qui terrae soliditatem inmoto fundamentorum robore roborasti* (Math.5.prae.3) with *qui ... terram deicta mole solidaverit* (Novatian trin.) and *quos caelos firmaverunt? quam terram solidaverunt?* (Irenaeus.contra haer.2.30.3). These passages show that there are similarities between Firmicus' modes of address and that of Christian authors. These links suggest that Firmicus did have a good knowledge of Christian Scripture. The description *solus omnium gubernator et princeps, solus imperator ac dominus, cui tota potestas numinum servit* (Math.5.prae.3) shows that the stars and planets are subordinate to this deity and it is from this deity that the planets get their power to influence events on earth. This concept of how the planets have their power is a recurring theme in the *Mathesis*, also appearing in the prayers in Book 1 and 7.¹⁵⁰ This emphasises that Firmicus has a coherent set of beliefs, at least concerning the planets and their power.

Firmicus then continues his invocation and addresses the deity as *tu omnium pater pariter ac mater, tu tibi pater ac filius uno vinculo necessitudinis obligatus* (Math.5.prae.3). The view that Firmicus is a Neo-Platonic is questioned by this section. Concerning the phrase *pater pariter ac mater* Bram notes that "Firmicus speaks of the creator god in Neo-Platonic terms. But the notion of a bisexual god 'father and also mother' belongs to the Sol Invictus of Elagabalus."¹⁵¹ Bram here is misinterpreting the term "bisexual" here and must mean "hermaphroditic" or "bi-gender" instead. Nonetheless the concept of a bi-gendered god "belonging" to a particular religion is strange, and Firmicus could easily be using the phrase while not referring to Sol Invictus. The following phrase *tu tibi pater ac filius uno vinculo necessitudinis obligatus* on the other hand bears most resemblance to the Christian tradition. The Nicene Creed states:

¹⁴⁹ Skutsch (1910):295ff.

¹⁵⁰ Discussions of these sections are found later in this chapter – the Book 1 prayer is in the Constantine section and the Book 7 oath is in the Mavortius section.

¹⁵¹ Bram (1975):312.

*Et in unum Dominum Iesum Christum
Filium Dei Unigenitum
Et ex Patre natum ante omnia saecula
Deum de Deo, lumen de lumine, Deum verum de Deo vero
Genitum non factum consubstantialem Patri.*¹⁵²

Although there is no mention of Fate in the Creed, there is the concept that the Father and Son are of the same substance and can be considered as one entity. Holden notes that the phrase *tu tibi pater ac filius uno vinculo necessitudinis obligatus* “would not have been displeasing to Christians, although they would not have liked the Father/Mother God mentioned earlier.”¹⁵³ Edwards also notes “this deity he flatters with an ardour not unworthy of a Christian.”¹⁵⁴

There is no mention here of the Holy Spirit to complete the Christian Trinity, which weakens the argument that Firmicus is a Christian. However, in this period the concept of the Trinity is not yet fixed and is a source of contention between different branches of Christianity, particularly between Arians and those that followed the Nicene Creed.¹⁵⁵ This contention concerned whether Christians could be monotheistic, and believe in one God, but also believe in the Trinity. It was questioned whether the Son had the same level of divinity as the Father and this conflict involved all of the Church in the east by 324.¹⁵⁶ The Council of Nicaea was called to settle this dispute however, it is noted that “the original Nicene Creed raised almost as many problems as it resolved. The Holy Spirit, included as an afterthought at Nicaea, became a major subject of debate from the 350s onwards.”¹⁵⁷ It is possible that Firmicus has chosen not to include references to the Holy Spirit in an effort not to aggravate a sensitive topic. He has already had to defend the discipline of astrology so it would be illogical to create more problems for the *Mathesis*. Instead he may be making it acceptable to all branches of Christianity without provoking an argument.

¹⁵² Text from http://www.earlychurchtexts.com/public/creed_of_nicaea_325.htm.

¹⁵³ Holden (2011):252n.

¹⁵⁴ Edwards (2012):141.

¹⁵⁵ See Gwynn (2015):65ff. “The fourth century Trinitarian debates are traditionally and inaccurately known as the ‘Arian Controversy’ as they began with a dispute between the presbyter Arius and his bishop Alexander of Alexandria.”

¹⁵⁶ Gwynn (2015):67.

¹⁵⁷ Gwynn (2015):68.

In the final section of the prayer Firmicus addresses the planets. He notes that there is a hierarchy amongst the planets and that the sun is considered the most powerful and says *tu o omnium siderum princeps, qui menstruis Lunae cursibus lumen adimis pariter et reddis, Sol optime maxime* (*Math.5.prae.5*). Firmicus presents the sun as a celestial body, similar to the modern view of a planet, rather than as an anthropomorphic being. Firmicus notes the sun provides the moon with light both here and in the passage which concludes Book 1 (discussed later in section 2.2.1). Although Firmicus says that the sun is *optime maxime*, he also says that it is not the most powerful power in the heavens: *qui omnia super omnia per dies singulos maiestatis tuae moderatione conponis, per quem cunctis animantibus immortalis anima divina dispositione dividitur* (*Math.5.prae.5*). Regarding this hierarchy Barnes notes that “Maternus subordinates the planetary influences to a Supreme God who can only be the God of the Christians.”¹⁵⁸ So far Firmicus displays a coherent set of beliefs regarding the gods, but the characteristics identifying the nature of the highest deity could be either Christian or Platonic.

2.1.4 Book 8

The eighth book of the *Mathesis* opens with the astrologer’s creed. In this section Firmicus addresses Mavortius and tells him about the soul:

nihil aliud in hac vitae brevitae laborandum nobis est Mavorti decus nostrum, nisi ut terreni corporis labe purgata, et amputatis si fieri potest omnibus vitiis vel certe plurimus, incorruptam animi divinitatem et nulla scelerum contagione pollutam auctori nostro reddamus deo (*Math.8.1.1*).

This section can be interpreted as conforming to either the Platonic notion of immortality of the soul¹⁵⁹ or the Christian view that the soul returns to God in an afterlife but needs be pure in order to get there.¹⁶⁰ Firmicus also notes *ne divinae fabricationis inmemorem animum nostrum vitiosis libidinum laqueis implicatum tamquam proiectum per praecipitia perdamus*

¹⁵⁸ Barnes (2011):169.

¹⁵⁹ The *Phaedo* contains many arguments for immortality, particularly the section at *Phd.78bff*. See Mason (2010):99ff.

¹⁶⁰ *Matthew* 5:20. “For I tell you that unless your righteousness exceeds that of the Pharisees and the teachers of law, you will never enter the Kingdom of Heaven.”

(*Math.*8.1.1) which could be a reference to the underworld as a place for those who lived sinfully. Firmicus also discusses the constituent parts of a human being:

nos vero magna quadam necessitatis moderatione perfecit, ut aliud sibi in nobis fragilitas corporis aliud immortalis animi divinitas vendicaret, scilicet ut corpus quod cum beluis videmur habere commune, serviens animo divinitatis eius semper imperio subiaceret (*Math.*8.1.4).

This also could refer to the Platonic concept that the soul was divided.¹⁶¹ However, Plato thought that the soul itself was divided into three (rational, spirited, and appetitive), whereas Firmicus indicates that man as a whole is divided rather than just the soul, and these parts consist of the body and soul.¹⁶² In Christian theology there were conflicting views concerning the composition of man:¹⁶³ Irenaeus considers there to be three elements to man, the body, soul, and spirit;¹⁶⁴ Tertullian considers there to be only two, the spirit and body.¹⁶⁵ This passage therefore is closer to Tertullian's view.

This concept of having a pure soul is expanded from the short mention made in Book 5. There Firmicus says: *pura mente et ab omni terrena conversatione seposita et cunctorum flagitiorum labe purgata hos Romanis tuis libros scripsimus* (*Math.*5.prae.4) which uses similar language as the passage at the start of Book 8, thus showing consistency. Both these passages correspond to the advice that Firmicus gives at the end of Book 2 about the life and training of an astrologer, which will be discussed in detail at section 2.2.2. In Book 2 he notes *itaque purus castus esto, et si te ab omnibus nefariis actibus separastis, qui animum pessumdare consuerunt* (*Math.*2.30.15), advising his reader to keep a quiet and virtuous life. However, this set of moral guidelines cannot be linked to any specific religion in the Roman Empire.

These passages in the *Mathesis* show that Firmicus does believe that astrology is compatible with religion, particularly as he encourages worship of the gods. These passages

¹⁶¹ *Phaedo* 246aff, *Republic* 435ff and *Timaeus* 69ff consider the division of the soul. See also Mason (2010):111ff.

¹⁶² See Mason (2010):111. This concept is found in *Timaeus* 69cff. *Timaeus* 30ff also shows the division of man; mind, body, and soul.

¹⁶³ See Karamanolis (2013):181ff.

¹⁶⁴ Theophilus and Justin Martyr also share this view (*Adv.Haer.*V.6.1). See Karamanolis (2013).

¹⁶⁵ Origen also considers this (*De paenitentia.*III.4). See Karamanolis (2013).

also indicate a basic set of beliefs that Firmicus holds; a creator god created the planets and gave them their power and also created mankind. The planets then influence events on earth. There are a number of elements throughout these passages which concur with Neo-Platonic theories, such as the four elements and the “Divine Mind”. However the prayer in the prologue to Book 5 also contains elements that resemble Christian doctrine such as the reference of a god in terms of father and son. Firmicus states in Book 1 that he does not know what to believe regarding the nature of the gods. Cameron comments that the *Mathesis* is “undoubtedly written by a pagan.”¹⁶⁶ However, there is no strong antipathy to Christianity within the *Mathesis* and Firmicus appears to be making an effort to be inclusive. There are elements which would suit pagans, philosophers, and the various branches of Christians, thus the *Mathesis* appeals to a wide audience. In addition, given the *DEPR* it is possible that Firmicus is considering conversion to Christianity whilst writing the *Mathesis* and is learning the Scripture, which would account for the similarities that Skutsch found.

2.2 Emperor

The conclusion to Book 1 contains a prayer in which Firmicus asks for the protection and continuation of the Constantinian line. As this prayer is for the benefit of the emperor, it is necessary to take into account the social context in which Firmicus is writing and also to consider what effect the emperor’s own faith may have had on the religious elements in this section. The conclusion to Book 2 contains Firmicus’ advice on how an aspiring astrologer should behave in everyday life. Within this section he notes how the emperor fits into astrological theory, a concept which has theological implications.

2.2.1 Prayer for an emperor

Firmicus starts this invocation by addressing the sun and states: *Sol optime maxime, qui mediam caeli possides partem, mens mundi atque temperies, dux omnium atque princeps, qui ceterarum stellarum ignes flammifera luminis tui moderatione perpetuas* (*Math.*1.10.14). This passage reiterates the concept of a hierarchy amongst the planets and gives the impression that Firmicus is praising the sun as the highest deity in the heavens. On its own

¹⁶⁶ Cameron (2011):174.

this phrase could suggest that Firmicus is a pagan or a worshipper of Sol Invictus. However, as the prayer progresses Firmicus names other powers, starting with the moon and then each of the planets in turn. He states:

tuque Luna, quae in postremis caeli regionibus collocata ad genitalium seminum perennitatem menstruis semper aucta luminibus Solis augusta radiatione fulgescis, et tu Saturne, qui in summo caeli vertice constitutus livedinem sideris tui pigro cursu et tardis agitationibus provehis, et tu, Iuppiter, Tarpeiae rupis habitator, qui mundum ac terras salutari semper ac benigna maiestate laetificas et secundi globi possides principatum, tu vero, Gravidus Mars rutilo semper horrore metuende, qui in tertiis caeli regionibus contineris, vos etiam, fidi Solis comites Mercurius et Venus (Math.1.10.14).

Although Firmicus addresses the planets individually and gives them an identifying epithet in this passage, he calls on each one predominantly as a celestial body. There is little indication that Firmicus is addressing the planets as the anthropomorphic gods of the Graeco-Roman pantheon. This mode of address is similar to how he addresses the planets in the prayer in the prologue to Book 5, as discussed above, and thus there is consistency in the religious elements in the first half of the *Mathesis*. In addition, the attributes that Firmicus mentions correspond more to their astrological powers and how they influence life on earth rather than the powers that are attributed to the anthropomorphic gods. For example, Firmicus notes the position of each planet: the Sun holds the middle position, Saturn the highest point, Jupiter the second position from the top, Mars holds the third region and the last two are constantly near the sun. This reflects the order the Greeks placed the planets in: Saturn, Jupiter, Mars, Sun, Venus, Mercury, Moon (in reverse order, from furthest to nearest).¹⁶⁷ Firmicus also describes the physical appearance of the planets. He describes Mars as: *rutilo semper horrore metuende*, which corresponds to how Mars appears in the sky. Even regarding the sun itself, the detail that Firmicus gives is: *ceterarum stellarum ignes flammifera luminis tui moderatione perpetuas*. This describes the astronomical attributes of the star, rather than what a solar deity might do. Therefore it is apparent that Firmicus is not addressing the sun as Sol Invictus and this possibility can be ruled out. In addition, the only Graeco-Roman deities that Firmicus mentions both here and throughout the *Mathesis* are those who are associated with a planet. Firmicus does not at any point name the other pagan gods, whether one of the original

¹⁶⁷ See Beck (2007):71.

deities such as Janus or Vesta, or one of the cults brought to Rome from the Empire, such as the cults of Mithras or Cybele. Instead he addresses only the planets. Therefore this is not a prayer to pagan deities, and this section does not indicate that Firmicus is a pagan.

However, there is a significant phrase in this prayer. Firmicus notes that the planets are *consensus vestrae moderationis et dei summi obsecuti iudicio perpetua his decernentis imperia* (*Math.*1.10.14). The concept of a singular deity who has command over the planets is consistent within the *Mathesis*. This deity does not appear to have a name but is addressed simply as *deus*. This could be a reference to either the Christian or the Platonic god.¹⁶⁸ The deity that Firmicus invokes could either be of his own faith or he may be taking the faith of the emperor into account. Firmicus asks in his prayer for the protection and continuation of the imperial family and so it is possible that he may address this prayer to the deities that the imperial family follows rather than his own. The reference to both the sun and another higher deity may link to the religious ambiguities of the time. Bardill notes that Constantine I kept his previous associations with the sun even after his conversion to the extent that it is difficult to pinpoint exactly when he converted.¹⁶⁹ However, the references to both the planets and the higher deity are consistent throughout the *Mathesis* and so it is unlikely that Firmicus invoked a different deity in this prayer from the rest of the text, for the sole reason that the prayer is for the imperial family.

2.2.2 The Life of an astrologer

Firmicus does not make any reference to the laws surrounding astrology within the *Mathesis* but he provides the aspiring astrologer with some advice on how an astrologer should behave in the moral code at the end of the second book. Within this passage he compares the astrologer with the training of priests. He also explains how to answer any questions concerning the emperor. On the topic of the behaviour of an astrologer, Firmicus states:

quare et disce et exequere omnia ornamenta virtutis et, cum te his instruxeris, esto facilis accessu, ut, si qui voluerit aliquid sciscitari, ad te cum nullo terrore trepidationis accedat.

¹⁶⁸ See Mason (2010):161. The concept of a singular deity, in particular the Christian god, in control of the planets and lesser gods is echoed in the *DEPR*. In this text Firmicus states: *Deos istos quos colitis ipse finxit, ipse composuit* (*DEPR*.26.4). This potentially indicates that there is some consistency in Firmicus' beliefs between the *Mathesis* and the *DEPR* and thus did not have a radical change of heart.

¹⁶⁹ See Bardill (2012):169ff.

esto pudicus integer sobrius, parvo victu, parvis opibus contentus, ne istius divinae scientiae gloriam ignobilis pecuniae cupiditas infamet. dato operam, ut instituto ac proposito tuo bonorum institutum ac propositum vincas sacerdotum; antistitem enim Solis ac Lunae et ceterorum deorum, per quos terrena omnia gubernantur sic oportet animum suum semper instruere, ut dignus esse tantis caerimoniis omnium hominum testimoniis comprobetur (Math.2.30.2).

This passage shows that Firmicus considers the discipline of astrology as equal in importance to the various religions. The astrologer needs to act as though he were a priest and Firmicus even calls the astrologer an ambiguous term *antistes*, which can translate to either “high priest” or “authoritative exponent, teacher.”¹⁷⁰ This provides a link between astrology and religion, without stating that astrology is a religion. This concept is recalled later in the astrologer’s oath in Book 7, which will be discussed in section 2.3. Firmicus continues and notes:

dabis sane responsa publice et hoc interrogaturis ante praedicio, <quod> omnia quidem illis, de quibus interrogant, clara sis voce dicturus, ne quid a te tale forte quaeratur, quod non liceat nec interrogare nec dicere (Math.2.30.3).

This is a subtle reference to the Augustan edict that astrologers should always have a witness when making predictions and there are certain questions which astrologers are not permitted to answer.¹⁷¹ These instructions also encourage the astrologer not to behave in a manner through which they may draw the anger or disapproval of those in power. Firmicus here is making sure that his discipline will not attract unwanted attention in order to protect his *Mathesis*. Additional advice includes *sit tibi uxor, sit tibi domus, sit honestorum amicorum copia, sit ad publicum assiduus accessus esto ab omnibus contentionibus separatus, nulla negotia nociva suscipias (Math.2.30.8)*. Sogno comments that Firmicus’ desire is “to make astrology and its practitioners socially acceptable.”¹⁷² This is a plausible assessment since it correlates with how Firmicus presents the religious aspects; there are elements which would suit a wide audience.

¹⁷⁰ OLD (1968):143.

¹⁷¹ Barton (1994):42.

¹⁷² Sogno (2005):169.

Firmicus then mentions that these prohibited topics include questions regarding the Roman state or the emperor. He states: *non oportet nec licet ut de statu reipublicae aliquid nefaria curiositate discamus* (Math.2.30.4) but does not indicate that this is due to the laws. Nor does he indicate what the consequences are or even if there are consequences. He instead implies that it is simply impossible. Regarding questions about the emperor Firmicus notes: *si quis interrogatus de fato dixerit imperatoris, quia nihil nec dicere poterit nec invenire* (Math.2.30.4). Firmicus then elaborates on this statement and explains:

sed nec aliquis mathematicus verum aliquid de fato imperatoris definire potuit; solus enim imperator stellarum non subiacet cursibus et solus est, in cuius fato stellae decernendi non habeant potestatem. cum enim fuerit totius orbis dominus, fatum eius dei summi iudicio gubernatur, et quia totius orbis terrenum spatium imperatoris subiacet potestatibus, etiam ipse in eorum deorum numero constitutus est, quos ad facienda et conservanda omnia divinitas statuit principalis (Math.2.30.5).

This explanation places the emperor outside the reach of astrological theory. It indicates that the emperor is a god himself and has similar power to the planets. This is the only occasion within the *Mathesis* where Firmicus refers to the emperor in this way and makes any reference of the Imperial Cult, a pagan concept. However, this phrase does not necessarily indicate a pagan sentiment, or that Firmicus is himself a pagan. It is also noted that Christians “believed that the emperors played a role in the divine order.”¹⁷³ Firmicus later notes that: *haec ratio et haruspices turbat; quodcumque enim ab his invocatum fuerit numen, quia minoris est potestatis, maioris [est] potestatis, quae enim est in imperatore, non poterit explicare substantiam* (Math.2.30.6). This clearly indicates that Firmicus considers the emperor to be a greater power than the planets and is emphasised with the statement: *divini numinis et immortalis sortitus licentiate potestatem in principalibus deorum ordinibus collocatur* (Math.2.30.6). Since Firmicus refers to multiple deities in this passage, it has supported the view that Firmicus is a pagan whilst writing this text. He also refers to a *dei summi* which has set up a system of lesser gods to maintain the world, a concept which is similar to the Platonic cosmology. However, Hegedus notes that “the imperial exemption from fate is remarkably similar to the Christian’s status of emancipation from astrological fate described by such a writer as Tatian.”¹⁷⁴ This similarity could be due to the fact that the

¹⁷³ Drake (2011):115.

¹⁷⁴ Hegedus (2007):166.

emperor by this time was Christian and so accommodates imperial policy. It may also be down to Firmicus' own beliefs.

Book 2 shows that Firmicus considers there to be a set of standards for those who practice astrology and so provides a comparison between astrology and other religions. This is consistent with Book 7 and the astrologer's oath (discussed in section 2.3). Also compatible with Book 7 is how Firmicus guides his reader through what he wants by providing a set of examples that can be easily understood. The section concerning the emperor's position in the universe elaborates Firmicus' cosmology and adds a second element that can be considered Christian. In this way Firmicus demonstrates that astrology and religion are compatible.

2.3 Mavortius

Firmicus addresses the *Mathesis* to Mavortius and so he may have taken his dedicatee into account when incorporating religious elements into the text. At the beginning of Book 7 Firmicus includes the astrologer's oath, which is addressed directly at Mavortius. Firmicus encourages his friend to take this oath and swear to keep what he has learned about astrological theory to himself and only share it with those who are deemed worthy. This oath bears resemblance to the mystery religions and has been used to link Firmicus with these practices and support the argument that he is pagan. Firmicus opens the chapter by introducing the oath:

cum incognitis hominibus Orpheus sacrorum caerimonias <intimaret>, nihil aliud ab his quos initiabat in primo vestibulo nisi iurisiurandi necessitatem [et] cum terribili auctoritate religionis exegit, ne profanis auribus inventae ac conpositae religiones proderentur. Sed et †Platonici meum perpetuum a se eum frequenter convenit, nec secretarum disputationum veneranda commenta inperitis aliquando <auribus> intimari. patiuntur enim haec omnia iacturam, cum perditis ac desperatis animis ingeruntur. [apud] Pythagoras etiam et noster Porphyrius religioso putant animum nostrum silentio consecrari (Math.7.1.1).

Bram comments that “in this passage Firmicus speaks of the knowledge of astrology as if it were one of the mystery religions, mentioning secrecy, oaths, etc.”¹⁷⁵ Hegedus has followed this view and notes that “he [Firmicus] describes the astrological doctrines which is imparting in his book as akin to initiation into the mystery religions.”¹⁷⁶ Since the mystery religions are associated with pagan practices this has led to the argument that Firmicus was a pagan whilst writing the *Mathesis*. Forbes notes that “in the early decades of his life the pagan Firmicus would have had the opportunity to become initiated in one or more of the mystery religions”¹⁷⁷ and a view has been put forward that Firmicus was an initiate of Mithraism.¹⁷⁸ There is little further evidence in the *Mathesis* to support this view. However, Geffcken notes that “the mysticism which prevailed among both pagans and Christians facilitated the transition from one religion to the other”¹⁷⁹ and so the fact that Firmicus is using terms associated with mystery religions does not necessarily mean that Firmicus was a member. It could easily mean that he was a Christian and this is the common ground on which to engage Mavortius. It should also be noted that this passage is only introducing the oath, and is not part of the oath itself. Firmicus is addressing Mavortius who was a pagan and, as a member of the elite, could feasibly have been an initiate of a mystery religion himself.¹⁸⁰ Firmicus is using his role as an instructor here to guide Mavortius through what he wants. Firmicus provides a comparison to previous events and gives a number of examples (Orpheus, Plato, Pythagoras, and Porphyry) so that Mavortius can see that there is precedent for this oath and can understand what is going on. The examples are representatives of schools of philosophy, rather than religious cults such as Mithras. Firmicus is thus forming a link between astrology and philosophy rather than mystery cults. In the phrase *unde et ego horum virorum legem [in]secutus* Firmicus indicates that taking an oath to protect secrets is the principle that he wishes Mavortius would follow, the deity it is sworn by does not matter. The comparison to the other mysteries is only provided as an example for Mavortius’ benefit, it is not a statement that astrology is a mystery religion itself, or part of one, and as such therefore does not necessarily have pagan connotations. Bram also notes that “in other passages of the *Mathesis* and in the *de Errone*, Firmicus strongly attacks the mysteries”¹⁸¹ and as such it would be strange for Firmicus to endorse the mystery religions at this point. Therefore there

¹⁷⁵ Bram (1975):312.

¹⁷⁶ Hegedus (2007):10.

¹⁷⁷ Forbes (1970):6.

¹⁷⁸ See Forbes (1970):7. This view was put forward by Friedrich in 1905 and Forbes is unconvinced of its validity.

¹⁷⁹ Geffcken (1978):136.

¹⁸⁰ Jones, Martindale and Morris (1971):514.

¹⁸¹ Bram (1975):312; although she does not point out these passages.

is little evidence to indicate that Firmicus is a follower of the mystery religions whilst he is writing the *Mathesis*.

Firmicus asks Mavortius to swear by the creator god. He asks:

*unde et ego horum virorum legem [in]secutus convenio te iureiurando Mavorti decus nostrum, per fabricatorem mundi deum qui omnia necessitate perpetuitatis excoluit, qui Solem formavit et Lunam, qui omnium siderum cursus ordinesque disposuit, qui maris fluctus intra certos terrae terminos coartavit, qui ignem ad sempiternam substantiam divinae perpetuitatis inflamat ... qui ad fabricationem omnium quattuor elementorum diversitate composita, ex contrariis et repugnantibus cuncta perfecit, et ortum occasumque terraemotum omnium ***** per descensum ascensumque animae (Math.7.1.2).*

This vow is not sworn by any of the pagan mystery deities, but by the singular creator god that Firmicus mentions throughout the *Mathesis*. Firmicus describes this deity in the same manner as in the passages that conclude Book 1 and open Book 5 and emphasises that this deity has created the stars and arranged their paths. This passage suggests links with the Platonic deity. However, in the Platonic tradition prayers and oaths would not be addressed to the highest deity but to lesser gods as mentioned in section 2.1. Firmicus does not ask Mavortius to swear by lesser gods, or even the planets, and so this does not quite correspond with Platonic ideals. The description of the deity has been considered to be Christian in nature. This is the second passage that forms the basis for Skutsch's argument that Firmicus is a Christian whilst writing the *Mathesis*. He notes that there are similarities between how Firmicus addresses the creator god and Scripture, as there were in the prayer in the prologue of Book 5. Examples include: *qui ignem ad sempiternam substantiam divinae perpetuitatis inflamat* which is comparable to the Scriptures: ὁ ποιήσας πῦρ ... πρὸς ἐνδείας ἀναπλήρωσιν καὶ τὸ θερμαίνεσθαι ἡμᾶς καὶ φωτίζεσθαι ὑπ' αὐτοῦ (CA.VIII.12.S.498.Z.25) and *qui ad fabricationem omnium quattuor elementorum diversitate composita, ex contrariis et repugnantibus cuncta perfecit* for which he found comparable material in Novatian: *in concordiam elementorum omnium discordantes materias sic connectens, ut ex idsparibus elementis ita sit unus mundus ista coagmentata conspiratione solidus, ut nulla vi dissolve*

possit (*Trin.*2) as well as in the Scriptures: ἐκ μὲν τῶν τεσσάρων σωμάτων διαπλάσας αὐτῷ τὸ σῶμα (*CA.VII.34.S.428.Z.7*).¹⁸²

The reason Firmicus asks Mavortius to take the oath is to protect the secrets of astrology. He notes:

ne haec veneranda commenta profanis vel inperitis auribus intimentur sed his quos animus incorruptus ad rectum vivendi ordinem casto ac pudico praesidio mentis ornavit, quorum illibata fides, quorum manus ab omni sunt facinorum, scelere separatae, integris pudicis sobriis ac modestis ut puro mentis splendore decoratis integra se scientia divinationis insinuet (*Math.7.1.3*).

This does not prohibit Mavortius from teaching others but they must be deemed worthy enough to hear the theories. Firmicus' mention that they must be incorrupt and free from sin could be interpreted either in terms of Platonism or Christianity. It links back to the advice Firmicus gives those who wish to practice astrology at the end of Book 2 regarding how they should conduct themselves. The request that Mavortius swears to keep what he has learned secret is Firmicus' method of ensuring that Mavortius does not get into trouble for knowing material that is considered suspicious.

Firmicus reminds Mavortius about his oath at the end of Book 8, in the conclusion to the entire *Mathesis*. He says:

tu vero praecedenti admonitione conventus, et religiosa iurisiurandi auctoritate conmonitus, hos libros puro animo ac pura mente custodi, ne inperitis auribus et sacrilegis animis scientia istius operis intimentur. celari se et abscondi ab initio voluit ꝑꝑid his rerum, et plurimis se tegumentis natura divinitatis abscondit, ne esset facilis accessu, ne cunctis patefacta maiestatis suae origine panderetur (*Math.8.33.2*).

This emphasises the reason behind the oath, that Firmicus only wishes his book to remain safe. There are no other religious connotations attached to this oath. This passage shows the Firmicus is aware of mystery religions but does not indicate his affiliation with one. Instead

¹⁸² See Skutsch (1910):300ff. There are further examples in section 2.1.3.

this knowledge is used as a bridge between Mavortius and his dedicatee to aid understanding. The concepts in this passage correlate to those mentioned in the life of an astrologer section at the end of Book 2.

The religious elements that are mentioned in the *Mathesis* form a coherent set of principles and are almost consistent. Firmicus' astrology includes the following concepts: Fate is in control of all aspects of an individual's life; the planets are gods and influence events on earth; the planets are in turn subordinate to a singular god; this god has no other name, created man to mirror the universe, and gave the planets and Fate their powers. However, Firmicus also states that he is unsure regarding the nature of this highest deity. In the prayers in the latter half of the *Mathesis* he uses descriptive phrases that could be considered Christian in nature. In early Christianity there was a lot of debate regarding the concepts of Fate and Free Will and thus Firmicus' assertion that Fate controlled all aspects of life is compatible with some Christian beliefs, in the form that the Christian God controlled Fate which in turn controlled man. In addition, it has been noted that "there is no religious opinion in this book that he repudiates in his Christian petition [the *DEPR*]." ¹⁸³ I therefore believe that Firmicus may have been a Neo-Platonist, but either considered conversion to Christianity, or indeed converted, whilst writing the *Mathesis*.

It is also my thought that Firmicus made his book on astrology compatible with as many religions as possible. Lenski comments that Firmicus "commends astrology as a science which discerns in the constellations the inexorable design of the God who moves them," ¹⁸⁴ a view with which I concur. Firmicus demonstrates that astrology can be incorporated with religion and manages it in such a way that makes it acceptable to both polytheistic and monotheistic religions. The polytheists can accept the concept that there are many gods, including the planets, and the monotheists can use the concept of an overarching deity which controls everything beneath it. This approach also means that Firmicus is able to protect the *Mathesis* and its readers from the changes in society and in the laws.

In this chapter the principle has been upheld that the two questions which have dominated debates about the *Mathesis*, the date of composition and the religion Firmicus followed when he wrote it, should be considered separately, and that one does not affect the

¹⁸³ Edwards (2012):142.

¹⁸⁴ Lenski (2006):141.

other. However, it can be noted that Book 1 of the *Mathesis* was written between 337 and 340 and the text was completed at a later indeterminable point. The religious terminology is not explicitly Christian but nor is it antithetical either. It appears that Firmicus seems to be taking a diplomatic line which is a stance also seen in other contemporary literature such as the Constantinian panegyrics. In the panegyrics there are Christian orators addressing Christian emperors in non-explicit terms, which means that they offend the least number of people possible.¹⁸⁵ Firmicus bears a closer resemblance to Nazarius and the *PanLat.XII(9)* than he does to the end of the *Laudes Domini*. These questions of composition date and Firmicus' faith have dominated debate on the *Mathesis* to such an extent that other aspects of the text, such as astrological theory and authority, have been overlooked. However, the question regarding Firmicus' faith is important to consider as it may have an effect on how Firmicus establishes his authority within the text. If religious authority is used then the faith of Firmicus may affect how he invokes this authority.

¹⁸⁵ Saylor Rodgers (2012):315. In *PanLat.IV(10)* of 321 Nazarius, apparently a monotheist, addresses Constantine in a way in which a Christian would think of God whereas a pagan would think of Jupiter and thus would offend nobody. An example from the end of the fourth century is found in Setton (1941):29. He notes that "the most Christian Emperor Theodosius appears to have heard himself called a god with no less pleasure than Maximian, persecutor of Christians."

Chapter 2: Firmicus' Use of Astrological Sources

The analysis of Chapter 1 demonstrates that the majority of scholarship concerning the *Mathesis* has concentrated on the issues of faith and date. The effect of this focus is that other aspects of the text and its context have so far not received as much attention in scholarship. Therefore the following chapters of this thesis will consider how the *Mathesis* reflects the intellectual culture of the fourth century and the literary tradition of Latin astrological texts, and what influence it may have had on future literature.

1. Authority in Literature

Scourfield notes that “the character of late antique culture is derived in part from the various ways of integrating the past.”¹⁸⁶ This integration of the past is partly derived from a desire to preserve and reaffirm it.¹⁸⁷ In the fourth century the Constantinian dynasty is considered as a new golden age for the Roman Empire and both evokes memories of the “good” emperors of the second century and draws parallels with the Augustan age.¹⁸⁸ The reigns of both Augustus and Constantine I start after years of civil unrest and both brought a sense of peace to the Empire. This therefore creates a sense of nostalgia within Roman culture during the fourth century, which can be seen in a number of aspects of culture. First, in architecture, the Arch of Constantine makes use of *spolia*. It incorporates aspects from a frieze commemorating Trajan, roundels from a Hadrianic hunting monument, and relief panels commemorating Marcus Aurelius.¹⁸⁹ Secondly, the education system taught that the classical authors should be venerated and used as a basis for imitation, which results in a literary culture which draws heavily from the literature and styles of the early Empire.¹⁹⁰ In prose, commentaries and handbooks become popular as they are a means of transmitting knowledge and continuing the link with the past. On the other hand, in poetry the form of the cento flourishes during Late Antiquity, in which small fragments of texts are combined to form a new piece for readers to spot and identify. These fragments enhance the new text and pander to the reader’s education.

¹⁸⁶ Scourfield (2007):4.

¹⁸⁷ Scourfield (2007):6.

¹⁸⁸ Elsner (2000):152.

¹⁸⁹ Elsner (2000):153.

¹⁹⁰ Jones (1964):1007; Chahoud (2007):69 also notes that “the prominence given to the authority of the ancient writers (*auctoritas veterum*) both in the orientation of scholarship and in the educational system is a characteristic feature of Latin culture in Late Antiquity.”

The most popular authors used for these fragments are from the Augustan age, including Virgil.¹⁹¹ The above paragraph gives a selective overview on Roman literature, since Firmicus is writing within Latin intellectual culture. Hence Greek culture is not the focus and so is not considered.

The integration of older texts is used in order to create a sense of authority for the fourth century author and his text. Scourfield comments that “for many late Antique writers the acquisition of authority rests very clearly on a relationship with existing authoritative texts.”¹⁹² Authors would draw inspiration from, and incorporate elements of well-known authors and texts into their own work in order to boost their own validity. This use of previous authors as a source of authority increases to the point where a text has authority purely because it has existed for a period of time and considered as a basis for fact.¹⁹³ This then meant that authors would name several authors in order to establish the validity of their texts and thus their own authority. It is noted that *auctoritas veterum* is a key concept for Nonius and he regularly quotes at least one author.¹⁹⁴ Ausonius also comments *vidit semivirum fons Salmacis Hermaphroditum/ vidit nubentem Plinius Androgynum* (*Epi.*LXXVI.11-12) which names Pliny the Elder and refers to the *Metamorphosis*.¹⁹⁵ This can also be seen in the texts of Vegetius and Palladius, discussed in Chapter 3. Although prevalent in Late Antiquity, the practice of naming other authors in order to attain authority is not a new feature to Latin literature. It is noted that “one of the inescapable features of Latin literature is that almost every author, in almost everything he writes, acknowledges his antecedents, his predecessors, and the tradition in which he was bred.”¹⁹⁶ For example, in the first century Manilius names Homer, Hesiod and Theocritus but asserts that he will not copy them.¹⁹⁷ Authors would not necessarily credit the origins of a section of text or indicate a quote but may simply note that another author had written on the same topic. In addition, authors who are based in the fringes of the Empire, for example Africa or Gaul, also name other authors in order to validate their Roman identity and with it their authority.¹⁹⁸ It is noted

¹⁹¹ Roberts (1989); McGill (2005) gives a complete analysis of this literary form.

¹⁹² Scourfield (2007):22.

¹⁹³ Chahoud (2007):76 notes that “in Late Antiquity authority takes over – more precisely the authority of antiquity (*auctoritas veterum*).”

¹⁹⁴ Chahoud (2007):79.

¹⁹⁵ Evelyn-White (1921):199n.

¹⁹⁶ West and Woodman (1979):1.

¹⁹⁷ Goold (1977):87n. See Chapter 3 section 1.1 for the analysis of Manilius’ use of sources.

¹⁹⁸ Scourfield (2007):7. “What is at stake is Latin – and hence Roman – identity, and the means to reassert this identity is to emphasise the authority of the old writers.”

that Nonius, writing in Africa, is guided by the principle of antiquity and names grammatical sources that belong to the Republican period.¹⁹⁹ In scientific texts it is particularly important that the author of a treatise or textbook can demonstrate the basis upon which he claims his authority.²⁰⁰ If the author cannot prove himself as a reliable source then the material of the text will potentially not be considered reliable either and disregarded.²⁰¹

Therefore it can be seen that an important aspect of the Latin literary tradition is that the author establishes his authorial persona. In Late Antiquity one of the preferred methods is to name other authors within the same genre or to incorporate fragments of an older text. The *Mathesis* covers a number of factors which require the firm establishment of authority: Firmicus is writing an astrological treatise and so needs to present himself as a scientific authority; the treatise is a didactic text and thus requires didactic authority; he originates outside of the Italian peninsula and so may need to assert his Roman identity. One of the most conspicuous ways in which Firmicus asserts the authority of his text is by naming the sources he has consulted in order to compile this text. This links Firmicus with the traditions of astrological and treatise writing by indicating whom he considers his predecessors to be.

2. Sources within the *Mathesis*

A particularly conspicuous aspect of this practice is the plethora of authors and astrological sources which are then named within the *Mathesis*. A summary of these named sources is given below. The names of the sources, the frequency of the references to the source, the date of the source and its language are noted in the following table:²⁰²

¹⁹⁹ Chahoud (2007):75.

²⁰⁰ Taub and Doody (2009):8. “The creation of a distinct voice or persona was central to the process of establishing one’s authority as a scientific or medical author.”

²⁰¹ Doody (2009):93. “Authority is central to the practice of medicine. In antiquity, in the absence of strong institutional frameworks guaranteeing a doctor’s credentials, creating the right impression of knowledge, skill and moral character was a serious consideration for the individual practitioner.”

²⁰² This list is found in Volume 2 of the Teubner edition of the *Mathesis* as Index I “index of authors” but cites the page and line number of the reference within the edition. Here the references denote the sections of the text (book, chapter, paragraph) in order to make it more accessible.

Name	Century	Origin	Text Ref.
Abram		Hebrew	4.p.5, 4.17.2
Abraham		Hebrew	4.17.5, 4.18.1
Book of Abraham		Hebrew	8.3.5
Achilles (Tatius)	3rd AD	Greek	4.17.2
Aesculapius		Egyptian	3.1.1, 3.1.2, 4.p.5, 5.1.36
Antiochus	2nd AD	Greek	2.29.2
Aratus	4th BC	Greek	8.5.3
Aristotle	3rd BC	Greek	1.1.5
The Babylonians			2.p.3, 2.3.4, 2.3.6, 3.13.4, 1.p.6
Caesar	1st BC	Latin	2.p.2, 8.5.3
the Chaldeans			8.25.10, 8.17.11
Cicero	1st BC	Latin	1.7.41, 2.p.2, 8.5.3
Critodemus	3rd BC	Greek	4.p.5
Dorotheus of Sidon	2nd AD	Greek	2.29.2
The Egyptians			2.p.3, 2.2.2, 4.20.3
Fronto		Latin? ²⁰³	2.p.2, 2.p.4 (3x)
The Greeks			1.4.5, 1.10.5, 2.p.4, 2.2.2, 2.4.6, 2.6.1, 2.8.1, 2.10.2, 2.10.3 (2x), 2.11.1, 2.15.1, 2.15.2, 2.15.4 (2x), 2.16.1, 2.16.2 (4x), 2.17 (2x), 2.19.8, 2.19.11, 2.19.12, 2.19.13, 2.26.1, 2.29.2 (2x), 3.2.23, 4.p.4, 4.1.8, 4.8.1, 4.15.2, 4.19.1, 4.20.3, 4.25.1, 6.33.1, 7.7.4, 8.1.10, 8.5.1, 8.10.1, 8.17.4, 8.17.5
Hanubius		Egyptian/ Greek	3.1.1
Hipparchus		Greek	2.p.2, 2.p.5
Mercurius		Egyptian	4.p.5
Navigus	1st BC	Latin	2.p.4
Nechepso		Egyptian	3.p.4, 4.p.5, 4.22.20, 8.4.14, 8.5.1
Petosiris		Egyptian	3.p.4, 4.p.5, 4.22.20, 8.2.1, 8.5.1

²⁰³ Fronto's identity is not confirmed and so it is not known in which language he wrote. See Chapter 4 section 3.4.

Plato	4th BC	Greek	1.1.5, 1.7.10, 17.19, 6.30.24
Plotinus	3rd AD	Greek	1.7.14
Porphyry	3rd AD	Greek	7.1.1
Ptolemy	2nd AD	Greek	2.p.4, 2.29.2, 3.13.14

This table shows that the vast majority of references are to Greek sources, or to authors who are based in Alexandria but write in Greek. The majority of references are also not to specific individuals but are a generic group, “the Greeks”. This indicates the tradition into which Firmicus is choosing to link the *Mathesis*.

This table also highlights some omissions within the Greek sources. There are no references to Vettius Valens who was writing during the second century AD and in Alexandria, and is therefore a contemporary of Ptolemy.²⁰⁴ His *Anthology* contains 130 horoscopes and it is noted that Valens cites over twenty authors by name and so would have been a convenient resource for Firmicus to use.²⁰⁵ The preface to the seventh book even contains a suggestion that an oath should be taken by those reading the work. The *Mathesis* contains this oath, and it is also found in the seventh book.²⁰⁶ In addition, Vettius Valens’ text is reproduced more than any other astrological text, with many emendations and additions, which indicates its worth and popularity.²⁰⁷ It is therefore odd that Firmicus does not cite Vettius Valens, particularly due to the above parallels between the texts of these authors, but names Ptolemy. Another omission is Manetho, who is also writing during the second century AD. His *Prognostics* uses Dorotheus as a source, an author who is also mentioned by Firmicus. The text is also notable as it refuses to consider imperial stars on the basis that this will incur official displeasure.²⁰⁸ This has a parallel with the *Mathesis* as in Book 2 Firmicus warns the would-be astrologer not to answer questions concerning the imperial family. Other omissions include: Geminus of Rhodes who wrote elementary textbooks in the first century BC, and Teukros of Babylon whose work united the traditional astrology with Greek elements.²⁰⁹ It is unknown whether Firmicus would have known about these authors, or read

²⁰⁴ Barton (1994):59 notes that the *Anthology* was written over at least 20 years, from 154 to 174 AD.

²⁰⁵ Holden (2006):53.

²⁰⁶ Barton (1994):59 also notes “he [Valens] frequently exhorts the reader to treat his revelations like the mysteries and not reveal the secrets to anyone”; In addition Dihle (1994):399 notes the parallels between the texts “Book 1 of the *Mathesis* contains a lengthy defence and moral justification of astrology, a piece similar to that which Vettius Valens had produced two centuries earlier.”

²⁰⁷ Barton (1994):59.

²⁰⁸ Barton (1994):58.

²⁰⁹ Names taken from the list of astrological authors in Bram (1975):323-325.

their works, but in his effort to record everything concerning the discipline of astrology, he has missed a number of sources.

Firmicus is not the first author to write a didactic astrological work in Latin. However, of the 111 references made to sources, only 5 are to Latin authors, and these are to Cicero and Caesar. In addition, these references indicate that Cicero and Caesar only translated previous works and did not produce anything new: *et ipsos tamen de alieno opere mutuatos* (*Math.*2.prae.2). There are a number of Latin authors who wrote texts on astronomical and astrological phenomena and could have been cited by Firmicus. Examples include Germanicus and his *Aratea*, and Ovid and his *Fasti*. Censorinus is omitted, but as his work focusses on calendars rather than horoscopes, this omission is not surprising. However, the conspicuous omission is Marcus Manilius. His text, the *Astronomica*, is a work containing five books concerning the construction of the horoscope and the zodiac and was written during the early first century.²¹⁰ This omission is particularly surprising as there are aspects of the *Mathesis* which bear close resemblance to the *Astronomica*, such as the section concerning the *Sphaera Barbarica*, which is also known as the *paranatellonta*.²¹¹ However, Firmicus neither references Manilius by name nor acknowledges the existence of this author at all within the *Mathesis*. It is possible that Firmicus is imitating the text, as this was a common practice within Latin literature.²¹² Citation of sources was not considered necessary and they tended to be included in order to add more authority to the text or to identify and highlight a different opinion to their own.²¹³ However, it is also possible that Firmicus could be using the *Astronomica* but hiding his source. Thus he could receive credit for the material, and augment his authority, in effect plagiarising it. Plagiarism within Latin literature extends back to the Republic and McGill notes that several authors during the early Empire, including Vitruvius and Manilius, highlight the practice within their prefaces and use allegations of

²¹⁰ The exact dates of the *Astronomica* are disputed. However, the consensus of most scholars is that Books 1-3 were written during Augustus' reign and Books 4-5 during Tiberius'. See Goold (1977):xii and Volk (2009):137-161 for the full debate.

²¹¹ Volk (2011):9. "The ancient author most indebted to Manilius is the fourth-century astrological author Firmicus Maternus, who in Book 8 of his *Mathesis* closely follows the *Astronomica*'s discussion of the *paranatellonta* without however giving his model any credit."

²¹² Volk (2009):183. "An author may react to one or more earlier writer, whom he may either follow as positive models or try to outdo by doing things differently. In the case of Latin literature scholars speak of *imitatio* (imitation) and *aemulatio* (rivalry) to describe this kind of approach on the part of Roman writers to both their Greek and Latin predecessors."

²¹³ McGill (2012):25.

plagiarism to promote their own authorial value.²¹⁴ However, these accusations are only evident in a handful of extant authors from this period and the charge of plagiarism is not found in Latin prefaces again until Priscian in the sixth century.²¹⁵ Plagiarism is more difficult to identify than citation, especially as the plagiarised text may be lost. However, it has the potential to indicate aspects of fourth century reading practices, particularly against the background of an intellectual culture in which source citation is a predominant method of establishing authority, and texts are adorned with fragments from earlier literature.²¹⁶

The question is raised of whether Firmicus has used Manilius and the *Astronomica* as a source for the *Mathesis*, and if he has then why Manilius is not credited. This chapter will examine the astrological theories of the *Mathesis* to see whether this text has used the *Astronomica* as a source. In order to do this, the astrological theories of the *Astronomica* and the *Mathesis* will be compared, considering what each author presents about the horoscope, the zodiac and the planets. The *Mathesis* will also be compared to the text of an author who Firmicus has named, in order to see how closely he follows his cited sources. Of the sources that are mentioned, the majority are for group entities, such as “the Greeks” or “the Babylonians” and so cannot be used. One of the named sources with the most frequent mentions is Ptolemy and his text, the *Tetrabiblos*, is extant and more or less intact. Therefore this text will be used.²¹⁷ This analysis will indicate the extent to which Firmicus is manipulating his sources and the reader.

3. Astrological Theory

The astrological theories explained in the *Tetrabiblos*, *Astronomica* and the *Mathesis* will be analysed to see if there are any similarities in the information between the texts. This will indicate whether Firmicus has used Ptolemy and Manilius as sources. This comparison will consider how each text provides information about three main components of horoscopic astrology: the horoscope itself, the zodiac, and the planets.

²¹⁴ McGill (2012):34. These authors state that they will not copy a predecessor but are producing something original.

²¹⁵ McGill (2012):69.

²¹⁶ Roberts (1989):38ff.

²¹⁷ At this point it is assumed that Firmicus has access to both the *Tetrabiblos* and the *Astronomica*. The probability of this will be considered in Chapter 4.

3.1 Horoscope

Ancient astrology has five main forms: genethliological, universal (also known as general), catarchic, interrogatory, and omen. Genethliology focusses on the configuration of the stars at the time of a birth or conception of an individual; universal (or general) astrology uses the principles of genethliology but applies them to groups (nations or cities) rather than to individuals; catarchic astrology considers the best moment astrologically to start something and uses the principles of genethliology in reverse; interrogatory astrology considers the current configuration of the stars in order to answer questions; omen astrology considers astronomical and meteorological phenomena (such as comets or lightning) and interprets these.²¹⁸ This last form does not use horoscopes. Genethliology is the dominant form of astrology in the Roman Empire.²¹⁹ The following sections will consider which form of astrology each text uses, and some key aspects to the horoscope including structure, bright stars, paranatellonta, comets, and antiscia.

Some authors consider genethliology and universal astrology as separate topics, others combine the two variations. Both the *Astronomica* and the *Mathesis* focus solely on genethliology, although they acknowledge that there are alternative forms. The *Astronomica* contains a short section on how national differences depend on climate. For example: *flava per ingentis surgit Germania partus/ Gallia vicino minus est infecta rubore/ asperior solidos Hispania contrahit artus* (*Astron.*4.715-717). However, Manilius does not provide much information on how the stars affect a nation, or city, as a whole. The *Mathesis* mentions the concept of universal astrology in Book 1. Firmicus retorts to his opponents: *ergo Scytharum rabiem numquam mitigat Iuppiter, nect Italis Sol aliquando denegabit imperia, nec levitati Graecorum Saturni stella pondus imponit* (*Math.*1.2.4), but otherwise does not mention this form of astrology.²²⁰ The *Tetrabiblos*, on the other hand, contains both forms of astrology and is split equally between the two. The first two books consider universal astrology and the latter two consider genethliology. Ptolemy clearly distinguishes between the two types:

εἰς δύο τοίνυν τὰ μέγιστα καὶ κυπρότατα μέρη διαιρουμένου τοῦ δι' ἀστρονομίας προγνωστικοῦ, καὶ πρώτου μὲν ὄντος καὶ γενικωτέρου τοῦ καθ' ὅλα ἔθνη καὶ χώρας καὶ

²¹⁸ See Beck (2007):10.

²¹⁹ Beck (2007):9.

²²⁰ Concerning this lack of universal astrology in the *Mathesis* Abry (1999):44 notes “la disparition de toute géographie astrologique est l’une de ces [Firmicus’] adaptations.”

πόλεις λαμβανομένου, ὃ καλεῖται καθολικόν, δευτέρου δὲ καὶ εἰδικωτέρου τοῦ καθ' ἓνα ἕκαστον τῶν ἀνθρώπων, ὃ καὶ αὐτὸ καλεῖται γενεθλιαλογικόν (*Tetrabiblos*.2.1.53-54).²²¹

At the beginning of the genethliological section (Book 3), Ptolemy notes the similarities and differences between genethliological and universal astrology:

ἐπειδὴ περ καὶ τῶν καθ' ὅλου καὶ τῶν καθ' ἓνα ἕκαστον συμπτωμάτων αἰτία μὲν ἢ τῶν πλανωμένων ἀστέρων ἡλίου τε καὶ σελήνης κίνησις, προγνωστικὴ δὲ ἢ τῆς τῶν ὑποκειμένων αὐτῆς φύσεων τροπῆς κατὰ τὰς ὁμοιοσχήμονας τῶν οὐρανίων παρόδους διὰ τοῦ περιέχοντος ἐπιστημονικὴ παρατήρησις, πλὴν ἐφ' ὅσον ἢ μὲν καθολικὴ περίστασις μείζων τε καὶ αὐτοτελής, ἢ δ' ἐπὶ μέρους οὐχ ὁμοίως (*Tetrabiblos*.3.1.104).

The main difference concerns the starting point and is described thus:

ἀρχὰς δ' οὐκέτι τὰς αὐτὰς ἀμφοτέρων νομιστέον εἶναι, ἀφ' ὧν τὴν τῶν οὐρανίων διάθεσιν ὑποτιθέμενοι τὰ διὰ τῶν τότε σχηματισμῶν σημανινόμενα πειρώμεθα προγινώσκειν ἀλλὰ τῶν μὲν καθολικῶν πολλὰς, ἐπειδὴ μίαν τοῦ παντὸς οὐκ ἔχομεν (*Tetrabiblos*.3.1.104).

From this it can be seen that Firmicus “follows Manilius’ declared method of instruction,”²²² as neither he nor Manilius consider universal astrology in their texts, whereas Ptolemy does. Therefore concerning types of astrology the *Mathesis* bears greater resemblance to the *Astronomica* than it does to the *Tetrabiblos*.

3.1.1 Structure of the horoscope

The aim of the *Tetrabiblos*, *Astronomica*, and the *Mathesis* is to explain the whole discipline of astrology to their respective audiences. This means that the topics covered regarding individual horoscopes are broadly similar. Each text includes information on how the horoscope relates to: the family – parents, siblings, children including any that do not survive childhood for whatever reason, and spouses; the individual whose horoscope it is – health, diseases, death, and occupation; other aspects of life – travel, friends, enemies, dangers, and

²²¹ All *Tetrabiblos* quotations from Robbins (1940).

²²² Volk (2009):124.

fortune. All texts cover the length of an individual's life and explain how to calculate it.²²³ Each text also explains how the horoscope is structured, focussing predominantly on the theory of the *Dodecatropos* and the *Decans*.

One of the basic components of a horoscope is the *Dodecatropos*, otherwise known as “the twelve temples”. As the name suggests, this involves splitting the horoscope chart into twelve equal parts, which are: Horoscope, the Gate of Hades, Goddess, Lower Mid-heaven, Good Fortune, Bad Fortune, Occident, Beginning of Death, God (otherwise known as the Sun), Mid-heaven, Good Daemon, and lastly Bad Daemon.²²⁴ Within this system, four of the houses listed are also known as the four *Cardinal Points*. These are: the Horoscope, Lower Mid-heaven, Occident, and Mid-heaven. The *Dodecatropos* forms the basis for the system of *Places* which govern certain aspects of life.²²⁵ These are: Life, Gain, Siblings, Parents, Children, Illness, Marriage, Death, Travel, Honours, Friends, and Enemies.²²⁶ The *Horoscopic Point* is the degree of the zodiac rising over the horizon at the determined moment and is the focal point for the horoscopic chart. The system of *Decans* is derived from an Egyptian system of time-keeping which subdivides each sign of the zodiac into three equal parts. The *Dodecatemoria* divide either the planets or the zodiac signs into twelve equal parts. Both the *Decans* and the *Dodecatemoria* provide more exact details from the horoscope.

Ptolemy states that the topics he will cover include: the form of the body and illnesses, the mind, possessions, marriage and children, friends, journeys, and death. This corresponds to the system of the places mentioned above. He notes:

ὑπερ, ὧν ἐκάστου κατὰ τὸ κεφαλαιῶδες ποιησόμεθα τὴν ὑπήγησιν, αὐτὰς τὰς τῆς ἐπισκέψεως πραγματείας μετὰ ψιλῶν τῶν ποιητικῶν δυνάμεων, ὡς ἔφαμεν, ἐκτιθέμενοι, καὶ τὰ μὲν περιέργως ὑπὸ τῶν πολλῶν φλυαρούμενα καὶ μὴ πιθανὸν ἔχοντα λόγον πρὸς τὰς ἀπὸ τῆς πρώτης φύσεως αἰτίας ἀποπεμπόμενοι (*Tetrabiblos*.3.3.111).

²²³ There are differences in the method for this calculation which will be discussed in the following section. The term *Chronocrator*, meaning the ruler of time and controlling a certain period of time in life, is also only recorded in the *Mathesis*. See *TLL*.

²²⁴ Robbins (1940):273n.

²²⁵ Beck (2007):42 notes that “the *places* are essential to genethliology because they let the astrologer resolve a person's life into its component parts, for example your marriage(s), your health, your marital gains.”

²²⁶ See Beck (2007):46 for how the components of life connect with the *dodecatropos*.

His method is to examine the zodiac, the planets and their places and then any aspects.²²⁷ However, Robbins notes that Ptolemy “pays little attention to the system of *places*, or *houses* so much used by the astrologers in the actual casting of nativities.”²²⁸ Within the *Tetrabiblos*, Ptolemy only considers five of these houses: Horoscope, Good Daemon, Mid-heaven, God, and Occident, without referring at all to the other seven points. He states:

τό τε περὶ τὸν ὥροσκόπον δωδεκατημόριον ἀπὸ πέντε μοιρῶν τῶν προαναφερομένων αὐτοῦ τοῦ ὀρίζοντος μέχρι τῶν λοιπῶν καὶ ἐπαναφερομένων εἴκοσι πέντε μοιρῶν, καὶ τὰς ταύταις ταῖς λ' μοίραις δεξιᾶς ἐξαγώνους τε τοῦ ἀγαθοῦ δαίμονος, καὶ τετραγώνους τοῦ ὑπὲρ γῆν μεσουρανήματος, καὶ τριγώνους τοῦ καλουμένου θεοῦ, καὶ διαμέτρους τοῦ δύνοντος (*Tetrabiblos*.3.10.128).

This is the extent of the information that Ptolemy provides on the system of *Places*, and is only mentioned as an element of the calculations for the length of an individual's life. Similarly, he does not explain in depth how life events, such as marriage, children, and travel, relate to the structure of the horoscope, nor give an overview of the basic horoscopic structure. Instead he continues straight to the interpretations. Ptolemy covers the degree of the *Horoscopic Point* and notes the difficulties involved in ascertaining the correct point in time due to flaws in technology.²²⁹ Instead, he notes that he should detail alternative methods that do not rely on exact timekeeping:

ἀναγκαῖον ἂν εἴη προπαραδοθῆναι τίνα ἂν τις τρόπον εὐρίσκοι τὴν ὀφείλουσαν ἀνατέλλειν μοῖραν τοῦ ζωδιακοῦ κατὰ τὸν φυσικὸν καὶ ἀκόλουθον λόγον, προυποτεθείσης τῆς κατὰ τὴν διδομένην σύνεγγυς ὥραν διὰ τῆς τῶν ἀναφορῶν πραγματείας εὐρισκομένης (*Tetrabiblos*.3.2.109).

The concepts of the *Decans* and the *Dodecatemoria* are absent from the *Tetrabiblos*.

Manilius, in contrast to Ptolemy, explains how the structural aspects of the horoscope fit together into a coherent pattern. In Book 2 he explains the system of the *Dodecatropos* and gives a short description of the story behind each of the temples. For example:

²²⁷ See *Tetrabiblos*.3.3 for the full explanation.

²²⁸ Robbins (1940):272n.

²²⁹ Water clocks can block or the flow may be irregular, solar instruments can shift position.

*merito Typhonis habentur
horrendae sedes, quem Tellus saeva profundit,
cum bellum caelo peperit nec matre minores
exstiterunt partus (Astron.2.874-877).²³⁰*

He also notes if the Greek names for the places are different, for example *Daemonien memorant Grai* (Astron.2.897) and *deus ille locus sub nomine Graio/ dicitur* (Astron.2.909-910). There is a brief mention of the *Octotropos*, a simpler version of the *Dodecatropos* which is based on eight places, although this is problematic.²³¹ Following this, Manilius then shows how life is connected to the chart in Book 3 with the explanation of the *athla*.²³² Goold notes that there are some conflicts in Manilius' astrological theory between the *athla* and the *dodecatropos* as "these two circles, for all their differences, have precisely the same function, which is to provide a spectrum of human experience against which the zodiac with its ever-varying planetary pattern can form a kaleidoscope reflecting the infinite variety of man."²³³ In addition, it is noted that there are certain aspects of Manilius' theory regarding the horoscope and *place* system which other astrologers agree with, and some which they disagree with.²³⁴ However, this section of astrological theory is not found in Ptolemy.

Manilius discusses the concept of *Dodecatemoria* in Book 2:

*nam, cum tricenae per partes sidera constant,
rursus bis senis numerus diducitur omnis;
ipsa igitur ratio binas in partibus esse
dimidiasque docet partes (Astron.2.696-699).*

He also covers the *Decans* in Book 4:

*a numero nomen positum est, quod partibus astra
condita tricenae triplici sub sorte feruntur
et tribuunt denas in se coeuntibus astris*

²³⁰ All *Astronomica* quotations are from Goold (1977).

²³¹ See Goold (1977):lxi for the discussion on lines 2.968-970 and how they relate to the rest of the text.

²³² The terms *athla* and *houses* are used interchangeably in ancient astrology.

²³³ Goold (1977):lxii.

²³⁴ See Goold (1977):lviii for the full list. The astrologers that Manilius is compared to are Sextus Empiricus, Paulus, and Firmicus Maternus.

inque vicem ternis habitantur sidera signis (Astron.4.299-302).

Manilius does not clearly show that this aspect of astrological theory is Egyptian in origin. Although Barton notes “in the mention of the ‘kings’ and ‘priests’ who were responsible, there is presumably a poetic allusion to Nechepso and Petosiris,”²³⁵ this has not been verified.

In the *Mathesis*, Firmicus describes how the various elements of the horoscope fit together before commencing the interpretation. He starts with the *Octotropos*, a system of eight houses:

plattice vitae locus est in eo signo, in quo est horoscopus constitutus, spei vel pecuniae in secundo horoscopi signo, fratrum in tertio, parentum in quarto, filiorum in quinto, valitudinis in sexto, coniugis in septimo, mortis in octavo. quae omnia initium ab horoscopo facientes hac nominum definitione signavimus: vitae spei fratrum parentum filiorum valitudinis coniugis mortis (Math.2.14.3).²³⁶

He then explains: what the *Cardinal Points* are, also giving their Greek names: *in genituris cardines sunt quattuor, ortus occasus MC, IMC, quae loca a Graecis solent appellari his nominibus: anatole dysis mesuranimia ypogeon* (Math.2.15.1); the four favourable *Houses*, also with the Greek names *id est Dea Deus Bona fortuna ac Bonus daemon, quae a Graecis hactenus nominantur: thea, theos, agathe tyche, agathos daemon* (Math.2.16.1); unaspected *Houses residua quattuor loca pigra et deiecta esse dicuntur ob hoc, quod nulla cum horoscopo societate iunguntur* (Math.2.17); and the sequence of the *Houses*. Firmicus then details the system of the twelve *Houses* and their meaning.²³⁷ The *Houses* are named thus: *vita, spes, Dea vel fratres, parentes, filii, valitudo, coniunx, mors, Deus, medium caelum, Bonus daemon, Malus daemon* (Math.2.20.2).

The theory of the *Decans* is covered by Firmicus:

²³⁵ Barton (1994):42.

²³⁶ See Bram (1975):45 for a diagram of the *Octotropos*.

²³⁷ This is the system of the *Dodecatetropos*, however, Firmicus does not use this term.

singula signa in tres partes dividuntur, singulae autem partes habent singulos decanos, ut sint in singulis signis terni decani, quorum singuli ex triginta partibus denas possident partes et dominium suum ac potestatem in X partes exerunt (Math.2.4.1).

The *Decans* are linked with the planets in each of the zodiac signs, for example *in Ariete primus decanus Martis et secundus Solis, tertius Veneris (Math.2.4.3)*. Firmicus also covers the *Dodecatemoria*. On this topic he notes:

cuiuscumque stellae volueris duodecatemorion quaerere, partem eius duodecies computas et quantae fuerint, divides eas triginta signis singulis reddens, ab ipso signo incipiens in quo stella est, cuius duodecatemorion quaeritur; et in quocumque signo ultimus venerit numerus, ipse tibi partem duodecatemorii ostendit (Math.2.13.2).

Bram notes that “there are two methods of computing them [the *dodecatemoria*], of which Firmicus uses the more usual, that of multiplication. This method is used by Hephaestion of Thebes, Paulus Alexandrinus, and to a certain extent by Manilius.”²³⁸ This implies another similarity between the *Astronomica* and the *Mathesis*.

In the *Mathesis* there are aspects of horoscopic structure which do not resemble either the material in the *Tetrabiblos* or the *Astronomica* such as the four favourable houses and the unaspected houses. However, both the *Astronomica* and the *Mathesis* provide a greater level of explanation concerning the structure of the horoscope before turning to how it is interpreted, whereas the *Tetrabiblos* omits much of this explanation. Concerning the *Decans*, this information is absent in the *Tetrabiblos* and but present in the *Astronomica*. In addition, the term *dodecatemoria* is recorded to be only found in the *Astronomica* and the *Mathesis*.²³⁹ Firmicus does not indicate the Egyptian origin of the *decans* theory, similar to Manilius, although he acknowledges his Egyptian sources as he notes *sed has stellas non eodem nomine quo nos aut quo Graeci Aegyptii nominant (Math.2.2.2)* regarding the names of the planets. Therefore there is a greater similarity between the *Mathesis* and the *Astronomica* than to the *Tetrabiblos* concerning the explanation of the horoscopic structure.

²³⁸ Bram (1975):308.

²³⁹ This is according to the *TLL*.

3.1.2 Bright Stars

Bright stars are individual stars which are conspicuous in the night sky. They are usually part of a constellation, for example Sirius in the constellation Canis Major, or Aldebaran in Taurus. Another term for bright stars is “fixed stars”, which is used to separate them from the “wandering stars” or the planets.

Ptolemy refers to this phenomenon as the “fixed stars” (ἀπλανῶν). He compares the power or influence of the bright stars in each zodiacal sign to that of the planets:

τοῦ Κριοῦ τοίνυν οἱ μὲν ἐν τῇ κεφαλῇ τὸ ποιητικὸν ὁμοιον ἔχουσι κεκραμένον τῇ τε τοῦ Ἄρεως καὶ τῇ τοῦ Κρόνου δυνάμει, οἱ δὲ ἐν τῷ στόματι τῇ τε τοῦ Ἑρμοῦ καὶ ἡρέμα τῇ τοῦ Κρόνου, οἱ δὲ ἐν τῷ ὀπισθίῳ ποδὶ τῇ τοῦ Ἄρεως, οἱ δὲ ἐπὶ τῆς οὐρᾶς τῇ τῆς Ἀφροδίτης (*Tetrabiblos*.1.9.22).

This comparison is repeated with the constellations that lie to the north of the zodiac belt, and then those that lie to the south. Ptolemy names only some of these stars individually, for example ὁ δὲ λαμπρὸς καὶ ὑπόκιππος τῷ τοῦ Διὸς καὶ Ἄρεως, ὁ καὶ Ἀρκτοῦτος καλούμενος (*Tetrabiblos*.1.9.26), whereas others are designated as ὁ μὲν τῷ στόματι τοῦ νοτίου Ἰχθύος λαμπρὸς (*Tetrabiblos*.1.9.27). Ptolemy does not give the precise location of these stars in the sky, but he instead gives the general locale within a constellation. Later in the *Tetrabiblos* there is a brief section regarding the brightness of these stars and how this is linked to weather patterns. He notes: λαμπρότεροι γὰρ καὶ μείζονες ὁρώμενοι παρὰ τὰς συνήθεις φαντασίας εἰς ὅποιονδήποτε μέρος ὄντες ἀνέμους τοὺς ἀπὸ τοῦ οἰκείου τόπου διασημαίνουσιν (*Tetrabiblos*.2.13.102).

In the *Astronomica*, Manilius does not cover individual bright stars (such as Sirius the dog star) but instead concludes Book 5 with the topic of stellar magnitudes. In this section Manilius explains that the stars are arranged in six orders of magnitude, however only the end of this passage is extant, from the third magnitude to the sixth.²⁴⁰ Manilius arranges the constellations into these classifications, rather than the individual bright stars. One example is:

²⁴⁰ See Goold (1977):c.

*tertia Pleiadas dotavit forma sorores
femineum rubro vultum suffusa pyropo,
invenitque parem sub te, Cynosura colorem,
et quos Delphinus iaculatur quattuor ignes
Deltotonque tribus facibus (Astron.5.710-714).*

Manilius, unlike Ptolemy, does not link the information on stellar magnitudes to weather patterns, nor does he have any particular use for it other than providing a complete survey of the stars.

The *Mathesis* first considers the bright stars in Book 6, where his focus is on the regal stars in four constellations. He notes: *claras stellas et augusta maiestatis radiatione fulgentes in signis omnibus invenimus, sed regales in quattuor, in Leone scilicet in Scorpione in Aquario et in Tauro (Math.6.2.1)*. Firmicus provides an exact reference of the location of such stars in these particular constellations by naming both the constellation and also the degree, and also notes the significance of these stars. An example is: *quinta pars Leonis habet stellam lucido splendore fulgentem. in hac stella si crescens lumine Luna fuerit inventa, horoscopi aut MC. partiliter possidens cardinem, regna et maxima potesatis decernit imperia (Math.6.2.2)*. This section does not name any individual stars and does not cover all twelve zodiacal signs.

Firmicus returns to the bright stars at the end of Book 8. This time Firmicus goes through each sign of the zodiac and identifies the bright stars within each one, again noting the degree that it is found in. He also notes the significance of these stars in the horoscope. An example is:

in XI parte Arietis clara ostenditur <stella>. in hac itaque stella quicumque habuerit horoscopum, praesente Iove vel trigonica radiatione coniuncto, erit dux magnus potens amicus regum, multam et grandem possidens terram, honesto famae testimonio sublevatus. sed is morte sua morietur (Math.8.31.2).

As in Book 6, Firmicus does not provide names for the individual stars. This is a similarity across the three texts. Bram notes that “Firmicus’ ‘bright stars’ are mostly those

mentioned by Ptolemy. Only two have not been identified, the one in the 19th degree of Scorpio, and that in the first degree of Aquarius.”²⁴¹ In addition, the *Astronomica* is the only text which considers stellar magnitudes. Concerning the bright stars, there is a closer resemblance between the *Mathesis* and the *Tetrabiblos*.

3.1.3 Paranatellonta

The *Paranatellonta* are stars which rise at the same time as the constellations on the ecliptic (the band of stars that includes the zodiac), but are situated either to the north or south of this band.²⁴² This includes both constellations and any bright stars that lie outside of the zodiac. The second term used for this phenomenon is the *Sphaera Barbarica*.²⁴³ It should be noted regarding the terminology that “Scaliger applied the name [*Sphaera Barbarica*] to this book [Book 5] of Manilius because of what he found in Firmicus”²⁴⁴ and so Scaliger “does not use the term [*Sphaera barbarica*] as equivalent to the contents of *Man.V* but in a wider acceptance.”²⁴⁵ It can possibly be inferred that *Paranatellonta* refer to the neighbouring constellations whereas *Sphaera barbarica* refers to the theory as a whole.

The *Tetrabiblos* contains a passing reference to the fixed stars alongside the zodiac, which Robbins has identified as the *Paranatellonta*.²⁴⁶ However, Ptolemy does not use this term himself anywhere in the text. Nor does he use the term *Sphaera Barbarica*. Indeed, there is no specific designation for these constellations as a group or for this concept of astrological theory within the *Tetrabiblos*. Ptolemy notes:

ἐκκειμένων δὲ τούτων εὐλογον κάκεῖνα τούτῳ τῷ μέρει προσθεῖναι, διότι καὶ τῶν ἀπλανῶν ἀστέρων ἕκαστος συνοικειοῦται ταῖς χώραις ὅσαις καὶ τὰ τοῦ ζωδιακοῦ μέρη, μεθ’ ὧν ἔχουσιν οἱ ἀπλανεῖς τὰς προσνεύσεις ἐπὶ τοῦ διὰ τῶν πόλων αὐτοῦ γραφομένου κύκλου, φαίνεται ποιούμενα τὴν συμπάθειαν (*Tetrabiblos*.2.3.74).

²⁴¹ Bram (1975):314.

²⁴² Barton (1994):214.

²⁴³ Bram (1975):311 defines this term as “the stars and constellations outside the zodiac, considered a non-Greek system of astrology.” This indicates that *Paranatellonta* and the *Sphaera Barbarica* are synonyms for the same phenomena.

²⁴⁴ Housman (1930):xli.

²⁴⁵ Housman (1930):xlii.

²⁴⁶ See Robbins (1940):159n.

Ptolemy does not give a full explanation of the *Paranatellonta*, nor indicate which constellations fall under this classification. It is only referred to in order to explain a different part of astrological theory, in this case the familiarities between countries and the stars.

The *Paranatellonta* comprise the majority of the fifth book of the *Astronomica*. Manilius lists the constellations which are located in the vicinity of each of the zodiac signs, and also specifies the degree in which the stars are found. The full list is as follows:²⁴⁷

Aries – Argo 4th, Orion 10th, Heniochus 15th, Haedi 20th, Hyades 27th, Capella 30th

Taurus – Pleiades 6th

Gemini – Lepus 7th

Cancer – Iugulae, Procyon 27th

Leo – Canicula, Cratera 30th

Virgo – Corona 5th, Spica 10th

Libra – Sagitta 8th, Haedus, Lyra 26th

Scorpio – Ara 8th, Centurus 12th

Sagittarius – Arcturus 5th, Cygnus 30th

Capricorn – Ofiuchus, Piscis Notius, Fides, Delphinus

Aquarius – Cepheus, Aquila 12th, Cassiopea 20th

Pisces – Andromeda 12th, Equus 21st, Engonasin *last*, Cetus *last*

Between Pisces and Aries – Helice (Ursa Major)

It should be noted that there is a lacuna in the *Astronomica* after Helice and so it is possible that Manilius considered the constellations Draco and Lygnus and that these sections have not survived.

Firmicus examines these constellations in Book 8, though he uses the term *Apotelesmata Sphaerae Barbaricae*. The term *Paranatellonta* is unknown in the *Mathesis*, as he prefers the term *Sphaera Barbarica*. Firmicus provides his own explanation as to what this theory is:

²⁴⁷ Using the table from Goold (1977):xciv.

zodiacum circulum sicuti in libro institutionis diximus XII possident signa. in horum signorum lateribus aliae adhaerent stellae, sed quae numquam erratico cursu assignata sibimet deserant loca, sed tradita sibi spatia possidentes, currente mundo inmutabili semper agitatione volvuntur. hae in vicinis signorum regionibus collocatae, cum XII signis oriuntur et cum ipsis occident rursus inmutatum semper cursus sui ordinem reservantes (Math.8.5.2).

This shows that the phenomena which Firmicus considers as the *Sphaera Barbarica* is indeed equivalent to the *Paranattellonta* discussed in the *Astronomica*.²⁴⁸ Firmicus gives details of the constellations and the degree in which they are found. The full list is as follows:

Aries – Argo 4th, Orion 10th, Auriga 15th, Haedus 20th, Hyades 27th, Capra 30th

Taurus – Pleiades 6th

Gemini – Lepus 7th

Cancer – Iugulae (stars of Orion's belt) 1st, Procyon 20th

Leo – Canicula 1st, Cratera 30th

Virgo – Corona 5th, Spica 10th

Libra – Sagitta 8th, Haedus 15th

Scorpio – Ara 1st, Centurus 12th

Sagittarius – Arcturus 5th, Cygnus 10th

Capricorn – Ofiuchus (serpent holder) 1st, Delphinus 8th, Lyra 10th, Cepheus 15th

Aquarius – Aquila 12th, Cassiopea 20th

Pisces – Andromeda 12th, Equus 21st, Ingeniculus (Hercules) last, Belua (Cetus) last on left

Between Pisces and Aries – Septentrio (Ursa Major), Anguis (Draco), Lygnus.

It is clear from these lists that the information in the *Astronomica* and *Mathesis* is almost identical. It is noted that “the only other author who mentions a Haedus that rises together with Libra is Firmicus Maternus.”²⁴⁹ There are only a couple of discrepancies between the two texts. Manilius discusses the stars which form the constellation Lyre *cum pars vicesima sexta/ Chelarum surget* (*Astron.*5.337-338); however, there is no mention of this constellation around Libra within the *Mathesis*. Firmicus instead places the Lyre in Capricorn *in X parte Capricorni oritur Lyra* (*Math.*8.15.3). Concerning this Goold notes “he [Firmicus] adopts the

²⁴⁸ See Housman (1930):xli for the comparison of terms.

²⁴⁹ Volk (2009):106.

poet's *Fides*, specifying its rising in the 10th degree of Capricorn and its occidental effects; but evidently dissatisfied with Manilius' double treatment of the constellation he calls it *Lyra* and passes over what the poet had expounded at 5.324ff.”²⁵⁰ The constellation that Manilius describes is translated as “Lute” and is indeed concurrent with Capricorn.

A second, smaller discrepancy between the two texts occurs regarding the positioning of Cepheus. Manilius places it *regione means Cepheus umentis Aquari* (*Astron.*5.449) but Firmicus places it *in XV parte Capricorni oritur Cepheus* (*Math.*8.15.4). In a map of these constellations it is difficult to determine where Cepheus would rise in relation to either of the signs, given the latitude. However, the modern coordinates of the three signs show that Capricorn is situated at +60 and -90 degrees and best seen in September. Aquarius is at +65 and -90 and seen in October, Cepheus is found at +90 and -10 and best seen in November.²⁵¹ Even allowing for the precession of the equinoxes where the constellations now appear 30 degrees behind where they did 2000 years ago (Aries now rises when Pisces used to), this should not affect when each constellation rises in relation to another. I therefore agree with Manilius' data, that Cepheus rises with Aquarius.

However, Manilius makes a number of astronomical errors concerning the *Paranatellonta* in the *Astronomica*. These errors also appear in the *Mathesis*. First, the constellation Argo: in the *Astronomica* it rises *a dextri lateris ducit regione per astra* (*Astron.*5.37) in the fourth degree of Aries, and in the *Mathesis* it *dextro latere in Arietis parte scilicet IV oritur Navis* (*Math.*8.6.1). However, Goold notes that “Argo is a southern constellation and rises on the left of the zodiac, but never contemporaneously with Aries,”²⁵² and therefore both Manilius and Firmicus are incorrect here. Secondly, the constellation Orion: the *Astronomica* states *sed decima lateris surgens de parte sinistri/ maximus Orion* (*Astron.*5.57-58) and the *Mathesis* states *in Arietis sinistro latere oritur Orion in parte Arietis scilicet X* (*Math.*8.6.2). Orion cannot rise with Aries.²⁵³ Third are the Hyades: in the *Astronomica*; *cum bis denas augebit septima partes/ Lanigeri surgent Hyades* (*Astron.*5.118-119) and in the *Mathesis*; *in Arietis parte XXVII oriuntur Hyades* (*Math.*8.6.6). However, the

²⁵⁰ Goold (1977):xcvi.

²⁵¹ All three were found here <http://www.topastronomer.com/StarCharts/Constellations/Cepheus.php> with a different page for each constellation.

²⁵² Goold (1977):303n.

²⁵³ See Goold (1977):304n.

Hyades are actually found in Taurus.²⁵⁴ Fourth, the star Spica: the *Astronomica* states *at, cum per decimam consurgens horrida partem/ Spica feret prae se vallantis corpus aristas* (Astron.5.270-271) and the *Mathesis* notes *in Virginis signo <in> parte X. oritur Spica* (Math.8.11.3). Goold notes another “the bright star Spica cannot be said to rise together with any part of Virgo, being in fact part of Virgo itself.”²⁵⁵ Fifth, concerning the constellation Aquila: the *Astronomica* states that *nunc Aquilae sidus referam quae parte sinistra/ rorantis iuvenis* (Astron.5.485-486) and the *Mathesis* notes *in Aquarii parte XII oritur Aquila* (Math.8.16.1), however Aquila appears over Capricorn and Sagittarius and not in Aquarius.²⁵⁶ Manilius also notes that Aquila rises to the left of Aquarius but Aquila is a northern constellation and so should rise on Aquarius’ right.²⁵⁷ This error is absent from the *Mathesis*, but Firmicus does not note on which side of the zodiac any of the extra constellations rise and so this is not out of place.

Therefore it can be seen that both the *Astronomica* and the *Mathesis* provide extremely similar information concerning the *Paranatellonta/ Sphaera Barbarica*. Since the *Tetrabiblos* does not cover this topic, fewer parallels can be drawn between this text and the *Mathesis*. In addition, there is a duplication of astronomical errors between the *Astronomica* and the *Mathesis*. This indicates that there is a link between the two texts. Therefore it appears that Firmicus has used material from the *Astronomica* without crediting or acknowledging his source.²⁵⁸

3.1.4 Comets

Comets are not constant phenomena in the skies, as they only form the distinctive “tail” when in the vicinity of the sun and are otherwise difficult to locate. As a result they are also considered an omen and are included in omen astrology. Comets have been viewed as omens of bad luck or portents of change. For example, the astrologer Balbillus advised Nero that a

²⁵⁴ Goold (1977):309n. “A gross error: the group is situated in the sign of the Bull.”

²⁵⁵ Goold (1977):322n says that according to Ptolemy, it rises in the 27th degree; however, there is no mention of degrees in this section of the *Tetrabiblos*.

²⁵⁶ Goold (1977):341n. It is noted that this mistake also appears in Hyginus *Poet.Astro.2.16*.

²⁵⁷ Goold (1977):340n.

²⁵⁸ For the views in current scholarship see Goold (1977):xvi. He comments “Firmicus Maternus quite certainly had Book 5 of Manilius open before him when he composed Book 8 of the *Mathesis*”; McCann (1994):5 agrees “the descriptions of the constellations are clearly based upon the texts of Manilius”; as does Volk (2009):1 “his [Firmicus’] discussion of the paranatellonta is clearly based on that of Manilius.”

comet that had appeared was a sinister omen and advised a culling of the elite.²⁵⁹ This reputation lasted for centuries as the appearance of Halley's Comet early in 1066 was interpreted as the harbinger of a chaotic year.²⁶⁰

Ptolemy considers comets in the half of the *Tetrabiblos* focused on universal astrology rather than in the genethliological section. He notes the negative influence of comets and states: δηλούσας δὲ διὰ μὲν τῶν τοῦ ζωδιαχοῦ μερῶν, καθ' ὧν ἂν οἱ συστάσεις αὐτῶν φαίνονται, καὶ τῶν κατὰ τὰ σχήματα τῆς κόμης προσενέσεων τοῦς τόπους οἷς ἐπισκίπτουσι τὰ συμπτώματα (*Tetrabiblos*.2.9.90), and adds that it is possible to determine all the details of this unfortunate event from the comet:

διὰ δὲ τῶν αὐτῆς τῆς συστάσεως ὥσπερ μορφώσεων τὸ εἶδος τοῦ ἀποτελέσματος καὶ τὸ γένος περὶ ὃ τὸ πάθος ἀποβήσεται. διὰ δὲ τοῦ χρόνου τῆς ἐπιμονῆς τὴν παράτασιν τῶν συμπτωμάτων. διὰ δὲ τῆς πρὸς τὸν ἥλιον σχέσεως καὶ τὴν καταρχήν, ἐπειδήπερ ἔῳι μὲν ἐπὶ πολὺ φαινόμεναι τάχιον ἐπισημαίνουσιν, ἐσπέριοι δὲ βράδιον (*Tetrabiblos*.2.9.90-91).

Ptolemy does not linger over this topic nor elaborates on the different varieties of comets and how they interact with other celestial phenomena.²⁶¹ A second reference is made to “shooting stars” in which Ptolemy notes:

αἱ δὲ διάδρομοι καὶ οἱ ἀκοντισμοὶ τῶν ἀστέρων, εἰ μὲν ἀπὸ μιᾶς γίνοντο γωνίας, τὸν ἀπ' ἐκείνης ἄνεμον δηλοῦσιν. εἰ δ' ἀπὸ τῶν ἐναντίων, ἀκαταστασίαν πνευμάτων. εἰ δὲ ἀπὸ τῶν τετάρων, παντοίους χειμῶνας μέχρι βροντῶν καὶ ἀστραπῶν καὶ τῶν τοιούτων (*Tetrabiblos*.2.13.102).

As can be seen, Ptolemy connects the influence of the comets with the weather. This is similar to his explanation of the magnitude of fixed stars. In the *Tetrabiblos* comets do not have much influence over an individual's horoscope.

²⁵⁹ See Beck (2007):127.

²⁶⁰ William of Malmesbury *GR*.ii.225.6 *non post multo, cometes stella, ut ferunt, mutationem regnorum pretendens longos et flammeos crines per inane ducens apparuit; unde pulchre quidam nostri monasterii monachus, Eielmerus nomine, viso coruscantis astri terrore conquiniscens, “venisti” inquit, “venisti, multis matribus lugende. Dudum est quod te vidi, sed nunc multo terribiliorem te intueor, patriae huius excidium vibrantem.”* All subsequent quotations are from Winterbottom (2007).

²⁶¹ Robbins (1940):193n comments that “other astrological and non-astrological writers classified the comets much more elaborately by their shapes and their associations with the planets.”

The *Astronomica* also details the negative implications of the appearance of a comet in the sky and the various meanings of this portent. Manilius notes:

*talía significant lucentes saepe cometae:
funera cum fascibus veniunt, terrisque minantur
ardentis sine fine rogos, cum mundus et ipsa
aegrotet natura hominum sortita sepulcrum.
quin et bella canunt ignes subitosque tumultus
et clandestinis surgentia fraudibus arma
externas modo per gentes (Astron.1.892-898).*

He also notes *civilis etiam motus cognataque bella/ significant (Astron.1.906-907)*. This passage from earlier in the text provides more details about the appearance of comets:

*nam modo, ceu longi fluitent de vertice crines,
flamma comas imitata volat, tenuisque capillos
diffusos radiis ardentibus explicat ignis;
nunc prior haec facies dispersis crinibus exit,
et glomus ardentis sequitur sub imagine barbae;
interdum aequali laterum compagine ductus
quadrata mve trabem fingit teretemve columnam,
quin etiam tumidis exaequat dolia flammis
procere distenta uteros, artosque capellas
mentitur parvas ignis glomeratus in orbes
hirta figurantis tremulo sub lumine menta
lampadas et fissas ramosos fundit in ignes (Astron.1.835-846).*

This text also distinguishes between comets and shooting stars. He notes *et tenuem longis iaculantur tractibus ignem/ praecipites stellae passimque volare videntur (Astron.1.847-848)*. However, Goold notes that “the poet confuses comets, which are not of momentary duration, and shooting stars, which are,”²⁶² which shows that Manilius is not entirely confident about the differences between these two phenomena.

²⁶² Goold (1977):71n.

The *Mathesis* does not cover the topic of comets but instead examines charts of ill omen in general. In this section he provides the combinations of conjunctions and aspects which result in an ill-fated chart. An example is: *omnifariam enim Saturno in horoscopo constituto si in occasu Mars fuerit inventus, miserae mortis decernit exitium. Sed tunc indicantis animadversione plectuntur, cum his omnibus de quadrato Mercurius accesserit* (*Math.6.29.12*). It is interesting that there is no information about comets included in the *Mathesis*, particularly as comets were a major portent for determining ill luck and so the reader would be lacking a significant element for interpreting a horoscope. This omission implies that Firmicus did not have any information about comets which indicates a lack of comprehensiveness in his research.

3.1.5 Antiscia

The *Antiscia* denote “a relationship between signs equidistant from the Mid-heaven or Imum Caelum.”²⁶³ This means that the zodiac signs are paired up dependent on their location in the zodiac circle. For example, Taurus and Leo are the same distance from the Mid-Heaven and so they form *Antiscia*.²⁶⁴ A second version of this is the concept that the zodiac signs can “see” or “hear” the sign across them in the circle. The term *Antiscia* itself is unique to the *Mathesis*.²⁶⁵

Although Ptolemy does not use the term *Antiscia*, he does include sections on signs which command and obey, and signs which behold each other. These sections correspond to the definition of the *antiscia* theory. In the section about commanding and obeying signs Ptolemy explains what these are, and also the rationale behind which signs obey and which command:

ὥσαύτως δὲ προστάττοντα καὶ ἀκούοντα λέγεται τμήματα τὰ κατ’ ἴσιν διάστασιν ἀπὸ τοῦ αὐτοῦ, ἢ καὶ ὁποτέρου, τῶν ἡμερινῶν σημείων ἐσχηματισμένα διὰ τὸ ἐν τοῖς ἴσοις χρόνοις ἀναφέρεσθαι καὶ ἐπὶ τῶν ἴσων εἶναι παραλλήλων. τούτων δὲ τὰ μὲν ἐν τῷ θερινῷ ἡμικυκλίῳ

²⁶³ Barton (1994):212.

²⁶⁴ See Barton (1994):99 for a diagram of the *Antiscia* pairs.

²⁶⁵ See *TLL* Vol.2:184.

προστάττοντα καλεῖται, τὰ δ' ἐν τῷ χειμερινῷ ὑπακούοντα, διὰ τὸ κατ' ἐκεῖνο μὲν γινόμενον τὸν ἥλιον μείζονα ποιεῖν τῆς νυκτὸς τὴν ἡμέραν, κατὰ τοῦτο δὲ ἐλάττω (*Tetrabiblos*.1.14.35).

The summer signs are the signs between Aries and Virgo; the winter signs are between Libra and Pisces. In the second section Ptolemy describes signs which have equal power. These pairs of signs behold one another as they both rise from and set in the same part of the horizon as each other: ταῦτα δὲ καὶ βλέπειν ἄλληλα λέγεται διὰ τε τὰ προειρημένα καὶ ἐπειδήπερ ἐκάτερον αὐτῶν ἐκ τε τῶν αὐτῶν μερῶν τοῦ ὀρίζοντος ἀνατέλλει καὶ εἰς τὰ αὐτὰ καταδύνει (*Tetrabiblos*.1.15.36). In addition, there is a final section which covers the signs which neither command/obey nor behold another sign. These are referred to as “disjunct” signs: ἀσύνδετα δὲ καὶ ἀπηλλοτριωμένα καλεῖται τμήματα ὅσα μηδὲνα λόγον ἀπλῶς ἔχει πρὸς ἄλληλα τῶν προκατελεγμένων οἰκειώσεων (*Tetrabiblos*.1.16.36).

The *Astronomica* also does not use the term *Antiscia* but does cover the relationships between the signs. Manilius notes that there are many types of relationship:

*inque vicem praestant visus atque auribus haerent
aut odium foedusve gerunt, conversaue quaedam
in semet proprio ducuntur prona favore.
idcirco adversis non numquam est gratia signis,
et bellum sociata gerunt* (*Astron*.2.468-472).

Bram notes that “the poet Manilius not only describes *seeing* and *hearing* of the signs but introduces emotional relationships as well.”²⁶⁶ These are arranged into three branches: *videntia*, *audientia*, and *amantia/ insidiantia*.²⁶⁷ First, the *videntia* are the signs which “see” each other along parallel lines. The pairings are as follows: Aries and Libra; Taurus and Scorpio; Gemini and Leo; Pisces and Virgo; Aquarius and Sagittarius.²⁶⁸ Aries and Libra align along the diameter and the other pairings form along the chords of the circle. Cancer and Capricorn are exempt in this branch. Secondly, the *audientia* are the signs which “hear” each other. The parallel lines are now rotated 90° and the signs are paired thus: Cancer and

²⁶⁶ Bram (1975):309. Bram also refers to another author: “Maximus lists parts of signs which *see* and *hear* one another” and provides a reference to her Index of Ancient Writers on Astrology for this author. However, there is no further reference to a Maximus in either that index or anywhere else in her book.

²⁶⁷ See Goold (1977):xlvi for the charts demonstrating the links.

²⁶⁸ See *Astron*.2.485ff for all sets of pairs.

Capricorn; Leo and Sagittarius; Virgo and Scorpio; Gemini and Aquarius; Taurus and Pisces. In this system Cancer and Capricorn are aligned along the diameter and the other pairs form along the chords. Aries and Libra are now exempt. Third, the *amantia/insidiantia* are the signs which love or hate one another. This is the more complicated branch: Aries loves Taurus, but Taurus hates Aries; Gemini loves Pisces; Cancer hates Aquarius; Leo loves Capricorn; Virgo hates Sagittarius; Libra loves Scorpio; Sagittarius loves Virgo; and finally Aquarius loves Cancer. The *Astronomica* presents the information about all of these relationships (*videntia*, *audentia*, *amantia/insidiantia*) together for each sign. For example Gemini: *Geminorum ducitur auris/ ad iuvenem aeternas fundentem Piscibus undas/ inque ipsos animus Pisces oculique Leonem* (Astron.2.491-493). It is noted that the theory of *amantia* and *insidiantia* are unique to Manilius.²⁶⁹

The *Mathesis* considers two levels of *Antiscia*: the complete zodiac signs and the individual degrees of each sign.²⁷⁰ First, concerning the zodiac signs Firmicus states:

initium antisciorum aut a Geminis et Cancro est aut a Sagittario et Capricorno. inchoamus itaque nos instituentes a Geminis et Cancro; Gemini in Cancrum antiscium mittunt et Cancer in Geminos, Leo in Taurum et in Leonem Taurus, Virgo in Arietem et Aries in Virginem, Pisces in Libram et Libra in Pisces, Aquarius in Scorpionum et Scorpius in Aquarium, Sagittarius in Capricornum et Capricornus in Sagittarium (Math.2.29.3).

The second level connects the individual degrees of each sign with another degree within the same sign. Firmicus notes:

sed hoc, quod de antisciis diximus, non sufficit, nisi etiam partes explicatae specialiter fuerint, quae in quam partem mittant et cuius antiscium rursus ipsae suscipiant. et illud scire inter cetera oportet, quod in XXX. partem signi nulla pars mittat et quod XXX. in nullam partem mittat antiscium (Math.2.29.4).

Firmicus states here that the 30th degree is not connected to any other. Bram gives a possibility for this reason: “perhaps the elimination of the 30th degree was necessary in order to pair the odd numbers with odd and even with even – a Neo-Pythagorean idea which might

²⁶⁹ Goold (1977):xlx.

²⁷⁰ Each zodiac sign is made up of 30 degrees, making the full 360 degrees of the circle.

have come from Nigidius Figulus.”²⁷¹ This means that the 1st degree of a sign connects to the 29th, the 2nd with the 28th and so on through the thirty degrees. This system of *Antiscia* only concerns the “seeing” relationship between the signs. He does not include material on “hearing” or “commanding/obeying” relationships.

Firmicus’ explanation of the *Antiscia* includes a statement of his sources for this aspect of astrology. He attributes the theory to the Greeks and specifically names three astrologers; Ptolemy, Dorotheus of Sidon, and Antiochus. He states:

antiscia Graecorum sunt nobis magisterio tradita; nam nolo aliquis suspicetur, quod non sit apud Graecos ipse tractatus; nam et Ptolomaeus nullum aliam rationem sequitur nisi antisciorum, et Antiochus, cum dicit, quod enim Libra Arietem propter terram quae media est non videat, quasi per speculum quidem antisciorum rationem attigit; Dorotheus vero Sidonius, vir prudentissimus et qui apotelesmata verissimis et disertissimis versibus scripsit, antisciorum rationem manifestis sententiis explicavit, in libro scilicet quarto (Math.2.29.2).

However, as shown above, Ptolemy does not use the term *Antiscia* at all in the *Tetrabiblos* and so Firmicus cannot have found the term in that text. In addition, the theories concerning *Antiscia* in the *Tetrabiblos* and the *Mathesis* do not match. Firmicus does not use Ptolemy’s theory about signs commanding and obeying one another, nor in the section about signs seeing each other does he note Ptolemy’s explanation that this is because the signs hold equal power. The section about connecting the individual degrees of a sign is unique to the *Mathesis* and thus could not have come from the *Tetrabiblos*. Firmicus adds that he found material on the *Antiscia* in the fourth book of Dorotheus’ work. However, the fourth book concerns the transfer of years and not relationships between the zodiac signs. In addition, Dorotheus does not use the term *Antiscia* at all.²⁷² Therefore it appears that Firmicus has not used this text either. This raises the question of why Firmicus has attributed the *Antiscia* to these authors when it is not in their texts and why Firmicus even bothers to provide a more specific reference for Dorotheus’ work when it is incorrect.

²⁷¹ Bram (1975):310.

²⁷² See Pingree (1976):245ff. This text survives primarily due to an Arabic translation and so it is possible that sections may have been lost although there is no evidence for this. The other books contain information on the upbringing of the individual, marriage and children, indication of the length of life, and interrogations.

Therefore, considering the structure of the horoscope, there are greater similarities between the *Mathesis* and the *Astronomica* than there are between the *Mathesis* and the *Tetrabiblos*. There is a strong link between the *Astronomica* and the *Mathesis* in the topic of the *Paranatellonta* but Firmicus does not refer to Manilius at all. However, he does credit Ptolemy and Dorotheus of Sidon with material which is not in their works.

3.2 Zodiac

The second aspect of astrological theory is the zodiac. There are twelve signs in the zodiac: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces. The cycle starts at Aries as this coincided with the wish to start the year with the spring equinox.²⁷³ The zodiac forms the basis for horoscopic astrology.

3.2.1 Gender, Diurnal or Nocturnal

The signs of the zodiac are gendered and can be either masculine or feminine (no sign is hermaphroditic). They are also assigned to a time of day, either the day or the night. If assigned to the day then they are referred to as *diurnal*, and if assigned to the night then they are *nocturnal*. These two elements are sometimes combined.

The *Tetrabiblos* connects the gender and time of the zodiac and so the signs are either masculine and diurnal, or feminine and nocturnal. Ptolemy provides the outline of this system and explains the reason for it:

πάλιν δὲ ὡσαύτως ἕξ μὲν τῶν δωδεκατημορίων ἀπένειμαν τῇ φύσει τῇ ἀρρενικῇ καὶ ἡμερινῇ, τὰ δὲ ἴσα τῇ θηλυκῇ καὶ νυκτερινῇ. καὶ ἡ μὲν τάξις αὐτοῖς ἐδόθη παρ' ἐν διὰ τὸ συνεξεῦχθαι καὶ ἐγγὺς αἰεὶ τυγχάνειν τήν τε ἡμέραν τῇ νυκτὶ τὸ θῆλυ τὸ ἄρρενι (*Tetrabiblos*.1.12.32-33).

He then follows with a full explanation of the pattern:

²⁷³ Beck (2007):22.

τῆς δὲ ἀρχῆς ἀπὸ τοῦ Κριοῦ δι' ἧς εἶπομεν αἰτίας λαμβανομένης ὡσαύτως δὲ καὶ τοῦ ἄρρενος ἄρχοντος καὶ πρωτεύοντος, ἐπειδὴ καὶ τὸ ποιητικὸν αἰεὶ τοῦ παθητικοῦ πρῶτόν ἐστι τῇ δυνάμει, τὸ μὲν τοῦ Κριοῦ δωδεκατημόριον καὶ ἔτι τὸ τῶν Χηλῶν ἀρρενικὰ ἔδοξε καὶ ἡμερινά, καὶ ἅμα ἐπειδήπερ ὁ ἰσημερινὸς κύκλος δι' αὐτῶν γραφόμενος τὴν πρώτην καὶ ἰσχυροτάτην τῶν ὅλων φορὰν ἀποτελεῖ. τὰ δὲ ἐφεξῆς αὐτῶν ἀκολουθῶς τῇ παρ' ἐν, ὡς ἔφασκεν, τάχει (*Tetrabiblos*.1.12.33).

This means that Aries, Gemini, Leo, Libra, Sagittarius and Aquarius are both masculine and diurnal. In addition to this system, Ptolemy also explains an alternate theory used by other astrologers. He states:

χρῶνται δὲ τινες τῇ τάξει τῶν ἀρρενικῶν καὶ θηλυκῶν καὶ ἀπὸ τοῦ ἀνατέλλοντος δωδεκατημορίου, ὃ δὴ καλοῦσιν ὠρόσκοπον, τὴν ἀρχὴν τοῦ ἄρρενος ποιοῦμενοι. ὥσπερ γὰρ καὶ τὴν τῶν τροπικῶν ἀρχὴν ἀπὸ τοῦ σεληνιακοῦ ζῳδίου λαμβάνουσιν ἔνιοι διὰ τὸ ταύτην τάχιον τῶν ἄλλων τρέπεσθαι, οὕτω καὶ τὴν τῶν ἀρρενικῶν ἀπὸ τοῦ ὠροσκοποῦντος διὰ τὸ ἀπηλιωτικώτερον, καὶ οἱ μὲν ὁμοίως παρ' ἐν πάλιν τῇ τάξει χρώμενοι οἱ δὲ καθ' ὅλα τεταρτημόρια διαιροῦντες καὶ ἑῷ μὲν ἡγούμενοι καὶ ἀρρενικὰ τό τε ἀπὸ τοῦ ὠροσκόπου μέχρι τοῦ μεσουρανοῦντος καὶ τὸ κατ' ἀντίθεσιν ἀπὸ τοῦ δύνοντος μέχρι τοῦ ὑπὸ γῆν μεσουρανοῦντος, ἑσπέρια δὲ καὶ θηλυκὰ τὰ λοιπὰ δύο τεταρτημόρια (*Tetrabiblos*.1.12.33).

Under this system each sign would not necessarily hold the same gender in every horoscope as the sign rising with the horoscope would obviously change according to the time of year.

In the *Astronomica*, gender and time of day for the signs are considered but these two aspects are not linked. Manilius notes the number of masculine and feminine signs and how they are arranged:

*et primum astrorum varia est natura notanda
carminibus per utrumque genus. nam mascula sex sunt,
diversi totidem generis sub principe Tauro:
cernis ut aversos redeundo surgat in artus.
alternant genus et vicibus variantur in orbem* (*Astron*.2.150-154).

This is similar to the *Tetrabiblos*, however, Manilius does not explain why the signs alternate gender, nor does he acknowledge any alternate theories for this aspect of astrology. Manilius covers whether a sign is diurnal or nocturnal in a later section of Book 2. In this section he warns the reader not to misinterpret the nocturnal and diurnal signs:

*nec te praetereat nocturna diurnaque signa
quae sint perspicere et propria deducere lege,
non tenebris aut luce suam peragentia sortem
(nam commune foret nullo discrimine nomen,
omnia quod certis vicibus per tempora fulgent
et nunc illa dies, nunc noctes illa sequuntur),
sed quibus illa parens mundi natura sacratas
temporis attribuit partes statione perenni (Astron.2.203-210).*

Manilius places Aries, Cancer, Leo, Scorpio, Sagittarius, and Pisces as diurnal signs and thus is not in agreement with Ptolemy.²⁷⁴ For this element of astrology Manilius indicates that alternate methods exist. He details two methods:

*quidam etiam sex continuis dixere diurnas
esse vices astris, quae sunt a principe signo
Lanigeri, sex a Libra nocturna videri.
sunt quibus esse diurna placet quae mascula surgunt
femineam sortem tutis gaudere tenebris (Astron.2.217-222).*

The latter method corresponds to the one which Ptolemy gives, as shown earlier.

In the *Mathesis*, there is a lacuna through this section which complicates the analysis. Only the information regarding Aries and Pisces has been transmitted. However, it seems that the text follows a loose formula and so it is possible at least to see which aspects, characteristics, or topics that Firmicus intended to cover by extrapolating the Aries and Pisces sections. Bram notes that it is possible to reconstruct this section from Paulus Alexandrinus

²⁷⁴ See *Astron.2.211ff.*

and has produced a translation of the extrapolated text.²⁷⁵ At the beginning of Book 2 Firmicus notes:

horum signorum diversa sunt genera, nam alia sunt ex his masculine, alia feminina; masculine itaque sunt Aries Gemini Leo Libra Sagittarius Aquarius, feminina vero Taurus Cancer Virgo Scorpius Capricornus Pisces (Math.2.1.3).

At this point Firmicus simply states the pattern and does not give any further explanation. Later in Book 3 Firmicus returns to the characteristics of the zodiac. Here he reminds the reader that *Aries est signum in caelo masculinum (Math.2.10.2)* and that *Pisces sunt signum femininum (Math.2.10.5)*. Firmicus still does not explain why this is the case, or remind the reader here that he is using the alternating order of gender. In Book 4 Firmicus includes a section which considers masculine and feminine degrees. He notes:

nunc masculinas et femininas proferam partes. Scire debemus quod in omnibus signis et masculini generis et feminini <et masculinae> et [quae] femininae sint partes. Ex his enim partibus invenitur cuius genitura sit, masculine an feminina. Sunt itaque masculinae partes CXCVII, femininae vero CLXIII (Math.4.23.1).

This shows that the number of masculine and feminine degrees is not equal. Firmicus details the gender of each degree for each of the signs. For example in the sign Aries:

Arietis a prima usque ad VII masculinae sunt partes, ab VIII usque ad XII femininae, rursus a XIII usque ad XVI masculinae, a XVII usque ad XXII femininae, a XXIII usque ad XXX masculinae (Math.4.23.2).

This formula is not constant, and the gender of the individual degrees changes depending on the sign as in the sign of Gemini: *Geminorum a prima parte usque ad XVII masculinae, a XVIII usque ad XXIII femininae, a XXIV usque ad XXX masculinae (Math.4.23.4).*

This is a level of detail which is absent from both the *Tetrabiblos* and the *Astronomica*. In the extant text Firmicus does not include whether a sign is diurnal or nocturnal. This topic also

²⁷⁵ Bram (1975):307.

does not appear in the reconstructed text that Bram has produced so it is probable that it was not a feature originally.

Therefore it is evident that Firmicus does not combine these characteristics of the zodiac. From this it appears that this section of astrological theory in the *Mathesis* is more similar to the *Astronomica* than the *Tetrabiblos*.

3.2.2 Equinoctial and Solstitial Signs

Equinoctial signs are those which fall on either the vernal or autumnal equinox (mid-March or mid-September) whereas solstitial signs are those which land on either the summer or winter equinox (June or December).

Ptolemy covers this topic in great detail, first laying out exactly which signs fit this genre, and secondly explaining how these signs obtained the designation. About the solstitial signs he notes: *τρέπεται γὰρ ἐν ταῖς ἀρχαῖς αὐτῶν γινόμενος ὁ ἥλιος, ἐπιστρέφων εἰς τὰ ἐναντία τὴν κατὰ πλάτος ἀροδον, καὶ κατὰ μὲν τὸν Καρκίνον θέρος ποιῶν, κατὰ δὲ τὸν Αἰγόκερων χειμῶνα* (*Tetrabiblos*.1.11.31). About the equinoctial signs he notes:

δύο δὲ καλεῖται ἰσημερινά τό τε ἀπὸ τῆς ἐαρινῆς ἰσημερίας πρῶτον δωδεκατημόριον τὸ τοῦ Κριοῦ καὶ τὸ ἀπὸ τῆς μετοπωρινῆς τὸ τῶν Χηλῶν, ὠνόμασται δὲ καὶ ταῦτα πάλιν ἀπὸ τοῦ συμβεβηκότος, ἐπειδὴ κατὰ τὰς ἀρχὰς αὐτῶν γινόμενος ὁ ἥλιος ἴσας ποιεῖ πανταχῇ τὰς νύκτας ταῖς ἡμέραις (*Tetrabiblos*.1.11.31).

Ptolemy's explanation shows an awareness of some of the astronomical principles behind astrological theory by noting how the solstices and equinoxes work. The solstitial signs are identified as Cancer and Capricorn; the equinoctial signs are Aries and Libra.

Manilius uses different terminology. Instead of “solstitial” and “equinoctial”, he prefers the term “tropic”.²⁷⁶ He explains why he uses this term:

²⁷⁶ Ausonius, writing in the C4th also uses “tropic” to describe the solstitial and equinoctial signs in *Eclogue* 8. See Chapter 4.1.1 for further details.

*quae tropica appellant, quod in illis quattuor anni
tempora vertuntur signis nodosque resolvunt
totumque emutant converso cardine mundum
inducuntque novas operum rerumque figuras (Astron.3.621-624).*

The terms “solstitial” or “equinoctial” are not used at all within the *Astronomica*. Manilius names the individual tropic signs and describes the length of daylight for each tropic. The summer tropic is:

*Cancer ad aestivae fulget fastigia zonae
extenditque diem summum parvoque recessu
destruit et quanto fraudavit tempore lucas
in tantum noctes auget (Astron.3.625-628).*

The winter tropic is:

*parte ex adversa brumam Capricornus inertem
per minimas cogit lucas et maxima noctis
tempora, producitque diem tenebrasque resolvit
inque vicem nunc damna legit, nunc tempora supplet (Astron.3.637-640).*

The spring tropic is: *namque Aries Phoebum repentem sidera Cancri/ inter principium
reditus finemque coerces/ tempora diviso iungens concordia mundo (Astron.3.646-648).*
Finally, the autumnal tropic is: *convertitque vices victumque a sidere Librae/ exsuperare
diem iubet et succumbere noctes/ aestivi donec veniant ad sidera Cancri (Astron.3.649-651).*

In addition, Manilius draws attention to the fact that these tropical, or turning, points are single moments within the course of a sign. They do not endure throughout the entire sign. He explains:

*sed non per totas aequa est versura figuras
annua nec plenis flectuntur tempora signis.
una dies sub utroque aequat sibi tempore noctem
dum Libra atque Aries autumnum verque figurant;
una dies toto Cancri longissima signo,*

*cui nox aequalis Capricorni sidere fertur:
cetera nunc urgent vicibus, nunc tempora cedunt* (Astron.3.669-675).

Manilius therefore recognises, and demonstrates to the reader, that there is a difference between a sign holding the equinox and the equinox itself, which Ptolemy does not. However, Manilius does not distinguish between an equinoctial and a solstitial sign, but uses the term “tropic” to cover all signs which mark the change of a season. Manilius briefly mentions which degree that tropic occurs on and notes that there are differing opinions: *has quidam vires octava in parte reponunt;/ sunt quibus esse placet decimae; nec defuit auctor/ qui primae momenta daret frenosque dierum* (Astron.3.680-682). Goold notes that this is “surprisingly phrased, for Manilius himself mostly treats the first as the tropic degree,”²⁷⁷ and is a rare example of Manilius providing alternate theories concerning an aspect of astrological theory.

The *Mathesis* contains information on solstitial and equinoctial signs in the section that is extant. Here Firmicus notes that:

aequinoctiale vel solstitiale, ideo dictum est, quod in hoc signo horas noctis ac diei aequata moderatione componit, quod a Graecis tropicon isermerion appellatum est. Cum enim in Ariete Sol fuerit, diurnas nocturnas horas componit aequaliter, ut dies habeat XII, nox quoque XII (Math.2.10.3).

Thus Aries is marked as an equinoctial sign. However, Firmicus seems to imply that the terms equinoctial and solstitial are interchangeable, which they are not. It is impossible for a sign to be both solstitial and equinoctial as they are very different periods in the celestial calendar. Thus it appears that Firmicus has made an error. He refers to Aries as: *tropicum autem ideo dictum est quod in eo signo Sol constitutus vernum tempus faciat; ver enim tunc initiator, cum primam eius signi partem Sol fuerit ingressus* (Math.2.10.4). It is correct that Aries is the marker for the start of spring; however, Robbins notes that “astronomers today usually call them [the signs of Cancer and Capricorn] *solstitial* instead of *tropical* since *tropic* generally refers to the terrestrial circles, the Tropic of Cancer and the Tropic of Capricorn.”²⁷⁸ There could be a possible explanation regarding Firmicus’ error concerning Aries’ status as

²⁷⁷ Goold (1977):218.

²⁷⁸ Robbins (1940):67n.

equinoctial and solstitial. Since Manilius uses the term *tropical* for both, it may be that Firmicus misinterpreted this so that *tropic* could be used for either *solstitial* or *equinoctial* instead of one of the two. This could suggest a link between the *Mathesis* and the *Astronomica*. Firmicus also includes some scientific elements by noting that equinoxes produce days and nights of equal length, but he is not as thorough as Ptolemy.

3.2.3 Other Zodiac Characteristics

The zodiac has a number of other characteristics. These usually are related to the form of the sign either as a constellation or the myth that the constellation is based on.

Ptolemy considers whether signs are solid or bicorporeal and the effect of signs on the weather. The solid and bicorporeal signs are the remaining eight after the solstitial and equinoctial signs have been accounted for. He notes τῶν δὲ λοιπῶν ὀκτὼ δωδεκατημορίων [once the solstitial and equinoctial signs have been accounted for] τέτταρα μὲν καλεῖται στερεά, τέτταρα δὲ δίσωμα (*Tetrabiblos*.1.11.32). He names the solid signs and gives a rule to follow in identifying them and the reason for it:

καὶ στερεὰ μὲν ἐστὶ τὰ ἐπόμενα τοῖς τε τροπικοῖς καὶ τοῖς ἰσημερινοῖς, Ταῦρος, Λέων, Σκορπίος, Ὑδροχόος, ἐπειδὴ τῶν ἐν ἐκείνοις ἀρχομένων ὥρῶν αἱ τε ὑγρότητες καὶ θερμότητες καὶ ξηρότητες καὶ ψυχρότητες, ἐν τούτοις γινομένου τοῦ ἡλίου, μᾶλλον καὶ στερεώτερον ἡμῶν καθικνοῦνται, οὐ τῶν καταστημάτων φύσει γινομένων τότε ἀκρατοτέρων, ἀλλ' ἡμῶν ἐγκεχρονικότεων αὐτοῖς ἤδη καὶ διὰ τοῦτο τῆς ἰσχύος εὐαισθητότερον ἀντιλαμβανομένων (*Tetrabiblos*.1.11.32).

This explanation is repeated for the bicorporeal signs:

δίσωμα δὲ ἐστὶ τὰ τοῖς στερεοῖς ἐπόμενα, Δίδυμοι, Παρθένος, Τοξότης, Ἰχθῦς, διὰ τὸ μεταξύ τε εἶναι τῶν στερεῶν καὶ τῶν τροπικῶν καὶ ἰσημερινῶν, καὶ ὥσπερ κεκοινωνηκέναι κατὰ τὰ τέλη καὶ τὰς ἀρχὰς τῆς τῶν δύο καταστημάτων φυσικῆς ιδιοτροπίας (*Tetrabiblos*.1.11.32).

The *Tetrabiblos* links the zodiac to the weather. This is expanded in Book 2 where Ptolemy explains the effects each sign has on the weather. An example is the sign Leo:

τὸ δὲ τοῦ Λέοντος δωδεκατημόριον καθ' ὅλου μὲν ἐστὶ καυματῶδες καὶ πνιγῶδες, κατὰ μέρος δὲ τὰ μὲν προηγούμενα αὐτοῦ πνιγῶδη καὶ λοιμικά, τὰ δὲ μέσα εὐκρατα, τὰ δὲ ἐπόμενα ἔνικμα καὶ φθοροποιά – τὰ δὲ βόρεια κινητικὰ καὶ πυρώδη, τὰ δὲ νότια δύργα (*Tetrabiblos*.2.11.95).

Ptolemy does not include any other zodiacal characteristics. Robbins notes that “Ptolemy, as a learned writer, pays less attention to the fanciful and mythological classification of the signs into terrestrial, aquatic, four-footed etc. and gives greater prominence to the astronomical classification.”²⁷⁹ Ptolemy mentions these classifications at the end of the section about masculine and feminine signs but only as a side reference to link his text with what other authors have written. He states: καὶ ἄλλας δὲ τινὰς τοῖς δωδεκατημορίοις προσηγορίας ἐφήρμοσαν ἀπὸ τῶν περὶ αὐτὰ μορφώσεων. λέγω δὲ οἶον τετράποδα καὶ χερσαῖα καὶ ἡγεμονικά καὶ πολύσπορα καὶ τὰ τοιαῦτα (*Tetrabiblos*.1.12.34) and then he also provides his opinion about these classifications: ἃς αὐτόθεν τό τε αἴτιον καὶ τὸ ἐμφανιστικὸν ἐχούσας περιττὸν ἡγούμεθα καταριθμεῖν, τῆς ἐκ τῶν τοιούτων διατυπώσεων ποιότητος ἐν αἷς ἂν τῶν προτελέσεων χρησίμη φαίνεται δυναμένης προεκτίθεσθαι (*Tetrabiblos*.1.12.34).

The *Astronomica* focuses on the signs of the zodiac and so Manilius provides a number of other characteristics mainly concerned with the form of the sign. First, he considers that signs can be human, bestial or both: *humanas etiam species in parte videbis/ nec mores distant: pecudum pars atque ferarum/ ingenium facient* (*Astron*.2.155-157) but he does not specify which signs these are.²⁸⁰ Secondly he considers the number of the sign, whether it is single or dual: *quaedam signanda sagaci/ singula sunt animo, propria quae sorte feruntur:/ nunc binis insiste* (*Astron*.2.157-159), but again does not indicate which signs he is referring to.²⁸¹ Third he points out the three signs that rise upside down: *aspice Taurum/ clunibus et Geminos pedibus testudine Cancrum/ surgere, cum rectis oriantur cetera membris* (*Astron*.2.198-200). The fourth characteristic is whether a sign is aquatic, terrene or amphibious:

²⁷⁹ Robbins (1940):65n.

²⁸⁰ Goold (1977):94n shows the allocation – Human: Gemini, Virgo, Aquarius (and possibly Libra); Bestial: Aries, Taurus, Cancer, Leo, Scorpio, Capricorn and Pisces; Both – Sagittarius.

²⁸¹ Goold (1977):95n places the signs thus – Single: Aries, Taurus, Cancer, Leo, Libra, Scorpio, Aquarius; Dual: Gemini, Virgo, Sagittarius, Capricorn, Pisces.

quin non nulla tibi nullo monstrante loquuntur
Neptuno debere genus, scopulosus in undis
Cancer et effuso gaudentes aequore Pisces.
at, quae terrena censentur sidera sorte,
princeps armenti Taurus regnoque superbus
lanigeri gregis est Aries pestisque duorum
praedatorque Leo et dumosis Scorpions arvis.
sunt etiam mediae legis communia signa,
ambiguus tergo Capricornus, Aquarius undis,
umida terrenis aequali foedere mixta (Astron.2.223-233).

The fifth characteristic concerns the fertility of the signs.²⁸² The sixth concerns the posture of the sign and whether the constellation is running, standing, sitting, or lying down.²⁸³ The seventh considers which signs have some form of disfigurement: *fraudata invenies amissis sidera membris (Astron.2.257).*²⁸⁴ Finally, the eighth characteristic concerns the season in which each sign is located: *temporibus quoque sunt propriis pollentia signa (Astron.2.265).*²⁸⁵ This list shows the detail in which Manilius considers the zodiac signs.

The lacuna complicates analysis of the zodiacal characteristics in the *Mathesis*; however, it is possible to construct the categories from the two signs that are extant. Firmicus describes Aries as:

Aries est signum in caelo masculinum aequinoctiale solstitiale regale, ignitum ad laniandum, quadrupes corporale oculis languidis erraticum quod a Graecis [lacuna] consonans indomitum inpurum libidinosum; domus Martis, altitudo Solis circa partem XIX., deiectio Saturni circa partem XIX., trigonum per diem Solis, per noctem Iovis (Math.2.10.2).

He describes Pisces as: *Pisces sunt signum femininum duplex humidum aquosum biforme fecundum squamosum maculosum incurvum mutum mobile (Math.2.10.5).* Therefore it is

²⁸² Fertile: Cancer, Scorpio, Pisces; Barren: Virgo, Leo, Aquarius; Intermediate: Capricorn, Sagittarius, Aries, Libra, Gemini, Taurus. See *Astron.2.234-243*.

²⁸³ Running: Aries, Leo, Sagittarius; standing: Gemini, Virgo, Aquarius; Sitting: Taurus, Libra, Capricorn; Lying: Cancer, Scorpio, Pisces. See *Astron.2.244-255*.

²⁸⁴ These are Taurus, Cancer, Scorpio and Sagittarius.

²⁸⁵ Here Pisces begins spring which is interesting as Aries is the sign which starts the cycle since it is located at the vernal equinox.

possible to see that Firmicus classes the signs according to their dominant element – earth, fire, water, and air - as Aries is fiery and Pisces is watery. Beck notes that there are four triangles which link every fourth sign in the zodiac circle. These triangles link three signs which have the same dominant element.²⁸⁶ Therefore Aries is part of the fire triad and Pisces of the water one. Second, Firmicus refers to the physical appearance of the sign. Aries is described as *quadrupes* and Pisces as *biforme*. This is similar to the concepts of bestial/human signs and single/double signs which is explained in the *Astronomica*. Third, Pisces is noted to be *fecundum* which touches on the concept of fertile/barren which is also a topic in the *Astronomica*. The status of Aries for this theme is not mentioned and thus there is some variation in the characteristics mentioned in Aries and Pisces. The qualities *squamosum maculosum incurvum mutum mobile* and *indomitum impurum libidinosum* do not appear in the *Astronomica* or the *Tetrabiblos*. Firmicus specifies which winds the zodiac is subject to. His list is:

Aquiloni subiacent signa Aries Leo Sagittarius, Austro Taurus Virgo Capricornus, Afelioti, quem nos Solanum dicimus, Gemini Libra Aquarius, Africo, qui a Graecis Libs dicitur, Cancer Scorpius Pisces (Math.2.12).

This is similar to Ptolemy's section on weather and the signs.²⁸⁷

Overall, since Ptolemy does not cover many characteristics of the zodiac whereas it is the focus of the *Astronomica*, the theory of zodiac characteristics in the *Mathesis* is closer to that of Manilius.

3.2.4 Body Parts

Iatromathematics is a branch of astrology which connects the movements of the heavens with medicinal practices. This was a common practice and most astrological treatises include this topic.²⁸⁸ The parts of the body are connected to different celestial phenomena in order to determine illness or find the cure.

²⁸⁶ Beck (2007):60.

²⁸⁷ Bram (1975):308 also notices the similarity and notes "the idea of connecting the signs of the zodiac with the winds is reminiscent of Ptolemy who bases his whole case for astrology on the meteorological argument."

²⁸⁸ Barton (1994):186.

In the *Tetrabiblos*, Ptolemy uses medicine as a means of justifying astrology.²⁸⁹ He assigns different body parts to the planets in the following order:

ἐπειδὴ τῶν κυριωτάτων τοῦ ἀνθρώπου μερῶν ὁ μὲν τοῦ Κρόνου κύριός ἐστιν ἀκοῶν τε δεξιῶν καὶ σπληνὸς καὶ κύστεως καὶ φλέγματος καὶ ὀστέων. ὁ δὲ τοῦ Διὸς ἀφῆς τε καὶ πνεύμονος καὶ ἄρτηριῶν καὶ σπέρματος. ὁ δὲ τοῦ Ἄρεως ἀκοῶν εὐωνύμων καὶ νεφρῶν καὶ φλεβῶν καὶ μορίων. ὁ δὲ ἥλιος ὀράσεως καὶ ἐγκεφάλου καὶ καρδίας καὶ νεύρων καὶ τῶν δεξιῶν πάντων. ὁ δὲ τῆς Ἀφροδίτης ὀσφρήσεως τε καὶ ἥπατος καὶ σαρκῶν ὁ δὲ τοῦ Ἑρμοῦ λόγου καὶ διανοίας καὶ γλώσσης καὶ χολῆς καὶ ἔδρας. ἡ δὲ σελήνη γεύσεως τε καὶ καταπόσεως καὶ στομάχου καὶ κοιλίας καὶ μήτρας καὶ τῶν εὐωνύμων πάντων (*Tetrabiblos*.3.12.148).

In this system each planet is assigned a variety of organs, in a seemingly random order. He takes into account not only limbs but also internal organs and senses (for example touch). Ptolemy does not explain why the organs are assigned to the planets in this manner, but he includes information about how this assignment works within the horoscope and the effects on the individual. He states: ἔστι δὲ τῶν καθ' ὅλου καὶ τὰ σίνη ὡς ἐπὶ τὸ πολὺ συμπίπτειν ἀνατολικῶν ὄντων τῶν τὸ αἷτιον ποιοῦντων κακοποιῶν πάθη δὲ τοῦναντίον δυτικῶν αὐτῶν ὑπαρχόντων (*Tetrabiblos*.3.12.148) and then gives the reason behind this: ἐπειδὴ περ καὶ διώρισται τούτων ἑκάτερον τῷ τὸ μὲν σίνος ἅπαξ διατιθέναι καὶ μὴ διατείνουσιν ἔχειν τὴν ἀλγηδόνα, τὸ δὲ πάθος ἦτοι συνεχῶς ἢ ἐπιληπτικῶς τοῖς πάσχουσιν ἐπισκῆπτειν (*Tetrabiblos*.3.12.148). There is therefore a lot of detail in this system. Ptolemy also incorporates the zodiac into this system as a means of fine tuning what the planets are indicating and states:

τά τε γὰρ μέρη τῶν ζῳδίων ἐκάστου τὰ περιέχοντα τὰ ἀδικούμενον μέρος τοῦ ὀρίζοντος δηλώσει τὸ μέρος τοῦ σώματος περὶ ὃ ἔσται τὸ αἷτιον καὶ πότερον σίνος ἢ πάθος ἢ καὶ ἀμφοτέρω τὸ δηλούμενον μέρος ἐπιδέξασθαι δυνατόν (*Tetrabiblos*.3.12.147).

²⁸⁹ Barton (1994):186.

Later he notes: καὶ παρὰ τὰς τῶν ζῳδίων ἐναλλαγὰς τῶν τοῦς προειργμένους ἐπὶ τῶν δύο κέντρων συσχηματισμοῦς περιεχόντων γίνονται τινες ποιότητες παθῶν (*Tetrabiblos*.3.12.152).

Manilius uses a completely different system. He links the body with the zodiac instead of the planets. He also uses a different method to allocate the body to the zodiac. He starts at the head and the start of the zodiac cycle and then works down the body and through the zodiac until he reaches the feet and Pisces. The *Astronomica* thus assigns the body to the zodiac in the following order:

*namque Aries capiti, Taurus cervicibus haeret,
bracchia sub Geminis censentur, pectora Cancro,
te scapulae, Nemeaee, vocant teque ilia Virgo,
Libra colit clunes et Scorpions inguine regnat,
et femina Arcitenens, genua et Capricornus amavit,
cruraque defendit Iuvenis, vestigia Pisces* (*Astron.*4.704-79).²⁹⁰

This allocation shows that Manilius is only concerned with the visible sections of the body such as the limbs and trunk of the body, and does not cover the internal organs or any of the senses. In addition, he does not show how this information relates to the consequences in the horoscope nor provides a strong link from this information to its consequences in the horoscope. Instead he notes *in quis praecipuas toto de corpore vires/ exercent* (*Astron.*2.455-456). Information about disease and illness and how this relates to the allocation of the body amongst the zodiac is absent in the *Astronomica*.

The *Mathesis* allocates the body to the zodiac and not to the planets. Firmicus also starts the allocation at the head and works downwards to the feet. He notes:

caput hominis in signo Arietis est, cervix in Tauro, umeri in Geminis, cor in Cancro, pectus et stomachus in Leone, venter in Virgine, renes <et> vertebrae in Libra, natura in Scorpione,

²⁹⁰ Manilius uses poetic names and descriptions for the signs so *Nemeaee* refers to the Nemean lion which is Leo, *Arcitenens* to the archer of Sagittarius, and *Iuvenis* to the youth who became Aquarius. This section is a repeat of an earlier, longer description at Book 2.453-465. However, as it is more succinct I have used this section instead.

femora in Sagittatio, genacula in Capricorno, tibiae in Aquario, pedes in Piscibus (Math.2.24).

This method follows the strict linear method and the limited number of body parts that Manilius uses. The order and the allocations are virtually identical to that of Manilius and do not resemble the system in the *Tetrabiblos*. Firmicus also does not explain how the allocation of the body relates to the horoscope and omits any information about diseases.

Overall the information in the *Mathesis* relating to the zodiac is closer to the *Astronomica* than the *Tetrabiblos*. In particular the *Paranatellonta* and the allocation of the body in the iatromathematics section show a strong link between the *Mathesis* and the *Astronomica*.

3.3 Planets

The third key feature of horoscopic astrology is the planets. Ancient astrology recognises seven planets: the Moon, Mercury, Venus, Sol (the sun), Mars, Jupiter and Saturn.²⁹¹ The Moon and Sol are often separated into a sub-group called *luminaries* as they are “visibly extended objects, not dimensionless points of light.”²⁹²

The planets are missing from the *Astronomica*. It is clear that Manilius is aware of the planets as a celestial phenomenon as he does mention them from time to time and there are several instances where he promises to cover a section of theory which contains the planets, for example *haec mihi sub certa stellarum parte canentur* (Astron.2.965), and later in Book 3 he notes:

*hac in parte dies atque hac momenta dabuntur
si bene convenient stellae per signa sequentes;
quarum ego posterius vires in utrumque valentis
ordine sub certo reddam, cum pandere earum*

²⁹¹ This is the Chaldean order of the planets derived from their assumed distances from Earth. Two other orders were recognised: the Egyptian order and the older Babylonian order. The Egyptian order is: moon, sun, Jupiter, Venus, Saturn, Mercury and Mars. The Babylonian order is: moon, sun, Jupiter, Venus, Mars, Saturn, Mercury, and Mars. See Tester (1987):18.

²⁹² Beck (2007):79.

incipiam effectus (Astron.3.154-158).

However, this promised section does not appear in the text. There has been much debate as to why Manilius does not include the planets in a work intended to act as a textbook for understanding horoscopes. One theory was that he did discuss them, but that this section fell out of the main text at some point over the centuries and is now lost. Goold notes that immediately after the section on the *Paranatellonta* (within which there is a lacuna) “a passage of some 140 lines seems to have dealt with planetary influences.”²⁹³ The weakness of this theory is that this is a very short amount of text to deal with such a lengthy section as seven planets, their characteristics and influences, but Goold counters this by saying “a perfunctory teacher might make the attempt.”²⁹⁴ Scaliger considered there to have been a sixth book containing the missing information.²⁹⁵ Another theory is that Manilius “presents a primitive form of astrologer”²⁹⁶ where planets do not as yet feature in a significant role as they do in later theories. It is also possible that Manilius purposely did not include this data for political reasons, given that the Edict of Augustus came into force during the period when Manilius was writing. Whatever the reason, it is clear that Manilius “actively downplays the role of the planets in a number of contexts, presenting an astrology that is idiosyncratic in comparison with other sources.”²⁹⁷ At the end of the *Astronomica*, it seems that Manilius feels that he has dealt with the topic of the planets as he states: *has stellis proprias vires et tempora rerum/ constituit magni quondam fabricator Olympi* (Astron.5.30-31) and so this section of the *Astronomica* is a mystery.²⁹⁸ This means that in this section concerning the planets, it will not be possible to add a comparison of Manilius’ text and so the predominant discussion will be between the *Mathesis* and the *Tetrabiblos*.

3.3.1 Guardian of the Zodiac

The influence of the planets is affected by the zodiac signs. Each planet rules two signs apart from the luminaries which rule one each in order to fit twelve signs between seven planets. The sign(s) which the planets rule are known as the houses.

²⁹³ Goold (1977):xcvii.

²⁹⁴ Goold (1977):xcviii.

²⁹⁵ Housman (1930):xlvi.

²⁹⁶ Volk (2009):116. Volk disagrees with this view.

²⁹⁷ Volk (2009):121.

²⁹⁸ This passage is actually found around the line 700 between two lacunae and so it is possible that the missing text was originally to be found there. See Goold (1977):358n for the debate concerning this passage.

In the *Tetrabiblos* Ptolemy shows the link between the planets and the zodiac signs. He puts them in the following pairs: Sol – Leo; Moon – Cancer; Saturn – Capricorn and Aquarius; Jupiter – Sagittarius and Pisces; Mars – Scorpio and Aries; Venus – Libra and Taurus.²⁹⁹ He also provides an explanation for why each of the signs has been paired with a particular planet, for example the signs ruled by Mars:

ἐφεξῆς δὲ τῷ τοῦ Ἄρεως ξηραντικῷ μᾶλλον ὄντι τὴν φύσιν καὶ ὑπὸ τὴν τοῦ Διὸς ἔχοντι τὴν σφαῖραν τὰ ἐχόμενα πάλιν ἐκείνων ἐδόθη δωδεκατημόρια τὴν ὁμοίαν ἔχοντα φύσιν, ὃ τε Σκορπίος καὶ ὁ Κριός, ἀκολουθῶς τῇ φθαρτικῇ καὶ ἀσυμφώνῳ ποιότητι, τὴν τετράγωνον πρὸς τὰ φῶτα ποιοῦντα διάστασιν (*Tetrabiblos*.1.17.38).

This shows that Aristotelian principles are at the root of these pairings. Each planet has its own characteristics matched to those of the zodiac signs based on whether they are dry or wet, hot or cold. In addition, Ptolemy notes that each half of the zodiac can be considered as either solar or lunar, due to which luminary – zodiac pair occurs in that half of the year. This is explained thus:

καὶ ἀκολουθῶς τὸ μὲν ἀπὸ τοῦ Λέοντος μέχρι Αἰγόκερω ἡμικύκλιον ἡλιακὸν ὑπέθεντο, τὸ δὲ ἀπὸ Ὑδροχόου μέχρι Καρκίνου σεληνιακόν, ὅπως ἐν ἑκατέρῳ τῶν ἡμικυκλίων ἐν ζῳδίων καθ' ἕκαστον τῶν πέντε ἀστέρων οἰκείως ἀπονεμηθῇ, τὸ μὲν πρὸς ἥλιον, τὸ δὲ πρὸς σελήνην ἐσχηματισμένον (*Tetrabiblos*.1.17.37).

The *Mathesis* also notes that five of the planets have two signs each but the sun and moon only have one. In addition, Firmicus notes that each planet has one masculine and one feminine sign *sed ex ipsis duobus signis, quae singuli possident, unum masculinum est, aliud femininum* (*Math*.2.2.4). His pairs are as follows:

Saturnus habet domicilium in Aquario et Capricorno, ex quibus Aquarius masculinum est, Capricornus femininum. Iuppiter in Sagittario et Piscibus habet domicilium ... Mars in Ariete et in Scorpione domicilium collocavit ... Venus domus sunt Taurus et Libra ... Mercurius domicilium habet in Geminis et Virgine (*Math*.2.2.5).

²⁹⁹ See *Tetrabiblos*.1.17.

Firmicus does not provide an explanation of why a sign is paired with a particular planet, he simply states it, unlike Ptolemy, but the pairings are the same as are stated in the *Tetrabiblos*. Firmicus also briefly mentions that *vide quam apte quam secundum, ut masculini quidem signi dominus Sol esset, femini vero Luna, ut pro qualitate generis sui similia sibi sexus sui domicilia vendicarent* (*Math.2.2.3*) but the emphasis is more on the fact that each planet has a masculine and a feminine sign attached to it. This set of principles is linked to the horoscope itself through the *Decans*, which were discussed earlier. Each sign is divided into three and each of these three parts (the *Decans*) is assigned to a different planet.

The information that the *Mathesis* gives about the link between the planets and the zodiac is less in depth than in the *Tetrabiblos*. Bram also notes that Firmicus' method is considered to be Egyptian by Ptolemy whereas Ptolemy "knows a simpler arrangement which he calls the Chaldean."³⁰⁰ From this it appears that, so far, Firmicus does not follow Ptolemy exactly within this branch of astrological theory.

3.3.2 Characteristics of the Planets

Similar to the zodiac signs, the planets also have a number of characteristics. These characteristics include: gender, temperature, and when the planet rises.

Ptolemy follows the Chaldean order of the planets in which the sun is considered to be the mid-point.³⁰¹ The planets between the Earth and the sun are considered to be warmer than those further away from the sun. This links to the Aristotelian principles that everything is a balance of hot, wet, dry and cold.³⁰² It has already been shown that Ptolemy uses these principles in his astrology. He applies these principles to the planets and their characteristics. He notes that: the sun is hot and dry; the moon is wet and moderately warm; Saturn is cool and dry; Mars is dry and hot; Jupiter is warm and humidifies; Venus also warms and humidifies; and finally Mercury is sometimes dry and at other times humidifying depending

³⁰⁰ Bram (1975):307.

³⁰¹ The Moon, Mercury, Venus, Sol (the sun), Mars, Jupiter and Saturn.

³⁰² See Robbins (1940):34n.

on whether it is closer to the sun or moon.³⁰³ Ptolemy also considers whether a planet is benefic or malefic. This is also linked to Aristotelian principles as he notes:

τοὺς μὲν δύο τῶν πλανητῶν, τὸν τε τοῦ Διὸς καὶ τὸν τῆς Ἀφροδίτης, καὶ ἔτι τὴν σελήνην, ὡς ἀγαθοποιοὺς οἱ παλαιοὶ παρειλήφασιν, διὰ τὸ εὐκρατον καὶ τὸ πλεον ἔχειν ἐν τε τῷ θερμῷ καὶ τῷ ὑγρῷ τὸν δὲ τοῦ Κρόνου καὶ τὸν τοῦ Ἄρεως τῆς ἐναντίας φύσεως ποιητικούς, τὸ μὲν τῆς ἄγαν ψύξεως ἐνεκεν, τὸν δὲ τῆς ἄγαν ξηρότητος. τὸν δὲ ἥλιον καὶ τὸν τοῦ Ἑρμοῦ διὰ τὸ κοινὸν τῶν φύσεων ὡς ἀμφοτέρωθεν δυναμένους, καὶ μᾶλλον συντρεπομένους, οἷς ἂν τῶν ἄλλων προσγένωνται (*Tetrabiblos*.1.5.19).

Third, the gender of the planets is again linked to these principles. Ptolemy states that ἡ τῆς ὑγρᾶς οὐσίας μάλιστα θηλυκὴ τυγχάνει (*Tetrabiblos*.1.6.19) which indicates that the planets which are moist are feminine; Venus and the moon. He notes that the masculine and hermaphroditic planets are:

τὸν δὲ ἥλιον καὶ τὸν τοῦ Κρόνου καὶ τὸν τοῦ Διὸς καὶ τὸν τοῦ Ἄρεως ἀρρενικούς, τὸν δὲ τοῦ Ἑρμοῦ κοινὸν ἀμφοτέρωθεν τῶν γενῶν, καθ' ὃ ἐξ ἴσου τῆς τε ξηρᾶς καὶ τῆς ὑγρᾶς οὐσίας ἐστὶ ποιητικὸς (*Tetrabiblos*.1.6.20).

Ptolemy gives a second theory regarding the gender of the stars, in which the gender is dependent on their aspect to the sun and horizon:

ἀρρενοῦσθαι δὲ φασι τοὺς ἀστέρας καὶ θηλύνεσθαι παρά τε τοὺς πρὸς τὸν ἥλιον σχηματισμούς. ἑώρους μὲν γὰρ ὄντας καὶ προηγουμένους ἀππρενοῦσθαι, ἑσπερίους δὲ καὶ ἐπομένους θηλύνεσθαι. καὶ ἔτι παρὰ τοὺς πρὸς τὸν ὀρίζοντα. ἐν μὲν γὰρ τοῖς ἀπὸ ἀνατολῆς μέχρι μεσουρανήσεως, ἢ καὶ ἀπὸ δύσεως μέχρι τῆς ὑπὸ γῆν ἀντιμεσουρανήσεως, σχηματισμοῖς, ὡς ἀπηλιωτικούς ἀρρενοῦσθαι. ἐν δὲ τοῖς λοιποῖς δυσὶ τεταρτημορίοις ὡς λιβυκοὺς θηλύνεσθαι (*Tetrabiblos*.1.6.20).

This explanation links the theory of gender with the rising time of the planet. A planet is either matutine (it rises before the sun), or vespertine (it rises after the sun has risen).³⁰⁴ Ptolemy does not provide a separate section on whether a planet is matutine or vespertine;

³⁰³ See *Tetrabiblos*.1.4 for the full passage.

³⁰⁴ See Neugebauer (1970):81 for a full explanation of the sidereal day.

this is split between aspects to the sun and the gender of the planets. On the topic of the sun and its aspects Ptolemy notes:

οἱ τε πλανώμενοι καὶ ἔῃοι μόνον ἀπὸ μὲν τῆς ἀνατολῆς μέχρι τοῦ πρώτου στηριγμοῦ μᾶλλον εἰσιν ὑγραντικοί, ἀπὸ δὲ τοῦ πρώτου στηριγμοῦ μέχρι τῆς ἀκρονύκτου μᾶλλον θερμαντικοί, ἀπὸ δὲ τῆς ἀκρονύκτου μέχρι τοῦ δευτέρου στηριγμοῦ μᾶλλον ξηραντικοί, ἀπὸ δὲ τοῦ δευτέρου στηριγμοῦ μέχρι δύσεως μᾶλλον ψυκτικοί (*Tetrabiblos*.1.8.22).

This is a reference to heliacal rising.³⁰⁵ Ptolemy does not mention vespertine planets, or any other aspect of the sidereal day.

Firmicus does not incorporate Aristotelian principles in his explanation of the planets' characteristics. The theory on whether a planet is benefic or malefic is instead linked to whether a planet is diurnal or nocturnal and where they are located in the horoscopic chart, and so will be discussed in the next section. There is only one reference to the planets having a gender in the *Mathesis*. This is in Book 7 and within the topic of *house of sexual desire*. Firmicus simply states for this passage:

si Venus in Mercurii domo fuerit inventa, et Mercurius in Veneris, aut si hoc idem in finibus sunt fecerint, Luna vero in Virgine aut in Capricorno aut in Tauro aut in Leone sit posita, ceterae vero masculinae stellae in femininis sint signis, femininae vero in masculinis, biformes hermaphroditique nascentur (Math.7.25.2).

From this it is difficult to interpret whether Venus and the moon are masculine or feminine planets, and impossible to note what the unmentioned planets are. It can only be shown that Firmicus knows the theory that planets have genders.³⁰⁶ Firmicus does provide an explanation about matutine and vespertine planets. He notes the definition of not only matutine and vespertine, but also *absconsae* (hidden) and *acronyctae* planets (which rise after the sun sets). He states:

³⁰⁵ Robbins (1940):45n. "By rising, heliacal rising is meant."

³⁰⁶ Holden (2011):53 considers that there are chapters missing which contain information about the genders of the planets. He also notes that the section *the natures of the stars* (which is not in the Latin text) "was probably similar to Teucer of Babylon's *The Nature and Force of the Seven Planets*", but there is no evidence for this.

matutinae sunt in ortu, quae praecedentes orbem Solis oriuntur; vespertinae vero in ortu, quae orientem Solem sequuntur; absconsae vero quas <Solis> orbis tegit; acronyctae, quae tunc oriuntur, cum Sol occidit (Math.2.8.1).

This means that the designation of the planet (whether it was matutine, vespertine etc.) would change in each horoscope as it is dependent on how the planets are arranged at a given time. Firmicus explains how to calculate whether a planet is matutine or vespertine, thus going a stage further in this element. This is explained in detail for each planet:

Saturni stella cum a Sole XV recesserit partibus idest cum praecedens orta fuerit matutina est. simili modo etiam Iovis XII partibus recedens <ortum> matutinum facit [praecedentem], Venus VIII. Mars etiam praecedens et in VIII parte constitutus matutinus efficitur. Mercurius praecedens et in XVIII parte constitutus matutinus est. vespertinae vero sunt, cum in isto partium numero constitutae Solem fuerint subsecutae (Math.2.9).

The *Mathesis* therefore provides more detail than is available in the *Tetrabiblos*, as Ptolemy does not discuss the *absconsae* or *acronyctae* positions of the planets. Ptolemy also does not provide information on how to calculate precisely when a planet is matutine or vespertine.

3.3.3 Diurnal/ Nocturnal

A planet can be diurnal or nocturnal, similar to the zodiac signs.

In the *Tetrabiblos*, a planet is diurnal or nocturnal depending on its temperature characteristics, whether it is cold, warm, dry, or wet. This therefore is also dependent on Aristotelian Principles. He notes that according to tradition:

ὁμοίως δὲ ἐπειδὴ τῶν ποιοῦντων τὸν χρόνον τὰ ἐκφανέστατα διαστήματα δύο ταῦτα τυγχάνει τό τε τῆς ἡμέρας ἡρρενωμένον μᾶλλον διὰ τὸ ἐν αὐτῇ θερμὸν καὶ δραστικὸν καὶ τὸ τῆς νυκτὸς τεθλυσμένον μᾶλλον διὰ τὸ κατ' αὐτὴν δίψυγον καὶ αναπαστικόν (*Tetrabiblos*.1.7.20).

This means that the moon and Venus are nocturnal, the sun and Jupiter are diurnal and Mercury is a bit of both due to his mixed nature. For Mars and Saturn there is a conflicting theory that these planets are placed with a time of day that is conflicting with their natures instead of similar. This means that: ἐνθεν τὸν μὲν τοῦ Κρόνου ψυκτικὸν ὄντα τῷ θερμῷ τῆς ἡμέρας ἀπένειμαν, τὸν δὲ τοῦ Ἄρεως ξηρὸν ὄντα τῷ ὑγρῷ τῆς νυκτός (*Tetrabiblos*.1.7.21).

Firmicus lists the planets which are diurnal or nocturnal and explains what this means in terms of the horoscope. The diurnal planets are: the Sun, Jupiter and Saturn. For the horoscope this means that they indicate good fortune when placed favourably in a diurnal chart. Firmicus' definition of whether a planet is diurnal or nocturnal is linked to which luminary a planet follows. He notes *conditionem itaque Solis secuntur Iuppiter et Saturnus* (*Math*.2.7.2). There is a lacuna within this section and so Bram has reproduced the missing text from this point.³⁰⁷ Diurnal planets are said to be “in diurnal charts, if they are in favourable position, they indicate good fortune.”³⁰⁸ For the other planets, Bram's extrapolated text reads “Venus, Mars and Mercury follow the condition of the moon. Favourably located in a nocturnal chart they indicate good fortune, unfavourably in a diurnal chart, the greatest evils.”³⁰⁹ There is additional information about the effect of nocturnal and diurnal planets on the horoscope. Firmicus states:

nam si deficientem Lunam deficiens Venus exceperit aut Mars in nocturna genitura, tunc prospera omnia deficiens Luna felicitatesque decernit; si vero plena lumine vel crescens Luna Veneri vel Marti se aliqua radiatione coniunxerit, maximas calamitates et maxima facit infortunia concitari. Sed ideo Venus crescenti Lunae contraria est, quia naturali quodam invidiae sibi stridore dissentiunt (*Math*.2.7.3).

There are many other references to diurnal and nocturnal charts throughout the remaining text. The issue of whether the sun or moon is the dominant power in the horoscope is a key element in astrological theory as it is linked to the time the individual is born.

³⁰⁷ Bram does not note either within the text or her notes that there is a lacuna here and that she has extrapolated the missing text. Holden (2011):52n considers her addition to be appropriate to the chapter but should have been placed elsewhere in text. He does not elaborate this any further.

³⁰⁸ Bram (1975):38. This is Bram's addition to *Math*.2.7.2.

³⁰⁹ Bram (1975):38.

The *Mathesis* and the *Tetrabiblos* provide similar basic information on which planets are diurnal but differ on how they use this information. Ptolemy considers Mercury to be a mixed planet, not nocturnal, whereas Firmicus does not consider Mercury to be a diurnal planet. Although there is a lacuna, it is clear that a planet is not missing from the list of diurnal planets. However, this does not necessarily mean that Firmicus considers Mercury to be a nocturnal planet as Bram extrapolates. Firmicus may have had a similar statement to Ptolemy that separated Mercury and addressed its singular nature and thus agreed with Ptolemy on this aspect. However, this cannot be known from the remaining text.

3.3.4 Exaltations of the Planets

Exaltations are the favourable places in a horoscope and the debilities are the unlucky places. This connects the planets with the zodiac as “each planet was thought to be in its exaltation in one sign or in particular degrees of the zodiac and in its depression in another (diametrically opposite) sign.”³¹⁰

In the *Tetrabiblos*, Ptolemy refers to the astronomical background in his explanation of the exaltations of the planets. He states:

ἐπειδὴ γὰρ ὁ ἥλιος ἐν μὲν τῷ Κριῷ γενόμενος τὴν εἰς τὸ ὑψηλὸν καὶ βόρειον ἡμικύκλιον μετάβασιν ποιεῖται, ἐν δὲ ταῖς Χηλαῖς τὴν εἰς τὸ ταπεινὸν καὶ νότιον, εἰκότως τὸν μὲν Κριὸν ὡς ὑψωμα ἀνατεθήκασιν αὐτῷ καθ’ ὃν ἄρχεται καὶ τὸ τῆς ἡμέρας μέγεθος καὶ τὸ τῆς φύσεως αὐτοῦ θερμαντικὸν αὐξέσθαι τὰς δὲ Χηλὰς ὡς ταπείνωμα διὰ τὰ ἐναντία (*Tetrabiblos*.1.19.41).

This process is then repeated for all of the planets. This means that: Saturn exalts in Libra and is depressed in Aries; the moon exalts in Taurus and is depressed in Scorpio; Jupiter exalts in Cancer but his depression is Capricorn; Mars exalts in Capricorn and depresses in Cancer; Venus exalts in Pisces with a depression in Virgo; finally Mercury is exalted in Virgo but depressed in Pisces. For each of the planets, Ptolemy explains how the characteristics of the planets play an important role in deciding which sign is favourable and which debilitating. For example:

³¹⁰ Barton (1994):96.

ὁ δὲ τοῦ Ἄρεως φύσει καυσώδης ὢν καὶ μᾶλλον ἐν Αἰγόκερῳ διὰ τὸ νοτιώτατον γίνεσθαι καυστικώτερος γινόμενος, καὶ αὐτὸς μὲν εἰκότως ἔλαβεν ὕψωμα κατ' ἀντίθεσιν τῷ τοῦ Διὸς τὸν Αἰγόκερον, ταπείνωμα δὲ τὸν Καρκίνον (*Tetrabiblos*.1.19.42).

Ptolemy only notes in which sign a planet is exalted or depressed, and does not provide a more exact location. This is compatible with the previous sections in the *Tetrabiblos* as he tends to note signs as a whole but does not consider the individual degrees of a sign.

Firmicus also provides a definition of the terms *exaltation* and *debilitation*. He states:

quotiens in genituris hominum maxima stellarum pars partiliter altitudinum suarum signa possederint. tunc vero homines infelicitatum infortuniis opprimuntur quotiens stellarum pars maxima in his partiliter constitua fuerit, in quibus humili deiectione multum de sua potestate dimittunt (*Math*.2.3.2).

Firmicus does not explain the astronomical background for this element, nor does he provide a reason for why a planet is exalted in a particular sign. He lists the exaltations and depressions of each planet, but specifies them to the exact degree, not just to the sign. Therefore: the sun exalts in the 19th degree of Aries but falls in the 19th of Libra; the moon exalts in the 3rd of Taurus but falls in the 3rd of Scorpio; Saturn exalts in the 21st of Libra but falls in the 21st of Aries; Jupiter exalts in the 15th of Cancer and falls in the 15th of Capricorn; Mars' exaltation is in the 28th of Capricorn and falls in the 28th of Cancer; Venus exalts in the 27th of Pisces and falls in the 27th of Virgo; finally Mercury is exalted at the 15th of Virgo and falls in the 15th of Pisces.³¹¹ This matches Ptolemy's broader list. Firmicus also notes an alternative theory and states:

hac ex causa Babylonii ea signa, in quibus stellae exaltantur, domicilia earum esse voluerunt; nos autem scire debemus hac institutione formati, omnes stellas melius in altitudinibus suis quam in domiciliis suis (*Math*.2.3.4).

³¹¹ See *Math*.2.3.5.

He further notes on the differences from the Babylonian theory and explains that by this system the sun is exalted in Aries (and not just the 19th degree) and Aries is therefore the house of the sun, and so on for the other planets *Saturni quidem domicilium esse Libram, Iovis Cancrum, Martis Capricornum, Solis Arietem, Lunae Taurum, Veneris Pisces, Mercurii Virginem* (*Math.2.3.6*). These are the same pairings as shown in the *Tetrabiblos*.

Throughout this comparison on the treatment of the planets, both Firmicus and Ptolemy cover a similar set of material. The lists of planetary exaltations, diurnal and nocturnal planets, and matutine and vespertine planets match one another. However, Ptolemy only considers the signs whereas Firmicus goes a step further and considers the degrees of the zodiacal signs. Ptolemy also uses Aristotelian principles in his explanations of a number of aspects to do with the planets, whereas this is missing from the *Mathesis* for this element of astrological theory. Firmicus neither discusses gender or benefic and malefic planets, which is included in the *Tetrabiblos*. Therefore, it seems that although there are similarities between the two texts, there are enough differences to question how closely Firmicus used Ptolemy as a source for the planetary section.

4. Conclusion

This analysis of ancient astrological theory has shown that the *Astronomica*, *Tetrabiblos* and the *Mathesis* follow a broadly similar set of principles in their explanations of astrological doctrine. Regarding the structure of the horoscope, Firmicus names Ptolemy as a source and even attributes a specific section of the theory to him, the *antiscia*. However, Ptolemy does not discuss this aspect in the *Tetrabiblos* at all, and there are many differences between the two texts, not least that Ptolemy covers both universal and genethliological astrology whereas Firmicus only deals with genethliological. Within the sections on the zodiac, it is clear that Firmicus must have used the *Astronomica* as a source, as the information on the *Paranatellonta* is almost identical, right down to the mistakes, and the section on assigning the body parts bears a strong resemblance to the *Astronomica* whilst the *Tetrabiblos* contains a completely different theory. The section on the planets in the *Mathesis* shows a number of differences between Ptolemy's text and Firmicus' and so the link between these two texts appears weaker.

Therefore, Firmicus has evidently used Manilius as a source. He has also potentially used more than just Book 5 for the information on the *Paranatellonta*. However, he has not named him or made any reference to the fact a substantial text dealing with horoscopes in Latin has been written. On the other hand, Firmicus appears perfectly content to name Ptolemy as a source, not once but three times, and yet the theories of the two authors show many differences. The question of why Firmicus decided to do this cannot be answered definitely, but the effect of what this achieves will be considered.

Chapter 3: The Tradition of Establishing Authority in Didactic Texts

The *Mathesis* of Firmicus Maternus aims to pass on the knowledge and skills required to understand a birth horoscope with the relevant astronomical details. In order for Firmicus and his text to be respected by readers, it is necessary for him to establish his authority within the text and promote this authority to the readers. There are a number of methods for authors to promote their authority including: naming the sources, promotion of their own experience, divine inspiration, charisma, and imperatives.³¹² The method(s) that the author uses depends to some extent on the type of literature that they are writing. The previous chapter has shown that one method that Firmicus uses is to name a vast array of other astrological authors, or known astrologers, in an effort to combine their authority with his own (see table in Chapter 2 section 2). This table shows that the majority of the authors that Firmicus names are Greek, with only a couple of Latin authors named (Cicero and Caesar). In addition, it is shown that Firmicus uses material from Manilius' *Astronomica* but he does not name Manilius or credit his source anywhere in the *Mathesis*, whereas he names other authors such as Ptolemy, but then does not use the material from their works correctly. Therefore, his method of establishing authority, and thus validating his text, is to list Greek names which are unused whilst concealing an actual Latin source.

The question arises as to whether this method of obtaining authority is a standard method used by authors writing in the same categories as Firmicus, whether he is an anomaly, or if he is the start of a new tradition. In order to answer this, other texts which fall into the same categories as the *Mathesis* will be considered to see how their authors establish their authority. This will then be compared to Firmicus' method. The *Mathesis* fits into the following categories: astrology, Late Antique, prose, and didactic. There are no other extant texts which cover all of these categories, and so these will be split into two: astrology, and Late Antique didactic prose. The astrological texts that the *Mathesis* can be compared to are from the early Principate, which are also in verse. The Late Antique didactic prose texts are technical handbooks. Therefore, Pliny the Elder will also be considered to act as a bridge between these two categories since his *Natural History* is from the early Principate, but is also a prose handbook and contains material on astronomy, although not astrology. Didactic

³¹² Volk (2002):48 discusses the use of divine inspiration; Longley (2013):187ff discusses the use of direct interaction with the reader through charisma and the use of the 1st person sing./pl.; Cameron (2004):350ff shows how Latin authors started quoting from Silver Age poets.

authors such as Lucretius and Virgil will not be considered as they do not write astrological texts nor were they writing in Late Antiquity.

1. Early Astrological Authors

Astrology became known in Roman society around three centuries before the Principate and at first gained popularity amongst the lower classes. The upper classes had mixed reactions to astrology, but it gradually grew in popularity.³¹³ However, the popularity of astrology and astronomy grew steadily during the early years of the Principate, partly because of Augustus' use of astrology to promote his legitimacy to power and his right to rule. In this period, didactic literature is a popular form of literature, although is not yet considered a genre in its own right, and was usually written in verse form using the metre associated with epic, the hexameter.³¹⁴ There are four criteria to didactic poetry: didactic intent, teacher-student constellation, poetic self-consciousness, and poetic simultaneity.³¹⁵ The first two make the text didactic, and the latter two focus on the poetic side. The topics dealt with in didactic poetry are diverse, ranging from agriculture to poisons and grammar. These two aspects of popular culture, didactic poetry and astrology, merge during the early Principate as a number of authors decide to write on celestial matters and include astrology in the Latin didactic corpus.³¹⁶ The nature of didactic poetry means that the author needs to establish his authority to the readers as one who could reliably impart a particular branch of knowledge. This section will consider how early astrological authors try to establish their authority. The texts of Manilius, Germanicus and Ovid will be analysed as examples of this type of literature.

1.1 Manilius

Manilius is writing the *Astronomica* in the early first century AD and makes it clear that he is writing within the tradition of didactic poetry. He is predominantly concerned with the poetic tradition that his work fits into, rather than the scientific tradition from which his subject matter descends. Green notes that Manilius' aim is to discuss the art of astrology and the stars

³¹³ Green (2014):65.

³¹⁴ Volk (2002):29. "Since they were mostly composed in hexameters, the texts that we call didactic were in antiquity usually regarded as epic."

³¹⁵ Volk (2002):40. This is repeated in Volk (2009):178.

³¹⁶ See Dihle (1994):108ff.

in terms of their role in horoscopes and that “he is motivated primarily by the poetic novelty of the enterprise”³¹⁷ rather than the intention of teaching astrology. However, the “*Astronomica* is unanimously classified by modern scholars as a didactic poem”³¹⁸ and so will be considered as such.

There are a number of sources which contribute to the information given in the *Astronomica*. It is noted that unfortunately the astrological prose sources are not known, but that “his most important poetic models are Aratus, Lucretius, and Virgil.”³¹⁹ Manilius does not disclose his sources in the *Astronomica*. He does not name any other astrological or astronomical author, or draw attention to his predecessors in the literary tradition. It is evident that Manilius has used previous authors as a basis in all the elements that comprise his text: astronomical/astrological, scientific and poetic.³²⁰ However, in order to establish his authority as a didactic scientific poet he does not name these sources, but relies on other methods. These methods for each component (astronomical/astrological, scientific and poetic) will be considered.³²¹

1.1.1 Astronomical/Astrological Authority

As Volk notes, it is the *Phaenomena* of Aratus which provides the astronomical material for the *Astronomica*. She comments that Manilius “follows parts of Aratus’ *Phaenomena* closely in his description of the constellations and other celestial phenomena in Book 1”³²² and notes that “part of the astronomical section of the *Astronomica* (1.255-808) is modelled on lines 19-558 of Aratus’ *Phaenomena*.”³²³ In the Teubner edition of the *Astronomica* Van Wageningen has provided a detailed analysis of the passages in the *Astronomica* which correspond to other texts, including the *Phaenomena*.³²⁴ Within Book 1 alone there are 26 separate links to Aratus’ text. However, Manilius does not simply produce a translation of Aratus’ text but

³¹⁷ Green (2014):14.

³¹⁸ Green (2014):12.

³¹⁹ Volk (2009):184. Volk adds that after these three authors, Ovid is the next most important influence.

³²⁰ Goold (1977):xiii comments that Manilius shows familiarity with Lucretius, Virgil, Livy, Cicero, Homer and other minor authors.

³²¹ The chapter “Teaching and Poetry” in Volk (2009):174-216 gives a comprehensive and detailed overview of how Manilius interacts with these three models. I intend to summarise and consider Manilius in comparison to other astrological authors.

³²² Volk (2009):184.

³²³ Volk (2009):188.

³²⁴ Van Wageningen (1915):189-195.

reworks the material to create his own text. In addition to the original *Phaenomena*, Manilius uses several Latin translations of the text. One of these is Cicero's translation.³²⁵ Other sources that have been suggested for Manilius' sources are the translations of the *Phaenomena* by Germanicus and Ovid. Volk notes that there are striking verbal parallels between the *Astronomica* and Germanicus' *Phaenomena*, which suggests some interdependence.³²⁶ However, it is not known whether Manilius knew of this text. It is also not known exactly when Ovid wrote his version of the *Phaenomena*, but Volk considers it probable that Manilius would have known and used it.³²⁷

Manilius is trying to produce a work that is unique whilst using the same material as other authors. He is also trying to emphasise the originality of his work, a theme which will be returned to later. As Manilius does not mention his astronomical and astrological sources, it is clear that his authority is not based on the names of these previous astronomical authors. He makes veiled references to Aratus in phrases such as: *montis ab excelso speculantur vertice Tauri* (*Astron.* 1.402) which "Scaliger observes that the mention of Mount Taurus is a compliment to Aratus, who was a Cilician"³²⁸; and *astrorum quidam varias dixere figuras* (*Astron.* 2.25) which would include Aratus as one of their number.

There are some passages which indicate that Manilius has had some first-hand experience of astronomy himself. This may indicate that he uses the autopsy method to secure his authority. In the opening passage to the *Astronomica*, Manilius notes:

*iuvat ire per ipsum
aera et immenso spatiantem vivere caelo
signaque et adversos stellarum noscere cursus.
quod solum novisse parum est. impensius ipsa
scire iuvat magni penitus praecordia mundi
quaque regat generetque suis animalia signis
cernere et in numerum Phoebos modulante referre* (*Astron.* 1.13-19).

³²⁵ Volk (2009):189n summarises Liuzzi (1988) who compares the Manilian passages with the extant fragments of Cicero's *Aratea* and other Latin translations of Aratus. They conclude that "Manilius is especially indebted to Cicero."

³²⁶ Volk (2009):189n.

³²⁷ Volk (2009):189n.

³²⁸ Goold (1977):37n.

This passage appears to show that Manilius has an enjoyment of the subject matter, enough to pursue it in verse, but does not give a strong indication that he has trained for many years or is a competent astronomer or astrologer. It simply shows that he wants to write about astrology in verse. Shortly after this section Manilius demonstrates that he knows how the data concerning the stars was collected, firstly who took on the task: *hi [sacerdotes] tantum movere decus primique per artem/ sideribus videre vagis pendentia fata.* (Astron.1.51-52) He then demonstrates their method:

*singula nam proprio signarunt tempora casu
longa per assiduas complexi saecula curas:
nascendi quae cuique dies, quae vita fuisset
in quas fortunae leges quaeque hora valeret
quantaque quam parvi facerent discrimina motus* (Astron.1.53-57).

Finally he explains how this was developed into a science: *per varios usus artem experientia fecit/ exemplo monstrante viam, speculataque longe/ deprendit tacitis dominantia legibus astra* (Astron.1.61-63).

This set of passages shows that Manilius is aware of the background of the discipline that he is conveying to his readers. He also makes it clear that *nec me vulgatae rationis praeterit ordo* (Astron.3.18), thus indicating his own experience which adds to his authority. However, there are a couple of phrases in which Manilius notes the difficulty of the topic and appears less than confident with the material. He states that the task is *maioraque viribus ausum* (Astron.3.1) and then *at mihi per numeros ignotaque nomina rerum* (Astron.3.31). These phrases do not appear often in the text. Therefore it seems that he is not promoting his own knowledge and experience in astrological and astronomical matters, and thus is not using it as a basis for his authority or to validate the text.

1.1.2 Scientific Authority

Within the *Astronomica*, Manilius considers alternative theories regarding how the universe is formed and how his version fits into this tradition. A wide variety of theories are

considered.³²⁹ First he refers to Xenophanes and notes that the universe is *semperque fuisse/ et fore, principio pariter fatoque carentem* (Astron.1.123-124); second is Hesiod *seu permixta chaos rerum primordia quondam/ discrevit partu, mundumque enixa nitentem/ fugit in infernas caligo pulsa tenebras* (Astron.1.125-127); third is Leucippus and the foundation of Epicurean philosophy *et paene ex nihilo summa est nihilumque futurum/ caecaque materies caelum perfecit et orbem* (Astron.1.130-131); fourth is Heraclitus *sive ignis fabricavit opus flammaeque micantes* (Astron.1.132); fifth is Thales *seu liquor hoc peperit* (Astron.1.135); and finally sixth is Empedocles *aut neque terra patrem novit nec flamma nec aer/ aut umor, faciuntque deum per quattuor artus/ et mundi struxere globum* (Astron.1.137-139). As mentioned earlier, Manilius does not attribute these theories to any names but simply states *quem ... placet* and introduces the next theory with *sive* or *seu*. Manilius then balances these views very diplomatically *semper erit pugna ingeniis, dubiumque manebit/ quod latet et tantum supra est hominemque deumque* (Astron.1.145.146) before summarising the main similarity between all the differing viewpoints *sed facies quacumque tamen sub origine rerum/ convenit, et certo digestum est ordine corpus* (Astron.1.147-148). He then proceeds to detail the structure of the universe according to his own theory. This summary means that Manilius can display his awareness of the other theories and demonstrate his full grasp of the material and the surrounding context which increases his authorial voice. It can be seen that Manilius does not use the names of any previous scientific author to boost his authority, in the same manner as in the astrological element. Instead he chooses to mention these theories, to appear to have researched the matter, but to place them to one side leaving his own theory as the primary focus. Thus he establishes his authority by decreasing the authority of the other authors.

The scientific model which Manilius follows is Lucretius' *De Rerum Natura* (DRN). Volk notes that although "Manilius had to engage with the Aratean tradition simply by virtue of writing about the stars, he appears to have consciously chosen Lucretius as an object of *imitatio* and *aemulatio*,"³³⁰ and also that "the *De Rerum Natura* was an obvious model that could not be ignored."³³¹ Manilius refers to this text within the *Astronomica* during Book 1 in a section which details how the heavenly fires can indicate that disaster is impending. His example is the plague which struck Athens. Manilius states *qualis Erectheos pestis populata*

³²⁹ For the following theories, see Goold (1977):14n.

³³⁰ Volk (2009):192.

³³¹ Volk (2009):192.

colonos/ extulit antiquas per funera pacis Athenas (Astron.1.884-885). This example contains similar material to the *De Rerum Natura*.³³² There are further allusions made to the *DRN* through the choice of language. Manilius echoes Lucretius “in his repeated *iuvat*, stressing like his predecessor the pleasant experience of a journey that is both intellectual and poetic.”³³³ This means that Manilius is using Lucretius’ poetic persona to add authority to his text.

However, there is a conflict of ideas between the *De Rerum Natura* and the *Astronomica*. The theory of the universe which Manilius expounds is based on the Stoic view that the universe is created from the four elements.³³⁴ However, Lucretius follows Epicurean philosophy and so Manilius is trying to teach a fundamentally different theory to his model. Therefore, it is imperative that he establishes his authority as a scientific author so that he is perceived to be equal to the rival text.³³⁵ There is a sense of rivalry between the *Astronomica* and the *DRN* throughout the text. Manilius even openly mocks the Epicurean theory of the universe *quis credat tantas operum sine numine moles/ ex minimis caecoque creatum foedere mundum?* (Astron.1.492-493) and thereby also mocks Lucretius.³³⁶ This attack on Lucretius and the Epicurean way of thinking asserts Manilius’ independence as a scientific author and that whereas his predecessors are wrong, he is right. Thus he establishes a sense of authority as a scientific author.

1.1.3 Poetic Authority

Manilius sets himself and his text within the didactic poetic tradition, and so there are a number of methods he uses to establish his authority, which fall into this category.³³⁷ First, the only source which Manilius credits as an influence for the composition of the *Astronomica* is the Muses. This relates to Hesiod as he prominently displays the Muses in his works. For example, he opens both the *Theogony* and the *Words and Days* with the phrases:

³³² Goold (1977):75n notes that this section refers to “the plague at Athens, no doubt suggested by Lucretius *DRN*.6.1138ff.”

³³³ Volk (2009):193.

³³⁴ Goold (1977):16n.

³³⁵ Volk (2009):184 notes that “Manilius’ world view is diametrically opposed to Lucretius’ Epicureanism, with the result that their poetic rivalry is a philosophical rivalry as well.”

³³⁶ For a detailed analysis of Manilius’ attack on Lucretius see Volk (2009):194ff.

³³⁷ Green (2014):14ff considers the establishment of a positive didactic framework in Book 1 of the *Astronomica*.

Μουσάων Ἑλικωνιάδων ἀρχώμεθ' αἰεῖδεν (Theo.1); and Μοῦσαι Πιερίηθεν, ἀοιδῆσι κλείουσαι,/ δεῦτε (WD.1-2).³³⁸ He also gives a reason for crediting the Muses:

αἶ νύ ποθ' Ἡσίοδον καλὴν ἐδίδαξαν ἀοιδήν,/

ἄρνας ποιμαίνονθ' Ἑλικῶνος ὑπο ζαθέοιο.

...

ἐνέπνευσαν δέ μοι αὐδὴν

θέσπιν, ἵνα κλείοιμο τά τ' ἐσόμενα πρό τ' ἐόντα,

καί μ' ἐκέλονθ' ὕμνεϊν μακάρων γένος αἰὲν ἐόντων,

σφᾶς δ' αὐτὰς πρῶτόν τε καὶ ὕστατον αἰὲν αἰεῖδεν (Theo.22-34).

Collins comments that the *Theogony* makes the relationship between the Muses and the poet consist of patronage and dependency.³³⁹ Manilius is therefore writing within this tradition. He refers to the Muses occasionally throughout the text. He notes: *ducite Pierides. vestros extendere fines/ conor et ignotos in carmina ducere census* (Astron.3.3-4); and *sic mihi per totum volitanti carmine mundum/ erutaque abstrusa penitus caligine fata,/ Pieridum numeris etiam modulata* (Astron.2.765-767). Manilius implies that his knowledge is divinely inspired and therefore is without question correct. In addition, Volk comments that through the lines *sed mihi per carmen fatalia iura ferenti/ et sacros caeli motus ad iussa loquendum est* (Astron.4.436-7), Manilius presents himself as “a medium for the cosmos, which wishes to reveal itself to mankind in the medium of verse.”³⁴⁰ Therefore Manilius presents the *mundus* in the manner of a patron. In this way he can place himself in a pre-eminent position over his contemporaries and predecessors, and highlight the novelty of his work since “it is one thing to compose a poem that is new; to compose one that is fated is quite another.”³⁴¹ This therefore shows that divine inspiration and religious authority is central to Manilius’ methods of authorising his text.

Another method of establishing didactic authority is the teacher-pupil dialogue, in which a pupil, who is often named, is addressed at various points throughout the text. Manilius employs this method, but with a slight variation. He uses the second person singular at various points throughout the text as though addressing someone, or the reader. Examples

³³⁸ Hesiod passages from Most (2006).

³³⁹ Collins (1999):242.

³⁴⁰ Volk (2002):218.

³⁴¹ Volk (2002):218.

of this method are found at: *restat ut aetherios fines tibi reddere coner* (Astron.1.562), and *nunc tibi signorum mores summumque colorem/ et studia et varias artes ex ordine reddam* (Astron.4.122). He even gives this student “pep talks” not to lose heart due to the difficulty of the subject matter as shown by the lines: *conaris scandere caelum/ fataque fatali genitus cognoscere lege/ et transire tuum pectus mundoque potiri* (Astron.4.390-392). The variation which Manilius uses is that he does not name any specific person consistently as his addressee and therefore pupil.³⁴² It has been considered that the addressee is the emperor (either Augustus or Tiberius, dependent on whether it is an early or later book), particularly as there is one place where Manilius addresses someone directly, and this is to Caesar. The text reads: *hunc mihi tu Caesar, patriae princepsque paterque* (Astron.1.7).³⁴³ Book 1, in particular, sets up the relationship between Manilius and the reader of the *Astronomica* which Green details.³⁴⁴ Manilius can then rely on this relationship throughout the rest of the *Astronomica* in order to keep the attention of the reader whilst explaining more complex material. Thus the authority is carried through the text.

The third author whom Manilius uses as a model is Virgil. This is for the poetic aspect of the *Astronomica* and is the author whom Manilius follows most closely. In order to establish his authority as a poet (and perhaps to appear to be of a similar calibre to Virgil), Manilius links the *Astronomica* into the poetic tradition and promotes the similarities between himself and his text, and that of other well-known poets. This is predominantly achieved through imitation. Manilius imitates Virgil which draws attention to his wish to align himself with this poet.³⁴⁵ There are a number of allusions including: *Scipiadaeque duces, fatum Carthaginis unum* (Astron.1.792) which imitates Virgil’s *Aeneid* 6.842ff;³⁴⁶ second Manilius names Aeneas and comments on the destruction of Troy: *fugissent ignes Aenean, Troia sub uno/ non eversa viro fatis vicisset in ipsis* (Astron.4.24-5) which relates to *Aen.*2.632;³⁴⁷ third is *inque rogo Croesum Priamique in litore truncum/ cui nec Troia rogos* (Astron.4.64-65) which echoes *Aen.*2.557;³⁴⁸ and lastly *sic terrae terris respondent, urbibus urbes/ litora litoribus, regnis contraria regna* (Astron.4.813-14) which is “manifestly modelled on

³⁴² See Volk (2009):178.

³⁴³ See Green (2014):14 for the full argument.

³⁴⁴ See Green (2014):13-21 for a comprehensive analysis of how Manilius constructs the teacher-pupil relationship.

³⁴⁵ Volk (2009):185: “an attentive reader will be able to find allusions to his [Virgil’s] poems throughout the *Astronomica*.”

³⁴⁶ Goold (1977):68n.

³⁴⁷ Goold (1977):224n.

³⁴⁸ Goold (1977):226n.

*Aen.*4.628.”³⁴⁹ Manilius also imitates Virgil’s choice of vocabulary as he combines the three different ways in which Virgil uses the verb *deducere*. Regarding this Volk notes that “by blending together Virgil’s three metapoetic uses of *deducere*, Manilius shows himself to be a master of creative imagination, someone who commands the material he has inherited and is able to put it to startlingly original use.”³⁵⁰ This shows that Manilius uses Virgil in order to create a foundation upon which he can make improvements and show his superior creativity. In this way Manilius asserts his authority as a poet.

Manilius also engages with other didactic poets by providing a list of these authors and what they write about and then puts himself and his subject forward. In this way Manilius adds himself to the tradition. He thus strengthens his position as an equal with the other poets and can then use this position to promote his authority. This list is found in the introduction to the second book and includes: Homer, Hesiod, Aratus, Theocritus, the source behind the *Ornithogonia*, Nicander, possibly the source for Lucan’s *Catachthonion*, and finally himself.³⁵¹ Only Hesiod is referred to by name, the others are alluded to. Manilius describes these authors starting with Homer: *maximus Iliacae gentis certamina vates/ et quinquaginta regum regemque patremque/ Hectoraque Aeacidae victamque sub Hectore Troiam* (*Astron.*2.1-3). Second Manilius notes: *Hesiodus memorat divos divumque parentes* (*Astron.*2.12). About Aratus he notes: *astorum quidam varias dixere figuras/ signaque diffuso passim labentia caelo/ in proprium cuiusque genus causasque tulere* (*Astron.*2.25-27). Theocritus is described as: *quin etiam ritus pastorum et Pana sonatem/ in calamos Sicula memorat tellure creatus* (*Astron.*2.39-40). Furthermore, Manilius mentions: *ecce alius pictas volucres ac bella ferarum,/ ille venenatos angues aconitaque et herbas/ fata refert vitamque sua radice ferentis* (*Astron.*2.43-45) which refers to two authors, one of which is considered to be the Greek source of the *Ornithogonia*, and the other is Nicander.³⁵² Finally the phrase *quin etiam tenebris immersum Tartaron atra/ in lucem de nocte vocant* (*Astron.*2.46-47) is possibly the Greek source for Lucan and his *Catachthonion*. At the end of this list Manilius then introduces his own work with the phrase *nostra loquar* (*Astron.*2.57). The manner in which he does this draws attention to himself at the same time as positioning himself into this poetic tradition, and thus he indicates that he is following in Virgil’s footsteps.³⁵³ In this way

³⁴⁹ Goold (1977):287n.

³⁵⁰ Volk (2009):187.

³⁵¹ See Goold (1977):82-87n.

³⁵² Goold (1977):86n.

³⁵³ See Volk (2009):188.

he therefore aligns his own work with that of the previous authors and extends their established authority to increase the validity of his text.

The next method that Manilius uses to establish his authority is to highlight the calibre of his text. Manilius emphasises the originality of his work several times:³⁵⁴

*caelestis rationis opus, deducere mundo
aggredior primusque novis Heliconam movere
cantibus et viridi nutantis vertice silvas
hospita sacra ferens nulli memorata priorum* (Astron.1.3-6);

*nostra loquar, nulli vatum debemus orsa/ nec furtum sed opus veniet, soloque volamus/ in
caelum curru, propria rate pellimus undas* (Astron.2.57-59); *haec ego divino cupiam cum ad
sidera flatu/ ferre, nec in turba nec turbae carmina condam/ sed solus* (Astron.2.136-138);
and:

*in nova surgentem maioraque viribus ausum
nec per inaccessos metuentem vadere saltus
ducite, Pierides. vestros extendere fines
conor et ignotos in carmina ducere census* (Astron.3.1-4).

Manilius then draws attention to the difficulty of his subject matter with the statements: *quae
nosse nimis, quid, dicere quantum est?/ carmine quid proprio? pedibus quid iungere certis?*
(Astron.3.34-35); and:

*hic alius finisset iter signisque relatis
quis adversa meant stellarum numina quinque
quadriiugis et Phoebus equis et Delia bigis
non ultra struxisset opus* (Astron.5.1-4).

³⁵⁴ Goold (1977):3. "The *Astronomica* opens with a proud assertion of its author's originality."

This expansion of the subject matter implies that Manilius has greater capabilities than any other poet and Manilius can place himself as an original writer as the successor of Virgil. This originality and link with Virgil establishes and then boosts his authority as an epic poet.

Overall, Manilius uses these three models (Aratus, Lucretius and Virgil) as a foundation to establish his own authority as an author. He refers to his predecessors in the astrological/astronomical and scientific traditions but does not name them explicitly. It also appears that Manilius is more concerned about establishing a poetic authority rather than one in the scientific or astrological circles, and so it is here that Manilius focuses his attention on building his authority. His main technique is to present himself as a natural follower of the poetic tradition and to emphasise the originality of his work.

1.2 Germanicus

A text called *Aratea* was written during the early first century AD. There are debates as to whether it was written by Germanicus Caesar or Tiberius due to the fact that later authors refer to the text by differing names. Lactantius “quotes verses from this poem, calling the author Germanicus Caesar,”³⁵⁵ whereas Firmicus refers to a version of the *Aratea* by a Julius Caesar: *paucos verses Iulius Caesar et ipsos tamen de alieno opere mutuatos* (*Math.2.prae.2*). Gain notes that “the author could either be the emperor Tiberius or his nephew Germanicus.”³⁵⁶ However, for ease I shall refer to the author simply as Germanicus throughout this section. This debate over authorship affects the dating of the text, but not the means in which authority is established and is therefore irrelevant for this analysis. The *Aratea* is a translation of Aratus’ *Phaenomena*, and thus it obviously bears a resemblance to this text. The *Phaenomena* forms the core of the *Aratea*. However, Germanicus does not translate Aratus word for word and often moves sections of the text around. He also rewrote it for a new audience and so this will have an effect on how he establishes authority within the text. Therefore, the two aspects of Germanicus’ authority lie within the astronomical and the poetic elements.

³⁵⁵ Gain (1976):16.

³⁵⁶ Gain (1976):17. For the full discussion as to the authorship of this text, refer to Gain (1976):16-20. Gain’s opinion “is that the evidence does not allow one to say whether the author was Tiberius or Germanicus.”

1.2.1 Astronomical Authority

There are at least two textual sources for the astronomical content. The primary source is Aratus. Gain notes that although the *Phaenomena* forms the core of the *Aratea*, it is not a carbon copy.³⁵⁷ The shared material predominantly describes the constellations, and although the fragments are not based on Aratus' text, they share the subject of meteorology. Therefore it is evident that Germanicus also follows Aratus in terms of structure and content.³⁵⁸ Germanicus indicates his primary source for his work in the very first sentence: *ab Iove principium magno deduxit Aratus (Arat.1)*.³⁵⁹ By openly naming his source, particularly as it was a well-known text, Germanicus "borrows" Aratus' authority on astronomical matters.³⁶⁰ Germanicus is translating a text that has already proved its authority and so by linking himself with it he can establish his own authority with his reader. However, this is the only occasion that Germanicus mentions Aratus' name, and there are no other allusions to the previous author, throughout the rest of the text. This means that Germanicus is either relying on the one mention to help establish his authority, or he has other ways in which to establish himself as an authority on this topic. There is also the matter that there is a fundamental difference between the two texts. Aratus "treats both celestial and terrestrial phenomena as a means of forecasting the weather,"³⁶¹ which was the prevalent view in antiquity, whereas Germanicus' text considers the phenomena as the cause of weather patterns. Germanicus edits out Aratus' weather signs for his own version, containing a different set of values. He also indicates that there will be some additional material which is not covered in Aratus' text, in particular the planets, which Aratus deliberately refrained from considering.³⁶² He states: *nunc vacat audacis ad caelum tollere vultus/ sideraque et mundi varios cognoscere motus (Arat.11-12)*. This difference in theories means that Germanicus needs to assert his authority separately from Aratus. He pushes aside a known and established author and shows that he has a deeper grasp of the material as he can put in additional material. In this way Germanicus can exert his own authority on the topic.

³⁵⁷ Gain (1976):13 "lines 1-725 of the poem are based on lines 1-731 of Aratus' *Phaenomena*, but with many omissions, expansions, contractions or additions."

³⁵⁸ See Possanza (2004):7.

³⁵⁹ All Germanicus citations are from Gain (1976).

³⁶⁰ Translations of Aratus were also done by Cicero, Hipparchus and Ovid and so it appears to have been a popular text.

³⁶¹ Possanza (2004):7.

³⁶² See Possanza (2004):110. The possibility is also discussed here that Germanicus edits out the weather sections of Aratus and replaces them with his own as they are fundamentally different and not compatible at all, which links into the section on the planets as that too is not found in Aratus.

Although the first section of the *Aratea* corresponds to the first half of the *Phaenomena*, fragments two through six are not based on the second half of the *Phaenomena*, which considers the topic of weather signs. This indicates that the *Aratea* has additional sources. Gain notes that “whether they are based on another writer, or are a compilation of several sources, and whether there are original elements in them or not, is unknown.”³⁶³ It is known however, that Hipparchus and his commentary on Aratus’ *Phaenomena* are used by Germanicus in his alterations of the original text, but “whether it was used directly or indirectly, there is no way of telling.”³⁶⁴ Germanicus does not name Hipparchus or give any reference to him throughout the *Aratea*. This means that he is not using either Hipparchus’ name, or the fact that a previous commentary of Aratus had already been done, in order to establish his authority as an astronomical writer. This could also indicate that Germanicus did not want to draw attention to a potentially rival work and so does not mention it.

Aside from the sources of other texts, Germanicus also collates astronomical details from other cultures. He refers to the practices of both the Greeks and the Phoenicians, especially in what they called a particular constellation or phenomenon, or how they put it to use. This still only occurs very few times. Examples include: *extremum geminus determinat axem/ quem Grai dixere polon* (Arat.21-22); *dat Grai Helice cursus maioribus astris,/ Phoenicas Cynosura regit* (Arat.40-41), which is the only occasion that he refers to the Phoenicians; and finally *Sirion hunc Grai proprio sub nomine dicunt* (Arat.335). The Greeks were considered to have had deep scientific knowledge, and astronomy in particular was considered a Greek art.³⁶⁵ Therefore, by referring to “the Greeks” in general Germanicus can use their expertise to add authority to his text. The same applies to the Phoenicians, who were known for their skills in navigation. For both the Greeks and Phoenicians there is an additional element in that both cultures were to the East of Rome and so were perceived to have “Eastern wisdom”, which would also add to the authority of the text.³⁶⁶ In addition Germanicus also states: *arcturum dixere* (Arat.95), which implies that it is common knowledge and is thus right. This method implies that Germanicus has obtained the

³⁶³ Gain (1976):13.

³⁶⁴ Gain (1976):14. Gain produces a full table of the passages which shows where Hipparchus and Aratus differ in their accounts and where Germanicus’ text fits into this, which of the authors he is the most similar to at a given point.

³⁶⁵ Beck (2007):17 notes that “the Greeks had access to precise astronomical records going back to the C8th BCE.”

³⁶⁶ The transfer of astronomical knowledge was one way and went from east to west – see Beck (2007):16.

information from a more direct source and therefore has not just read a couple of texts but done more work in collating these details. This in turn supports his authority as an astronomical author.

As can be seen, there are very few references to the astronomical source material of the *Aratea*. In particular, there is only the one reference to Aratus, whose work is the core of this text, which is quite surprising. Germanicus therefore is not using the names of his predecessors in order to establish his own authority as an astronomical writer, and so the authority of the text must come from a different source.

1.2.2 Poetic Authority

The second area in which Germanicus asserts his authority is in literary circles as a poet. The *Aratea* is written within the didactic genre and has a number of poetic features. One of these features is divine inspiration. Although Germanicus names his source, and gives it a prominent place early on in the text, he then quickly draws a distinction between Aratus and himself concerning the differing inspirations for the texts. Germanicus notes: *carminis at nobis, genitor, tu maximus auctor/ te veneror tibi sacra fero doctique laboris/ primitias. probat ipse deum rectorque satorque* (*Arat.*2-4). This shows that the work has been created at the inspiration of a non-mortal, in this case Jupiter. Although it is not the Muses who are credited with this creation, they are referred to at the end of the invocation: *haec ego dum Latiis conor praedicere Musis* (*Arat.*15). By acknowledging his predecessor's actions and then immediately highlighting a difference between them, Germanicus asserts his own authority. He is not simply translating Aratus' work but placing his own mark (and presumably trying to improve the text).

Possanza notes that Germanicus rewrote passages of the *Phaenomena* using a variety of sources. These include Homer and Hesiod, who were also used by Aratus himself as epic models and Hellenistic poets Callimachus and Nicander. He also made use of his own predecessors Ovid and Virgil, who were major poetic influences on Germanicus.³⁶⁷ The

³⁶⁷ See Possanza (2004):2.

various imitations of earlier authors have been detailed by Gain and so I shall just give a brief overview here.³⁶⁸

Greek Epic

The authors in this category are Homer and Hesiod. There are two passages in which Germanicus uses Hesiod. He substitutes Aratus' material on sowing with material from Hesiod.³⁶⁹ These passages are: *et cum surgit hiemps portu fugienda peritis* (Arat.269) and

εὔτ' ἂν Πληιάδες σθένος ὄβριμον Ὠαρίωνος
φεύγουσαι πίπτωσιν ἐς ἡρωιδέα πότον,
δὴ τότε παντοίων ἀνέμων θυίουσιν ἀῖται
– καὶ τότε μηκέτι νῆας ἔχειν ἐνὸ οἴνοπι πόντῳ (WD.619-622).

The next passage in the *Aratea* is *sed rationem anni temeraria pectora soluunt* (Arat.295) which is noted to resemble οὐ γὰρ ἐμῷ θυμῷ κεχαρισμένος ἐστίν/ – ἀρπακτός (WD.684-685) but has no corresponding section in the *Phaenomena*.³⁷⁰ Germanicus also uses the *Odyssey*. The passage *coeuntia saxa/ numine Iunonis tutus cum fugit Iason* (Arat.350-1) is similar to

οἷη δὴ κείνη γε παρέπλω ποντοπόρος νηῦς.
Ἀργῶ πᾶσι μέλουσα, παρ' Αἰήταο πλέουσα
καὶ νύ κε τὴν ὄκα βάλεν μεγάλας ποτὶ πέτρας
ἀλλ' Ἥρη παρέπεμψεν, ἐπεὶ φίλος ἦεν Ἰήσων (Od.12.69-72).³⁷¹

It is also noted that at 585 Germanicus is imitating Homer in the use of the genitive.³⁷²

Hellenistic Greek

Apollonius Rhodius and Callimachus are the Hellenistic Greek authors whom Germanicus imitates. Gain notes only one occurrence in which Apollonius is imitated. This is the line *vulnere reddentem flammas Iovis* (Arat.365), which imitates ἡ δ' ἔτι νῦν περ/ τραύματος

³⁶⁸ See Gain (1976):141 and Index on the Imitations of earlier writers, referring to the commentary section.

³⁶⁹ Gain (1976):93.

³⁷⁰ Gain (1976):96.

³⁷¹ Gain (1976):100.

³⁷² See Gain (1976):113 for the full details.

αἰθονμένοιο βαρὺν ἀνακηκίει ἄτμόν (*Argo*.4.599-600).³⁷³ Callimachus is also imitated once as the phrase *aerea pulsantes mendaci cymbala dextra/ vagitus pueri patrias ne tangeret auris* (*Arat*.36-37) is an imitation of:

Ἰδαίοις ἐν ὄρεσσι, τὰ τε κλείουσι Πάνακρα.
οὔλα δὲ Κούρητές σε περὶ πρύλιν ὥρχήσαντο
τεύχεα πεπλήγοντες, ἵνα Κρόνος οὔασιν ἡχὴν
ἀσπίδος εἰσαῖοι καὶ μή σεο κουρίζοντος (*Hymn to Zeus* 51-54).

These lines are an addition to Aratus. Gain notes that “Callimachus *Hymn*.1.51-4 gives the same story as our author, but mentions shields not *cymbal*.”³⁷⁴

Latin Predecessors

This group of authors includes Tibullus, Catullus, Cicero, and Virgil. Similarities to Tibullus’ text appear in the fourth fragment: *ante larem primum* (*Arat*.iv.16) is compared to *flava Ceres, tibi sit nostro de rure corona/ spicea, quae temple pendeat ante fores* (*Tib*.1.15-16).³⁷⁵ This is the only occurrence referred to in Gain’s index on imitated authors. Catullus is considered to be imitated with the phrase *tunc alii curvos prospectant litore portus* (*Arat*.300) due to the ambiguity that *litore* presents.³⁷⁶ There are also links with Cicero. The phrase *ferrique invento mens est laetata metallo* (*Arat*.135) refers to the Iron Age and therefore does not come from the *Phaenomena* as Aratus only mentions the Bronze age. However, it is possible that it has come from Cicero fragment XVII as this also mentions the age of iron.³⁷⁷ In addition, Cicero wrote his own commentary on Aratus and thus it is highly probable that there are links between Aratus, Germanicus and Cicero.³⁷⁸ Germanicus imitates the poetry of Virgil a number of times including: in the phrase *qua Sol ardentem Cancrum rapidissimus ambit* (*Arat*.6), the epithet *rapidus* is also used for *sol* in the *Georgics* at 1.92, 1.424, and 2.321;³⁷⁹ the phrase *passis ad numina palmis* (*Arat*.68), which is also an addition to the original Aratean text, imitates *pater Anchises passis de litore palmis/ numina magna vocat*

³⁷³ Gain (1976):101.

³⁷⁴ Gain (1976):81.

³⁷⁵ See Gain (1976):128 for the full discussion of this line.

³⁷⁶ Gain (1976):96. “The author may have written this verse in the way he did under the influence of Cat.64.52 *namque fluenti sono prospectans litore Diae*.”

³⁷⁷ Gain (1976):87.

³⁷⁸ See Gain (1976):80ff for a full commentary of the text and the links and differences between Germanicus and Cicero.

³⁷⁹ Gain (1976):80.

(*Aen.*3.263-264);³⁸⁰ *sunt Gemini, quos nulla dies sub Tartara misit* (*Arat.*540) imitates *et quos mille die victor sub Tartara misi* (*Aen.*11.397);³⁸¹ and finally *Phosphoros haec tibi signa dabit* (*Arat.*iv.73) resembles a phrase in the *Georgics*: *sol tibi signa dabit* (*Georg.*1.463).³⁸²

As can be seen from the above three sections, there are a number of authors that Germanicus imitates in terms of poetic style and language. However, for each author there are very few occasions where an imitation occurs. In addition, these authors are not mentioned at all by Germanicus within the text as either sources, or as a comparison to what Germanicus is doing, as he does regarding Aratus and the invocation to Jupiter.

Germanicus also makes his own changes to the text of the *Phaenomena* to suit the contemporary literary context.³⁸³ In particular there is a change in the description of the constellations. The *Phaenomena* treats the constellations as astronomical phenomena without any personality attached, whereas the *Aratea* treats them as beings that have ended up in the skies. This corresponds to the treatment of stars in elegiac poetry.³⁸⁴ In the 46 constellations that Aratus describes, he gives the catasterism myth for only 14 of them. Germanicus on the other hand adds 16 myths to this total.³⁸⁵ He also “makes a number of additions which enhance the epic solemnity of the narrative.”³⁸⁶ For example, in the lines describing the constellations of Orion and Scorpio he uses the matronymic *Latonia virgo* (*Arat.*646) to describe Diana instead of simply naming her. There is more detail in these myths as “the poet, though he begs the goddess’s pardon, is not at all reticent about bringing up the painful details of that violent encounter which Aratus had suppressed.”³⁸⁷ Germanicus himself is more visible in the text as “the narrative voice that emerges in [the proem] is one that is more personal, less reticent than the voice we hear in Aratus’ proem,”³⁸⁸ which is again in keeping with the current poetic styles. By demonstrating that he can manipulate a text to enhance its

³⁸⁰ Gain (1976):84.

³⁸¹ Gain (1976):111.

³⁸² Gain (1976):131.

³⁸³ Possanza (2004):105 comments that “Germanicus embarks on the creation of a *Phaenomena* for the Roman readers of the Augustan age.”

³⁸⁴ See Possanza (2004):169.

³⁸⁵ See Possanza (2004):170. The catasterism myth explains the creation of an individual star or constellation, for example how the twins Castor and Pollux became the constellation Gemini.

³⁸⁶ Possanza (2004):197ff for the following examples.

³⁸⁷ Possanza (2004):195.

³⁸⁸ Possanza (2004):111.

appeal for a set of readers without altering its meaning, Germanicus' poetic credentials are emphasised, with which he can authorise his text.

The final method which Germanicus uses to establish his poetic authority is with the use of politics. It is noted that "as is made clear by the first 16 lines of Germanicus' translation, the political ideology of the Augustan Age exerted a powerful influence on the way in which he read and interpreted the *Phaenomena*"³⁸⁹ and so this may have affected how Germanicus wishes to promote himself and his text. The most noticeable aspect is that Germanicus replaces the hymn to Zeus found in the proem of the *Phaenomena* with one of his own composition (also as a proem). It is still approximately the same length, and follows the structure of the original hymnic form, but is instead addressed to the emperor Augustus.³⁹⁰ Therefore Germanicus is remodelling the original text with Rome as the historical setting, instead of Greece, and with Augustan poetry as the literary setting. These changes show that Germanicus is able to manipulate a text, whilst also noting the prevalent politics. In this way he indicates that he is in command of the text, which in turn asserts his authority in this text. This is also evident later within the text as he incorporates the concept of the peace restored after war, a very Roman topic; and the renewal of agriculture and seafaring with the theme of the constellations playing a major role in the direction of agriculture on earth, an Aratean topic.³⁹¹

Overall, there are two areas in which Germanicus establishes his authority. First, for astronomy he has one predominant source and then a couple of lesser sources, however, Germanicus only names Aratus. Aratus himself is only mentioned once and on that occasion Germanicus uses the reference to draw a distinction between himself and Aratus. This indicates that Germanicus is not using the authority of previous astronomical authors to build his own authority. For his poetics Germanicus has a number of models and sources whose style and vocabulary he imitates. These are also not referred to or mentioned in any way. Therefore, Germanicus does not use other authors' names as a basis upon which he can validate his text, but instead demonstrates his skill as a poet to assert his place in literary culture.

³⁸⁹ Possanza (2004):36.

³⁹⁰ See Possanza (2004):107. "The centrepiece of the proem is the figure Augustus."

³⁹¹ See Possanza (2004):108ff.

1.3 Ovid

Ovid also produced a translation of Aratus' *Phaenomena* which he wrote in Latin hexameters. However, only two fragments of this text survive, one in Virgil's *Georgics*, and the other quoted in Lactantius' *Divinae Institutiones*, which makes it unsuitable for considering how he established his authority in this genre.³⁹² On the other hand, Ovid's *Fasti*, although focussing predominantly on the calendar and festivals, contains astronomical details and is extant. It is also a text in which "the influence of Aratus' *Phaenomena* is discernible."³⁹³ Therefore this text will be analysed to determine Ovid's methods of establishing authority.

1.3.1 Astronomical

It is necessary for Ovid to cover certain astronomical details in the *Fasti* as they are integral to the structure of the calendar. The first couplet indicates that Ovid intends to cover these astronomical elements: *tempora cum causis Latium digesta per annum/ lapsaque sub terras ortaue signa canam* (*Fasti*.1.1-2), and, as it is the opening phrase, that Ovid has mastery over this topic early in the text.³⁹⁴ There is a separate proem for the astronomical section of the *Fasti*. Here Ovid shows his intention for covering this topic *quis vetat et stellas, ut quaeque oriturque caditque/ dicere? promissi pars fuit esta mei* (*Fasti*.1.295-96) and indicates that astronomy is important in this work. Ovid "locates the astronomical portion of his poem within the Hellenistic tradition of learned poetry,"³⁹⁵ which suggests that it is this tradition that Ovid is using to establish his authority with his reader.

Gee notes that there are a number of allusions to Aratus' *Phaenomena* within the *Fasti*, but Ovid does not acknowledge Aratus or mention his name within the text.³⁹⁶ Therefore Ovid is not using the reputation of Aratus to validate his text. There are also no other

³⁹² See Gee (2000):69ff for the passages in question.

³⁹³ Gee (2000):3.

³⁹⁴ Wiseman and Wiseman (2011):ix. "The text advertises itself in the first couplet as a source of info." All *Fasti* citations are from Frazer (1989).

³⁹⁵ Newlands (1995):19.

³⁹⁶ Gee (2000):4. These instances are collated in the Appendix p.193ff, and where any similarities between Aratus and Ovid regarding the constellations are noted.

astronomical sources mentioned.³⁹⁷ There is a reference to previous astronomers: *nos quoque sub ducibus caelum metabimur illis/ ponemusque suos ad vaga signa dies* (*Fasti*.1.309-310), but it is not disclosed as to who they were or whether they were Roman, Greek or Near Eastern. Ovid claims that his sources are the old annals: *sacra recognosces annalibus eruta priscis,/ et quo sit merito quaeque notata dies* (*Fasti*.1.7-8), and *tempora cum causis annalibus eruta priscis/ lapsaque sub terras orta que signa cano* (*Fasti*.4.11-12). He also mentions that he gathers information from the elders: *disce, per antiquos quae mihi nota senes* (*Fasti*.2.584). Frazer considers that the sources that Ovid uses probably include Ennius, Quintus Fabius Pictor, Livy, Varro, and Callimachus;³⁹⁸ however, Ovid does not draw attention to these sources, as he does not mention them or use their authorities. Newlands puts forward one reason for this lack of named sources and comments “the proem represents Ovid as the inheritor of a complex tradition of learned poetry.”³⁹⁹ Ovid therefore does not wish to detract this focus away from himself by naming other astronomers, and instead places himself squarely within this literary tradition. This is one of his methods of asserting his authority.

However, Frazer notes that “while Ovid pays a warm tribute to the genius and lofty character of ancient astronomers, he seems not to have learned even the elements of their science.”⁴⁰⁰ It is clear that Ovid does not spend much time or energy regarding the astronomical details and his “observations reveal his technical carelessness or even ignorance of astronomy.”⁴⁰¹ The astronomical facts which Ovid provides contain frequent errors. These are particularly evident in the material on the risings and settings of the various constellations, which forms the majority of the astronomical elements that Ovid deals with. The *Fasti* “borrows these brief astronomical observations primarily as a means of marking the passing days”⁴⁰² and so it is curious that Ovid gets so much of this material wrong since

³⁹⁷ Frazer (1989):xxvi. “A work embracing such a mass of varied information must have entailed a considerable amount of research, but Ovid mentions none of his authorities by name.”

³⁹⁸ See Frazer (1989):xxviff. “He probably read some of the early Roman historians such as the poet Ennius and the old annalist Quintus Fabius Pictor ... He must certainly have known and used, though he does not mention, the great work of his contemporary the historian Livy ... We cannot doubt that he coned and drew freely on the vast stores of the great antiquity Varro ... He may also have known the writings of the learned grammarian Verrius Flaccus ... It has been suggested that Ovid may have borrowed the idea of writing the *Fasti* from the *Aitia* of Callimachus.”

³⁹⁹ Newlands (1995):33.

⁴⁰⁰ Frazer (1989):xxv.

⁴⁰¹ Newlands (1995):28.

⁴⁰² Pasco-Prangler (2006):7.

the risings and settings would mark the time perfectly if only he got them right.⁴⁰³ There are a number of examples, including the most striking error which is the inclusion of the constellation of the Kite: *stella Lycaoniam vergit declivis ad Arcton/ Miluus: haec illa nocte videnda venit* (*Fasti*.3.793-94). This is an unknown star and so Ovid has named a fabricated constellation.⁴⁰⁴ Second is *continuata loco tria sidera, Corvus et Anguis/ et medius Crater inter utrumque, iacet* (*Fasti*.2.243-44) for which it is noted that “the astronomical lore is incorrect.”⁴⁰⁵ Third, about the star Sirius, Ovid states that:

*sex ubi, quae restant, luces Aprilis habebit,
in medio cursu tempora veris erunt,
et frustra pecudem quaeres Athamantidos Helles
signaque dant imbres, exoriturque Canis* (*Fasti*.4.901-904)

However, “the Dog-star then rose in the morning of August 2nd and set in the evening of May 1st, not in April,”⁴⁰⁶ which shows that Ovid’s observations lacks accuracy. In addition, Ovid confesses that he does not know all the answers. He notes:

*quaeritis, unde putem Maio data nomina mensi?
non satis est liquido cognita causa mihi.
ut stat et incertus quae sit sibi nescit eundum,
cum videt ex omni parte viator iter:
sic, quia posse datur diversas reddere causas,
qua ferar, ignoro, copiaque ipsa nocet* (*Fasti*.5.1-6).

Both his errors and his professed ignorance weaken his authority as an astronomical source.

1.3.2 Poetic

Ovid also asserts his authority as a didactic and elegiac poet. These two genres are combined throughout the *Fasti* and so he is trying to create a unique text.⁴⁰⁷

⁴⁰³ Frazer (1989) provides a full analysis of the errors which Ovid makes concerning the rising and setting of the constellations.

⁴⁰⁴ Frazer (1989):178n.

⁴⁰⁵ Frazer (1989):74n.

⁴⁰⁶ Frazer (1989):256n.

A didactic method which Ovid incorporates is the use of the teacher-pupil relationship. Ovid addresses an unnamed pupil throughout the text, and frequently uses the singular “you”.⁴⁰⁸ This enhances the didactic element of the text and increases Ovid’s authority as a didactic author. Ovid also involves the divine element and poses questions to various deities in the text as a way of unfolding the information about the calendar.⁴⁰⁹ One example is where Ovid asks Janus to explain the etymology of his name:

*quem tamen esse deum te dicam, Iane biformis?
nam tibi par nullum Graecia numen habet.
ede simul causam, cur de caelestibus unus
sitque quod a tergo, sitque quod ante, vides? (Fasti.1.89-92).*

Janus replies and gives two answers to explain his shape. Another example concerns why the feast of Mars Gravidus is kept by women instead of men:

*“si licet occultos monitus audire deorum
vatibus, ut certe fama licere putat,
cum sis officiis, Gradive, virilibus aptus,
dic mihi, matronae cur tua festa colant.”
sic ego. sic posita dixit mihi casside Mavors,
sed tamen in dextra missilis hasta fuit (Fasti.3.167-172).*

Ovid also uses the language of the *Fasti* to strengthen the link between himself and this genre as he “is able to make use of Virgil’s language and themes to pitch his camp in the region of didactic poetry, recalling Virgil and Lucretius, and at the same time echoing their model Aratus.”⁴¹⁰ An example of this is: *nullus anhelabat sub adunco vomere taurus,/ nulla sub imperio terra colentis erat (Fasti.2.295-296)* which echoes not only Lucretius’ thought in representing early man’s inexperience with the plough: *nec robustus erat curui moderator*

⁴⁰⁷ Newlands (1995):13. Ovid “breaks dramatically with tradition by writing a didactic poem in elegiacs, not hexameters.”

⁴⁰⁸ See Wiseman and Wiseman (2011):ix.

⁴⁰⁹ Wiseman and Wiseman (2011):xi note that “divine and human informants are cited with an equal guarantee of personal involvement.”

⁴¹⁰ Gee (2000):53.

aratrī/ quisquam, nec scibat ferro molirier arva (DRN.5.933-4), but also Virgil's language.⁴¹¹ This means that Ovid can use the authority of these poets in order to enhance his own as a didactic poet.

Ovid does not concentrate his efforts of establishing his authority as a writer in the astronomical sections of his text, but instead emphasises the poetic elements. He links into the existing literary traditions of elegy and didactic poetry and uses methods from these genres to assert himself in this area. Ovid does not acknowledge either the sources from which he obtained the astronomical material, or overtly recognise that he is following the aetiological model set by Callimachus or the didactic one set by Hesiod.⁴¹²

1.4 Summary

These three early astrological authors, Manilius, Germanicus and Ovid, emphasise their authority as poets, whether writing in the didactic, epic or elegiac genres in order to legitimise their texts and use less effort to establish authority as scientific authors. The texts do not reveal the sources of their astronomical/astrological material, apart from a singular reference by Germanicus. This reference is used to draw a distinction between Germanicus and Aratus in their poetics rather than crediting a source.

Manilius and Ovid give very subtle references that there are other people who have written on astronomical topics but do not divulge the details. For these authors it is their poetic persona and authority that they are interested in establishing. This is done through alluding to the structure or language of other prominent authors such as Virgil, Lucretius, and Callimachus, although these authors are also not referred to by name. By providing a link to these authors and their styles, Manilius, Germanicus, and Ovid tie themselves into the same tradition and thus establish their authority as poets of the same or similar calibre to their predecessors.

⁴¹¹ Fantham (2011):415.

⁴¹² See Wiseman and Wiseman (2011):xii. "Callimachus' poem is particularly important as a model for the *Fasti*, both in the variety of aetiological subject matter and in its metre, the elegiac couplet"; Pasco-Pranger (2006):8 notes that "Hesiod's *Works and Days* is always in the background as a didactic model" although the structure is not followed.

2. Pliny the Elder

Pliny the Elder wrote many texts but the *Historia Naturalis* is the only one extant. This text is written in prose, from the first century AD, and covers details of astronomy. This means that it can serve as a connector between the didactic verse texts on astronomy and astrology from the Early Principate and the prose handbooks of Late Antiquity for the purpose of this analysis. The *Historia Naturalis* contains 37 books covering a broad range of topics including: astronomy, meteorology, geography, mineralogy, zoology, and botany.⁴¹³ Astronomy is covered in the second book and so this book is the focus of this section. Since the *Historia Naturalis* covers so many topics, Pliny needs to establish his authority as a researcher and encyclopaedic author. This is done through the use of sources, details and Pliny's persona throughout the text.

2.1 Sources

Pliny uses a wide range of sources throughout the *Historia Naturalis*, both individually named and general sources. Some topics do not include sources, whereas others combine a variety of sources.

2.1.1 Named Sources

The first book of the *Historia Naturalis* lists the contents of the following books and the order in which Pliny will cover them, and thus serves as an index. For each book Pliny also includes a list of authorities, which is mostly comprised of names, but there are a couple of texts named. This list marks the distinction between “authorities” and “foreign authorities”. The “authorities” are as follows:

ex auctoribus: M. Varrone, Sulpicio Gallo, Tito Caesare imperatore, Q. Tuberone, Tullio Tirone, L. Pisone, T. Livio, Cornelio Nepote, Sebosio, Caelio Antipatro, Fabiano, Antiate Muciano, Caecina qui de Etrusca disciplina, Tarquitio qui item, Iulio Aquila qui item, Sergio Paullo (N.H.1.2).

⁴¹³ Rackham (1938):viii. All *NH* citations are from this source.

This is followed by the “foreign authorities”:

externis: Hipparcho, Timaeo, Sosigene, Petosiri, Nechepso, Pythagoricis, Posidonio, Anaximandro, Epigene, Eudoxo, Democrito, Critodemo, Thrasylo, Serapione gnomonico, Euclide, Coerano philosopho, Dicaearcho, Archimede, Onesicrito, Eratosthene, Pythea, Herodoto, Aristotele, Ctesia, Artemidoro Ephesio, Isidoro Characeno, Theopompo (N.H.1.2).

With this long list of sources Pliny claims to have done a vast amount of research in preparing his own text. The distinction between the two types of authorities also indicates that he has not restricted his research to Latin authors, but has the ability to locate and read texts by Greek and even Egyptian authors, which emphasises his own learning.⁴¹⁴

In Book 2 itself Pliny names numerous authors, some more frequently than others. For example, Pliny only refers to Varro on one occasion: *caelum quidem haut dubie caelati argumento dicimus, ut interpretatur M. Varro (N.H.2.3.8)*, whereas there are four references to Hipparchus. Pliny also often refers to more than one source for a particular detail. For example, he calls on three sources concerning the planets Venus and Mercury. He notes: on Venus shining after sunset *quam naturam eius Pythagoras Samius primus deprehendit Olympiade circiter XLII, qui fuit urbis Romae annus CXLII (N.H.2.6.37)*; on Venus’ orbit *signiferi autem ambitum peragit trecentis et duodequingenis diebus, a sole numquam absistens partibus sex atque quadraginta longius, ut Timaeo placet (N.H.2.6.38)*; and on the distance of Mercury from the sun *inferiore circulo fertur novem diebus ocioire ambitu, modo ante solis exortum modo post occasum splendens, numquam ab eo XXII partibus remotior, ut Cidenas et Sosigenes docent (N.H.2.6.39)*. Another example concerns the different view about the distances of the planets from Earth:

intervalla quoque siderum a terra multi indagare temptarunt, et solem abesse a luna undeviginti partes quantam lunam ipsam a terra prodiderunt. Pythagoras vero, vir sagacis

⁴¹⁴ Doody (2010):94 comments that this section has definitely been written by Pliny the Elder and is not added by a later author. It is noted “the evidence that it is not a later addition comes from the text itself, in the words of Pliny’s preface in Book 1. The first book of the *Natural History* consists of a prefatory letter addressed to the future emperor Titus, followed by the summarium that lists the contents of each book, together with a list of sources.”

animi, a terra ad lunam CXXVI milia stadiorum esse collegit, ad solem ab ea duplum, inde ad duodecim signa triplicatum, in qua sententia et Gallus Sulpicius fuit noster (N.H.2.29.83).

The use of multiple sources for a singular topic implies that Pliny has searched a number of texts for this information, instead of settling on the first one he encountered, and has verified the information. With this method Pliny can assert his credentials as a researcher and use it as a basis from which he can authorise his text.

2.1.2 General Sources

Pliny also refers to groups of people as sources within the *Historia Naturalis*, not just named individuals. These groups comprise a variety of nations, including the Greeks, Babylonians, and Tuscans. Examples include: *viginti amplius auctores Graeci veteres prodidere de his observationes (N.H.2.45.117)*; *Tuscorum litterae novem deos emittere fulmina existimant, eaque esse undecim generum, Iovem enim trina iaculari (N.H.2.53.138)*; and *Babyloniorum placita et motus terrae hiatusque qua cetera omnia siderum vi existimant fieri (N.H.2.81.191)*. In addition, Pliny refers to historical records, such as: *exstat annalium memoria sacris quibusdam et precationibus vel cogi fulmina vel inpetrari (N.H.2.54.140)* and “the ancients”, without specifying in which nation or language this source is found: *veteres quattuor omnino servavere per totidem mundi partes (ideo nec Homerus plures nominat) hebeti, ut mox iudicatum est ratione (N.H.2.46.119)*. These statements imply that Pliny has located and read twenty books in Greek on meteorology, and enough Tuscan and Babylonian texts to be able to know what the group as a whole believes, that he has delved through the records to find suitable material. Pliny can use this to increase the profile of his research capabilities and to demonstrate his intellect. In this way he can further assert his authority as a researcher to the reader.

2.2 Details

There are a huge number of details included in the *Historia Naturalis*. These not only comprise Greek terminology and the Latin counterparts and dates for discoveries, but also many theories about a particular phenomenon with individual facts.

2.2.1 Greek Terminology

The Greeks are referred to on many occasions, in particular the Greek terms for various phenomena. Pliny then provides the Latin, whether a direct translation or an alternate etymology. Examples include the definition of “sky”: *namque et Graeci nomine ornamenti appellavere eum et nos a perfecta absolutaque elegantia mundum* (N.H.2.3.8);⁴¹⁵ the term for “air”: *proximum spiritum quem Graeci nostrique eodem vocabulo aera appellant* (N.H.2.4.10); varieties of comets: *cometas Graeci vocant, nostri crinitas horrentis crine sanguineo et comarum modo in vertice hispidas* (N.H.2.22.89); and one occasion where the Greek term itself is used: *emicant et trabes simili modo quas δοκοὺς vocant* (N.H.2.26.96). This use of Greek demonstrates that Pliny is not only aware of the complex terminology, but is also able to translate these terms, which indicates that Pliny’s education includes Greek. The translation of these terms also makes the topic more accessible for his readers, who may not be as conversant with technical Greek vocabulary. The full explanation of the etymology, as shown in the comet example, also implies that Pliny has fully understood the concepts which he is presenting.

2.2.2 Dates

Pliny includes the dates for when discoveries are made, particular events occur, and when theories are recorded. He gives an approximate date of when Hipparchus makes his discovery about eclipses: *intra ducentos annos Hipparchi sagacitate conpertum est et lunae defectum aliquando quinto mense a priore fieri* (N.H.2.10.57); however, the majority of references to time are more exact. Examples include: the year in which an explanation of eclipses is produced:

et rationem quidem defectus utriusque primus Romani generis in vulgum extulit Sulpicius Gallus (qui consul cum M. Marcello fuit, sed tum tribunus militum), sollicitudine exercitu liberato pridie quam Perseus rex superatus a Paulo est in concionem ab imperatore productus ad praedicendam eclipsim; mox et conposito volumine. apud Graecos autem investigavit primus omnium Thales Milesius Olimpiadis XLVIII anno quarto praedicto solis defectu qui Alyatte rege factus est urbis conditae anno CLXX (N.H.2.9.53);

⁴¹⁵ Rackham (1938):174n notes that *mundus* means “neat”, “elegant”.

and when the obliquity of the zodiac is discovered: *obliquitatem eius intellexisse, hoc est rerum fores aperuisse, Anaximander Milesius traditur primus Olympiade quinquagesima octava (N.H.2.6.31)*. These examples show that Pliny is able to use three different methods of keeping time: the Greek Olympiad system, the number of years from the foundation of Rome, and the method of counting the years according to who is in public office. This translation of time means that Pliny appears more knowledgeable to the reader and potentially appeals to a wider audience.

Certain events are also recorded by Pliny. He notes a series of portents and the consulships in which they occur:

lunae quoque trinae, ut Cn. Domitio C. Fannio consulibus, apparuere. quod plerique appellaverunt soles nocturnos, lumen de caelo noctu visum est C. Caecilio Cn. Papirio consulibus et saepe alias, ut diei species nocte luceret. clipeus ardens ab occasu ad ortum scintillans transcucurrit solis occasu L. Valerio C. Mario consulibus (N.H.2.32.99-2.34.100).

Here Pliny is laying out the events in such a way that they can be checked by the reader. This transparency asserts Pliny's authority as it shows that his text can be trusted to be correct.

2.2.3 Facts

Since the *Historia Naturalis* is an encyclopaedic text it naturally contains many facts and explanations about various topics. Pliny notes that there are a number of causes for the shining and occultation of the planets and gives three explanations:

pluribus de causis haec omnia accidunt. prima circulorum quos Graeci ἀψίδας in stellis vocant ... altera sublimitatum causa quoniam a suo centro apsidas altissimas habent in aliis signis ... tertia altitudinum ratio caeli mensura, non circuli, intellegitur, subire eas aut descendere per profundum aeris oculis aestimantibus (N.H.2.13.63-65).

This demonstrates that Pliny has read enough about this topic to have encountered three possible reasons for the phenomenon. He also includes a huge number of facts which include

not only precise numbers such as: *defectus CCXXIII mensibus redire in suos orbis certum est* (N.H.2.10.56); and *proxima ergo cardini ideoque minimo ambitu, vicens diebus septenisque et tertia diei parte peragit spatia eadem quae Saturni sidus altissimum triginta, ut dictum est annis* (N.H.2.6.44), but even trivial facts such as *orygem appellat Aegyptus feram quam in exortu eius contra stare et contueri tradit ac velut adorare cum sternuerit* (N.H.2.40.107). This collection of facts serves to emphasise Pliny's ability as a researcher and from there he can assert his authority.

2.3 Persona

Throughout the *Historia Naturalis* Pliny attempts to portray himself as a learned figure, one who is capable of writing an encyclopaedic text. The third aspect to his authority is based around the persona which is shown through the text. This is achieved through comments and observations on both sources and the material, and a distinction made between those who truly understand and those who do not.

2.3.1 Observations

Doody notes that Pliny "relies almost exclusively on extensive reading rather than first-hand experience to produce his work."⁴¹⁶ This lack of personal experience means that Pliny cannot quote his own expertise as a method of establishing his authority within the text. However, he inserts a number of comments and observations in the text which give the impression that he is making observations. Examples of this include: *nec de elementis video dubitari quattuor esse ea* (N.H.2.4.10); *cetera eiusdem naturae non multis dubia esse video* (N.H.2.61.152); and *ut principi litterarum Homero placuisse in uno eo video* (N.H.2.4.13).

Pliny also comments on the material he is presenting and emphasises the veracity of it. Examples are: *lunam semper aversis a sole cornibus, si crescat, ortus spectare, si minuatur, occasus, haut dubium est* (N.H.2.11.58); *quo argumento amplior errantium stellarum quam lunae magnitudo colligitur* (N.H.2.11.58); *mediam esse terram mundi totius haut dubiis constat argumentis* (N.H.2.69.176); and *ventos in causa esse non dubium reor*

⁴¹⁶ Doody (2010):21.

(N.H.2.81.192). These comments are used to assert Pliny's role in collating the data and emphasise that he has read and understood all which the book contains. He also comments on the sources themselves. He notes: *cui sententiae adest Dicaearchus vir in primis eruditus* (N.H.2.65.162) and *idem Hipparchus numquam satis laudatus, ut nemo magis adprobaverit cognationem cum homine siderum animasque nostras partem esse caeli* (N.H.2.24.95). These statements show that Pliny is taking control of what he incorporates in his own text; he only includes the authors whom he thinks worthy. In addition, Pliny comments on any differences between the theories: *Posidonius non minus quadraginta stadiorum a terra altitudinem esse in quam nubila ac venti nubesque perveniant ...plures autem nubes nongentis in altitudinem subire prodiderunt. inconperta haec et inextricabilia* (N.H.2.21.85). This critique of a theory also highlights Pliny's presence in the text which he can use to assert his authority.

2.3.2 Levels of Education

There are a series of comments in the text which distinguish those whom Pliny deems to have a higher level of learning than others, and also those whom he considers to believe incorrect theories. Examples include:

hac constare et tertiam illam a terra subeuntium in caelum, et pariter scandi eam quoque existimavere plerique falso. qui ut coarguantur, aperienda est subtilitas inmensa et omnes eas complexa causas (N.H.2.13.67); *a Saturni ea sidere proficisci subtilius ista consecrati putant, sicut cremantia a Martis* (N.H.2.53.139); and also *ingens hic pugna litterarum contraque volgi ...intervenit sententia quamvis indocili probabilis turbae* (N.H.2.65.161).

These comments display Pliny's own learning and indicate that he has attained a higher level of learning than most. It also implies that if the reader has encountered theories different to those in the *Historia Naturalis* then they may be incorrect and only those with a higher education can discern between them. He also states that there is some new and unique material in his text. For example: *haec est superiorum stellarum ratio; difficilior reliquarum et a nullo ante nos reddita* (N.H.2.13.71), which indicates that his text contains more detail and is more accurate than any of his sources.

Pliny also demonstrates his capabilities as an encyclopaedic writer through different methods. One method is an awareness of the structure of the material within the text. He notes: *sidera, quae adfixa diximus mundo ita ut existimat volgus* (N.H.2.6.28), which Rackham notes refers back to paragraphs 7-9;⁴¹⁷ *sicut suo demonstrabimus loco. circulatorum quoque caeli ratio in terrae mentione aptius dicetur* (N.H.2.6.30), which looks forward to section 2.18.210ff;⁴¹⁸ and *ut aliquis placere ostendimus* (N.H.2.49.131), which refers back to paragraph 112.⁴¹⁹ This shows that Pliny is in control of the material and knows where everything should be discussed. In addition, Pliny's authority is based on the sheer volume of topics covered in the text.⁴²⁰ This demonstrates that Pliny is capable of collating, understanding and writing about a huge variety of topics. This in turn enhances his persona as a learned individual within the text and therefore asserts his authority as an encyclopaedic author.

2.4 Summary

The *Historia Naturalis* is a text which requires Pliny to hold authority as a researcher and as an encyclopaedic author. This he achieves through both the use of the material itself and his own persona within the text. Pliny clearly shows that he has consulted a wide range of sources and does not conceal them, but uses them as a foundation upon which he can build his authority. He is also present within the text, commenting on the sources and showing that he has arranged the material in the best possible way, and indicating his judgement on various issues.⁴²¹

3. Late Antique Didactic Authors

Late Antiquity is the first period in which there is evidence for the establishment of didactic literature as a separate genre. Before this, it had been grouped with epic poetry because both

⁴¹⁷ Rackham (1938):187n.

⁴¹⁸ Rackham (1938):188n.

⁴¹⁹ Rackham (1938):270n.

⁴²⁰ Doody (2010):137. "The authority of Pliny's medicine in the *Natural History* rests on the authority Pliny creates through the comprehensiveness of the work as a whole."

⁴²¹ Rackham (1938):ix. "He claims in his Preface that the work deals with 20,000 matters of importance, drawn from 100 selected authors, to whose observations he has added many of his own."

types of literature used the same metre.⁴²² The taste the Romans had developed for compilations of knowledge during the Imperial period grows stronger in the fourth and fifth centuries.⁴²³ This therefore helps to usher in both a period of popularity for handbooks and encyclopaedic writing, and the production of many works of technical literature between the fourth and sixth centuries AD.⁴²⁴ These handbooks are also a way “through which an author might advertise his exceptional standing as a virtuoso reader and critic, a hero of the book-world”⁴²⁵ and so there is an emphasis on the author to establish his authority on a particular topic. One method of establishing authority is the citation of older sources; however, it is noted that it was “normal for writers to cite authorities at second, or third, or even further removes.”⁴²⁶ In addition, “there was a common tendency to suppress the names of more immediate sources or to copy authors unnamed.”⁴²⁷ This method of establishing authority during late antiquity through the amalgamation of ancient sources, whilst simultaneously concealing newer sources, is interesting. One particular aspect of this is the question of which sources are used and mentioned, which are used but not mentioned, and which are completely omitted. This section considers the texts of Vegetius, Palladius and Martianus as examples of handbook authors of Late Antiquity, and examines the sources they include and how these sources are used.

3.1 Vegetius

Flavius Vegetius Renatus is writing during the latter part of the fourth century AD and early part of the fifth.⁴²⁸ The upper and lower limits for dating the text are 383AD with the death of Gratian, and 450AD when an editor of the text signed it with a date.⁴²⁹ Two texts are extant: the *Epitoma rei militaris*, an account of Roman military practice written in four books; and the *Digesta Artis Mulomedicinae*, a veterinary work which focuses on horse and cattle

⁴²² Green (2014):12 comments that Diomedes the grammarian, 4th-5th centuries AD is the first evidence of this genre.

⁴²³ Dihle (1994):502.

⁴²⁴ See Formisano (2013):205. Examples given include Martianus and Strabo.

⁴²⁵ König and Woolf (2013):37.

⁴²⁶ Milner (1993):xviii.

⁴²⁷ Milner (1993):xix.

⁴²⁸ See Hornblower and Spawforth (2003) for the *OCD* entry on Vegetius. As to who exactly Vegetius was, it has been noted by Reeve (2004):vi that “the author’s name is not altogether certain”. Milner (1993):xxxi also notes that “nothing is known of Vegetius except what may be deduced from his writings”, and gives examples of what is known from each text.

⁴²⁹ This is due to views that the identity of the addressee is either Theodosius I or Valentinian III, or possibly Honorius. The editor was Flavius Eutropius.

ailments. The *Epitoma rei militaris* is the focus for this section. Vegetius provides a brief synopsis of the structure of his text in the preface, and indicates that each book has a separate focus: Book 1 considers recruits, Book 2 the organisation of the army, Book 3 tactics and strategy, and Book 4 closes on the topic of fortifications and naval warfare.⁴³⁰ He also provides a reason why he has written this text and his method of writing:

*licet in hoc opusculo nec verborum concinnitas sit necessaria nec acumen ingenii sed labor diligens ac fidelis, ut quae apud diversos historicos vel armorum disciplinam docentes dispersa et involuta celantur pro utilitate Romana proferantur in medium. de dilectu igitur atque exercitatione tironum per quosdam gradus et titulos antiquam consuetudinem conamur ostendere (Epit.1.prae.4-5).*⁴³¹

The statement implies that Vegetius will incorporate a wide selection of sources which will be referred to within the text. This section will examine which sources Vegetius states that he uses, and which are omitted from the text.

3.1.1 Named Sources

Vegetius refers to a number of sources within the *Epitoma*. There are two passages in which he provides details of the sources which he will use. The first is found in the first book and concerns what recruits should be shown in training. He states:

de historiis ergo vel libris nobis antiqua consuetudo repetenda est. sed illi res gestas et eventus tantum scripsere bellorum, ista quae nunc quaerimus tamquam nota linquentes. Lacedaemonii quidem et Athenienses aliique Graecorum in libros rettulere complura quae tactica vocant, sed nos disciplinam militarem populi Romani debemus inquirere, qui ex parvissimis finibus imperium suum paene solis regionibus et mundi ipsius fine distendit. haec necessitas compulit evolutis auctoritatis ea me in hoc opusculo fidelissime dicere quae Cato ille Censorius de disciplina militari scripsit, quae Cornelius Celsus, quae Frontinus perstringenda duxerunt, quae Paternus, diligentissimus iuris militaris assertor, in libros redegit, quae Augusti et Traiani Adrianique constitutionibus cauta sunt (Epit.1.8.7-11).

⁴³⁰ Milner (1993):1n notes that “there is no reason to think that the Synopsis was not written by V.”

⁴³¹ All *Epitoma* citations are from Reeve (2004).

This shows that Vegetius has considered his sources carefully, noting what literature is available and what he needs. He leads the reader through his choices and shows the logical progression culminating in the sources which he will use. Four sources are mentioned: Cato, an author of the second century BC, who wrote the text *De Re Militari*; Frontinus, active in the late first century AD, who wrote a technical treatise on military science which is lost, and a text on military matters, *Stratagems*, which is extant; Paternus most likely refers to P. Taruttienus, an Antonine writer and praetorian prefect, who wrote four books concerning the Roman army from the age of Romulus to the current situation in the second century, which are not extant. This list of sources shows a span of four centuries and thus Vegetius appears to fulfil his intention of collating information from various sources into one volume. He also mentions *nihil enim mihi auctoritas assumo sed horum quos supra rettuli quae dispersa sunt velut in ordinem epitomata conscribo* (*Epit.*1.8.12). This passage indicates that Vegetius is not putting himself forward as an authority on the topic of military matters or using his own experience. Instead, all his authority rests on the credentials of other sources.

The second passage summarises the source statement in the first book. Vegetius states:

Cato ille Maior, cum et armis invictus esset et consul exercitus saepe duxisset, plus rei publicae credidit profuturum si disciplinam militarem conferret in litteras; nam unius aetatis sunt quae fortiter fiunt, quae vero pro utilitate rei publicae scribuntur aeterna sunt. idem fecerunt alii complures, sed praecipue Frontinus, divo Traiano ab eiusmodi comprobatus industria. horum instituta, horum praecepta, in quantum valeo, strictim fideliterque signabo (*Epit.*2.3.6-8).

It is noted that this second source notice is included because Books 2-4 were produced some time after Book 1 and that there are no great differences in the sources used between Book 1 and Books 2-4.⁴³² With these source statements Vegetius is shown to actively choose his material and the variety of sources indicates that he was widely read and so qualified to write this handbook.

⁴³² Milner (1993):33n. "This source-notice to book II seems to do duty for II-IV, which were all published to commission to complement book I which was not. The other sources to book I are subsumed under *alii complures* here, so that the sources in general are the same for all books."

Although Vegetius provides these source statements, there is the question of whether he adheres to his statements and uses Cato, Frontinus, Paternus, and the constitutions of Augustus and Hadrian. There are two references to Cato aside from the source statements. Vegetius notes: *deinde in aliis rebus, sicut ait Cato, si quid erratum est, potest postmodum corrigi* (*Epit.*1.13.6); and *quantum autem utilitatis boni sagittarii in proeliis habeant et Cato in libris de disciplina militari evidenter ostendit* (*Epit.*1.15.4). The latter reference is interesting as usually the author is referred but not the text, however here Vegetius mentions both. Milner notes that there is an additional passage which refers to Cato although he is not named. It is noted that the phrase *de qua parte numquam credo potuisse dubitari aptiorem armis rusticam plebem* (*Epit.*1.3) contains a similar sentiment to Cato's statement *at ex agricolis et viri fortissimo et milites strenuissimi gignuntur* (*Agric.prae.*4).⁴³³ Vegetius appears to agree with Cato that rural people make better soldiers but does not name Cato at this point. There are no additional references to Frontinus within the *Epitoma*. However, there is evidence that his text has been used. In Book 3 Vegetius mentions *ideoque Scipionis laudata sententia est, qui dixit viam hostibus qua fugerent muniendam* (*Epit.*3.21.3), a passage which Milner notes bears resemblance to a passage from Frontinus: *Scipio Africanus dicere solitus est hosti non solum dandam esse viam ad fugiendum, sed etiam muniendam* (*Strat.*4.7.16).⁴³⁴ Paternus is also not mentioned again within the *Epitoma*, and there is no evidence to suggest that Vegetius has used the text as "the evidence of Vegetius' late-antique reconstruction of the "ancient legion" weighs against direct use of so detailed and professional an authority as Paternus."⁴³⁵ The fourth source, the constitutions of Augustus and Hadrian, is referred to on one other occasion. Vegetius notes: *praeterea et vetus consuetudo permansit et divi Augusti atque Adriani constitutionibus praecavetur ut ter in mense tam equites quam pedites educantur ambulatum* (*Epit.*1.27). However, it is noted that although the constitutions of Augustus and Hadrian are presented as an extant document through the use of the present tense of *praecavetur*, it is probable that this is copied from the source derived from Paternus.⁴³⁶

Vegetius does not take direct quotes from any of the above sources, instead choosing to paraphrase. This means that it is sometimes unclear where the information in the *Epitoma*

⁴³³ Milner (1993):4n.

⁴³⁴ Milner (1993):107n.

⁴³⁵ Milner (1993):xxv. It is also noted that John the Lydian cited Paternus in the sixth century and clearly had access to his texts. Therefore it is logical to assume that the text would have been available for Vegetius to use.

⁴³⁶ Milner (1993):26n.

is derived from; his own thoughts or an extract from a previous text. It can therefore be seen that Vegetius does not refer to his primary named sources very often, despite providing a statement of the sources that he intends to use.

3.1.2 Other Named Sources

Although there are two passages in which Vegetius names the sources he intends to use within his text, there are a number of references to authors who are not mentioned in these passages. These include Sallust, Virgil, and Claudius.

Sallust is named twice within the *Epitoma*, both in Book 1. Vegetius states: *adulescentes legendi sunt, sicut ait Sallustius; nam “simul ac iuventus belli patiens erat in castris per laborem usum militiae discebat”* (*Epit.*1.4.4); and *de exercitio Gnaei Pompei Magni Sallustius memorat “cum alacribus saltu, cum velocibus cursu, cum validis vecte certabat”* (*Epit.*1.9.8). Both of these passages are found in Sallust’s works, which shows that Vegetius has not fabricated the quotes.⁴³⁷ There is a third use of Sallust, although he is not acknowledged as the source. Vegetius provides a chapter entitled: *viam abscedendi hostibus dandam ut deleantur facilius fugientes* (*Epit.*3.21) which is noted to echo a chapter in the *Catilinarian Conspiracy*.⁴³⁸ In addition, Vegetius uses the phrase *nam cum abscedendi aditu patefacto mentes omnium ad praebenda terga consenserint, inulti more pecudum trucidantur* (*Epit.*3.21.3). This corresponds to Sallust’s phrase *cavete inulti animam amittatis, neu capti potius sicuti pecora trucidemini* (*Cat.*58.21).

All three texts of Sallust are used, but again the origins of certain facts and details are not always made clear. As an example, in a section detailing line drills (1.27), there is a similarity to Sallust’s *Jugurthine War* 97.5, which Vegetius does not acknowledge.⁴³⁹ Vegetius is not alone in his use of Sallust as Augustine, Orosius and Isidore of Seville also refer to Sallust. Augustine examines and extensively cites passages from great Roman historians including Livy, Pompeius Trogus and Sallust in order to show that the suffering endured after the sack of Rome by the Goths in 410 was not unprecedented in the history of

⁴³⁷ Reeve (2004):9n, 14n *Epit.*1.4 is quoted from *Cat.*7.4 and *Epit.*1.9 comes from *Hist.fr.*2.19.

⁴³⁸ Milner (1993):107n. “This chapter has echoes of Sall.*Cat.*58, Catiline’s speech to his men when finally surrounded by the senatorial forces in 63BC.”

⁴³⁹ Milner (1993):26n.

the empire.⁴⁴⁰ Orosius uses aspects of Sallust's work in his own text. It is noted that "Sallust is rarely mentioned explicitly within the *Historia*, but Orosius' admiration is palpable nevertheless"⁴⁴¹ as he emphasises the quality of material that he has to work with for describing the Jugurthine War. Isidore of Seville names Sallust in his definition of *historia*. He notes: *unde Sallustius ex historia, Livius Eusebius et Hieronymus ex annalibus et historia constant* (Orig.1.44.4).⁴⁴² This shows that Sallust is a well-known author in Late Antiquity, but does not explain why Vegetius does not include him in his source notice yet uses him anyway.

Vegetius not only explicitly names Virgil twice but also quotes him. Vegetius states:

*quam rem antiquos milites factitavisse Virgilio ipso teste cognoscimus, qui ait
non secus ac patriis acer Romanus in armis
iniusto sub fasce viam cum carpit et hosti
ante expectatum positus stat in agmine castris* (Epit.1.19.2-3).

This quote is from *Georg*.3.346-348.⁴⁴³ In the second reference Vegetius also names the text which he is using. He notes: *aliquanta ab avibus, aliquanta significantur a piscibus, quae Virgilius in Georgicis divino paene comprehendit ingenio et Varro in libris navalibus diligenter excoluit* (Epit.4.41.6). It is particularly interesting that Virgil is not included in the source notice given that he wrote didactic treatises and the text which gave an origin to Roman warfare, and also since "Vegetius likes to quote Virgil."⁴⁴⁴ There is a third reference to Virgil but on this occasion Vegetius does not name him explicitly. He states:

*quod etiam in apibus Mantuanus auctor dicit esse servandum:
nam duo sunt genera: hic melior, insignis et ore
et rutilis clarus squamis, ille horridus alter
desidia latamque trahens ingloris alvum* (Epit.1.6.2-3).

⁴⁴⁰ Merrills (2005):38.

⁴⁴¹ Merrills (2005):65.

⁴⁴² Merrills (2005):172.

⁴⁴³ Milner (1993):19n.

⁴⁴⁴ Milner (1993):108.

This is taken from *Georg.*4.92-94.⁴⁴⁵ In addition, Vegetius mentions the opening line of the *Aeneid* and gives a veiled reference to the author: *res igitur militaris, sicut Latinorum egregius auctor carminis sui testatur exordio, armis constat et viris* (*Epit.*2.1). Further sections of the *Epitoma* resemble passages from Virgil, for example: *sic regnantium testimoniis crebuit eloquentia dum non culpatur audacia* (*Epit.*prae.2) is considered to be a passage from the *Georgics* *da facilem cursum atque audacibus adnue coeptis* (*Georg.*1.40).⁴⁴⁶ Thus it can be seen that Vegetius uses Virgil and refers to his texts often within the *Epitoma*.

The third source is Claudius, who is referred to on only one occasion. Vegetius states:

quantum autem utilitatis boni sagittarii in proeliis habeant et Cato in libris de disciplina militari evidenter ostendit et Claudius pluribus iaculatoribus institutis atque perdoctis hostem cui prius impar fuerat superavit (*Epit.*1.15.4).

Milner notes that “Appius Claudius Pulcher is probably credited here with the invention of *velites* at the siege of Capua in 211BC but his proconsular colleague Q. Fulvius Flaccus is usually more prominent in the tradition.”⁴⁴⁷ This potentially indicates that Vegetius is either in error or is choosing to use a more unusual source for this detail.

There are additional off-hand references to other sources. Homer is mentioned: *et ipso Homero teste non fallimur, qui Tydeum minorem quidem corpore sed fortiores armis fuisse significat* (*Epit.*1.5.4) which refers to *Il.*5.801. On the topic of dealing with over-large armies Vegetius uses Xerxes, Darius, and Mithridates as examples. He states: *nam cum Xersis et Darii vel Mitridatis ceterorumque regum qui innumerabiles armaverant populos exempla releguntur, evidenter apparet nimium copiosos exercitus magis propria multitudine quam hostium virtute depressos* (*Epit.*3.1.4). These examples are not texts themselves but add to the list of source material that Vegetius incorporates into his work. There is also a single mention of Varro: *Varro in libris navalibus diligenter excoluit* (*Epit.*4.41.6).

3.1.3 Vegetius' Use of Sources

⁴⁴⁵ Milner (1993):7n.

⁴⁴⁶ Milner (1993):1n.

⁴⁴⁷ Milner (1993):15n.

The above passages show that although Vegetius provides two lists of sources, he does not use them very often within the *Epitoma*. He names and quotes a number of sources which are not included in either of these source notices; however, these are also infrequent. It is curious that Vegetius does not quote the authors he states are his sources, but prefers to quote others instead. It is also interesting that Polybius is not mentioned or used at all within the *Epitoma*, particularly as Polybius outlines the structure and protocols of the Roman army in considerable detail, and thus would have been a useful resource. Milner notes that Vegetius' grasp of Greek appears not to have been strong as he ignores Greek authors and obtains Greek material from Latin authors.⁴⁴⁸ This latter point is shown in the prologue to Book 3:

horum [the Athenians and Spartans] sequentes instituta Romani Martii operis praecepta et usu retinuerunt et litteris prodiderunt, quae per diversos auctores librosque dispersa, imperator invicte, mediocritatem meam abbreviare iussisti, ne vel fastidium nasceretur ex plurimis vel plenitudo fidei deesset in parvis (Epit.3.prae.3-4).

Vegetius engages with the sources that he uses. At the end of the text he notes that aspects of military science have developed sufficiently that the sources are obsolete: *de lusoriis, quae in Danubio agrarias cotidianis tutantur excubiis, reticendum puto, quia artis amplius in his frequentior usus invenit quam vetus doctrina monstraverat (Epit.4.46.9)*. Milner comments that “obsolescence in general does not deter him”⁴⁴⁹, which shows that Vegetius is not necessarily considering how useful his handbook will be for contemporary use; it appears he is more concerned with displaying his knowledge. It should also be noted that the sources that Vegetius used (Cato, Celsus, Frontinus, and Paternus) are now lost.⁴⁵⁰ This was partly because of Vegetius' popularity during the Middle Ages; his was one of the most popular Latin technical works of that era.⁴⁵¹

3.2 Palladius

⁴⁴⁸ Milner (1993):xxxvi. “His grasp of Greek appears not to have been profound, since he abjures Greek tactical authors in *Epit.*1.8 and obtains Greek material in Latin versions”; p.xxiii notes “Vegetius, being on the whole ignorant of Greek, would not have used Onasander directly.”

⁴⁴⁹ Milner (1993):xx.

⁴⁵⁰ Milner (1993):xiii.

⁴⁵¹ Milner (1993):xiii. “It rivalled the elder Pliny's *Natural History* in the number of surviving copies dating from before AD 1300. A number of early translations into vernacular languages were made, and frequently additions and adjustments were introduced to adapt the work to the age of Chivalry.”

Rutilius Taurus Aemilianus Palladius is an author from the latter half of the fourth and the early fifth century AD. It is known that he was part of the highest rank in the Senate as he is referred to as a *vir inlustris* in the manuscripts and that his family potentially originated from Gaul. Little is known beyond what he mentions himself within his text, but he mentions that he has farms in Sardinia and near Rome.⁴⁵² His text is the *Opus Agriculturae*, which is a text on farming and agricultural practices, followed by an additional poem on grafting. The *terminus post quem* for this work is 370.⁴⁵³ The *Opus* consists of fourteen books; one for each month of the year, with a preparatory book at the beginning and a book on veterinary medicine to close. This organisation of material is noted to be an innovation as “while there were various brief precedents for a farmer’s calendar, no one as far as we know had organised a whole treatise in this way.”⁴⁵⁴ It is noted that “a single paragraph of Palladius pulls together material that was scattered in three or four places in the sources”⁴⁵⁵, which means that his source material is likely to be completely rearranged from the original texts.

3.2.1 Main Authorities

In contrast to Vegetius, Palladius does not provide a source notification passage. Instead, he incorporates them at the appropriate points. Fitch notes that there are three main authorities whom Palladius uses as sources: Columella, Gargilius Martialis, and Anatolius of Beirut. Each of these authors is used for a specific topic; Columella is the source for field crops and animal husbandry, Martialis for vegetable gardens and fruit trees, and Anatolius for exotic things such as flavoured wine.⁴⁵⁶ Columella is from the first century AD, Martialis the third, and Anatolius from the fourth, which gives a span of approximately four centuries’ worth of material.

Columella is the author to whom Palladius refers the most often. Columella himself wrote a handbook called the *Res Rustica*, which is referred to as “the most systematic extant

⁴⁵² See Fitch (2013):11.

⁴⁵³ Fitch (2013):11. This is because of the title *vir inlustris* which began to be employed in the second half of the fourth century, initially for the highest rank in the senate.

⁴⁵⁴ Fitch (2013):14.

⁴⁵⁵ Fitch (2013):14. It is also noted that Rodgers (1975) provides a detailed account of the sources paragraph by paragraph in his Teubner edition of the text. This is done in the same method as is found in Fitch’s text, with the source references found with the corresponding section in Palladius, rather than in list form.

⁴⁵⁶ See Fitch (2013):13.

Roman agricultural handbook.”⁴⁵⁷ In Book 1 Palladius refers to Columella twice: *negat Columella ventilanda esse frumenta, quia magis miscentur animalia totis acervis* (*Opus.Agr.1.19.3*) and *natos si ad unam transferre a pluribus velis, dicit Columella uni nutrici viginti quinque sufficere* (*Opus.Agr.1.28.5*).⁴⁵⁸ In Book 2 there is only one reference: *hoc mense, sicut Columella dicit, maturi agni et animalia omnia minora atque maiora caractere signentur* (*Opus.Agr.2.16*).⁴⁵⁹ There are nine references to Columella in Book 3.⁴⁶⁰ There are two references in Book 4: *quod Columella dicit* (*Opus.Agr.4.8.1*) and *Columella dicit, loco aprico et stercoroso si rubos habeamus aut ferulas* (*Opus.Agr.4.9.9*).⁴⁶¹ There is then a gap of several books before the next references. These occur in Book 8: *uni tauro quindecim vaccas Columella adserit posse sufficere curandumque, ne concipere nequeant nimietate pinguedinis* (*Opus.Agr.8.4.1*) and *de fuscis numquam, sicut Columella dicit, potest albus creari* (*Opus.Agr.8.4.2*).⁴⁶² Book 10 refers to Columella once: *uni iugero adserit Columella viginti quattuor stercoris carpenta sufficere* (*Opus.Agr.10.1.2*).⁴⁶³ Book 11 contains two references: *quod contra frigus nimium Columella dicit toto faciendum esse quinquennio* (*Opus.Agr.11.5.2*) and *omnem subolem convelli Columella praecepit* (*Opus.Agr.11.8.2*).⁴⁶⁴ There are a further two mentions in Book 12: *nam Columella dicit agrum frumentis utiliore probari* (*Opus.Agr.12.1.2*) and *nam sicut adserit Columella, ex eo loco germen plerumque producit et veniente vere fundit materiam* (*Opus.Agr.12.3*).⁴⁶⁵ There are no mentions of Columella in Book 13, though in the preface to Book 14 Palladius states:

ne quid deesset huic operi, armentorum medicinas omnium pecorumque collegi et sub uno libro titulis unamquamque causam designantibus, explicare curavi, ipsis verbis Columellae et auctorum suorum, ut, cum necessitas vocaverit, facile remedia causae cogentis occurrant (*Opus.Agr.14.2.1*).

⁴⁵⁷ Hornblower and Spawforth (2003).

⁴⁵⁸ Fitch (2013): 51n and 55n. These passages are from *Res.Rus.1.6.16-17* and *8.11.13* respectively. Citations are from Rodgers (1975).

⁴⁵⁹ Fitch (2013):83n. This is from *Res.Rus.11.2.14*.

⁴⁶⁰ These occur in sections: 3.9.14, 3.10.4, 3.15, 3.16, 3.17, 3.18, 3.19, 3.24, and 3.26. These sections correspond to: *Res.Rus.3.15.5*; 5.6.5; 4.11.1-4; 4.2.2; 4.22.2-3; 4.14.2-3; 4.29.13-16; 5.9.3; 5.10.6; 11.3.23, 11.3.30; and 7.9.13. See Fitch (2013).

⁴⁶¹ Fitch (2013):123n, 125n. The Columella passages are 11.2.29 and 11.3.53.

⁴⁶² Fitch (2013):169n. These passages relate to *Res.Rus.6.24.3*, 7.2.6.

⁴⁶³ Fitch (2013):178n. This correlates to *Res.Rus.2.5.1*.

⁴⁶⁴ Fitch (2013):188n, 189n. These are from *Res.Rus.4.8.3-4*; 5.9.13; 11.8.2.

⁴⁶⁵ Fitch (2013):201n, 202n. These are from *Res.Rus.2.10.7* and 4.22.3-4.

This is the only occasion in which he recognises the fact that Columella would himself have had sources in order to write the *Res Rustica*. There are two further references in Book 14: *quaternor sextarios gari adserente Columella singulis per nares infundere utile est* (*Opus.Agr.14.26.4*) and *sicut Columella dicit (mihi vero incompertum est)* (*Opus.Agr.14.27.1*).⁴⁶⁶

This list shows that the *Res Rustica* is used on a wide variety of topics concerning agriculture and forms part of the core of the *Opus Agriculturae*. Each reference to Columella corresponds to a section of the *Res Rustica* and so this indicates that Palladius is using the source material; he is not using Columella's name simply to validate his text or to boost his own authority. It also shows that Palladius never quotes from the *Res Rustica*, preferring instead to paraphrase the material. All the references to Columella therefore follow the formulaic statement of "Columella says ..." with the appropriate detail. There appear to be no occasions where Palladius uses material from Columella without stating his name beforehand.

The second major source is Gargilius Martialis. Martialis is noted for his work on gardens, and his text is the *De Hortis*. Part of this text is extant along with some fragments. Martialis also uses Columella as a source.⁴⁶⁷ Palladius does not refer to Martialis as frequently as he does Columella. He is referred to as "Gargilius", "Martialis", and also "Gargilius Martialis." He is mentioned twice in Book 2: *ubi metus est de pruina, Martialis dicit hoc remedio subveniri* (*Opus.Agr.2.15.10*). About the veracity of the first reference Fitch notes "though most of Gargilius Martialis' work on fruit trees is lost, we have a surviving fragment that discusses quince, peach, almond and chestnut: Martialis does indeed say just what Palladius reports here."⁴⁶⁸ The second reference is: *Martialis expertum se ait virides nuces tantum liberates putaminibus suis melle demergi* (*Opus.Agr.2.15.19*). This is noted to be probably from Martialis' lost text.⁴⁶⁹ Book 4 contains four mentions: *haec omnia Gargilius Martialis adseruit* (*Opus.Agr.4.9.9*), *adserit Martialis candida in his grana fieri* (*Opus.Agr.4.10.5*), *adserit Martialis apud Assyrios pomis hanc arborem non carere* (*Opus.Agr.4.10.16*), and *Martialis dicit caricas per genera multa servari cum ratio una sufficiat* (*Opus.Agr.4.10.33*). Books 5, 6, and 7 contain one reference each: *rem miram de*

⁴⁶⁶ Fitch (2013):243n. These passages are from *Res.Rus.6.34.2* and *6.35*.

⁴⁶⁷ See Hornblower and Spawforth (2003).

⁴⁶⁸ Fitch (2013):80n.

⁴⁶⁹ Fitch (2013):83n.

ocimo Martialis adfirmat (*Opus.Agr.5.3.4*), *sicut Martialis dicit* (*Opus.Agr.6.6*), *ut Martialis dicit* (*Opus.Agr.7.5.2*). He mentions Martialis twice within one section in Book 11: *Martialis in trunco inseri iubet ... qui in trunco inserunt, sicut Martialis dicit* (*Opus.Agr.11.12.5*). Finally, there is a single reference in Book 13: *Hypomelides poma sunt, ut Martialis adserit, sorbo similia* (*Opus.Agr.13.4.1*). These passages give the impression that Palladius also knows the text of Martialis and is not just throwing in the name. This implies that Palladius is producing a text based on genuine information and thus appears more authoritative to the reader.

The third author is Anatolius of Beirut. He compiled agricultural information in Greek during the fourth century, however, this compilation does not survive intact or in its original form. Later Greek authors added to this text until it was codified into the *Geoponika* in the tenth century; this text is extant.⁴⁷⁰ Although Palladius uses Anatolius for topics such as flavoured wines, he does not name him within the text nor acknowledge his work in any way. Fitch has linked sections of the *Opus Agriculturae* to sections of the *Geoponika*. These occur in the outer books: 1.35.7, 1.35.9, 2.15.14, 2.15.18, 12.4.2, and 14.34.⁴⁷¹ These sections contain advice on protecting crops against pest, fruit trees, pruning tips, and advice on sheep, which does not match the “more exotic” material that Fitch comments Palladius uses Anatolius for. Anatolius is also writing not long before Palladius and so it is questionable whether Palladius would have known or had access to this text. Therefore, it is also questionable whether Anatolius can be considered a major authority for the *Opus Agriculturae*.

There are, however, a number of references to the Greeks. These appear frequently throughout the text with at least one mention in every book except Books 9, 10, and 13.⁴⁷² For example: *ut vitis botryones et albos adferre possit et nigros Graeci sic fieri debere iusserunt* (*Opus.Agr.3.33*), *sed Graeci eos oestros appellant et necari iubent* (*Opus.Agr.6.10*), and *iubent Graeci coriandri manipulum in olei metreta suspendi atque ita paucis diebus manere* (*Opus.Agr.12.20.3*). These references follow the formulaic construct that Palladius uses to refer to Columella and Martialis. It is possible that these references indicate Anatolius

⁴⁷⁰ Fitch (2013):13.

⁴⁷¹ See Fitch (2013):62n, 63n, 81n, 82n, 203n and 250n.

⁴⁷² Fitch (2013):293 records over 30 separate references to the Greeks.

as a source, but there is little evidence for this. It more likely shows a general knowledge of Greek learning.

3.2.2 Other Named Authorities

There are additional sources which Palladius names, although not to the same extent as Columella, Martialis, and the Greeks. These are: Mago, Celsus, Democritus, Apuleius, Aristotle, Bolus, and Virgil.

Mago is a Carthaginian author who wrote an agricultural manual in 32 books in the Punic language. These have been translated into Greek and Latin but the original Punic books have been lost.⁴⁷³ Palladius notes: *Mago adserit scrobem non primo anno esse complendam, sed subinde coaequandam* (*Opus.Agr.3.10.3*) and *nunc castrandi sunt vituli, sicut Mago dicit, tenera aetate* (*Opus.Agr.6.7*). Fitch notes that Palladius would not have used the original Punic text, or any of the translations. Instead, the first reference to Mago comes from a passage in Palladius' source Columella (5.5.4).⁴⁷⁴ The second reference is also taken from Columella.⁴⁷⁵ Therefore, Palladius appears to have used Mago to add to his number of named sources whilst obtaining the material from a source he has already used. Since Mago is named as a source by Columella, Palladius has also named the ultimate source rather than the intermediate one he uses.

The next author briefly mentioned is Celsus. Aulus Cornelius Celsus wrote a technical work on agriculture in the first century AD which is no longer extant. Palladius mentions him on four occasions, all within the fourteenth book: *Cornelius Celsus etiam visci folia cum vino trita per nares infundere iubet* (*Opus.Agr.14.5.7*), *ut Cornelius Celsus praecepit* (*Opus.Agr.14.12.8*), *Celsus quidem tumentis cervici herbam quae vocatur salvia, ut supra dixi, contundi et inponi iubet* (*Opus.Agr.14.14.8*), and *Celso placet, si est in pulmonibus vitium, acris aceti tantum dare quantum ovis sustinere possit* (*Opus.Agr.14.32.3*). Fitch notes again that all references to Celsus are from Columella.⁴⁷⁶ Therefore, Palladius is also using Celsus to increase the number of named sources in the same manner as he does with Mago.

⁴⁷³ See Hornblower and Spawforth (2003) entry on agricultural writers and Carthage.

⁴⁷⁴ Fitch (2013):92n.

⁴⁷⁵ Fitch (2013):154n from *Res.Rus.6.26*.

⁴⁷⁶ Fitch (2013):227n.

Although Palladius refers to the Greeks collectively, there are specific individuals named. Palladius names Democritus: *Democritus adserit neque arboribus neque satis quibuslibet noceri posse a quibuscunque bestiis* (*Opus.Agr.1.35.7*). About this reference it is noted that “Palladius’ attribution of this remedy to Democritus comes from *Geoponika*.5.50 and 10.89.1.”⁴⁷⁷ However, it is unlikely that Palladius has obtained the reference to Democritus from the *Geoponika* as this text post-dates Palladius himself. The second individual Greek is Apuleius: *adversus mures agrestes Apuleius adserit semina bubulo felle maceranda, antequam spargas* (*Opus.Agr.1.35.9*).⁴⁷⁸ The third source is Aristotle: *Aristoteles adserit* (*Opus.Agr.8.4.4*) which is noted to also come from Columella.⁴⁷⁹ In addition, there is also a reference to Bolus of Mendes, an Egyptian author of the third century BC: *sed Aegyptiae gentis auctor memorabilis Bolus Mendesium, cuius commenta sub nomine Democriti falso produntur* (*Opus.Agr.14.32.6*).⁴⁸⁰

The last named author to be considered is Virgil. Palladius not only refers to Virgil on three occasions, he also quotes his text. In Book 3 he notes: *inseritur autem piro agresti, melo, ut nonnulli, amygdalo et spino, ut Virgilius, orno et fraxino et cydoneo, ut aliqui, et Punico sed fisso ligno* (*Opus.Agr.3.25.7*). This refers to the information found in *Georgics* 2.71-72.⁴⁸¹ The other references occur in Book 14 where Palladius names Virgil, quotes the text, and names the work he is quoting from. First he states: *sed Georgicum carmen adfirmat nullum esse praestantiorum medicinam “quam si quis ferro potuit rescindere summum/ulceris os: alitur vitium vivitque tegendo”* (*Opus.Agr.14.30.9*). The second passage is:

<subicit> *deinde aequae prudenter, febricitantibus ovibus de talo vel inter duas ungulas sanguinem emitti oportere; nam plurimum, inquit, “profuit incensos aestus avertere et inter/ima ferire pedis salientem sanguine venam”* (*Opus.Agr.14.30.10*).⁴⁸²

These quotations are noted to have been included in Columella’s work as well.⁴⁸³ Therefore it is likely that Palladius has used material through an intermediate source, but has only

⁴⁷⁷ Fitch (2013):62n.

⁴⁷⁸ Fitch (2013):63n comments that this attribution is from *Geoponika*.13.5.1.

⁴⁷⁹ Fitch (2013):169n. This is from *Res.Rus.*7.3. It is also noted that the Aristotle’s meaning in the text has been twisted slightly by Palladius in this passage.

⁴⁸⁰ Fitch (2013):248n mentions that “Columella gave his name, Bolus, but this became corrupted in the MMS to *dolus*: faced with this nonsensical reading, Palladius just calls him *civis*, a citizen.”

⁴⁸¹ Fitch (2013):108n.

⁴⁸² Fitch (2013):246n notes that these quotations are from *Georgics* 3.453-54 and 3.459-60 respectively.

specified the ultimate source. It is, however, interesting that Palladius does not incorporate Virgil more into his text given that the *Georgics* covers many of the farming topics and was a well-known text. It is also interesting that the only references to Virgil are those which are found in another handbook, rather than Palladius reading Virgil and selecting the material himself.

3.2.3 Unnamed Sources

Palladius uses one source which he does not credit, aside from Anatolius of Beirut (see above). This is Cetus Faventinus, who in the third and fourth centuries AD produced a revised abridgment of Vitruvius about building private houses. He is also a source for Isidorus.⁴⁸⁴ At 1.9.4 Palladius notes that it is necessary to lay the basis when building a floor, about which Fitch notes “the basis was a layer of fist-sized rocks, as Palladius’ source Faventinus specifies.”⁴⁸⁵ However, Palladius does not mention Faventinus’ name at all within the text.

3.2.4 Use of Sources

Palladius does not rely solely on his sources for information, but also displays his own knowledge and experience. It is noted that there are at least 19 occasions where Palladius refers explicitly to his own experience and a further seven occasions where he implies experience.⁴⁸⁶ Examples of explicit experience are: *ego expertus sum multas arbores ex pomis sponte progenitas et in crescendo et in ferendo extitisse felices* (*Opus.Agr.2.15.1*), *ego mense februario ultimo vel martio in Italia plantas grandes ficorum per pastinatum solum disposui* (*Opus.Agr.4.10.24*), and of implied experience: *mihi videtur paucas dimitti semper ac solidas* (*Opus.Agr.11.8.2*).

Palladius incorporates his sources by naming them and then paraphrasing what they say (with the exception of Virgil). It is evident that he relies predominantly on two specific sources, Columella and Martialis, but gives the impression that he has consulted more texts

⁴⁸³ Fitch (2013):246n.

⁴⁸⁴ Hornblower and Spawforth (2003).

⁴⁸⁵ Fitch (2013):45n; Hornblower and Spawforth (2003) also note that Faventinus is a source for Palladius.

⁴⁸⁶ Fitch (2013):11. The full list is available in the footnote on that page.

than he has used. Many of the sources he mentions are found in Columella and so it is likely that he has used only this source but credited the original. Generally Palladius does not interact with his sources, he states the material and then moves on without debating the merits of the material. There are only two exceptions to this: *sicut Columella dicit (mihi vero incompertum est)* (*Opus.Agr.14.27.1*), and *sed Aegyptiae gentis auctor memorabilis Bolus Mendesius, cuius commenta sub nomine Democriti falso produntur* (*Opus.Agr.14.32.6*). Palladius' choice of sources is interesting as there are no references to Hesiod, Varro, or Cato, all of whom had written texts on agricultural matters, whereas there are references to authors such as Mago and Bolus, who are otherwise unknown now.

3.3 Martianus

Martianus Minucius Felix Capella wrote the *De Nuptiis Philologiae et Mercurii* (called the *Philologiae* by the author) during the latter part of the fifth century AD.⁴⁸⁷ This text is an encyclopaedia on the seven liberal arts, divided into the trivium (grammar, dialectic and rhetoric) and the quadrivium (geometry, arithmetic, astronomy and music), and was influential in the Carolingian era.⁴⁸⁸ In this section the book on astronomy will be considered as it relates most to the material in the *Mathesis*. There is a lacuna at the end of this book, but it is believed that nothing vital is missing.⁴⁸⁹

3.3.1 Named Sources

Stahl et al. note that “the sources of Martianus’ *De astronomia* are open to speculation.”⁴⁹⁰ References to any author or text are extremely rare in this book but Martianus provides a brief statement about the sources he intends to use for this section: *sed quoniam utcumque in Graiam notitiam errabunda perveni, sufficere oportuit, quicquid ab Eratosthene, Ptolemaeo, Hipparcho ceterisque vulgatum, ne me ultra loquendi necessitas ingravaret*

⁴⁸⁷ Hornblower and Spawforth (2003); Stahl and Johnson (1971):15 notes that “the evidence from Martianus’ own statements points to a date of composition between 410 and 439, the terminus at 439 being more reliable than that at 410.”

⁴⁸⁸ Stahl and Johnson (1971):31. “He appears to have come into sudden vogue in the third generation of the Carolingian Age. Martianus sparked the imagination and scholarly interests of the learned commentators teaching in the schools founded by Charlemagne.”

⁴⁸⁹ Stahl and Johnson (1977):337.

⁴⁹⁰ Stahl and Johnson (1971):50.

(*De.Nupt.*8.813).⁴⁹¹ This passage indicates that Martianus intends to use Greek sources for his discussion on astronomy.

Eratosthenes and Archimedes are mentioned once more in this book. Martianus states:

quos omnes ut suis amplitudinibus metiamur, quod non facile astrologi voluere, ab uno Geometriae concessio assertio est inchoanda, quod et ipsa suggerit in praesenti et ab Eratosthene Archimedeque persuasum, in circuitu terrae esse CCCCVI milia stadiorum et X stadia (*De.Nupt.*8.858).

However, it is noted that this “is one of the most astonishing discrepancies in the work” as Martianus discusses this topic in Book 6 (geometry) and gives a different figure.⁴⁹² There he notes: *circulum quidem terrae ducentis quinquaginta duobus milibus stadiorum, ut ab Eratosthene doctissimo gnomonica supputatione discussum* (*De.Nupt.*6.596). The reference in Book 6 gives the correct figure. It is odd that Martianus cannot keep the numerical details consistent across the separate books and it implies that he does not have the source at hand when writing Book 8.

There are two further references to Hipparchus. The first reference is:

verum ego, quod Hipparchus meus scriptorum [...] veritate complexus, hos dico a signis zodiaci cycli venientes et tam inter se secundo coniunctos, quam omnes parallelos angulis aequalibus persecantes in cardines pervenire. nam unus ab Arietis octava parte natus ambitu mundo per polorum vertices ad eandem recurrit (*De.Nupt.*8.824).

Stahl et al. note that “the earliest use of Aries 8 in Greece was around the time of Hipparchus as earlier writers used Aries 15 as the vernal point.”⁴⁹³ This indicates that Martianus is using his source correctly. This passage also shows that Martianus engages with his sources as he comments on the suitability of Hipparchus and his theories. The second reference is: *Luna autem per omnes XII currens nunc in aquilonem provehitur, nunc in austrum deveniens*

⁴⁹¹ All *De Nuptiis* citations are from Dick (1925).

⁴⁹² See Stahl and Johnson (1971):333n.

⁴⁹³ Stahl and Johnson (1971):321n.

infimatur utrimque momentis <sex> excurrens, sicut Hipparchus quoque consentit (De.Nupt.8.867).

Although Martianus mentions that he will use material written by “other Greeks”, he names one author specifically. This is Aratus who is mentioned once: *non planetas sed planontas, sicut Aratus asserit, memorabo (De.Nupt.8.850)*. In addition, there are a number of passages which contain the same material as passages in the *Phaenomena*, but the link is not acknowledged. It is noted that “Martianus’ tracing of Cancer corresponds to that in Aratus *Phaenomena* 480-500” and the “tracing of the Tropic of Capricorn corresponds with that of Aratus 501-6 and Hyginus 4.4.”⁴⁹⁴ However, it is not clear whether Martianus has used Aratus (or Hyginus) as the source for this information or whether the information merely happens to match the known text in the *Phaenomena*.

3.3.2 Other Named Sources

Since the *De Nuptiis Philologiae et Mercurii* is set in the context of a wedding, there are a large number of wedding guests. Amongst these are a number of well-known and prominent mathematicians and astronomers. These include: Euclid, Archimedes, Eratosthenes, Hipparchus (as mentioned above), and Ptolemy. However, it is noted that the figures in this list serve as decorations.⁴⁹⁵ There is another list of eminent philosophers including Pythagoras, his disciples, and Plato, but these names are merely introduced to add authority to the text, rather than actual sources, and are ignored for the majority of the text.⁴⁹⁶ However, this group of people are referred to again when Martianus states: *denique etiam Perpateticorum dogma contendit non adversum mundum haec sidera promoveri (De.Nupt.8.853)*. Here Martianus mentions the general source from which he has obtained his information but not the specific one. The natural philosophers are also referred to en masse: *quam quidem menstruum habere lumen physicorum assertione persuasum est (De.Nupt.8.862)*. Only one philosopher is mentioned specifically and this is Pythagoras: *at Venus, quae ab aliis Phosphoros nominatur, a Pythagora Samio cum suis ostensa est terris rationibus pervestigata (De.Nupt.8.882)*.

⁴⁹⁴ Stahl and Johnson (1971):323n.

⁴⁹⁵ Stahl and Johnson (1971):10.

⁴⁹⁶ Stahl and Johnson (1971):9.

3.3.3 Unnamed Sources

Stahl et al. note that it is debated whether Varro is a source for the astronomy section of the work and comment that there is no other likely candidate for Martianus' astronomy.⁴⁹⁷ Therefore Varro is the presumed source for much of Book 8. In addition, Varro is named a number of times in the earlier books and so is clearly a source known to Martianus and used by him. Stahl et al. note the various arguments supporting the view that Varro is the Latin source for Martianus: Honigman notes that Pliny makes errors in his climates, whereas Martianus follows an Eratosthenean tradition with added Roman names, and so considers Varro to be the Latin source for Martianus' climates; Duhem considers that Martianus derives his theories on the heliocentric motions of Venus and Mercury from Varro; and Heath thinks that Martianus' figure for the diameter of the moon is probably derived from Varro.⁴⁹⁸ In addition, Stahl et al. add that the character of the *De Nuptiis* points to Varro as a major source. They note "it is clear that the ultimate forebear of Martianus' book was some popular Greek introduction to the subject. Who but Varro is likely to have been the first to introduce such a handbook to Latin readers?"⁴⁹⁹

Martianus states: *hoc igitur praemonito illud insinuo, quod quidam Romanorum non per omnia ignarus mei stellas ab stando (De.Nupt.8.817)* about which Stahl et al. comment that this is almost certainly referring to Varro and the *De Lingua Latina* even without an explicit reference.⁵⁰⁰ It thus appears that Martianus knows where his information comes from, and acknowledges that there is a source, but is being coy about disclosing his source. There is a second passage in which Martianus refers to a source but does not disclose it:

quem quidem meantem, quibus sideribus circuletur, ego poteram memorare; neque enim mihi ulla caelestis globi portio habetur incognita. sed quoniam per ignota superioris partis visibus hominum distenditur, dicere praetermitto, ne incomperta falsitatem admiscere videatur assertio (De.Nupt.8.831).

⁴⁹⁷ Stahl and Johnson (1971):50. "Every historian of science and philologist who, to my knowledge, has remarked upon this matter has conjectured that Varro was Martianus' source, either ultimate or direct."

⁴⁹⁸ Stahl and Johnson (1971):51.

⁴⁹⁹ Stahl and Johnson (1971):52.

⁵⁰⁰ Stahl and Johnson (1971):320n. It is unclear whether the first person "I" speaking at this point is Martianus or the handmaiden Astronomy.

However, it is unlikely that Martianus would have been familiar with the southern constellations as he was from North Africa. It is probable that he does not disclose this information because he did not have the information himself from his compilation of sources. In this passage Martianus indicates that he has information that no other source has, which implies that he obtained it himself rather than from the work of another astronomer. This increases his authority as it implies that he has experience in the discipline as well as being a competent compiler. Not revealing the information secures his reputation as it is impossible to question it. This element of rhetoric implies that he has more knowledge than he may actually hold. Concerning Martianus' implied experience he also states: *Taurus oritur hora et dimidia et sexta parte horae, occidit duabus horis et tertia parte horae. at Gemini oriuntur hora et deunce, occident duabus horis et duodecima parte* (*De.Nupt.*8.845). Stahl et al. note that these figures are correct at a latitude slightly to the north of Alexandria and that these are not Martianus' own observations.⁵⁰¹ Therefore Martianus has either used a source for this section which has not been named or he has made the calculations up.

3.3.4 Use of Sources

Martianus incorporates his sources by compiling them into one text, usually without noting the origin of each piece of information. He also compiles the information without checking for any discrepancies. This is particularly evident in his section on the constellations. Martianus notes: *dubium enim non est XXXV signis omne splendescere caelum* (*De.Nupt.*8.838) but then mentions 19 northern and 14 southern constellations. Stahl et al. note "to bring the number to 35 he must be counting Aqua and Canopus, which he specifically says are minor."⁵⁰² Therefore, they conclude that Martianus got the total figure from one author but the list of constellations from another without checking for any differences.

Martianus states that he will be using Greek sources, but there are few references to any Greek authors. It is thought that the predominant source for the *De Nuptiis* is Varro, whose

⁵⁰¹ Stahl and Johnson (1971):185n. "Neugebauer thought that Martianus might have computed the rising times himself or relied upon the observations of some North African astronomer. But the role of an observer or investigator in the interests of accuracy would be unthinkable for Martianus. He has no instincts for accuracy or consistency, and he must have gotten the data from some handbook tradition." There are discrepant figures in the *De Nuptiis*. Stahl and Johnson (1977):329n add "the source of Martianus' observations is not known; but of this we may be sure that Martianus did not make his own observations or computations."

⁵⁰² Stahl and Johnson (1977):326n.

sources are Greek. This means that although the ultimate sources are Greek, the immediate source is a Latin author. Martianus hints at who the true source is with references to *quidam Romanorum*, but since he does not name the source he is in effect hiding the fact that Varro is his source. The number of Greek authors named increases Martianus' authority as a compiler in a way in which naming a singular compilation would not. The use of Greek names also implies that Martianus is conversant in Greek, thus boosting the impression of his knowledge. It is curious that Martianus mentions neither Manilius nor Pliny, as both authors wrote texts on astronomy which Martianus could have used. Both of these sources are written in Latin which does not match Martianus' stated intention of using Greek sources. However, Pliny refers a number of times to Greek authors, as discussed above, and so Martianus could have used the *Historia Naturalis* in the same way that he uses Varro.

3.5 Summary

These three late antique didactic authors establish their authority using broadly similar methods. All three predominantly use the names of previous authors of their disciplines as the basis for their authority, and also appear to have both major and minor sources. These sources are often blended together with the best material for a section used so that it is often difficult to see exactly where a piece of information has come from. Vegetius, Palladius, and Martianus interact with their sources, but this occurs rarely. Palladius and Martianus indicate some degree of personal experience with their subject matter, but this is a secondary method of establishing their authority.

The choice of sources used by each of these three authors is also significant. In each text major texts which could have been used are not referred to: Vegetius does not use Polybius, Palladius has a limited use of Virgil but no Cato or Hesiod, and Martianus does not refer to Pliny. Vegetius states which sources he will use and uses them to a limited extent, but relies mainly on another source, Sallust, which is not in the source notice but named in the text nonetheless. Palladius and Martianus also use one particular source Columella and Varro, respectively but then attribute the information to a number of other sources. These are often the sources their compilation text uses. By doing this, both authors imply that they have read more texts whilst writing their own. It also implies that these authors prefer to refer to older sources instead of any intermediate ones. However, both Vegetius and Palladius refer to a

source frequently whereas Martianus mentions his sources rarely. It also appears that Martianus has concealed his primary source, with only hints as to its identity. Although Varro is named in the earlier books, he is not in the book on astronomy and Martianus only alludes once to him. It is also worth noting that a number of the sources that these authors used have subsequently been lost as the *Epitoma*, *Opus Agriculturae*, and *De Nuptiis* have supplanted them as the authority on military matters, agriculture and the subjects of the quadrivium, respectively.

4. Firmicus Maternus

Firmicus notes several times that the aim of the *Mathesis* is:

Matheseos sermo totus qui pertinet ad definitionem apotelesmatum in sententias transferatur, ut patefactis omnibus atque monstratis, quae divini veteres ediderunt, studiosis huiusce artis viris tota plenissime per nos insinuetur huius praedictae disciplina (Math.3.prae.1).

Therefore Firmicus needs to establish his authority both as someone competent in astrology and as a researcher and teacher. In order to achieve this he uses a number of different methods.

4.1 Didactic Persona

Firmicus' stated intention for the work, given above, indicates that there is an explicit didactic intent, and so one aspect of his authority is from the establishment of a didactic persona within the *Mathesis*. This statement of intent can also be found in both the early astrological and the Late Antique handbook texts considered above.⁵⁰³ Firmicus employs a number of techniques to promote this persona. As mentioned in Chapter 1, Firmicus shows an awareness that the material needs to be presented in a logical order so that his reader is not overwhelmed. Firmicus highlights this by providing directions throughout the text. He introduces sections with a statement showing the intended topic for the section, and then concludes the section with a reiteration of this statement showing what he has covered. One

⁵⁰³ See Man.Astron.1.13ff, Pall.Opus.Agr.1.1 as examples.

example of this is: *nunc genera explicanda sunt omnia, quae veloci cursu suo perficit Luna, ut et partiliter et generaliter omnia explicasse videamur* (Math.4.16.1); *explicato cursu Lunae et diligenti ratione monstrato ad promissi operis definitionem sermonis intentio transferatur, scilicet ad explicationem Fortunae* (Math.4.16.12). This emphasises to the reader that he has tight control over how the book and its theories are progressing, and that he knows exactly in what order he needs to explain the theories so that the student may best understand and progress. Although these directions indicate a strong didactic persona, the rhetoric contains no authority that the material is genuine and correct. Firmicus uses the associated authority that comes with presenting the material in the manner of a teacher in order to authorise his text. This technique is also used by the early astrological authors (Manilius, Germanicus, and Ovid) in order to authorise their texts. However, by using this method Firmicus assumes that there will be a continual reader; one who will read the text through in the order that it is written. This is not a text for a reader to dip into for reference.

This didactic persona is augmented through the use of a teacher-pupil relationship. The *Mathesis* has a named student, Mavortius, and addresses him a number of times. Examples include: *maxima, Mavorti, promissionis nostrae fundamenta iactavimus, et plurimum per gradus singulos crescens adultus sermo profecit* (Math.5.prae.1) and *frequenter Mavorti decus nostrum de mixturis stellarum sermo noster admonuit* (Math.6.1.1). The addressing of a student can be seen particularly in the *Astronomica*, although here the student is never named. The Late Antique handbooks also do not name a particular student but address the reader of the text as the student. Firmicus consolidates this aspect of his didactic authority through the use of the first person plural when discussing what the student needs to know. For example: *quia horoscopi decreta partiliter diximus, nunc explicemus quid stellae <in> signis singulis constitutae* (Math.5.3.1). This gives the impression that Firmicus is present with the student and is guiding them through the various theories. Firmicus also addresses the pupil directly in the voice of a teacher: *sane illud scire debes, quod ea, quae in virorum genituris dicimus* (Math.2.14.4), which is similar to the methods used by Manilius and Ovid. This technique is also prominent in Palladius' text, for example: *sucum mori agrestis paululum facies deferuere. tunc suci duas partes et unam mellis admisces et mixta curabis ad pinguedinum mellis excoquere* (Opus.Agr.10.16). Thus it can be seen that Firmicus' methods to establish a didactic persona correspond to the methods of both the early astrological and the Late Antique handbook authors.

4.2 Religious Authority

In contrast to the early astrological authors, Firmicus does not use religious authority. He neither addresses the Muses within the *Mathesis* nor at any point implies that there is divine inspiration behind this text. This is despite the presence of religious elements within the text. As discussed in Chapter 1, there are a number of sections which contain these religious elements. These pertain to a variety of religious beliefs, and include two prayers. However, the prayer concluding Book 1 is for the continuation of the Constantinian dynasty, and so does not relate to the inspiration of the text. In the second prayer Firmicus states: *sed ne sermo nudus divino praesidio relinquatur, et eum <in> ipsis conatibus adversantis malivoli cuiusdam hominis livor inpugnet* (*Math.5.prae.3*) and then asks: *da veniam quod siderum tuorum cursus eorumque efficacias explicare conamur* (*Math.5.prae.4*) and *vestri itaque date mihi decreti praesidium, et trepidationem animi vestra maiestate firmate, ne numinis vestri praesidio destitutus ordinem non possim promissi operis invenire* (*Math.5.prae.6*). This prayer is thus for support and forgiveness for the choice of topic and not for divine inspiration. It is not used to authorise the text. Within the *Mathesis* Firmicus does not seek aid from either a pagan or Christian deity. Firmicus' authority is therefore more secular than that of the early astrological authors; he does not have to ask for his knowledge. It is possible that this is because Firmicus writes in prose rather than verse and that addressing the Muses is a convention solely of verse texts. Pliny, writing in prose, does not address the Muses either. Nemesianus writing didactic verse at the end of the third century calls on a combination of deities. He states: *Aonio iam nunc mihi pectus ab oestro/ aestuat* (*Cyneg.3-4*); *haec vobis nostrae libabunt carmina Musae,/ cum primum vultus sacros, bona numina terrae,/ contigerit vidisse mihi* (*Cyneg.76-77*); and *duc age, diva, tuum frondosa per avia vatem:/ te sequimur, tu pande domos et lustra ferarum* (*Cyneg.97-98*), which addresses Diana.⁵⁰⁴ Therefore divine inspiration is behind this text. On the other hand, Ausonius mentions the Muses fifteen times in his assorted texts. Two particular examples are: *haec precor, hanc vocem, Boeotia numina Musae,/ accipite et Latiis vatem revocate camenis* (*Epist.29.74-5*) and:

*licia qui texunt et carmina, carmina Musis,
licia contribuunt, casta Minerva, tibi.
ast ego rem sociam non dissociabo Sabina,*

⁵⁰⁴ Duff and Duff (1978).

versibus inscripsi quae mea texta meis (Epig.55).

However, Ausonius does not call on the Muses for divine inspiration, or to legitimise his texts. This is regardless of whether he writes in verse or prose. The Late Antique handbook authors discussed above also do not call on Muses or use any form of religion as a basis for authorising their texts. Firmicus thus matches the later handbook authors more than the early astrological authors in this respect.

4.3 Sources of Knowledge

Firmicus' most notable method of establishing his authority is through the use of named sources.⁵⁰⁵ Firmicus not only names 23 individuals and four collectives (for example the Greeks), but he also traces the lineage of a theory and discusses the sources. He notes: *Antiscia Hipparchi secutus est Fronto ... et sunt quidem in Frontone pronuntiationis atque apotelesmatum verae sententiae, antisciorum vero inefficax studium (Math.2.prae.4);* and *mundi itaque genituram hanc esse voluerunt secuti Aesculapium et Hanubium quibus potentissimum Mercurii numen istius scientiae secreta commisit (Math.3.1.1).* As is shown in the table in Chapter 2 section 2, Firmicus refers to the Greeks and Egyptians many times. For example: *quae a Graecis afaneis et synodicae dicuntur (Math.2.8.1)* and *nam qui a nobis Saturnus dicitur, ab Aegyptiis Faenon vocatur (Math.2.2.2).* These references imply that Firmicus' research has included sources from at least two other cultures, and also that he can read these sources. In addition, Firmicus notes alternate theories, for example:

quidam hunc locum volentes subtilius explicare terna numina decanis singulis applicarunt, quos munifices appellandos esse voluerunt id est liturgos, ita ut per signa singula novem possint munifices inveniri, ut ternis munificibus decani singuli praeferantur (Math.2.4.4).

This demonstrates his wide knowledge of astrological theories. The inclusion of these sources helps to prove to his reader that Firmicus is a thorough and competent researcher. As shown above, the exhibition of sources is also the primary method of establishing authority used by the late antique handbook authors. Firmicus provides a source notice: *quae de ista arte Aegyptii Babylonique dixerunt, docilis sermonis institutione transferemus (Math.2.prae.2),*

⁵⁰⁵ For a full list of sources named see Chapter 2 section 2.

which is similar to the three handbook authors discussed above. Another similarity is that Firmicus names sources in addition to this source notice, such as Ptolemy and Abraham. Firmicus relies heavily on a Latin source (Manilius) which is then not acknowledged. This is similar to Martianus Capella; both authors acknowledge Greek sources whilst using a Latin one, and both authors conceal that they have used a Latin source, although Martianus hints at the identity of his. In addition, both Martianus and Firmicus use their Greek sources erroneously.⁵⁰⁶ On the other hand, Vegetius and Palladius display Latin sources whilst neglecting Greek ones, although neither conceals a Greek source whilst promoting Latin sources. Firmicus' concealment of sources is similar to the early astrological authors as they do not ascribe their knowledge to any source other than the Muses or the gods.⁵⁰⁷

However, Firmicus' use of sources is not consistent throughout the *Mathesis*. There are two sections in which Firmicus names the majority of his sources: 2.prae.1.4 and 2.29.2, both of which concern the theory of *antiscia*. For the majority of the astrological material that Firmicus explains in the *Mathesis*, there is no reference to another source. Examples include: *quemcumque enim locum benivolae stellae respexerint vel in eodem loco constitutae vel de trigono vel de exagono, omnia, quae quaerenda diximus, feliciter proveniunt* (Math.2.20.4); *claras stellas et augusta maiestatis radiatione fulgentes in signis omnibus invenimus, sed regales in quattuor, in Leone scilicet in Scorpione in Aquario et in Tauro* (Math.6.2.1); and *si Luna et Sol sic fuerint collocati, ut neque se neque horoscopum videant, is qui natus fuerit non nutrietur* (Math.7.2.22). Here the reader is expected to accept what Firmicus states without questioning it. Firmicus is indicating that he does not need sources to validate his knowledge. This links to the didactic authority discussed above. For the majority of the text Firmicus relies on the didactic authority without needing to produce any other verification.

Within the *Mathesis* there is an emphasis on learning and experience through the repeated use of the term *disciplina*. There are 42 mentions of this term with respect to the discipline of astrology within the text.⁵⁰⁸ This emphasises that Firmicus' knowledge comes from texts or his education rather than from the gods. The acquisition of knowledge is seen as a more formalised process. This also changes the status of the author as they show their education in order to legitimise their text. This is found in other Late Antique texts. Palladius

⁵⁰⁶ See Chapter 2 section 3.1.5. Firmicus attributes the antiscia theory to Ptolemy despite this being absent from the *Tetrabiblos*.

⁵⁰⁷ Aside from a single mention of Aratus in Germanicus' *Aratea*.

⁵⁰⁸ *disciplina* -18, *disciplinae* -6, *disciplinam* -14, *disciplinorum* -8, *disciplinas* -2, *disciplinis* -4.

uses the term *disciplina* on 12 occasions, and there are 26 instances of the term in Vegetius' *Epitoma Rei Militaris*. The early astrological authors, on the other hand, place more emphasis on the religious authority. Therefore, the methods that Firmicus uses to establish and promote his authority bear greater resemblance to those of the Late Antique handbook authors. Although Firmicus creates a didactic persona, similar to the early astrological authors, the lack of religious authority and the emphasis on sources and learning shows a stronger link to the methods of the handbook authors. However, the concealment of a major Latin source whilst crediting Greek ones is different to Vegetius and Palladius, although found in Martianus Capella. The possible reasons and the effects of this are considered in the following chapter.

Chapter 4: Possible Reasons for the Omission of Manilius' Name

The analysis of the *Mathesis*, *Tetrabiblos*, and the *Astronomica* in Chapter 2 concluded that Firmicus Maternus' astrological theory is closer to that displayed in the *Astronomica* than in the *Tetrabiblos*. In particular, Book 8 of the *Mathesis* displays a strong parallel with Book 5 of the *Astronomica* as both texts provide information concerning the *paranatellonta*, which is almost identical. Both texts even include the same astronomical errors. This aspect of astrological theory is not found anywhere else in extant texts. However, Firmicus nowhere acknowledges or names Manilius as the source of this material. Yet Firmicus, as can be seen in the table in Chapter 2 section 2, chooses to name many other authors, predominantly of Greek origin as well as of other eastern regions. Not only does he give the name of these authors, but he also credits them as sources for astrological theories which are not found in their extant texts.⁵⁰⁹ The analysis in Chapter 3 demonstrated that Firmicus establishes his authority predominantly through the use of naming sources. Therefore the question arises why Firmicus includes names of authors whose works he has not read (Ptolemy) and yet does not name or even refer to Manilius. This chapter will consider some possible reasons why Manilius' name is absent from the *Mathesis*, taking into account aspects of transmission, astrological doctrine, and authority. It will also consider the overall effect this omission has on the appreciation of the place the *Mathesis* has within the astrological tradition.

1. Transmission

The most straightforward explanation for the omission of Manilius' name in the *Mathesis* would be that Firmicus was unaware of the name of his source. Therefore it is important to consider the textual history of the *Astronomica* to see if it is plausible that it was available during the fourth century and that Firmicus could have had access to it. The availability of the *Tetrabiblos* will also be considered since Firmicus specifically credits information to this source incorrectly.⁵¹⁰

⁵⁰⁹ Firmicus for example credits the theory of *antiscia* to Ptolemy despite there being no reference to this term within the *Tetrabiblos* (*Math.*2.29.2). See Chapter 2 section 3.1.5.

⁵¹⁰ The astrological theory of this text was compared with that of the *Mathesis* in Chapter 2.

1.1 Astronomica

The *Astronomica* does not appear to have been a well-known text. No ancient author quotes Manilius by name and there are few imitators.⁵¹¹ Goold notes that “had the archetype of the *Astronomica* not survived long enough to provide us with copies of the poem, we should have had no reason to suspect its existence or that of its author.”⁵¹² Although no author names Manilius, it is noted that there are faint echoes of the text, in particular within Stoic circles, which indicate a small level of circulation during the early Principate.⁵¹³ Echoes of Manilius’ text are found in Germanicus, Lucan, Seneca, Valerius Flaccus, and Juvenal.⁵¹⁴ They include the phrases: *Andromedanque necans genitor cum coniuge Cepheus* (Astron.5.23) which relates to *Iasides etiam caelum cum coniuge Cepheus* (Arat.184); *nunc tractum ad medium vergens mundique tepentem* (Astron.1.655) to *quidquid ad Eoos tractus mundique teporem* (Phar.8.365); *quam canibus nova praeda fuit, ducuntur et ipsi* (Astron.5.184) to *noua praeda canibus; qua per obscurum nemus* (Phoen.15); *dura ministeria et tenui discrimine mortis* (Astron.4.570) to *fida ministeria et duras obit horrida pugnas* (Argo.3.710); and also *Persidos et victor, strarat quae classibus aequor* (Astron.1.776) to *audet in historia, constratum classibus isdem* (Sat.10.175). These echoes include all the individual books of the *Astronomica*, with the exception of Book 2, and thus indicate that the majority of the text is extant until at least the early second century.

There are no further references to Manilius until Claudian in the late fourth century. Flores comments that there are similarities between *In Rufinam I* and Book 4 of the *Astronomica* concerning the figure of the emperor.⁵¹⁵ He concludes that it is likely that Claudian is deliberately echoing Manilius’ verses in praise of the emperor.⁵¹⁶ There are also

⁵¹¹ Van Wageningen (1915):xvii attributes this to the difficulty of reading the *Astronomica* and the scientific nature of the text: “restat, ut de scriptoribus, qui Manilium imitati sunt, nonnulla addam. Eorum numerus parvus est, nimirum quia argumenti difficultas multos ab Astronomicis legendis deterruit.”

Pliny the Elder in *Nat.Hist.*35.58 refers to a certain Manilius Antiochus: *talemque Publilium Antiochium, mimicae scenae conditorem, et astrologiae consobrinum eius Manilium Antiochum, item grammaticae Staberium Erotem eadem nave advectos videre proavi*. This individual was considered for a time to be the same person as the author of the *Astronomica* but it has been concluded that this is not the case and it is more probable that he was the father or grandfather of the poet. See Rackham (1989):409n.

⁵¹² Goold (1977):xi. Volk (2009):1 echoes this view. “Not a single contemporary or later Roman writer mentions Manilius.”

⁵¹³ Goold (1977):xiii.

⁵¹⁴ Goold (1977):xiv.

⁵¹⁵ In Green and Volk (2011): 255-260.

⁵¹⁶ Flores (2011):260. “The fact that Honorius, at the time when he was still rising to the throne could already enjoy the title of *Augustus*, makes it more likely that Claudian is deliberately re-echoing verses written by Manilius in praise of the first Augustus.”

similarities in the ideas and language between Claudian and Manilius. Both authors mention the theme of sovereignty and justice in connection with the constellation Virgo.⁵¹⁷ In addition, whilst describing Honorius, Claudian uses the same characteristics which Manilius gives for those who are born under the sign of Virgo.⁵¹⁸ Regarding the two authors' use of language Flores notes that there is a similarity between *sub iuga venturi reges* (*In Ruf.*375) and *imponetque iugum terris* (*Astron.*4.550).⁵¹⁹ He concludes that "Claudian is alluding to Manilius' description of Virgo and Libra as signs associated with justice and rule."⁵²⁰ This correlation indicates that Book 4 of the *Astronomica* is still available during the fourth century.

Lexical parallels are also found between the *Astronomica* and another fourth century author, Ausonius, whose *Eclogues* considers star lore in connection with the calendar and its associated calculations. Green notes that there are echoes of Germanicus, Quintus Cicero, and Manilius within the *Eclogues*.⁵²¹ In the line *octavum instaurat revolubilis orbita Solem* (*Ecl.*1.12) Ausonius uses the term *revolubilis* which is also found in Manilius' line *et rapit immensum mundi revolubilis orbem* (*Astron.*1.330).⁵²² Ausonius also uses the term *tropicus* to denote both equinoxes and solstices: *nonaginta dies et quattuor ac medium sol/ conficit, a tropico in tropicum dum permeat astrum* (*Ecl.*8.1-2). This term denotes the same meaning in the *Astronomica*: *idcirco tropicis praecedunt omnibus astra/ bina* (*Astron.*2.178-9); *quae tropica appellant, quod in illis quattuor anni/ tempora vertuntur signis nodosque resolvunt* (*Astron.*3.621-2).⁵²³ This is an unusual use of the term *tropicus* as it conventionally only refers to the solstices when the sun passes over the Tropics of Cancer or Capricorn, and not the equinoxes.⁵²⁴

Echoes of the *Astronomica* are also found at the beginning of the fifth century. Van Wageningen suggests that Martianus Capella must have read Manilius since Book 8 of the *De*

⁵¹⁷ Flores (2011):259. "As for Virgo, the sign between Leo and Libra to which Claudian's Iustitia is told to return is in Manilius likewise associated with sovereignty and justice."

⁵¹⁸ Flores (2011):259. The two passages are *qui subiget Medos, qui cuspide proteret Indos* (*In Ruf.*374) and *alta per imperium tribuit fastigial summum* (*Astron.*4.544).

⁵¹⁹ Flores (2011):259. He also comments that "the verb *vergit* of *In Rufinum* 1.364 comes from Manilius 1.655."

⁵²⁰ Flores (2011):260.

⁵²¹ Green (1991):xxi.

⁵²² Green (1991):422. See *Ecl.*1 in Green and *Ecl.*8 in Evelyn-White. Green notes that "this poem explains the planetary names given to the days of the week in an elaborate style, marked by the careful variation of expression and the use of choice epithets."

⁵²³ Green (1991):426. See *Ecl.*14 in Green and *Ecl.*15 in Evelyn-White.

⁵²⁴ Barton (1994):89.

Nuptiis resembles Book 4 of the *Astronomica*.⁵²⁵ Since Claudian, Ausonius and Martianus all hail from different parts of the Empire (Claudian from Alexandria, Ausonius from Gaul, and Martianus from Africa), these echoes of the *Astronomica* within their texts indicate that the text is not only still extant but also circulating with a readership during the late fourth and early fifth centuries. It is thus plausible that the *Astronomica* is circulating whilst Firmicus is writing the *Mathesis* and he could have had access to it.⁵²⁶

After the early fifth century there are no further references to the *Astronomica*. It was rediscovered in the fifteenth century by Poggio Bracciolini whilst he was searching for manuscripts in western European libraries and he produced the first modern version of the text.⁵²⁷ There is some confusion concerning the name of the author as manuscript M has lost its first leaf.⁵²⁸ The subscription to Book 2 adds *Boeiii* to *M. Manlii* which confuses Marcus Manilius with Boethius, since his full name contains Manlius.⁵²⁹ This indicates that although the *Astronomica* appears to be available during the time Firmicus is writing the *Mathesis*, it is uncertain whether Manilius' name is known at this time.

1.2. Tetrabiblos

Ptolemy's *Tetrabiblos* is much more well-known than the *Astronomica*. Robbins notes that "from his own day well into the Renaissance Ptolemy's name was well-nigh pre-eminent in astronomy, geography and astrology alike."⁵³⁰ The *Tetrabiblos*, containing Ptolemy's work on astrology, was the dominant text for astrology for over a thousand years. The extent of the

⁵²⁵ Van Wageningen (1915):xix. "Fortasse initio saeculi quinti Martianus Capella Manilium legit, nam scribit VIII 812 *haec enim verecundae arbitror probitatis motus cursusque proprios ipsis edisserere qui moventur docereque deos velle quod faciunt* quae verba videntur respicere ad Man. IV 915sq. sed post eum nusquam mentio fit neque Manilii neque eius operis."

⁵²⁶ As mentioned in Chapter 1, it is not known for certain where Firmicus is writing the *Mathesis*, only that he is a native of Sicily. However, the fact that Manilius appears to be known in Gaul, Africa and Egypt suggest that it is possible for Firmicus to acquire the *Astronomica* wherever he is in the Empire.

⁵²⁷ See Volk (2009):2ff.

⁵²⁸ Reynolds and Wilson (1974):235. This manuscript is one of three on which the text rests (L, G, and M). It was written for Poggio by a local scribe during the Council of Constance and is "the most honest but most corrupt of the three."

⁵²⁹ Reynolds and Wilson (1974):237. Gerbert in 983 was a victim of this confusion.

⁵³⁰ Robbins (1940):vii. Also Boll (1894):127. "Die *Tetrabiblos* ist das einflussreichste und am stärksten benutzte Buch der alten Astrologie."

popularity of the text is apparent from the number of commentaries and paraphrases which were produced by subsequent authors.⁵³¹

The first known author to have mentioned Ptolemy is Porphyry in his *Introduction to Ptolemy's Tetrabiblos*, written at the end of the third century.⁵³² In the fourth century Paulus Alexandrinus refers to Ptolemy a number of times within his *Elementa Apotelesmatica*. For example: καὶ τὰς κατὰ Πτολεμαῖον ἀναφορὰς ἐπιλογισαμένους πρὸς τοῖς ἀποτελέσμασιν ἐκθέσθαι (*Elem.Apo.A2*), and ὁ Πρόχειρος δὲ Κανὼν Κλαυδίου Πτολεμαίου παραστήσει τὴν ἀκριβῆ μοῖραν τοῦ Ἡλίου (*Elem.Apo.KH*).⁵³³ In the early fifth century Hephaestion of Thebes is the first known author to calculate horoscopic positions using Ptolemy's work.⁵³⁴ Hephaestion also names Ptolemy a number of times in his text.⁵³⁵ Examples include: καθὼς φησιν ὁ φιλαλήθης Πτολεμαῖος (*Apotel.1.4*); περὶ δὲ τῆς ὠροσκοπούσης μοίρας μέθοδόν τινα ὁ φιλαλήθης Πτολεμαῖος ἐκτίθεται ἣν καὶ ἡμεῖς εὐρίσκομεν σχεδὸν ἐπὶ πάντων συμφωνοῦσαν (*Apotel.2.2.1*); and φυσικῶς καὶ ἐντέχνως καὶ ἐνταῦθα ὁ Πτολεμαῖος σκέπτεται τὰ περὶ θανάτου (*Apotel.2.25.1*).⁵³⁶ Both the *Elementa Apotelesmatica* and the *Apotelesmatica* were written in Egypt, and therefore do not show the geographical extent of Ptolemy's influence.⁵³⁷ John the Lydian of the sixth century also considers Ptolemy to be an authority on astrology.⁵³⁸ He notes: καὶ ὁ θειότατος πρὸ αὐτῶν Πτολεμαῖος (*De Ost.prae.6B*).⁵³⁹ These references show that the *Tetrabiblos* had an active readership in the Greek-speaking world, and one which spans from the composition of the text in the second century AD to at least the sixth century.

The popularity of Ptolemy's *Tetrabiblos* was not just confined to the Greek-speaking world as the text was translated into many languages.⁵⁴⁰ Thorndike mentions that the *Tetrabiblos* was the first of Ptolemy's texts to be translated into Latin by Plato of Tivoli in

⁵³¹ Robbins (1940):vii. There are 35 manuscripts in European libraries of this text. In these manuscripts parts of the *Tetrabiblos* are quoted by other authors including Hephaestion of Thebes. Robbins gives no further details about the citation of Ptolemy.

⁵³² Holden (2006):45.

⁵³³ Text from Boer (1958).

⁵³⁴ Holden (2006):45.

⁵³⁵ Boll (1894):128 "Hephaestion von Theben schreibt in seinem Buch περὶ καταρχῶν die Tetrabiblos von Anfang an oft Wort für Wort aus."

⁵³⁶ Text from Pingree (1973).

⁵³⁷ Bram (1975):324. This is because Ptolemy is also based in Alexandria.

⁵³⁸ Boll (1894):128. "Laurentius Lydus ist dem Ptolemäus sehr häufig gefolgt."

⁵³⁹ Text from Wachsmuth (1897).

⁵⁴⁰ See Dihle (1994):288. These languages are not identified and so the full extent of the text's popularity cannot be determined. Ptolemy's astronomical works are partly extant in Greek, but also in Latin and Arabic translations.

the early twelfth century.⁵⁴¹ The oldest known translation of the *Tetrabiblos* is in Arabic and dates from the ninth century.⁵⁴² This indicates that it is unlikely that Firmicus had access to a Latin translation of the text; he would have to have read it in the original Greek. Holden notes that there is a gap of nearly one century between the composition of the *Tetrabiblos* and Porphyry's commentary which he attributes to Ptolemy's patron Syrus. All of Ptolemy's books are dedicated to this man and Holden considers it possible that the text may have been kept by this family for some generations and that the *Tetrabiblos* was not readily available until the end of the third century.⁵⁴³ He also thinks that Firmicus did not read the *Tetrabiblos* himself.⁵⁴⁴ However, whether Firmicus read the *Tetrabiblos* or not he evidently encountered Ptolemy's name as an astrological writer somehow.

1.3 Mathesis

It is plausible for Firmicus to have known about the *Astronomica*, and probably the name of the author of this text. Since Firmicus names Ptolemy it is evident that he is aware of this author but it is uncertain whether he would have had access to the text. It also appears that the fact that Manilius' name does not appear within the *Mathesis* is in itself not particularly unusual, since other authors, both from the early Principate and Late Antiquity, do not mention his name when echoing his work.

In order to use the material about the *Paranatellonta*, Firmicus would first have had to acquire a copy of the *Astronomica*. There are three options: he owns a personal copy; he borrows a copy from friends, possibly including his dedicatee Mavortius; or he searches for the text in a library. Firmicus may or may not have had a personal copy as this would have depended on cost and whether a book seller had a copy of the text. Firmicus may have borrowed the *Astronomica* from Mavortius. However, if Mavortius owned a copy, then he might be aware of where the material about the *Paranatellonta* came from.⁵⁴⁵ This means that it would not be logical for Firmicus to exclude the name of the source. There is the possibility that Firmicus acquired the material from a text in a library. Roman libraries had sections for

⁵⁴¹ Thorndike (1923):110.

⁵⁴² Robbins (1940):xiv.

⁵⁴³ Holden (2006):45.

⁵⁴⁴ Holden (2006):45. "Vettius Valens, who lived in Alexandria for about twenty five years after the completion of Ptolemy's books, had never heard of him."

⁵⁴⁵ This is assuming that Mavortius had read all the texts that he might have owned and not kept them simply for status purposes.

Greek and Latin texts; the number of Greek texts stored in Roman libraries was a fraction of what was available, but the majority of Latin texts could be found.⁵⁴⁶ This means that it was questionable as to whether a particular library would have the required texts, but there was a greater probability that a Latin text would be available. The split between the eastern and western halves of the Empire led to the eastern libraries only stocking texts in Greek, and the western libraries only in Latin.⁵⁴⁷ This would therefore hinder Firmicus' efforts to locate material written by both Latin and Greek authors, due to the fact that the best place to find Greek texts was Alexandria, whereas for Latin texts it was Rome.⁵⁴⁸ This would mean that Firmicus would possibly have needed to travel to both Rome and Alexandria in order to find all the texts he required. He may not have been able to undertake such a journey, but on the other hand Mavortius may not have been able to make the journey either and so any inaccuracies in the *Mathesis* may have gone unnoticed by his patron.

Firmicus draws predominantly on material from Book 5 of the *Astronomica* and so the possibility exists that he only had this book, or an incomplete version of the text without the name of the author attached. In this case he would have been unable to credit his source by name. However, the transmission of the *Astronomica* indicates that all books of this text were available in this period as other authors were using them, and so it appears unlikely that Firmicus only had Book 5. Even if Firmicus were unaware of the name of his source, it would have been a simple matter to have stated "a certain author" or even "a certain Roman" in place of the name. Even more simply, Firmicus could alternatively have indicated that a source of some kind was used and mentioned "a book" or "a theory". However, as Firmicus does not reference sources in this manner elsewhere in the *Mathesis*, including such a reference would be unusual. All the sources are named specifically or are referred to in general terms, such as the Greeks, or the Egyptians.⁵⁴⁹ However, it would be in Firmicus' interest to allude to Manilius, either by name or indirectly, since it would indicate that he located and consulted one more source for his compilation of astrological theories, thus adding to the completeness of the text. This would increase his own credentials as an astrological author.⁵⁵⁰ Therefore it is unlikely that Firmicus omitted Manilius' name from the *Mathesis* simply due to ignorance of the name.

⁵⁴⁶ Casson (2001):95.

⁵⁴⁷ Casson (2001):121.

⁵⁴⁸ Casson (2001):102.

⁵⁴⁹ See the table in Chapter 2 section 2.

⁵⁵⁰ See Chapter 3 section 4

Firmicus' intended audience may also have affected the omission of Manilius. It is possible that Firmicus chose not to name Manilius as a source due to the unfamiliarity of the *Astronomica* within general Roman culture. Since no other Roman or Greek author mentions Manilius' name or his text, readers of the *Mathesis* may not have encountered Manilius or the *Astronomica* before; the name would be unfamiliar to them. If the reader does not recognise the source then its inclusion may not be valued sufficiently to increase Firmicus' reputation and authority and so there would be little point for him to give the source.⁵⁵¹ However, as shown above, the *Astronomica* is known in the fourth century and thus the text must have had some readers. Manilius would not be an author read by many but it is possible that some readers of the *Mathesis* would know the name or recognise the material. It is also conceivable that if the reader were interested enough in astrology then they would search for the text themselves. Firmicus states that he has written the *Mathesis* for Mavortius: *nos tibi soli edidisse sufficiat artificium horum librorum, quos tibi mandamus* (Math.8.33.4). Therefore it follows that the text is written primarily for the benefit of Mavortius, an individual who appears to have a strong interest in the cosmos and its varied phenomena. Firmicus describes how Mavortius has a wide knowledge base and is able to understand complex concepts such as the Great Year:

quantis etiam conversionibus maior ille quem ferunt perficeretur annus, qui quinque has stellas, Lunam etiam et Solem locis suis originalibusque restituit, qui mille et quadringentorum et sexaginta et unius anni circuitu terminatur (Math.1.prae.5).

Given his interest, Mavortius could have either heard of Manilius, read the *Astronomica* himself, or have even been suitably enthusiastic to look for the text. In this case Firmicus would not lose anything with the inclusion of Manilius' name as it is likely that his primary reader would appreciate the source. In addition, it is possible that the rarer the source, the greater the appreciation, as this would indicate a higher level of education on Mavortius' part.

Therefore, although it is the simplest explanation, it is unlikely that Firmicus omitted Manilius' name from the *Mathesis* because of ignorance about the source, whether his own or that of his reader.

⁵⁵¹ This is particularly the case if there is potential for him to then claim the work as his own. This option will be considered in section 3.1.

2. Theory

The next set of possible reasons why Firmicus omits Manilius' name from the *Mathesis* concerns the astrological theory itself. Firmicus may not have wanted to draw attention to Manilius' theories. This may be because Manilius is a Roman and not an Eastern astrologer, or it may be due to differences in astrological theory between the *Mathesis* and the *Astronomica*.

2.1 Eastern Subject Matter

Firmicus states that the purpose of the *Mathesis* is: *quicquid Aegypti veteres sapientes ac divini viri Babylonique prudentes de vi stellarum ac potestatibus divinae nobis doctrinae magisterio tradiderunt* (Math.1.prae.6). This intention is reiterated at the beginning of the second book: *unde nos omnia quae de ista arte Aegyptii Babylonique dixerunt, docilis sermonis institutione transferemus, ut hi, qui ad explicanda hominum fata formantur, pedetemptim imbuti omnem divinitatis scientiam consequantur* (Math.2.prae.3). Firmicus makes a further statement at the mid-point of the work. On this occasion he focuses solely on the Egyptians: *sed animus divina inspiratione formatus totum conatus est quod didicerat explicare, ut quicquid divini veteres ex Aegyptiis adytis protulerunt, ad Tarpeiae rupis templa perferret* (Math.5.prae.6). These statements clearly show that Firmicus' objective is to transmit astrological theories from the Near East, in particular the theories of the Babylonians and Egyptians. They do not indicate any intention of including astrological theories from any other nation, including Greek or Roman theories. This intention is reinforced throughout the *Mathesis* as Firmicus mentions the Babylonians as a source periodically, and compares the terminology used by the Babylonians and his own terms.⁵⁵² Examples include: *hac ex causa Babylonii ea signa, in quibus stellae exaltantur domicilia earum esse voluerunt* (Math.2.3.4), and *Babylonii enim [in] duodecatemories summam decretorum tribuunt* (Math.3.13.14). Firmicus mentions the Egyptians throughout the text and in particular notes that they have alternate names for the planets. However, the Egyptians are referred to less frequently than the Babylonians. He notes: *sed has stellas non eodem nomine quo nos aut quo Graeci*

⁵⁵² For a full list of text references see Chapter 2 section 2.

Aegyptii nominant (Math.2.2.2). In addition, Firmicus credits two named Egyptian astrologers with aspects of astrological theory: *quare illi divini viri atque omni admiratione digni Petosiris <et> Nechepso, quorum prudentia ad ipsa secreta divinitatis accessit* (Math.3.prae.4). The inclusion of the prominent Nechepso and Petosiris as sources emphasises Firmicus' stated aim of transcribing these particular astrological theories. In this scenario it would have been a logical choice for Firmicus not to include Manilius – neither Egyptian nor Babylonian – as one of his sources. The inclusion of a Roman author in a handbook which states that its focus is near Eastern astrology would have been contradictory.

However, despite this stated intention, Firmicus refers to the Greeks and aspects of Greek theory much more frequently than he does to the Babylonians and Egyptians put together. As the table in chapter 2 shows, Firmicus refers to both Greek astrology in general and a number of specific Greek astrologers. Examples include: *nam apotelesmata et Fronto verissime scripsit et Graecorum libris ac monumentis abundantissime continentur* (Math.2.prae.4), and *Fortunae etiam locus et daemonis, geniturae dominus, quem Graeci oecodespoten vocant, diligenti ratione tractabitur* (Math.4.prae.4). Bram notes that the majority of the astrology in the *Mathesis* is derived from Greek sources.⁵⁵³ These references to the Greeks indicate that Firmicus' statement of intention is false. It can be speculated that Firmicus either wanted his material to sound more exotic than he perceived it to be and so credited the Egyptians with Greek material, or he thought that the material was near Eastern in origin but had been transmitted through the Greeks. In addition, Firmicus refers to a Hebrew source, Abram or Abraham.⁵⁵⁴ Bram notes that this “may refer to the Hebrew patriarch in an attempt to ascribe astrological teachings to ancient wise men.”⁵⁵⁵ Josephus notes:

τὴν τε ἀριθμητικὴν αὐτοῖς χαρίζεται καὶ τὰ περὶ ἀστρονομίαν παραδίδωσι. πρὸ γὰρ τῆς Ἀβράμου παρουσίας Αἰγύπτιοι τούτων εἶχον ἀμαθῶς, ἐκ Χαλδαίων γὰρ ταῦτ' ἐφοίτησεν εἰς Αἴγυπτον, ὅθεν ἦλθε καὶ εἰς τοὺς Ἕλληνας (Ant.Jew.1.167-168).⁵⁵⁶

⁵⁵³ Bram (1975):2.

⁵⁵⁴ Tester (1987):140 notes that Vettius Valens also refers to “Books of Abraham” but that there appears to be no astrological author of that name. It is possible that Firmicus encountered this name through the text of Valens, although he does not credit Valens as a source.

⁵⁵⁵ Bram (1975):311.

⁵⁵⁶ See Stahl (1962):242. Text is from Thackeray (1930).

Although Firmicus does not indicate any intention of recording Hebrew astrology, the fact that Abraham is reputed to have taught the Egyptians means that Firmicus could include it in a treatise about Egyptian and Babylonian astrology without comment. It would show that Firmicus is aware of where Egyptian astrology originated and indicate that he has an even deeper depth of knowledge about the discipline. However, Firmicus does not acknowledge the link between Abram and the Egyptians at any point within the *Mathesis*. Concerning the lineage of the theories he only notes: *omnia enim, quae Aesculapio Mercurius feinhnus vix tradiderunt, quae Petosiris explicavit et Nechepso et quae Abram, Orfeus et Critodemus ediderunt* (*Math.4.prae.5*); *appellatur autem, sicut Abraham designat, Lunae locus* (*Math.4.17.5*); and *quia Solis eum locum esse Abraham simili ratione monstravit et inicum erat, ut a loco Lunae Solis separaretur locus* (*Math.4.18.1*). This means that Firmicus cannot demonstrate his depth of understanding to the reader as they would potentially not be able to make the connection. In addition, if Firmicus only wished to include Egyptian and Babylonian theories, there would be no reason for him to include the material about the *Paranatellonta* from the *Astronomica*. Therefore, since Firmicus includes a number of sources which are neither Babylonian nor Egyptian, and due to the prevalence of Greek astrological theory and the number of references made to both Greek practices and Greek astrologers, it is unlikely that Manilius' name has been omitted from the *Mathesis* because he is neither a Babylonian nor an Egyptian author.

2.2 Planets and the Zodiac

The next set of reasons for Manilius' omission concerns any differences between the astrological theories of the *Mathesis* and *Astronomica*. There is a fundamental difference in how the two texts approach the discipline of astrology. The *Astronomica* focuses on the constellations and in particular the zodiac. The *Astronomica* does not consider the influence of the planets at all, despite promising to do so at a number of points within the text. Two examples in which Manilius states that he will consider the planets in their appropriate location are:

*cuius enim stella in fines in sidere quoque
inciderit, dabit effectus in viribus eius
undique miscenda est ratio per quam omnia constant.*

verum haec posterius proprio cuncta ordine reddam (Astron.2.747-750);

*si bene convenient stellae per signa sequentes;
quarum ego posterius vires in utrumque valentis
ordine sub certo reddam, cum pandere earum
incipiam effectus (Astron.3.155-158).*

This promise is not upheld.⁵⁵⁷ The *Astronomica* covers material that falls predominantly into the astronomical, rather than astrological category. Green notes that after Book 1 of the text the student has yet to learn any astrological elements and it is only within Book 4 that the student first learns anything that can be classed as truly astrological; only astronomical details are covered.⁵⁵⁸ However, the primary focus of the *Mathesis* is on the planets and how they interact with the zodiac. Therefore, the main focus of the *Mathesis* is missing from the *Astronomica* and so there is a disparity between the approaches and theories of the two texts. Firmicus may have felt that Manilius was not an appropriate source to name since their astrological theories differ so much.

In connection to this, Volk comments that Manilius' *Astronomica* is essentially useless as an astrological textbook since he does not discuss actual horoscopes.⁵⁵⁹ Even those who read the text with some knowledge of astrology encounter a number of astrological errors.⁵⁶⁰ Manilius' lack of explanation regarding the role of the planets in astrology creates problems for the application of his theories. Volk notes that "the main task of the astrologer is to determine the exact position of the planets relative to the signs of the zodiac at a given moment and interpret its meaning. Without planets, there is very little scope for astrology."⁵⁶¹ It is therefore possible that Firmicus does not have a high opinion of the *Astronomica* or he does not consider Manilius to be a genuine astrologer. In this scenario Firmicus may consider that the *Astronomica* is an inferior source and to name it would be detrimental to his authority as a compiler and astrologer; he may not wish to be associated with Manilius. However, the inclusion of Manilius would provide a text against which Firmicus could contrast his own. It

⁵⁵⁷ Goold (1977):174n.

⁵⁵⁸ Green (2011):123.

⁵⁵⁹ Volk (2009):126. "The poet's failure – or refusal – to discuss actual constellations of heavenly bodies means that, as pointed out by Housman and others, the *Astronomica* is 'useless' as an astrological textbook, since actual horoscopes (states of *mixtura*) are not discussed."

⁵⁶⁰ Green (2011):121.

⁵⁶¹ Volk (2009):49. For a full discussion regarding potential reasons behind the lack of planets in the *Astronomica* see Volk (2009):48-58 and 116-127.

would give him the opportunity to point out the flaws in the *Astronomica*, through which Firmicus could highlight the merits of the *Mathesis*. It would also indicate that Firmicus is capable of examining various theories and identifying those he considers to be correct. In addition, Firmicus is dismissive of other Latin authors (which will be discussed in section 3.4) and so he could have added Manilius as another example. The focus of the *Mathesis* appears to alternate between the promotion of Firmicus and astrology and so it would be illogical for Firmicus to have omitted Manilius' name for this reason.

2.3 Religion and Fate

It is possible that Firmicus does not want to draw attention to any religious or philosophical ideology within the *Astronomica* and *Mathesis*. Volk notes that the majority of scholars consider the *Astronomica* to express Stoic views about the universe.⁵⁶² This is due to passages such as:

*hoc opus immensi constructum corpore mundi
membraque naturae diversa condita forma
aeris atque ignis, terrae pelagique iacentis
vis animae divina regit, sacroque meatu
conspirat deus et tacita ratione gubernat
mutuaque in cunctas dispensat foedera partes
altera ut alterius vires faciatque feratque
summaque per varias maneat cognata figuras (Astron.1.247-254).*

This passage discusses the four elements and the concept of a single divine spirit which corresponds to Stoic beliefs. As discussed in Chapter 1, one argument that Wendland puts forward for Firmicus' faith is that he is also a follower of the Stoic school.⁵⁶³ This argument is supported by Firmicus' address to those who dispute the validity of astrology in Book 1. Firmicus expounds astral fatalism with the phrases: *vides ut semper ubique fortuna dominetur?* (*Math.*1.7.42); and *quicquid vel facimus vel patimur, totum hoc Fortuna nobis*

⁵⁶² Volk (2009):226. For discussion regarding the parallels between the *Astronomica* and Stoic doctrine see 226-234.

⁵⁶³ Wendland in Norden (1913); Tester (1987):68 adds "the philosophy to which his astrology is suited is, not surprisingly, Stoicism. Not surprisingly because Stoicism was the most successful, the most accepted philosophy at the time because it was immensely adaptable and it was complete."

iudicio conferatur (Math.1.9.3). Followers of Stoicism believe in this astral fatalism and therefore this adds to the question of why Manilius' name is omitted since the *Mathesis* is at least partially compatible with the ideology of the *Astronomica*, regardless of Firmicus' own beliefs.

However, as Chapter 1 discusses, the variety of religious elements in the *Mathesis* means that it is unclear as to what Firmicus' personal beliefs are and so any Stoic connections between the *Astronomica* and the *Mathesis* may be coincidental. The social context in which the *Mathesis* is written may provide a reason for the omission: Firmicus may not want to place a definite religious or philosophical tag onto the work. This may make the text acceptable to a wider range of people and safeguard Firmicus from any future repercussions. If Manilius' name appeared within the *Mathesis* then it could appear to the reader that Firmicus shares Manilius' ideology. If that ideology were out of favour then this could be dangerous for Firmicus and so visible markers such as Manilius' name are excluded. This explanation seems plausible, as Firmicus can use the material about the *Paranatellonta* and a knowledgeable reader could identify it, but without placing Firmicus in any specific religious category. However, this does not explain why Firmicus is dismissive of other Latin authors (which is discussed in section 3.4), and so although this explanation may be part of the reason why Manilius is absent, it is not the full reason.

A further possibility concerning astrological theory is that Manilius' name is not mentioned so that Firmicus has no obstructions to adapt certain aspects of the theory. Although the *Mathesis* demonstrates reverence towards Fate, which corresponds to Stoic thought, there is a subtle shift within the text regarding the role of Fate.⁵⁶⁴ At the beginning of the *Mathesis*, Fate is the primary force which influences mortal lives and Firmicus states: *hinc vario cursu vita hominum fortuna semper decernente transigitur* (Math.1.9.2). At the mid-point of the text, another power appears to be pre-eminent with the Fates now subordinate to this power. Firmicus here states: *per quem cunctis animantibus immortalis anima divina dispositione dividitur, qui solus ianuas aperis sedis supernae, ad cuius arbitrium fatorum ordo disponitur* (Math.5.prae.5); and *deum, qui omnia necessitate perpetuitatis excoluit, qui Solem formavit et Lunam, qui omnium siderum cursus ordinesque disposuit* (Math.7.1.2). These passages indicate that although the Fates govern the lives of

⁵⁶⁴ See Chapter 1 Section 2.

man, they are guided by a higher power.⁵⁶⁵ They also indicate that Fate is possibly not the most important aspect of astrological theory for Firmicus. This subtle shift is distinct from what Manilius writes in the *Astronomica* and also possibly has a profound effect on the acceptability of astrology, which will be considered in section 4.2. Firmicus may have omitted Manilius in order to distance himself from existing works. In this way he could avoid comparisons with his work and instead adapt a theory with little comment. Firmicus could be trying not to draw attention to the fact that astral theory comes into conflict with a number of theories about the world, including Christian ideas.⁵⁶⁶ This explanation is also plausible but does not explain why Firmicus falsely credits Greek authors whilst underrepresenting Latin sources.

3. Authority

The third set of possible explanations as to the omission of Manilius' name from the *Mathesis* concern the establishment of Firmicus' authority as an astrological author and the place of the *Mathesis* within the Latin tradition.

3.1 Own Experience

It is possible that Firmicus is trying to enhance his own authority both as an astrologer and as a compiler and didactic author. There are a number of passages in which Firmicus indicates his expertise to his reader throughout the *Mathesis*. Firmicus, for example, states the following:

haec tibi sunt omnia Mavorti decus nostrum specialiter intimata, nec a nobis aliquid [de me] est praetermissum, quod [non] divini veteres et istius interpretes disciplinae prudentis sollertiae et docti sermonis studio protulerunt (Math.5.7.1).

⁵⁶⁵ Cumont (1912):160 notes "even the theorist Firmicus Maternus, though vigorously asserting the omnipotence of Fate invokes the aid of the gods to enable him to resist the influence of the stars."

⁵⁶⁶ This is dependent on changing views regarding self-determinism and predestination.

This passage demonstrates that Firmicus is aware of the level of detail he is able to impart to his reader. The reiteration of instructions also asserts Firmicus' position as an instructor. Firmicus introduces the section on *Paranatellonta* with the following passage:

neque enim divini illi viri et sanctissimae religionis antistites, Petosiris et Nechepso, quorum alter tenuit imperii gubernacula, cum omnia quae ad huius artis pertinent disciplinam, diligentissimis ac veris interpretationibus explicassent, hoc quod nos edituri sumus, invenire potuerunt (Math.8.5.1).

This passage implies that Firmicus has not only discovered but also mastered an aspect of astrological theory which even the most skilled and renowned Egyptian astrologers, Nechepso and Petosiris, could not manage to understand fully. This places Firmicus' skill on a level with the most prominent astrologers and so enhances his own credibility. His own importance and that of his text are thus increased. The omission of Manilius' name means that Firmicus can present the information about the *Paranatellonta* as his own. Firmicus has already shown within the *Mathesis* that he is aware of what other authors have already written about the discipline. The number of references to these authors emphasise Firmicus' ability to locate and understand a great variety of sources. However, there are few references to Firmicus' own skill as an astrologer. Within the *Mathesis* Firmicus notes that he had a previous career as a lawyer and therefore cannot present a long career as an astrologer. He says: *deserui itaque hoc studium, ne imperitorum ac delirorum hominum convallescente consensu pro alienis utilitatibus excubans maximis me insidiis et maximis periculis discriminibus implicarem (Math.4.prae.2)* and *caelestibus me ac divinis disputationibus adplicarem (Math.4.prae.3)*. Therefore were Firmicus to name Manilius as a source there would be no opportunity to demonstrate his own skills. This passage implies that Firmicus has observed the skies himself to produce the relevant material. Although the addition of another source would add to Firmicus' credentials as a compiler, it would only show that he can regurgitate the work carried out by his predecessors and would not aid with establishing Firmicus' authority as a competent astrologer with experience in the discipline.

3.2 Bilingual Education

The dominance of Greek over Latin sources in the *Mathesis* also emphasises Firmicus' language skills. It is possible that Firmicus wishes to convey to his reader that he is capable

of understanding and working within at least two languages. This would also emphasise his education. Firmicus demonstrates his level of education through the description of the conversation he had with Mavortius prior to undertaking the task of writing the *Mathesis*. He recalls the wide range of topics in that conversation:

scrutatus a me es, sicut meministi, totius Siciliae situm, quam incolo et unde oriundo sum, et omnia, quae veteres fabulae prodiderunt, cum verae rationis explicatione quaesisti: quid vellet esse Scylla, quid Charybdis, quid concurrentium in freto fluctuum turbulenta confusio, quos disiuncta ac separata maria certo horarum tempore ac spatio contraria undarum collisione coniungunt (Math.1.prae.4).

In addition, the inclusion of Hebrew, Egyptian and Babylonian sources implies that Firmicus is conversant in a number of languages, which adds to his authority as a compiler. Firmicus notes that he is from Sicily and so it is important to consider the prevailing language of that region to see whether he would more likely have had access to Greek or Latin sources. Wilson notes that at the end of the Republic Sicily was still fundamentally Greek, but after Latin rights were granted in 14AD the Latin language became dominant for official inscriptions and this trend lasted until the Byzantine era.⁵⁶⁷ However, this adoption did not extend to everyday use as he notes that “Latin never became the dominant language” and that “many Sicilians must have been bilingual.”⁵⁶⁸ Sicily is located in the western half of the Empire, and it could therefore be assumed that this region became predominantly Latin speaking as the two halves of the Empire polarised into Latin and Greek speakers. Although it is noted that Latin was adopted as the language of official business, Greek suddenly reappeared in the fourth century.⁵⁶⁹ In addition, Firmicus is the “only author we know working in Sicily who chose to write in Latin.”⁵⁷⁰ By writing in Latin Firmicus demonstrates ability in that language, but if he included Manilius this would only serve to emphasise Firmicus’ Latin knowledge, yet with the inclusion of many named Greek sources Firmicus can highlight his understanding of Greek.

It is also possible that Firmicus is emphasising his education for the benefit of Mavortius, his dedicatee. Firmicus does not mention where he met Mavortius, but due to

⁵⁶⁷ Wilson (1990):313.

⁵⁶⁸ Wilson (1990):313.

⁵⁶⁹ Wilson (1990):317.

⁵⁷⁰ Wilson (1990):320.

Mavortius' interest in Sicily and its climate, it is apparent that he was not from this region. Therefore, Firmicus may be keen to display the bilingualism of the Sicilians to his dedicatee through the use of Greek sources, such as Ptolemy, but it is not necessary to demonstrate his Latin learning. In addition astrological learning is ascribed partly to the Greeks and so it is possible that Firmicus would gain greater respect as an astrologer if he were to demonstrate the Greek learning behind the discipline. In the *Sphaera Barbarica* written by Nigidius, the legends are mainly Greek, although there is an Egyptian and Mesopotamian case.⁵⁷¹ Therefore, in order to demonstrate that he fully understands astrological theory it is likely that Firmicus would have to demonstrate his ability to read Greek and thus accrue respect from Mavortius. As the Empire is divided into two sections, language becomes a dominant feature for each half (Latin for the western part and Greek in the eastern), and knowledge of the other language begins to decline in each half of the Empire.⁵⁷² Therefore, the bilingualism of Sicily, and the strength of the Greek language, is unusual for the western Empire. The fact that Firmicus appears to be able to understand his Greek sources sufficiently to extract details from them, for example: *nam et Ptolomaeus nullum aliam rationem sequitur nisi antisciorum* (*Math.2.29.2*), highlights Firmicus' level of education. This is a plausible explanation for why Firmicus includes the names of Greek sources which he cannot have read, but does not explain why Manilius and the Latin authors are pushed to the side.

3.3 Support for Theories

A third possible explanation relating to Firmicus' use of authority concerns Firmicus' need to show evidence for his theories. It is noted that the word *antiscia* "used as an astrological term is unique in Firmicus."⁵⁷³ However, this is the term which Firmicus credits to Ptolemy on two occasions, despite the term not appearing at all within the *Tetrabiblos*: *antiscia enim illa vera sunt, sicut et Navigius noster probat, quae et Ptolomaeus [posterior] verae inquisitionis definitione monstravit* (*Math.2.prae.4*) and *nam et Ptolomaeus nullam aliam rationem sequitur nisi antisiorum* (*Math.2.29.2*). Firmicus therefore treats this Greek source in the opposite manner to Manilius. The reason why he includes Ptolemy can be considered as the inverse question of why Manilius is excluded.

⁵⁷¹ Barton (1994):37.

⁵⁷² Tester (1987):98. "In this mainly Latin area, the knowledge of Greek, once a normal part of the accomplishments of a Roman gentleman, declined steadily through the fourth and fifth centuries."; Adams (2002):9 also notes that "upper-class Romans who could not speak Greek are sometimes disparaged."

⁵⁷³ Bram (1975):305.

It is possible that the theory of *antiscia* is a section of astrological theory which Firmicus has either invented or has misunderstood. As discussed in Chapter 2, Ptolemy includes material about signs which command and obey, and signs which behold each other. Tester considers that “Firmicus’ *antiscia* are Ptolemy’s βλέποντα.”⁵⁷⁴ However, the βλέποντα is a markedly different theory from the *antiscia* in the *Mathesis* because the *antiscia* pair up individual degrees of each sign.⁵⁷⁵ In order for this section not to be dismissed or for it to pass as a genuine theory, it is therefore possible that Firmicus feels that he needs to present some form of evidence for the *antiscia* from alternate sources. He does this by citing multiple Greek sources:

antiscia Graecorum sunt nobis magisterio tradita; nam nolo aliquis suspicetur, quod non sit apud Graecos ipse tractatus; nam et Ptolomaeus nullam aliam rationem sequitur nisi antisciorum, et Antiochus, cum dicit, quod enim Libra Arietem propter terram quae media est non videat, quasi per speculum quidem antisciorum rationem attigit; Dorotheus vero Sidonius, vir prudentissimis et qui apotelesmata verissimis et disertissimis versibus scripsit, antisciorum rationem manifestis sententiis explicavit, in libro scilicet quarto (Math.2.29.2).

This passage contains one of the most concentrated references to sources in the *Mathesis* and also reiterates a passage at the beginning of Book 2. Overall Firmicus logs the theory of *antiscia* with Fronto, Hipparchus, Navigius, Ptolemy, Antiochus, and Dorotheus of Sidon. This variety of sources indicate that the *antiscia* are well documented in astrological theory, despite the term not appearing anywhere other than in the *Mathesis*. Firmicus even indicates the precise location of the *antiscia* theory within Dorotheus’ text: *in libro scilicet quarto (Math.2.29.2).*⁵⁷⁶ He also provides an example from Antiochus: *cum dicit, quod enim Libra Arietem propter terram quae media est non videat, quasi per speculum quidem antisciorum rationem attigit (Math.2.29.2).* These details give the impression that Firmicus has read the texts of all of these authors. This increases his authority, and the repetition of the *antiscia* theory adds to its validity. On the other hand, Manilius has already written about the

⁵⁷⁴ Tester (1987):136.

⁵⁷⁵ The *Astronomica* also considers signs which see, hear, love and hate one another, which uses similar principles to the *antiscia* of the *Mathesis* but is not an identical theory.

⁵⁷⁶ The *Pentateuch* is not intact. There is an Arabic version that has been translated but “the fourth book is incomplete and contains nothing about antiscions” Holden (2011):79n. It is therefore impossible to verify Firmicus’ reference.

Paranatellonta and is part of astrological doctrine.⁵⁷⁷ Therefore Firmicus does not need to prove that it is a legitimate theory. There is no obstruction for Firmicus to adopt the theory himself and present it as his own work, but if the validity of the theory were challenged then it would be possible for Firmicus to produce other examples.

It is also possible that Firmicus may need to include certain sources in order to add validity to the *Mathesis*. As noted above, Ptolemy was the pre-eminent authority in astronomy and astrology for a thousand years. It is possible that Ptolemy's name was already known to anybody with an interest in these disciplines and that in order to be recognised as an astrological author, it is necessary to include Ptolemy and his theories. Firmicus thus names Ptolemy on three occasions despite making errors with the theory. Although Ptolemy is not mentioned with the greatest frequency out of all the named sources (Fronto and Plato are mentioned more often), this source is more frequent than authors such as Dorotheus, Aratus and Plotinus.⁵⁷⁸ This seems to be a plausible explanation for why Firmicus includes authors such as Ptolemy and Dorotheus which he has either not read, not understood, or misinterpreted.

3.4 Latin Tradition

Another possible reason why Firmicus omits Manilius' name is connected to the place of the *Mathesis* within the Latin tradition of astrological and technical writing. It is conceivable that Firmicus wishes to downplay any previous Latin tradition of astrology. There are additional comments within the *Mathesis* which support this. At the beginning of Book 2 Firmicus mentions previous authors and their theories and shows how his own text will fit into this tradition:

Fronto enim noster Hipparchi secutus antiscia ita apotelesmatum sententias protulit, tamquam cum perfectis iam et cum peritis loqueretur, nihil de institutione, nihil de magisterio praescribens. sed nec aliquis paene Latinorum de hac arte institutionis libros scripsit nisi paucos versus Iulius Caesar et ipsos tamen de alieno opere mutuatus, Marcus vero Tullius, princeps ac decus Romanae eloquentiae, ne quid intemptatum relinqueret, quod fuisset

⁵⁷⁷ The *Paranatellonta* are also known as the *Sphaera Barbarica* and are mentioned by Nigidius Figulus. Barton (1994):37.

⁵⁷⁸ See the table in Chapter 2 section 2.

divinum eius ingenium assecutum versibus heroicis etiam ipse de institutione pauca respondit. unde nos omnia quae de ista arte Aegyptii Babylonique dixerunt, docilis sermonis institutione transferemus, ut hi, qui ad explicanda hominem fata formantur, pedemptim imbuti omnem divinitatis scientiam consequantur (Math.2.prae.2-3).

Holden suggests that *Fronto noster* means either that Firmicus knows this author personally, or that Fronto writes in Latin.⁵⁷⁹ However, the identity of this author has not been confirmed, and a number of individuals have been suggested. Bram considers that Fronto may be a corruption of Fonteius Capito who followed Antony to Egypt with Nigidius and Varro and is known to have written on astrology.⁵⁸⁰ Marcus Cornelius Fronto, active in the early to mid-second century AD, although renowned for his oratory, does not appear to have written any astrological texts.⁵⁸¹ There is another Fronto who is recorded to have been healed by St Antony.⁵⁸² St Athanasius records:

εἰς γοῦν Φρόντων καλούμενος, ἀπὸ παλατίου τυγχάνων καὶ πάθος ἔχων δεινόν (τήν τε γὰρ γλῶτταν ἑαυτοῦ κατήσθιε καὶ τοὺς ὀφθαλμοὺς ἔμελλε βλάπτεσθαι), εἰσελθὼν εἰς τὸ ὄρος, ἡξίου τὸν Ἀντώνιον εὐξασθαι περὶ αὐτοῦ (V.Ant.57).⁵⁸³

However, this text is written c.356-362 and thus postdates even the latest date put forward for the composition of the *Mathesis*.⁵⁸⁴ Therefore this cannot be the Fronto to whom Firmicus is referring. This passage indicates that although there is at least one other text about astrology, it is for more advanced learners, which provides a convenient niche for Firmicus' *Mathesis*. Although Firmicus says that he has written the text for Mavortius, he also makes preparations for the text to circulate. He asks Mavortius: *quapropter filiis tuis trade, quia illos a prima aetate ad omne officium virtutis instruxisti, et tuis trade amicis, sed quod tibi fida amoris necessitudo coniungit, quos scis exempla tuae virtutis imitari (Math.8.33.3)*. Therefore this implies that Firmicus is writing a much needed text and thus emphasises the significance of the *Mathesis* within the Latin tradition.

⁵⁷⁹ Holden (2011):43n.

⁵⁸⁰ Bram (1975):305.

⁵⁸¹ Hornblower and Spawforth (2003).

⁵⁸² Jones, Martindale and Morris (1971):375.

⁵⁸³ Text from Bartelink (1994). The spelling of the man's name is inconsistent probably due to the fact that it is transliterated from Coptic, see Garitte (1949). In the *PLRE* he is recorded as Fronto.

⁵⁸⁴ See Chapter 1.

This passage also shows Firmicus actively dismissing the astrological theory which had already been written in the Latin language. Firmicus' statement *nec aliquis paene Latinorum de hac arte institutionis libros scripsit* effectively wipes from the record such texts as Manilius' *Astronomica*, Pliny the Elder's *Naturalis Historiae*, Ovid's *Fasti* and Censorinus' *De Die Natali*. The focus of these texts is predominantly on astronomical rather than astrological categories and therefore they are not directly applicable to the material in the *Mathesis*. However, the material covered within these texts is still within the same broad discipline as the terms *astrologia* and *astronomia* are used interchangeably.⁵⁸⁵ Yet Firmicus dismisses them from consideration. The phrase *nec aliquis paene* is the closest indication that Firmicus makes towards the fact that other Latin authors may have dealt with the topic of celestial phenomena, but it is suitably vague to discourage any further consideration of them.

Firmicus admits that two authors have considered astrology in their writings: Cicero and Caesar. However, Firmicus refers to a *Julius* Caesar who is not known to have written a text concerning celestial phenomena. Bram notes that some have assumed that Firmicus is referring to the calendar treatise *De Astris* but that the prevailing view is that this text is written instead by Sosigenes, Caesar's Egyptian informant.⁵⁸⁶ It is also suggested that this reference to Julius Caesar is in fact an error on Firmicus' part and that this is actually a reference to the Latin translation of Aratus' *Phaenomena* by *Germanicus* Caesar.⁵⁸⁷ This is supported by the reference to Cicero, who also produced a translation of the *Phaenomena*. This inaccuracy indicates a level of disdain for the Latin tradition of astronomical writing. Firmicus either does not care sufficiently to ensure that the correct source is credited, or he is deliberately hindering his reader from any further access to it. There is one other passage in which Firmicus mentions Cicero and Caesar. He notes: *executus est etiam horum numerum siderum Graece Aratus poeta disertissimus, Latine vero Caesar et decus eloquentiae Tullius* (*Math.*8.5.3). On this occasion the reference is even briefer, and Firmicus does not clearly indicate to which Caesar he is referring. Cicero is only referred to by his nomen, which, although it can be used to identify him, is not as distinctive as using the name Cicero. Both of these references are very vague and lack the precision which Firmicus uses when he refers to

⁵⁸⁵ The Oxford Latin Dictionary defines both terms as "the science of heavenly bodies, astronomy" (1968):193.

⁵⁸⁶ Bram (1975):305.

⁵⁸⁷ Bram (1975):305 and also Holden (2011):43n.

the Greek sources.⁵⁸⁸ This possibly indicates that Firmicus has a preference for showing use of Greek sources, or he considers that they will be better received by Mavortius.

Firmicus is not only careless regarding the names of his Latin predecessors, but he is also dismissive of the standard of their efforts. This is done through the phrases *nisi paucos versus et ipsos tamen de alieno opere mutuatos* and *versibus heroicis etiam ipse de institutione pauca respondit* (*Math.2.prae.2*). In the first phrase, Firmicus degrades the work done by Caesar by implying that it is just a translation of a previous work and therefore not written after careful research of astrological theories or from careful observations of the skies through personal experience of the discipline. The quantity of work is also questioned with the phrase *nisi paucos versus*. This does not indicate the scale of either Germanicus' translation or the *De Astris* and the effort behind the research for either of these texts. This is contrasted to the amount of research that Firmicus says he did in order to write the *Mathesis*. It also implies that Caesar's text does not add to the understanding of astrology and is as such inferior to the *Mathesis*. In the second phrase, *versibus heroicis etiam ipse de institutione pauca respondit*, Firmicus implies that Cicero did not write very much about astrology, and that it is inconsequential. He does not mention that Cicero had produced a translation of the *Phaenomena* himself, a substantial work. Although Firmicus indicates that Caesar's work is a translation, he does not indicate which work has been translated. There is a vague hint with the phrase: *executus est etiam horum numerum siderum Graece Aratus poeta disertissimus, Latine vero Caesar et decus eloquentiae Tullius* (*Math.8.5.3*), which indicates that Cicero and Caesar are writing on the same topic as Aratus. Thus it could be extrapolated that this is the work which the Latin authors translated, but it is not made clear.

There is a second reference to these Latin authors, and this also reiterates that the previous attempts to write about astrology in Latin are not by genuine astrologers. About the works written by Caesar and Cicero Firmicus states: *sed hi nomina ipsarum et ortus, non etiam auctoritatem apotelesmatum ediderunt ut mihi videatur haec non aliqua astrologiae scientia, sed poetica elatos licentia docilis sermonis eos studio protulisse* (*Math.8.5.3*). In this passage Firmicus comments that the works by Cicero and Caesar are only written for poetic purposes. This serves to remove both authors from the category of being serious astrologers, which thus shows that Firmicus is openly dismissive about these authors. He trivialises any

⁵⁸⁸ Cf *Math.2.29.2*. Firmicus notes the specific book of Dorotheus' in which the *antiscia* theory should be present.

previous texts concerning astrology and astronomy written in Latin as poetic fancies using the phrase *poetica licentia*. Attitudes of prose writers towards poetic exercise during the third and fourth centuries are varied. It is noted that “poetry enjoyed status as an awordly authorising discourse within oratory.”⁵⁸⁹ For example, Nazarius states: *non hinc tecum Lynceus ille certaret qui, ut poetae ferunt, parietum saepa et arborum truncus visu facile traiciebat* (*Pan.Lat.IV(10).11.5*). Alternatively, reference to poetic exercise is used as a rhetorical formula by prose writers and shows neither praise nor disdain. An example is from the late third century: *neque enim fabula est de licentia poetarum nec opinio de fama veterum saeculorum, sed manifesta res et probata* (*Pan.Lat.X(2).1.3*). However, there are instances of prose writers from this period referring to poetic exercise with an attitude of some disdain. For example, Pacatus says: *ut haec esse vera credamus quae mendaciis vatium in plausus aptata cavearum fidem tempori debent* (*Pan.Lat.II(12).17.2*). Therefore there is some negative reference to the poets in order to assert the authority of the prose writer.⁵⁹⁰

This attitude can be related to Manilius. Since the *Astronomica* is a verse text, Firmicus may have considered it to be a trivial work and not a serious piece of astrological writing. For this reason he may have omitted Manilius’ name. The opening lines of the *Astronomica* state the purpose of the work, complete with the call for divine inspiration:

*carmine divinas artes et conscia fati
sidera diversos hominum variantia casus
caelestis rationis opus, deducere mundo
aggredior primusque novis Heliconam movere
cantibus et viridi nutantis vertice silvas
hospita sacra ferens nulli memorata priorum* (*Astron.1.1-6*).

These lines suggest that the *Astronomica* is written for poetic reasons rather than for instructing a novice in the discipline of astrology. In addition, Manilius mentions a number of times that he is able to wrestle complex numbers and mathematics into verse.⁵⁹¹ Examples are:

⁵⁸⁹ Rees (2004):36.

⁵⁹⁰ Rees (2004):36. “On occasion they [orators] asserted the truth of their own claims by highlighting the extravagance of the poets’.”

⁵⁹¹ See Kennedy (2011):175.

... *speciosis condere rebus*
carmina vulgatum est, opus et componere simplex.
at mihi per numeros ignotaque nomina rerum
temporaque et varios casus momentaque mundi
signorumque vices partesque in partibus ipsis
luctandum est. quae nosse nimis, quid, dicere quantum
carmine quid proprio? pedibus quid iungere certis? (Astron.3.30-35) and

hae mihi signandae proprio sunt carmine partes.
sed quis tot numeros totiens sub lege referre,
tot partes iterare queat, tot dicere summas,
perque paris causas faciem mutare loquendi? (Astron.4.430-433).

These passages indicate that Manilius puts a greater focus on creating a poem containing astrological elements rather than an astrological handbook. Firmicus may be influenced by the attitudes shown in the third century towards poetic works and is therefore disinclined to name Manilius as his source. It is also possible that he may have considered that his authority and credibility would be diminished if he openly used the material of a poet. The omission of Manilius' name solves this problem. However, were Firmicus to name him, he could use the opportunity to contrast the *Mathesis* against the *Astronomica* and highlight how much of an improvement the *Mathesis* is for the Latin astrological tradition. Therefore, this is not an overly plausible explanation.

There is one other possible Latin author whom Firmicus mentions in the *Mathesis*. Firmicus says: *antiscia enim illa vera sunt, sicut et Navigius noster probat, quae et Ptolomaeus verae inquisitionis definitione monstravit* (Math.2.prae.4). There are a number of similarities between Navigius and Fronto, who is discussed above. First, the term *noster* could suggest that this author is another author writing in Latin. Secondly this is "another unknown Roman astrologer."⁵⁹² Bram notes that "there is general agreement that this misspelling refers to Nigidius Figulus, a religious philosopher, Neo-Pythagorean, and friend of Cicero and Caesar."⁵⁹³ This individual would therefore link with the mentions of Cicero and Caesar. It is not clear whether this misspelling is from the transmission of the text or

⁵⁹² Holden (2011):44n. There is no record of a Navigius within the *PLRE*.

⁵⁹³ Bram (1975):305.

whether it is due to Firmicus' inaccuracy. If Firmicus wrote Navigius then there are two possible explanations. First, Firmicus could be being dismissive of this source; he has not recorded it correctly. This inaccuracy would add to the difficulty of a reader trying to locate the source. Secondly, it could indicate that Firmicus has fabricated this source. This reason could also explain the inclusion of Fronto, despite there not being any record of a plausible individual. Firmicus only mentions Navigius on one occasion and the reference is used to support Firmicus' theory of *antiscia*, which, as discussed above, is the element which seems to require the most evidence to prove its credibility. If this is the case then it is possible that Firmicus is fabricating sources in order to support his own theory and so Firmicus would not be able to provide any additional details about the source. The fact that both Fronto and Navigius bear a striking resemblance to actual astrological sources could be a clever ploy to ensure that these sources pass as genuine but cannot be proven to be incorrect as the reader would be unable to check these false sources. Since Firmicus suppresses a source he might be capable of fabricating sources. There are other examples of texts fabricating sources in the fourth century. Syme notes that within the *Historia Augusta* 35 historians and biographers cited whose existence is recorded nowhere else.⁵⁹⁴ The authenticity of these sources is questioned as it is also commented that "it is a suspicious feature that out of this welter of authorities few are named more than once anywhere."⁵⁹⁵ On the other hand, if Firmicus is referring to Nigidius, he also does not mention the fact that Nigidius writes about the *Sphaera Graeca* and the *Sphaera Barbarica* or even use this material alongside the information from Manilius.⁵⁹⁶ If the latter scenario is correct, this demonstrates that Firmicus is pushing previous Latin authors aside and concealing the full extent of the Latin astrological tradition.

3.5 A New Tradition

A number of the possible reasons concerning Firmicus' omission of Manilius, but inclusion of Ptolemy, contain an element of Firmicus wishing to conceal the Latin astrological tradition. The references to Latin authors are infrequent throughout the *Mathesis* and they are riddled with errors, such as the misspellings of Fronto and Navigius and the incorrect crediting of Julius Caesar over Germanicus. It is possible that these misspellings are the result

⁵⁹⁴ Syme (1983):99.

⁵⁹⁵ Syme (1983):103. Barnes (1978) details the sources used in the *Historia Augusta* and the errors within the text.

⁵⁹⁶ Barton (1994):37. The *Sphaera Barbarica* is an alternate term for *Paranatellonta*.

of transmission errors, but it is also possible that these errors were made on Firmicus' part. However, neither option can be ruled out. Firmicus is also dismissive regarding the quantity and quality of the previous works, as his references to Cicero and Caesar show. In addition, he also omits authors such as Ovid. Therefore, the omission of Manilius completes Firmicus' attempt at the dismissal of the Latin astrological record. This dismissal is a plausible reason for the omission of Manilius' name from the *Mathesis*.

The dismissal and concealment of the Latin astrological tradition opens a niche into which the *Mathesis* can fit. It is thus possible that Firmicus may have omitted Manilius' name in an effort to remove Manilius and the *Astronomica* deliberately from the record so that he may place himself as the principal astrological Latin writer. Without the competition from the *Astronomica*, the *Mathesis* would appear to be a sufficiently unique work to heighten its significance. Firmicus makes further comments which imply that his text is the first of its kind. He notes:

perlecta pariter atque collecta et contrariis sententiarum diversitatibus comparata illis perscriptis libris divinam scientiam Romanis omnibus intimantes, ut hoc, quod quibusdam difficillimum videbatur propter Latini sermonis angustias, ostensa Romani sermonis licentia veris ac manifestis interpretationibus explicarem (Math.4.prae.5).

This passage implies that until now there has been no need to acquire and develop the necessary vocabulary to deal with astrological concepts; the terminology has not been translated. Firmicus infers that he is the first to collate these theories and present them to a Roman audience. This serves both to erase any previous Latin astrology and actively place Firmicus as the creator of a new tradition in Latin. In addition, the passages in which Firmicus states the aim for the text: *editurum me, quicquid Aegypti veteres sapientes ac divini viri Babylonique prudentes de vi stellarum ac potestatibus divinae nobis doctrinae magisterio tradiderunt (Math.1.prae.6)* and *unde nos omnia quae de ista arte Aegyptii Babylonique dixerunt, docilis sermonis institutione transferemus (Math.2.prae.3)*. These give the impression that Firmicus has needed to collect each theory individually instead of transcribing them all from an existing text. He also comments about Fronto's intended audience: *nihil de institutione, nihil de magisterio praescribens (Math.2.prae.2)*. This shows that there is a convenient place for the *Mathesis* within Latin literature. The *Mathesis* is a comprehensive guide to the discipline suitable for all levels of learner, not just for those with

prior knowledge. Firmicus also remarks on the history of the *paranatellonta* in Latin literature: *plenissimam huius artis disciplinam, multis Graecis et omnibus Romanis incognitam, ad quam usque in hodiernum diem nullius adspiravit ingenium* (*Math.8.5.1*). This statement clearly defines where Firmicus is placing his text in the corpus of astrological literature; the *Mathesis* is meant to be the “first” of its kind. In order for this placement to be effective Firmicus needs to downplay the existing tradition. Hence he is dismissive of two famous authors and excluding Manilius’ name entirely. Since Firmicus does not add anything new to the theory of the *Paranatellonta*, nor correct any of Manilius’ errors, he can gain the credit for this material and place the *Mathesis* as an innovative text, instead of one which simply reproduces older material.⁵⁹⁷

It is also possible that Firmicus has ignored the Roman authors as astrology is not considered a particularly “Roman” discipline. Tester notes that “astrology was always for the Romans as for later ages, a foreign, an eastern art. There is no evidence for any indigenous Roman astrology.”⁵⁹⁸ Despite a strong tradition of divination, star-gazing was not the preferred method until much later.⁵⁹⁹ The law codes also indicate that there was always an element of suspicion amongst the Romans concerning astrology. Astrologers were amongst those expelled from Rome during periods of unrest and various decrees had been passed which limited what astrologers could practice, beginning with the Augustan edict of 11AD.⁶⁰⁰ Firmicus can be seen to combat this attitude as the majority of Book 1 of the *Mathesis* is dedicated to refuting the arguments which have been put forward questioning the validity of the discipline. Firmicus notes:

nihil aliud agere debemus, nisi ut his respondeamus, qui totam vim matheseos multiplici orationum genere labefactare conantur, qui sententiis ac disputationibus suis omnem philosophiam divinamque scientiam putant se posse elati sermonis auctoritate perfringere (*Math.1.1.1*).

The opponents to whom Firmicus is addressing this are not named, so it is unclear whether Firmicus is responding to Roman fears or all opponents from across the known world, as by

⁵⁹⁷ For a full comparison of errors made refer to Chapter 2 section 3.1.3.

⁵⁹⁸ Tester (1987):49.

⁵⁹⁹ Tester (1987):50.

⁶⁰⁰ See the *Theodosian Code* Section 16ff

the third century anti-astrology treatises were frequent.⁶⁰¹ The Greeks credited Egypt with wisdom due to the antiquity of their culture which developed into the idea that Egypt was the land of hidden knowledge. Thus Egypt became known as the birth place of astrology and magic.⁶⁰² This concept was transferred to Roman culture and so Firmicus may be using this attitude in order to give astrology a new start in the Latin tradition, with himself at the forefront. In this way the *Mathesis* can be seen to be a text of self-promotion for Firmicus rather than a text to promote astrology. Although this theory may explain the lack of Manilius' name within the *Mathesis*, it does not fully explain why Firmicus credits Ptolemy and Dorotheus of Sidon falsely.

It is not possible to determine why Firmicus does not name Manilius as a source; options can only be considered for plausibility. In my opinion the most plausible explanation for this omission is that Firmicus is trying to promote himself as the start of a new astrological literary tradition, and so is concealing any elements of a previous tradition. In addition, I believe he is using the authority that is associated with the Greek authors of Ptolemy and Dorotheus to solidify his own authority.

4. Effects

Although Firmicus' intentions cannot be ascertained, the effects that result from the omission of Manilius can be observed and discussed. These effects relate both directly to Manilius and to the place of the *Mathesis* as an astrological didactic text within Latin literature.

4.1 A Diminished Tradition

A major effect, whether intended or not, is that the Latin astrological tradition is diminished. Within the *Mathesis*, the majority of the emphasis is placed on astrology as an Eastern discipline. Firmicus highlights the Egyptians and Babylonians with his statements that he intends to collate and transmit their theories. The Greeks also receive some of the focus due to the sheer number of times that Firmicus refers to them in order to provide an example or

⁶⁰¹ Denzey (2003):215.

⁶⁰² Dieleman (2003):141. It is also noted that "in the time of Clement of Alexandria Egypt was generally seen as the cradle of astronomy and astrology."

comparison. There are a number of occasions where Firmicus comments on the Greek term for an aspect of theory, for example: *quae planetae a Graecis vocantur* (*Math.*1.10.5). Firmicus therefore perpetuates the notion that astrology is a particularly Eastern discipline. The paucity of references to Latin authors, and the little indication that astrology has been part of Roman culture, whether welcome or not, for a few hundred years, means that the Latin culture fades into the background and is forgotten.

Another major effect is that both Manilius and the *Astronomica* disappear from literary records and do not reappear for nearly a thousand years. By not naming Manilius as a source, Firmicus does not help the text survive at all but can be said to assist in the disappearance of the *Astronomica*. Linked to the fate of the *Astronomica* is the effect that Firmicus appears to have written the first comprehensive Latin guide to astrology, and in particular one which focusses on horoscopes.⁶⁰³ Without the *Astronomica*, Firmicus receives the full attention of readers who want to learn about astrology. In addition, the *Mathesis* is sufficiently comprehensive that there is not another Latin treatise written on the discipline. It is noted that “it is the last ancient Latin source.”⁶⁰⁴ This means that Firmicus not only appears to be the first, but also the last author regarding the discipline; his are the theories which are handed down, his is the voice of authority on the subject.⁶⁰⁵ Firmicus is never compared to Manilius which could be a result of Firmicus not mentioning Manilius in the *Mathesis*. The two authors are considered separately: Firmicus as a Late Antique author and Manilius as a verse author from the Early Principate. They are not compared together as astrological authors. It is noted that “the most popular authority in astrological matters in the fifteenth century was probably Manilius, after his rediscovery by Poggio in 1416, with Firmicus Maternus always there also.”⁶⁰⁶ However, Firmicus was rediscovered a lot earlier than Manilius, with manuscripts circulating in the eleventh century and would therefore have been the most popular until Manilius surfaced once more.⁶⁰⁷ This would indicate that the reason for the pre-eminence of the *Mathesis* at the time lies in the fact that the *Astronomica* was unavailable. Firmicus was very popular during the Middle Ages and there were numerous copies of the

⁶⁰³ Putting aside the fact that constructing horoscopes is the primary focus of the *Mathesis* whereas the *Astronomica* looks predominantly at constellations.

⁶⁰⁴ Tester (1987):133.

⁶⁰⁵ Even with the tightening restrictions it was technically still possible to write about astrology. This will be discussed in section 4.2.

⁶⁰⁶ Tester (1987):210.

⁶⁰⁷ Tester (1987):133.

text available during this period.⁶⁰⁸ There are also a number of references made concerning Firmicus as an authority on astrology. The earliest recorded is Sidonius Apollinaris, who notes:

*nam ita his, ut sic dixerim, membris philosophiae claret ut videatur mihi Iulium Firmicum, Iulianum Vertacum, Fullonium Saturninum, in libris Matheseos peritissimos conditores, absque interprete ingenio tantum suffragante didicisse (Carmen.22.3).*⁶⁰⁹

This indicates that by the fifth century Firmicus is named as one of the most skilled among writers of astrology. It is interesting that Manilius is not named in this group; already Firmicus is placed above Manilius. It is noted that Isidore of Seville obliquely references Firmicus in the sixth/seventh century through the use of the term *Mathesis*.⁶¹⁰ Isidore notes:

*sed nonnulli siderum pulcritudine et claritate perlecti in lapsus stellarum caecatis mentibus conruerunt, ita ut per subputationes noxias, quae mathesis dicitur, eventus rerum praescire posse conentur: quos non solum Christianae religionis doctores, sed etiam gentilium Plato, Aristoteles, atque alii rerum veritate conmoti concordi sententia damnaverunt, dicentes confusionem rerum potius de tali persuasione generari (Etym.III.lxxi.39).*⁶¹¹

The next references to Firmicus are not until the twelfth century. William of Malmesbury records that Gerbert of Aurillac (Pope Sylvester II, died 1003): *ibi vicit scientia Ptholomeum in astrolabio, Alhandreum in astrotum interstitio, Iulium Firmicum in fato (GR.167.2).*⁶¹² He also records that Gerard of York (died 1108): *qui etiam maleficiis dicitur inservisse, quod Iulium Firmicum secreto et postmeridianis horis lectitaret (GP.118.2).* Lastly Daniel of Morley states to Gerard of Cremona before 1175 that he had read Firmicus.⁶¹³ Not one of these references to Firmicus mention Manilius and so it appears that Firmicus is pre-eminent in the period before Manilius resurfaced. It is also noted that “both Ptolemy’s and Firmicus’

⁶⁰⁸ Bram (1975):6. “There were numerous copies current in the Middle Ages attesting the popularity of Firmicus’ work.”

⁶⁰⁹ Text from Loyen (1960).

⁶¹⁰ Lucas (2003):11. “Isidore’s use of the term *Mathesis* to refer to astrology comes from much older astrological sources.”

⁶¹¹ Text from http://penelope.uchicago.edu/Thayer/L/Roman/Texts/Isidore/3*.html#3

⁶¹² In Mynors (1998).

⁶¹³ Rose (1874):349. *At ille patienter expectans tandem, Legisti, ait, unquam Iulium Firmicum?* (Philosophia magistri danielis de merlai ad iohannem Norwicensem episcopum.); Tester (1987):142 also notes that Firmicus was also named and quoted by Marbod of Rennes in the late eleventh century (*PL.col.1705*). This suggests that his work was introduced into England from Normandy.

manuals were available in manuscript in medieval Europe and appear to have influenced Medieval and Renaissance writing about astrology.”⁶¹⁴ This indicates that Firmicus was considered of equal significance to Ptolemy. Had Firmicus named Manilius it is possible that the *Astronomica* might have been rediscovered earlier, as someone may have searched for it if they had seen a reference to it in the *Mathesis*. Therefore, by omitting Manilius as a named source Firmicus appears to have helped to keep this text hidden and promoted himself.

4.2 Future Literature

It is evident that astrology was deemed acceptable enough to have survived the restrictions placed on it by the Church. In the fifth century Macrobius is able to access Firmicus’ text and use it, as the *thema mundi* from Book 3 of the *Mathesis* is used in the *Commentary on the Dream of Scipio*.⁶¹⁵ It is possible that the *Mathesis* had an effect on astrological theory, in particular the role of Fate. Within the *Mathesis* the subtle shift mentioned above could have had the effect that astrology is made sufficiently compatible with Christian doctrine for the Church to accept it. Therefore, it is possible that Macrobius is able to write his text because of the *Mathesis*. This effect is long lasting as even in the thirteenth century “churchmen varied in their attitudes to astrology, from more or less full acceptance to qualified rejection.”⁶¹⁶ This situation is similar to the state of opinions held during the Principate. It is noted that in this period the validity of astrology is not questioned, in particular the use of astrology in medicine, meteorology and alchemy.⁶¹⁷ This is a higher level of acceptance than is present during Firmicus’ own time. In addition, prominent members of the Church are content to read and use the *Mathesis*. Examples include: Gerard, Archbishop of York; Gerbert of Aurillac, mentioned above; and Albert the Great, a Dominican who is recorded to have clearly known his Firmicus Maternus.⁶¹⁸ The latter example indicates that astrology is even acceptable to the Dominicans, one of the strictest branches of the Church. This acceptance and use of astrology by the Church may not be entirely due to the *Mathesis*. However, since there are no further astrological handbooks written in antiquity, it is possible that this effect is a by-product of the text.

⁶¹⁴ Kemp (1988):269.

⁶¹⁵ Smoller (1994):65. “The *thema mundi* was taken up in Macrobius’ widely read *Commentary on the Dream of Scipio*.”

⁶¹⁶ Tester (1987):178.

⁶¹⁷ Tester (1987):178.

⁶¹⁸ Tester (1987):181.

It is also possible that the *Mathesis* had an effect on didactic literature. Although didactic literature in the early Principate, including Manilius, is written in verse, Firmicus uses prose instead. The late fourth and fifth centuries see a rise in the writing of technical handbooks, such as those by Palladius and Vegetius. It is possible that the *Mathesis* is one of the first texts to instigate this trend.⁶¹⁹ Aside from being written in prose, these texts also seem to neglect a prominent source within their discipline;⁶²⁰ Vegetius does not use Polybius, Palladius does not use either Cato or Varro. These authors omit a more well-known source in favour of more obscure ones. In addition, these texts use material from sources which are then not cited: Palladius uses Cetus Faventius but does not cite him, and Martianus Capella makes veiled references to Varro. This is similar to how Manilius is treated in the *Mathesis*. These texts also provide a number of names as sources, a feature which is also present within the *Mathesis*.⁶²¹ A number of Late Antique texts mention the names of previous authors, including Palladius, Vegetius, and Martianus. A further example is Ausonius, who lists a number of authors at the end of *Cento Nuptialis*. He names Juvenal, Martial, Pliny, Sulpicia, Apuleius, Cicero, Plato, Annianus, Laevius, Evenus, Menander, and Virgil, and also the *Aeneid*, and the *Georgics* (*Cen.Nup.*130ff). It is conceivable that the *Mathesis* had the effect that name-dropping became common, in particular in an effort to show the erudition of the author.

Firmicus therefore appears to have secured a unique place for the *Mathesis* in the Latin literary tradition. He becomes the most prominent astrologer for a number of centuries until Manilius and the *Astronomica* reappear. He is also influential enough to be read by prominent churchmen. It is also possible that some of the features of the *Mathesis* have influenced the way Latin didactic literature is written in Late Antiquity.

⁶¹⁹ Dihle (1994):400 notes that there is a re-emergence of poetry during the Diocletian-Constantinian period, including didactic poems concerning fishing and navigation. However, this demonstrates the survival of a generic tradition rather than the creation of a new tradition.

⁶²⁰ See Chapter 3.

⁶²¹ See Chapter 2 section 2 and Chapter 3 section 4.

Conclusion

The focus of this thesis has been to consider place of Firmicus and his *Mathesis* within Latin intellectual culture. I have aimed to consolidate various existing arguments within scholarship and to explore wider implications for these arguments within the literary traditions which have previously been neglected. I have separated the questions of composition date of the *Mathesis* and Firmicus' faith whilst writing the text. In particular, I have considered how Firmicus responds to his predecessors within the astrological tradition and what influence he may have had on Late Antique literature.

Firmicus and Intellectual Culture

The concept of authority is a central component of literature, in particular for a didactic text. Volk notes that “a work of literature is never produced in a vacuum but always stands in some relationship to other works that have come before.”⁶²² An author will either use his predecessors as a model for his own text, or will try to dissociate from the current tradition in order to establish an authoritative persona. The texts from the first century AD, discussed in chapter 3, tend to show some dissociation from their predecessors; Germanicus highlights the differences between his text and that of his model Aratus, and Manilius rejects the entire poetic tradition which preceded him, emphasising his originality.⁶²³ As has been shown, these authors do not establish their authority through the promotion of their sources, but instead emphasise the fact that they are in contact with deities, usually the Muses, and that their work is divinely inspired. This link with the divine is a significant basis for the authority of these authors. However, during Late Antiquity there is a shift in the ways that didactic authors promote their authority. Authors in this period, particularly didactic authors, tend not to rely on the authority of divine inspiration but instead emphasise the fact that their knowledge is linked to their education. In order to indicate this, Late Antique authors tend both to include the names of their sources, and to give a number of different names. A greater number of sources imply more authority. The choice of names is also significant as it shows what an author has read. Chahoud notes that “the prominence given to the authority of the ancient writers both in the orientation of scholarship and in the educational system is a characteristic

⁶²² Volk (2009):182.

⁶²³ Volk (2009):203.

feature of Latin culture in late Antiquity.”⁶²⁴ The older a source is, the greater its authority, which is then reflected onto the Late Antique author. In addition, an obscure or rare source has more impact than a more common one. This may have links to status and the library culture of the Roman Empire. It is noted that Aulus Gellius, already in the second century, packs his text with many obscure references which are cited in such a way as to imply that they are rare and thus hard to access.⁶²⁵ Galen also boasts that he can access all the copies of Hippocrates’ *Epidemiae*, whether in public libraries or private collections and “this is the authority he wields in refuting his rival Dioscorides.”⁶²⁶ The status of the author is increased if he can show that he has access to more collections.⁶²⁷

The use of naming sources as a means to establish authority can be manipulated in order to increase the authority of an author. This appears to be prevalent during Late Antiquity with authors claiming knowledge of sources or making them up entirely. An example of the latter is the *Historia Augusta* which is believed to contain many fabricated sources.⁶²⁸ Ausonius in his cento lists a catalogue of authors and works, including some which have subsequently been lost, such as Apuleius’ *Epigrams* and the works of Evenus. In this list he also includes Pliny the Younger, but it appears that Ausonius did not know the works of Pliny as well as he implies to his readers.⁶²⁹ Palladius also includes the names of sources which appear to have been found in an intermediate collection; he did not read the works himself, yet includes the original sources rather than naming the intermediate text. In each of these instances the authors promote the sources as a basis for their authority and so with these false inclusions they are manipulating the reader into thinking that they have access to and read more texts than they really have.

Firminus’ *Mathesis* can be shown to display this posturing. Firminus names a large selection of sources, and from a variety of cultures. His choice of sources includes some significant names, such as Ptolemy, which he may not have read. This draws parallels with Ausonius and his use of Pliny the Younger and Palladius’ citation of sources from an intermediate text. There are some sources which could be considered more obscure for Latin

⁶²⁴ Chahoud (2007):69.

⁶²⁵ Johnson (2013):351.

⁶²⁶ Johnson (2013):354.

⁶²⁷ Woolf (2013):7 notes that those who had access to libraries came from the elite. In order to gain access an author needed to either be one of the elite himself or have good enough connections to obtain the texts. Therefore attaining a rare source indicates a certain social status.

⁶²⁸ Johnson (2013):355.

⁶²⁹ Gibson and Rees (2013):143.

readers, such as the Book of Abraham. There are also sources which could be completely fabricated, such as Fronto and Navigius. This matches the *Historia Augusta*. Firmicus' method of asserting authority through his promotion and choice of sources thus corresponds with other authors from Late Antiquity.

However, within an intellectual culture of source promotion for authority, Firmicus is also suppressing a source. This appears to be contrary to the intellectual culture within which the *Mathesis* is written. There is some mixed use of this practice within other texts. Vegetius does not appear to conceal any sources. It is likely that Palladius is concealing his intermediate text, perhaps in an effort to seem more erudite, but he does name the original sources instead. However, Martianus Capella hints at the identity of a source without naming it, and conceals his source in order to accrue authority through the promotion of his own experience. This is similar to Firmicus' use of Manilius. It is therefore possible that Firmicus and the *Mathesis* can be placed towards the beginning of a tradition of displays of erudition and posturing within literature in order to attain authority.⁶³⁰

Summary

Concerning the context within which the *Mathesis* was written, the two dominant questions within scholarship of composition date and faith of the author have been separated. An analysis of the text shows that in Book 1 Firmicus refers to "Constantine, son of Constantine" as emperor. This indicates that this section of the text was written either in summer 337, after the death of Constantine I, or between 337 and the death of Constantine II in 340. The exact dating of this section depends on whether the text is politically charged, with Firmicus showing preference for Constantine II over his brothers, or not. Since Firmicus also refers to Mavortius as "consul-elect" rather than "consul" this supports a start date for composition of around 337. There are no further temporal markers within the *Mathesis* and it does not appear that Firmicus revised the text at any point: if he were to change one detail then it would be logical to change other temporal markers such as the name of the current emperor. The completion date for the text thus cannot be precisely determined. This means that it is possible that the *Mathesis* was written at the same time as the *DEPR*, a point at which

⁶³⁰ It is not possible to determine whether Firmicus is the beginning of this tradition, as it is unknown what has been subsequently lost in transmission.

Firmicus was definitely a Christian. The religious references within the text form a coherent set of principles. They indicate that Firmicus believes that Fate controls an individual's life, that the planets influence life on Earth, and that the planets are subordinate to a higher, singular deity. The emperor is also subordinate to only this deity. Firmicus is uncertain about the nature of this deity and could be considering conversion to Christianity. Firmicus' use of a variety of religious elements makes his astrology compatible with as many religions as possible and socially acceptable regardless of which religion is dominant. This means that Firmicus is able to protect the *Mathesis* and its readers from many of the changes that occur in society and the laws during the fourth century.

Regarding the place of the *Mathesis* within intellectual culture, it has been shown that there are two significant parts to Firmicus' authority as an astrological author: the establishment of a didactic persona, and the demonstration of his erudition through the promotion of his sources. Firmicus also establishes his authority on a secular basis, and does not resort to any form of religious authority, despite there being many religious references throughout the text. It has been demonstrated that there is a strong correlation between the information in Book 8 of the *Mathesis* and Book 5 of the *Astronomica*. This indicates that it is highly likely that Firmicus used this text as a source for the *Paranatellonta* section, but did not acknowledge it. It is also shown that information which Firmicus credits to specific Greek astrologers, in particular the *antiscia* theory to Ptolemy and Dorotheus of Sidon, is falsely referenced. This indicates that Firmicus did not use their texts but nevertheless credited these sources anyway, possibly in order to imply that he had read certain significant texts.

On one hand, Firmicus' concealment of a significant source is demonstrated by his predecessors in the Latin astrological tradition; Manilius, Germanicus and Ovid do not reveal their astronomical/astrological sources.⁶³¹ However, these authors use the authority associated with divine inspiration to validate their texts, a feature which is absent from the *Mathesis*. On the other hand, the prominence of the sources in the *Mathesis* and their use as a basis for Firmicus' authority can be seen in Late Antique handbooks. Both Vegetius and Palladius include a number of sources and clearly link sections of information to these names. Martianus Capella indicates that he will use Greek sources, and provides a number of Greek names, but he is not as clear as the other two. In addition, Firmicus' exaggeration of his

⁶³¹ As noted in Chapter 3, Germanicus names Aratus once in order to highlight a poetic difference rather than to credit a source.

sources can also be seen in the Late Antique texts. Palladius credits his sources in such a way that it gives the impression that he has read more than is likely. This compares to how Firmicus uses Ptolemy and Dorotheus of Sidon. However, Firmicus' suppression of Manilius, a Latin source, appears to be more unusual. This is evident in Martianus Capella with his treatment of Varro, but not in the earlier texts of Vegetius and Palladius.

The effects which result from Firmicus not acknowledging Manilius as a source are varied. The Latin astrological tradition is not promoted but instead is pushed into the background to be forgotten. Firmicus did not assist in the transmission of Manilius' name or the *Astronomica* and they disappear from literary records for over five centuries. The *Mathesis* thus appears to be the only comprehensive guide to deciphering horoscopes written in Latin and so is disproportionately popular. It remains the dominant astrological text until the *Astronomica* is rediscovered. His promotion of certain sources whilst suppressing, yet simultaneously utilising, other sources therefore is possibly a feature of the *Mathesis* that influenced later literature, such as Martianus Capella and his use of Varro.

Concerning astrological theory itself, there is a shift in the role of Fate within the *Mathesis*. Firmicus originally displays it as a dominant entity, controlling human lives, but it is downgraded to an entity which is subordinate to a higher power, although still controlling human lives. This shift means that astrology is more acceptable within the Church, and is accessible to both sides of the Fate and Free Will debate occurring in Late Antiquity. Firmicus therefore enables the discipline of astrology to survive.

The fourth century AD was a period of transition for the Roman Empire, with many changes occurring within the society and culture.⁶³² One of the most noticeable transitions occurred in religion. After the legalisation of Christianity by Constantine I, the influence of the traditional religions and cults gradually gave way to the power of the Christian Church. A transition in literature is the division of Greek and Latin literary cultures which occurs as the Empire is divided into the Eastern and Western halves. The result of this is that literature is in Greek in the East and in Latin in the West with little crossover between the two

⁶³² Mousourakis (2007):142 comments: "the fourth century AD featured the completion of the Principate's transformation into an absolute monarchy with an oriental form."

languages.⁶³³ The laws also influenced literature as the *Theodosian Code* indicates that certain topics were restricted; magic and astrology.⁶³⁴ In addition, during the fourth century the classical canon began to be codified through the practice of authors citing earlier authors and incorporating fragments of earlier texts within their own. My thesis demonstrates that technical texts, often marginalised by literary critics, are products of and a mirror to this intellectual culture, and that Firmicus is an overlooked witness to this transitional culture.

⁶³³ Cameron (2011):528. “As the fourth century progressed, there was a sharp decline in the knowledge of Greek in the West”; “the decisive factor in the decline of Greek in Rome was the de facto division of the empire by Diocletian.”

⁶³⁴ *Theo.Code*.9.16.8 decrees that “The teaching of astrology shall cease”; *Theo.Code*.9.16.11 decrees astrologers need to burn their books.

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