

THE CONCEPT OF THE SUN AS ἡγεμονικόν IN THE STOA AND IN MANILIUS' *ASTRONOMICA*

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Abstract: *Hegemonikon* in Stoic vocabulary is the technical term for the chief part or 'command-centre' of the soul. As we know, the Stoics considered the cosmos a living organism, and they theorised both about the human soul's *Hegemonikon* and about its counterpart in the World-soul. My ultimate purpose in this paper is to show that the Stoic concept of the cosmic *hegemonikon* can be observed in Manilius' *Astronomica*. The paper is divided into two parts. To begin with, I will examine and discuss the evidence concerning this concept in the relevant texts of the Early and Middle Stoa. The analysis will indicate that the concept of *hegemonikon* could involve a background of astronomical theory which some scholars attribute to the Stoic Posidonius. In the second section, I will go on to relate the concept of *hegemonikon* to the doctrines conveyed by Manilius. Additionally, we shall

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see that Manilius' polemic allusions to Lucretius' *De Rerum Natura* suggest that the concept was intensely debated in the Post-Hellenistic philosophical circles.

Keywords: Ancient Cosmology; Stoics; Manilius; Greek Astrology.

Hegemonikon in Stoic vocabulary is the technical term for the chief part or ‘command-centre’ of the soul. As we know, the Stoics considered the cosmos a living organism, and they theorised both about the human soul’s *Hegemonikon* and about its counterpart in the World-soul. My ultimate purpose in this paper is to show that the Stoic concept of the cosmic *hegemonikon* can be observed in Manilius’ *Astronomica*. The paper is divided into two parts. To begin with, I will examine and discuss the evidence concerning this concept in the relevant texts of the Early and Middle Stoa. The analysis will indicate that the concept of *hegemonikon* could involve a background of astronomical theory which some scholars attribute to the Stoic Posidonius. In the second section, I will go on to relate the concept of *hegemonikon* to the doctrines conveyed by Manilius. Additionally, we shall see that Manilius’ polemic allusions to Lucretius’ *De Rerum Natura* suggest that the concept was intensely debated in the Post-Hellenistic philosophical circles.

I- THE STOICS

There are two available doxographies listing the views of Stoic philosophers about the chief part of the cosmic soul and its location in the cosmos. These accounts do not contradict each other, and bring complementary information about the topic. One of them can be found in Arius Didymus’ *Epitome*, a work that usually contrasts different opinions of the Stoics about the same issue. The other list comes from the seventh book of Diogenes Laertius, the book devoted to Stoic philosophy. Diogenes’ doxography is introduced at the end of chapter

139, yet I include the preceding chapter given the importance of the context for the understanding of the respective opinions.

“Cosmos is the individually qualified being of the substance of the whole, or, as Posidonius says in the *Meteorology* (the elementary treatise), the systematic compound composed from heaven and earth and the natural constitutions in them, or a systematic compound composed from gods and men and what has come into being for their sake. Heaven is the last periphery in which is seated all the divine. The Stoics say that the universe is governed according to intelligence and providence (Τὸν δὴ κόσμον διοικεῖσθαι κατὰ νοῦν καὶ πρόνοιαν), as Chrysippus says in Book V of *On Providence* and Posidonius in Book III of *On Gods*, since intelligence pervades every part of it like soul in us; but actually through some parts it is more, through some less. For through some parts it has come as cohesion, as through some bones and sinews; through others as intelligence, as through the command-centre. The universe, in this way, then, taken as a whole is a living being and ensouled and rational, it has the aether as its command-centre, as Antipater of Tyre says in *On Universe*, Bk 8. But Chrysippus in Bk I of *On Providence* and Posidonius in *On Gods* say that the heaven is the governing principle of the universe, and Cleanthes says it is the Sun. Chrysippus, however, in the course of the same work gives a somewhat different account, namely, what of the aether is purer; the same aether which they declare to be pre-eminently God and always to have, as it were in sensible fashion, pervaded all that is in the air, all animals and plants, and also the earth itself as a principle of cohesion.” (Diogenes Laertius VII 138–139 = F 14; 21 and 23 E–K)¹

1 E–K stands for the fragments of the Stoic Posidonius of Apamea organized in the collection of L. Edelstein and I. G. Kidd. All the translations of Posidonean fragments in this article belong to Kidd 1999.

“Cleanthes would have the Sun to be the command-centre of the world, because it is the greatest of the heavenly bodies, and contributes most to the administration of the whole by making the day and the year and the other seasons. Some, however, of the school thought that the Earth was the command-centre of the world. But Chrysippus thought it was the aether, the most pure and clear of admixture because of its highest degree of mobility and because of its causing the whole cosmos to revolve.” (Arius Didymus *fr.* 29)

The apparent difficulty of the texts lies in making sense of the inconsistent opinions of Chrysippus. In Diogenes one reads that he changes his view in the course of the same work. He apparently oscillated between two opinions regarding the seat of the *hegemonikon*: the heaven and ‘what of the aether is purer’ (τὸ καθαρώτερον τοῦ αἰθέρος). The latter doxa reappears in Arius. However, the apparent conflicting opinions are conciliated as we realise that the aether as introduced by Diogenes (... ὁ καὶ πρῶτον θεὸν λέγουσιν αἰσθητικῶς ὡσπερ κευρωθέναι διὰ τῶν ἐν ἀέρι καὶ διὰ τῶν ζώων ἀπάντων καὶ φυτῶν: διὰ δὲ τῆς γῆς αὐτῆς καθ’ ἕξιν.) stands for the active elements, or the *pneuma*, of the Stoics. They held that the *pneuma* consists of fire and air. It pervades all the elemental masses and is responsible for the nature of each thing – or rather, for the holding-power, nature, or soul of each thing according to whether it is inanimate or a plant or an animal². Correspondingly, ‘what of the aether is purer’, which

2 See, for instance, Aetius 1. 7. 33: ‘The Stoics declare god intelligent, creative fire ... and *pneuma* pervading the whole cosmos and acquiring titles by alternation of the matter through which it has spread.’

both Diogenes and Arius refer to, most probably means the very skies or the superlunary region. According to the cosmic stratification of the elements conceived by the school, the heavenly region consists of the most pure (or rarefied) element, the ethereal fire³.

As mentioned, both doxographies are in accordance. Whereas Cleanthes chooses the Sun as the governing principle, Chrysippus, his successor in the scholarchate of the Stoa, thinks that the ethereal sky performs the same function. Besides these recurring opinions, there is the additional information in Arius that some of the school thought that the Earth was the *hegemonikon*, and in Diogenes that, whereas Posidonius follows the opinion of Chrysippus, Antipater thinks that aether is the command-centre. Accordingly, for Antipater's aether one understands the aether (i.e. *pneuma*) which pervaded the whole cosmos (... ὁ καὶ πρῶτον θεὸν λέγουσιν αἰσθητικῶς ...) and not the pure aether of the skies. The Stoics had, therefore, four different answers regarding the question on the location of the *hegemonikon*: the aether pervading the whole cosmos (Antipater), the Earth (unidentified Stoics), the superlunary heaven (Chrysippus and Posidonius), and the Sun (Cleanthes).

There is further information in the doxographies. One reads in Arius the reasons supporting the views

3 Cf. Cicero's *On The Nature of the Gods* II 27–28. See also Plutarch *On stoic self-contradictions*. 1053a (= *SVF* ii 579): 'The change of fire is as follows. It is changed through air into water. And from this, when earth has settled down, air is evaporated. Then, when air has been thinned, the aether is poured around in a circle.'

of Cleanthes (“because it is the greatest of the heavenly bodies ...”) and Chrysippus (“because of its highest degree of mobility ...”). Likewise, following his usual tendency of highlighting the divergences (*diaphonia*) within the school, Arius attributes a theory without justification to unidentified Stoics that is clearly irreconcilable with the remaining doxa: the Earth as *hegemonikon*.

Regarding Diogenes’ doxography, it is noticeable from the outset that it systematically progresses by narrowing down the whereabouts of the cosmic ‘command-centre’. As mentioned, for Antipater’s aether one understands the cosmos as a whole. The following viewpoint of Chrysippus and Posidonius, where the *hegemonikon* is located in the heaven, confines the *hegemonikon* to only one half of the cosmos. Finally, the Cleanthean idea of the Sun as *hegemonikon* further circumscribes it to a specific place in the heaven.

Chapters 138 and 139 in Diogenes also read as a single paragraph. It starts with the Posidonian tenet (F 14 E–K) that the universe is ‘a system made up of heaven and earth’ where the former stands as ‘the last periphery’ (ἡ ἔσχατη περιφέρεια)⁴. Subsequently, one reads about the gradation by which the mind/soul pervades the world/body: ‘Inasmuch as mind pervades every part of the world, just so does the soul in our body ... Only there is a difference of

4 Notice that a ‘periphery’ is usually a circle or arc, not a globe as it appears to be here; surely, if it is to house all heavenly bodies, it should encompass the entire planetary region. See White (2007, p. 43 n23). See note 13 below for more about the ἡ ἔσχατη περιφέρεια.

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degree; in some parts there is more of it, in other less ...' Accordingly, the systematic progression of the list, the bi-division of the universe, and the gradual pervasiveness of the ethereal pneuma altogether strongly suggest that the *hegemonikon* should be taken (at least, in this passage) as a 'relative' concept⁵. In a system made up of heaven and earth, heaven should be considered the *hegemonikon* as Chrysippus and Posidonius believed. Yet in the heaven itself – that is, within the superlunary region of the last periphery (ἡ ἐσχάτη περιφέρεια) – the Sun takes the crown as the command-centre following the opinion of Cleanthes.

The remaining texts concerning Stoic views of a cosmic *hegemonikon* are not doxographies and do not make an explicit analogy between human- and World-soul. Yet they are equally relevant in the sense that they convey Stoic speculation about a governing principle of the cosmic organism. Moreover, the passages introduce further theoretical details supporting this particular concept. The first account to be analysed is found in Cicero's *On the Nature of the Gods*. In the second book of this work, the book dedicated to Stoic natural philosophy, Cicero argues for the idea that the divine providence safeguards the world by attributing a governing principle to every non-homogeneous organism. According to this theory, the fiery celestial region is the hegemonic

5 Cicero's introduction of the tenet in *On the Nature of the Gods* encapsulates the notion of relativity: 'I use the term ruling principle as the equivalent of the Greek ἡγεμονικόν, meaning that part of anything which must and ought to have supremacy in a thing of that sort' (II 29).

part of the world and the Sun in turn stands as the command-centre of the heavenly bodies.

“There is therefore a nature that holds the whole world together and preserves it, and something possessed of sensation and reason. Since every natural object that is not a homogeneous and simple substance but a complex and composite one must contain within it a ruling principle, for example in man the intelligence and in the lower animals something resembling the intelligence that is the source of appetite ... I use the term ‘command-centre’ as the equivalent of the Greek ἡγεμονικόν, meaning that part of anything which must and ought to have supremacy in a thing of that sort. Thus it follows that the thing which contains the ruling principle of the whole of nature must also be the most excellent of all things [29] ...

Take first of all the Sun, which is the command-centre of the celestial bodies (*qui astrorum tenet principatum*). Its motion is such that it first fills the countries of the earth with a flood of light, and then leaves them in darkness now on one side and now on the other; for night is caused merely by the shadow of the earth, which intercepts the light of the sun. Its daily and nightly paths have the same regularity. Also the Sun, by at one time slightly approaching and at another time slightly receding, causes a moderate variation of temperature (*modum temperant*)... and by bending its course now towards the north and now towards the south the Sun (*inflexens autem sol cursum tum ad septentriones tum ad meridiem*) causes summers and winters and the two seasons of which one follows the waning of winter and the

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other that of summer. Thus from the changes of the four seasons are derived the origins and causes of all those creatures which come into existence on land and in the sea" (*DND* II 29 and 49). (H. Rackham's translation for the Loeb Library)

The concept of *hegemonikon* connects both passages (II 29 and 49). The first section follows the exposition of the physical doctrine in II 25–28 that heat pervades all the elemental masses of the world (*omnes igitur partes mundi calore fultae sustinentur ...*). Cicero (or the Stoic spokesman) concludes this argument by stating that heat is the cosmos' ruling principle, and also mentions in passing that mind or intelligence is its counterpart in human beings (*ut in homine mentem*). So, the section closely corresponds to the text in Diogenes. Heat here stands for the also all-pervasive aether above. This substance is the canonical *hegemonikon* of the Stoics⁶. We should further notice that Cicero's source identifies the celestial skies with the element 'fire' (*reliqua quarta pars mundi ... tota natura feruida est* II 27). This notion is merely implied in Diogenes' doxography as the heavens are said to be the seat of all the divine (VII 138).

It is the second section which brings up new details about the concept of the Sun as *hegemonikon*. The Stoic spokesman goes further than Cleanthes in Arius' doxography in describing the hegemonic role carried out by the Sun. Besides the argument

⁶ For the slight differences between the heat as introduced in *DND* II 23–28 and the Chrysippean Pneuma, see Salles (2009, p.127–29).

involving time division (days, nights, and seasons) introduced by Cleanthes, the Sun's providential aspect also shows up in the moderate temperature effected by its course (... *modum temperant*). Moreover, the very trajectory of the star (*inflectens autem sol cursum tum ad septentriones tum ad meridiem* ...) is said to be responsible for the promotion and sustenance of all kinds of life.

Cicero does not attribute the theory presented in the section II 49 to a particular Stoic philosopher, and one is tempted to think that the works of Cleanthes, the second scholarch of the school, are its ultimate source. Cleanthes clearly specified the Sun as the cosmic governing principle. Likewise, the first section which introduces the technical term *hegemonikon* (II 29) most likely had his writings as background (Hahn, 1977, p. 138–58). Nevertheless, the ascription of the passage about planets and stars (*DND* II 49–56) to Cleanthes faces solid objections. In fact, there is no evidence that Cleanthes engaged in the type of astronomical research that underlies this passage⁷. Moreover, one of the cosmological tenets outlined by Cicero does not match the information one gathers from the single relevant fragment of the Early Stoa: whilst the *De Natura Deorum* introduces the cosmobiological view that the planets' motion is 'based on choice' (*habent igitur suam sphaeram stellae inerrantes ab aetheria coniunctione secretam et liberam*, *DND* 54–55), a Chrysippean testimony contrastingly defends the 'mechanicist' theory that the planets are carried down along ethereal surfaces

⁷ See also the data regarding the sidereal period of the planets in sections II 51–53.

(τὸ δὲ περιφερόμενον αὐτῷ ἐγκυκλίως αἰθέρα εἶναι, ἐν ᾧ τὰ ἄστρα καθίδρυται, Arius *fr.* 31)⁸.

The last extant text which conveys Stoic speculation about the concept of *hegemonikon* is also the most comprehensive account. It belongs to Cleomedes’ *Lectures on Astronomy* (or *Caelestia*). Cleomedes was a Stoic cosmologist who most likely lived between the latter half of the first century and the first half of the second (Bowen and Todd, 2004, p. 1–4). Two passages of his *Lectures* directly involve the idea of the cosmic governing part. We should see that the passages closely resemble the texts in Diogenes and Cicero above.

“As the heavens revolve in a circle above the air and the Earth (Ὁ τοίνυν οὐρανός, κύκλῳ εἰλούμενος ὑπὲρ τὸν ἀέρα καὶ τὴν γῆν), and effect this motion as providential for the preservation and continuing stability of the whole cosmos (καὶ ταύτην τὴν κίνησιν προνοητικῆν οὖσαν ἐπὶ σωτηρίᾳ καὶ διαμονῇ τῶν ὄλων ποιούμενος), they also necessarily carry round all the heavenly bodies that they encompass. Of these, then, some have as their motion the simplest kind (τούτων τοίνυν τὰ μὲν ἀπλουστάτην ἔχει τὴν κίνησιν), since they are revolved by the heavens, and always occupy the same place in the heavens. But others move both with their motion that necessarily accompanies the heavens (they are carried round by them because they are encompassed), and with still another motion based on choice through which they occupy different parts of the heavens at different times.” (*Caelestia* I 2 1–10)⁹

8 See Walsh (1997, p.179 n.55): ‘Balbus here seems to argue that each star has its independent impetus, though this does not accord with the teaching of the Stoic Chrysippus.’

9 All the translations of the *Caelestia* are taken from Bowen and Todd (2004).

This is the beginning of the second chapter of the first book of Cleomedes. In this early passage of the work the author introduces the fundamental concepts of his Stoic cosmology. One basically reads in the first sentence of the passage about the bi-division of the cosmos between a superlunary and sublunary region (Ὁ τοίνυν οὐρανός, κύκλῳ εἰλούμενος ὑπὲρ τὸν ἀέρα καὶ τὴν γῆν) and also about the providential role that this governing part undertakes for the sake of the cosmos as a whole (καὶ ταύτην τὴν κίνησιν προνοητικὴν οὖσαν ἐπὶ σωτηρίᾳ καὶ διαμονῇ τῶν ὅλων ποιούμενος). Accordingly, this sentence actually matches the viewpoint of Chrysippus and Posidonius above in Diogenes where the cosmos is organized following an identical division, and where it is providentially guided by the rational counterpart (Τὸν δὴ κόσμον διοικεῖσθαι κατὰ νοῦν καὶ πρόνοιαν VII 138). Still, Cleomedes provides further theoretical details of the doctrine. Like the Stoic spokesman in Cicero (*inflexens autem sol cursum...* II 49), he ascribes the preservation and stability of the cosmos to the specific pattern of the heavenly motions (τούτων τοίνυν τὰ μὲν ἀπλουστάτην ἔχει τὴν κίνησιν ...). The very arrangement of the planets, stars and heavenly bodies in general is seen as the providential design supporting cosmic life.

The second relevant passage of Cleomedes crops up in the beginning of the second book. The general context of the passage is the polemic against the Epicurean idea that the Sun was the size it appears to be. After presenting a mathematical calculation of the size of the Sun, Cleomedes provides an extensive peroration regarding the powerful physical influence of this heavenly body.

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“But even if Epicurus could pay no attention to these [calculations], nor uncover them in an enquiry that was beyond a fellow who valued pleasure, he should at least have paid attention to the actual power of the Sun, and to have reflected [on the following]: (a) that the Sun illuminates the whole sky, which is almost immeasurably large; (b) that it heats the Earth so that some parts of it are uninhabitable because of extreme heat; (c) that through its considerable power it provides (παρέχεται) an Earth that is alive so that it produces crops and sustains animal life; and that it alone causes animals to subsist, and also crops to be nourished, grow, and come to fruition (καὶ ὅτι αὐτός ἐστιν αἴτιος τοῦ καὶ τὰ ζῶα ὑφεστάναι καὶ τοὺς καρποὺς τρέφεσθαι καὶ αὔξεσθαι καὶ τελεσφορεῖσθαι); (d) that it alone is what causes not only the daytime and nighttimes, but also summer, winter, and other seasons; (e) that it alone is the cause (αἴτιος) of people being black, white, yellow, and differing in other visible aspects, depending on how it sends out its rays to the latitudes of the Earth; (f) that the power of the Sun, and it alone, renders (παρέχεται) some places on the Earth well-watered and teeming with rivers, others dry or lacking in water; some barren, others adequate for crop production; some acrid and foul-smelling (like those of the Fish-Eaters), others fragrant and aromatic (like places in Arabia); and different places capable of producing different kinds of crops.” (*Caelestia* II 1 357–75)

“Also, as it goes through the zodiacal circle (that is as it effects this type of course), the Sun by itself harmonizes the cosmos, and so, by being the exclusive cause of continuing stability in the comprehensive ordering of the whole cosmos, it provides the whole cosmos with an administration that is fully harmonic (καὶ μὴν διὰ τοῦ ζωδιακοῦ ἰὼν καίτοι αὐτὴν τὴν πορείαν ποιούμενος αὐτός ὅλον ἀρμόζεται τὸν κόσμον καὶ συμφωνοτάτην παρέχεται τὴν τῶν ὅλων διοίκησιν). And if the Sun changes its position, either by abandoning its own place, or by disappearing completely, not a single thing will then be born or grow – in fact nothing will “subsist”

at all, but everything that exists and is visible will be dissolved together and so be destroyed.” (*Caelestia* II 1 393–403)

The powerful role played by the Sun in the universe is, as we can see, comprehensively exposed. Cleomedes describes the providential activity of the Sun over earth and sky alike. In the sublunary region, it alone causes animals to subsist, and also crops to be nourished, grow, and come to fruition (*καὶ ὅτι αὐτός ἐστιν αἴτιος τοῦ καὶ τὰ ζῶα ὑφεςτάναι καὶ τοὺς καρποὺς τρέφεσθαι καὶ αὔξεσθαι καὶ τελεσφορεῖσθαι*). In the superlunary counterpart, as it goes through the zodiacal circle, the Sun provides the whole cosmos with an administration that is fully harmonic (*καὶ μὴν διὰ τοῦ ζωδιακοῦ ἰὼν καίτοι αὐτὴν τὴν πορείαν ποιούμενος αὐτὸς ὅλον ἀρμόζεται τὸν κόσμον καὶ συμφωνοτάτην παρέχεται τὴν τῶν ὅλων διοίκησιν*).

It is also noticeable that Cleomedes reiterates the general idea of D. L. VII 138–139 and of the *DND* II 29 and 49 as he progressively narrows down the location of the cosmic *hegemonikon*. I have commented above that the second passage of Cleomedes complements the first. The first extract (*Caelestia* I 2 1–10) introduces the idea that the heaven is the providential ruling principle in a system made up of heaven and earth. This second one specifies the particular area of the skies that works as command-centre: the Sun. Likewise, the fact that D. L. VII 139 (*Τὸν δὲ κόσμον διοικεῖσθαι κατὰ νοῦν καὶ πρόνοιαν*) and Cleomedes (*παρέχεται τὴν τῶν ὅλων διοίκησιν*) employ the same technical vocabulary reinforces

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further the thesis that the latter also deals with concept of *hegemonikon*.

Like Cicero, Cleomedes does not ascribe the theory about the command-centre of the universe to a specific Stoic philosopher. There is, in fact, scholarly debate concerning Cleomedes' source here. Bowen and Todd's commentary on the *Lectures* indicates that these passages derive from Posidonius' writings. They point out that technical terms such *προνοητικὴν* and *διαμονῆ* in I 2 1–10 and *παρέχεται* and *αἴτιος* in II 1 357–75 are reminiscent of Posidonius' cosmology which combines astronomical observation and reasoning against a background of philosophical principles. For instance, the concept of the Sun as causal factor (*aition*)¹⁰ corresponds to the Posidonean idea that the 'natural philosophers will in many cases deal with the cause (*aitia*) by focusing on the causative power' (Simplicius' *In Aristotelis Physica* II. 2 = F 18 E–K)¹¹. Moreover, Bowen and Todd consider that Cleomedes' cosmological material, in general, can be

10 Note that Diogenes ascribes the question of the *hegemonikon* to the generic division of Stoic Physics which deals with the subject of causation: 'The part concerned with causation, again, is itself subdivided into two. And in one of its aspects medical inquiries have a share in it, in so far as it involves investigation of the ruling principle of the soul and the phenomena of soul, seeds, and the like.' (VII 133)

11 Cf. Bowen and Todd (2004, p. 48 n17): 'Here (I 3. 79) and elsewhere we translate *poiein* as "cause". This is justified by the association of this verb with *aitia* (the standard term for "cause") in an identical context dealing with solar "power" at II 1. 365–7; cf. also Posid. F 18. 26 E–K for the related phrase *poietike dunamis* similarly associated with *aitia* in a more general context. The causality in question is also teleological (cf. 18.22 E–K), as the use of "provide" (*parekhetai*) and "bring to completion" (*epitelein*) in this context (e.g. I 2. 31 and I 4. 2) indicates.'

identified as Posidonean in less restrictive terms than are adopted in the Edelstein–Kidd collection, where a ‘fragment’ has to include Posidonius’ name¹². On the other hand, Professor Kidd dismisses any claim that Posidonius regarded the Sun as *hegemonikon* on the grounds that it contradicts fragment 23 E–K above where ‘the heaven is the governing principle of the universe’¹³.

Now, it seems that Bowen and Todd’s judgement carries more weight than Kidd’s in this case. The idea that the heaven is the *hegemonikon* does not unconditionally conflict, as Professor Kidd understands it, with the viewpoint that the Sun plays the same role. We have seen that the *hegemonikon* is considered a ‘relative’ concept in the relevant passages of Diogenes and Cicero above. Cleomedes actually reiterates the content of Diogenes’ passage as he similarly presents

12 Cf. Bowen and Todd (2004, p. 16): ‘In conclusion, if any source is to be assigned to the conjunction of rigorous reasoning, observations, and physical theory that is so pervasive in the *Caelestia*, the only possible candidate is Posidonius ... As F 18 E–K shows, Posidonius was the only major Stoic who was engaged with the science of astronomy, and who took Stoic epistemology into the realms of the philosophy of science.’ Posidonius in Cleomedes’ *Lectures*: I 4 90–131 (F 210 EK); I 7 1–50 (F 202 EK); I 8 158–162 (F 19 EK); II 1 51–56 (F 114 EK); II 1 269–86 (F 115 EK); II 4 95–107 (F 123 EK); II 7 11–14 (T 57 EK).

13 See Kidd (1988, p. 144–6). Also Boyancé (1936, p. 86). Boyancé thinks that Posidonius specified the circle of the fixed stars as hegemonic since in D. L. VII 138 (= F 14 E–K) one reads that ‘Heaven is the last periphery in which is seated all the divine.’ The objectionable corollary of Boyancé’s idea that ‘extreme periphery’ only comprises the fixed stars is that the Sun and the planets would stand as part of Earth. Cf. n 3 above.

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both regions as cosmic 'command-centres'¹⁴. Moreover, Cleomedes' passages seem to follow the specific methodology that Bowen and Todd attribute to Posidonius. The inquiry into celestial kinematics, which underlies the data about the course of the Sun (II 1 393–403), is witnessed in many fragments (cf. F 200–210 E–K). Correspondingly, the geographical tenets conveyed in the section II 1 357–75 are also found in the long fragment in Strabo (II 2.1–3.8 = F 49 E–K). These are respectively the reasoning (the celestial kinematics) and the observation (the geographical information) which meet the physical and teleological first-principles that the cosmos is a living being made for the sake of gods and men (D. L. VII 38 = F 14 E–K).

Likewise, Posidonius' attested interest in measuring the Sun's and Earth's circumference (F 115 and F 116 E–K) may well be part of the same project of developing the concept of *hegemonikon*. We read in his preserved fragments that he considered science to be an ancillary of philosophy (F 18 and F 90 E–K). Accordingly, by gathering evidence from the special science of mathematical astronomy Posidonius would be supplementing Stoic views with astronomical data. Cleanthes introduced the idea that the Sun is the *hegemonikon* 'because it is the greatest of the heavenly bodies'; Posidonius specifies how large and how much larger than the Earth the Sun is. This is actually the way Posidonius in Seneca (*Ep.* 88. 27 = F 90 E–K) distinguishes between natural philosophers and astronomers: "Natural philosophy will prove that

14 See Bowen and Todd (2004, p. 121 n92): 'Despite the "administrative" activity of the Sun [Cleomedes II 1. 396], it is the heavens in their totality that play this role.'

the Sun is large, but how large will be shown by mathematics operating through a kind of empirical skill.”

We should now summarize the results of our survey of Stoic views on the cosmic *hegemonikon*. We have seen that the Stoics had four different answers for the question about its location: the Earth (unknown Stoics), the aether pervading the whole cosmos (Antipater), the ethereal heavens (Chrysippus and Posidonius), and the Sun (Cleanthes). We have also noted that, apart from the first one (the Earth), the views of the list are not really conflicting when one considers that the *hegemonikon* is a ‘relative’ concept. The research has further shown that the extensive descriptions of Cleomedes’ *Caelestia* about the role played by the Sun as ‘command-centre’ seems to belong to the scientifically-driven branch of Posidonius’ Stoicism.

II – MANILIUS

Manilius’ commitment to Stoic physics has been consistently noted by classical scholars in the last forty five years (see esp. Lühr 1969, Reeh 1973, 159–85, Salemme 1983, 27–56, Keyser 1994, 637–51, Volk 2009, 227–34, the contributions of Habinek and Mann to Green and Volk 2011, and Ramelli 2014)¹⁵. They point to several passages of the work where a distinctively Stoic cosmology is noticeable (e.g. the cosmogenesis in book I [I 147–81], the doxography

15 Anthony Long (1982) defends the thesis that ‘the modern consensus on unqualified Stoic support for astrology has alarmingly frail foundations’. Yet see below (note 39) my observations regarding some of his remarks.

about the comets [I 809–926], the concept of *pneuma* as the philosophical basis for the belief in planetary influence [e.g. II 60–86], the ethnical geography [IV 711–43]) and also to Manilius' use of words and phrases that indicate familiarity with Stoic teachings such as *heimarmenē* (i.e. the chain of causation), *sympatheia* (the interaction of parts of the universe) and *ekpyrosis* (the fiery cosmic conflagration). It is fair to say, thus, that scholarship has reached a quasi-consensus where labelling this astrological treatise as Stoic seems appropriate.

In this second part of the paper I extend to Manilius' *Astronomica* the survey on Stoic views on the concept of *hegemonikon*. The procedure of my survey will be to examine the passages where Manilius conveys the concept of a cosmic soul and its *hegemonikon*. We shall see that there many suggestions in the text that Manilius follows the Stoic *doxa* seen in Cicero and Cleomedes where the Sun holds the position of 'chief-part'. Subsequently, I show that Manilius' consistent references to Lucretius' *De Rerum Natura* provide further details about the Sun's activity according to Stoic physical theory.

The basic idea underlying the concept of a cosmic 'command-centre' consists in considering the universe a living organism. If one is looking for the concept of *hegemonikon* in Manilius' teachings, one first has to find out passages where the universe is said to be pervaded by a force analogous to a human soul (as we see in D. L. VII 138–39 above). Now, this idea is actually recurrent in the proems and digressions of the work. The passage that best conveys the concept comes up in book I. After establishing the

basic shape of the cosmos and its make-up of four elements, Manilius declares:

*hoc opus immensi constructum corpore mundi
membraque naturae diversa condita forma
aeris atque ignis terrae pelagique iacentis
vis animae divina regit, sacroque meatu 250
conspirat deus et tacita ratione gubernat,
altera ut alterius vires faciatque feratque,
summaque per varias maneat cognata figuras. (I 247–53)*

“This construct constituted by the body of the immense universe, and its members formed by the diverse elements of nature – air and fire, earth and stretched-out sea – a force of divine spirit rules it, and god inspires it with sacred motion and directs it with silent reason and dispenses law of interaction to every part, so that each may affect and be affected by the powers of the other, and the whole may remain interconnected through various appearances.” (Transl. Volk 2009, 34)

The organicistic and vitalistic notion of the world is explicit here. The four elements make the world’s body. An immanent god governs it. In addition to being pictured as the world’s soul or breath, god is also identified or closely associated with a principle of cosmic intelligence, termed *ratio* (‘reason’). ‘God’ not only ‘breathes’ through the physical world but also governs everything ‘by means of silent reason’ (*tacita ratione*). Accordingly, the association of soul or breath (*vis animae divina*) and guiding intelligence as rulers of the universe matches the concept of the world’s soul and *hegemonikon* in Diogenes above where ‘the universe is governed according to intelligence ... since intelligence pervades every part of [the world] like soul in us’. As mentioned, the vitalistic idea emerges

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clearly in this passage; moreover, it regularly returns in the *Astronomica* (cf. II 64–66 below, II 752–3, III 50–1, IV 888–90).

The next step in our search for the 'command-centre' in the worldview of the *Astronomica* consists in checking whether Manilius provides information about a hierarchical / spatial arrangement of the cosmic soul. One needs a passage where Manilius specifies a region of the universe as its governing principle in relation to the remaining parts. We have seen in the previous section that the Stoics had four different answers for the location of the 'command-centre': the Earth (unknown Stoics), the aether pervading the whole cosmos (Antipater), the heavens (Chrysippus and Posidonius), and the Sun (Cleanthes). Accordingly, as it was expected in an astrological treatise, the vault of the heavens is regularly described in the *Astronomica* as playing a central role in the universe. This view then rules out the possibility that Manilius is one of the unknown Stoics who consider the Earth to be the 'command-centre'. I select two passages clearly conveying the concept that the skies play a hegemonic role. It is noticeable that the skies' activity closely resembles its function in Aetius and Cleomedes above.

*non varios obitus norunt variosque recursus, 475
certa sed in proprias oriuntur sidera luces,
natalesque suos occasumque ordine servant*

*ac mihi tam praesens ratio non ulla videtur,
qua pateat mundum divino numine verti
atque ipsum esse deum nec forte coisse magistra...(I 475–485)*

“They know no variation in their settings and returns, but each without fail rises to display its proper stars,

regularly keeping to the same times of coming up and going down...For my part I find no argument so compelling as this to show that the universe moves in obedience to a divine power and that it is God himself. It did not come together at the dictation of chance...”¹⁶

*atque ideo faciem caeli non invidet orbi
ipse deus vultusque suos corpusque recludit
volvendo semper seque ipsum inculcat et offert* (IV
915–17)

“God himself grudges not the Earth the sight of heaven but reveals by ceaseless revolution his face and body offering, nay impressing, himself upon us.”

The significant point uniting both passages is the recurrent idea that the very revolution of the skies is god, the governing principle of the world. The first passage is more explicit. The ‘divine numen’ (*divino numine*) by which the world is revolved refers to the stars and constellations (or their ethereal substance) whose regular patterns of settings and returns (*non varios obitus norunt variosque recursus*) are the very rational explanation (*praesens ratio*) for the cosmic divinity. Such divine mathematical regularity of the skies refutes the Epicurean thesis of a chaotic universe ruled by chance (*nec forte coisse magistra*). As mentioned, the passage reiterates the doxa of Chrysippus in Aetius who considers the sky to be the hegemonic region “because of its causing the whole cosmos to revolve”. The second passage also identifies the revolving skies as god. The personified heavenly

16 Unless stated, all the translations from the *Astronomica* belong to Goold’s edition for the Loeb Library. Notice also that I make few alterations in Goold’s translation.

motions (*ipse deus volvendo*) seduces mankind to look upwards and interact with the skies; in other words, mankind assimilates its rational patterns and is compelled to follow the astral influences¹⁷.

We have seen in the first part of this paper that the last two doxa about the concept of *hegemonikon* could be conciliated in the sense that it stands as a relative concept. That is, in a system made up of heaven and earth, the part heaven should be considered the *hegemonikon*. Yet, in the heaven itself – that is, within the superlunary region of the last periphery (ἡ ἐσχάτη περιφέρεια) – the part Sun may take the crown as the command-centre. We should therefore carry on our inquiry in order to probe whether specific parts of the skies in the *Astronomica* are singled out as hierarchically more powerful. And, indeed, Manilius' portrayal of the heavens gives pride of place to the constellations of the zodiac, that is, to the band of twelve sign-constellations (Aries, Taurus, ..., Pisces) which the apparent path of the Sun (as seen from the Earth) projects on the celestial sphere. Specifically, the zodiacal band crops up throughout the *Astronomica* as the ruling principle of the universe.

nunc tibi signorum lucentis undique flammis 255
ordinibus certis referam, primumque canentur
quae media obliquo praecingunt ordine mundum
solemque alternis vicibus per tempora portant

17 See Luhr (1969, p. 158): 'Zur Gunst (1. 11 *favet*), zum Wunsch (1. 12 *cupit*), zur Freude (2. 142 *gaudente*) und zum Befehl (5. 8 *iubet*, cf. 2. 124) tritt als letzter und stärkster Zug der Personifikation des Kosmos der Zwang (4. 919 *cogat*)'.

*atque alia adverso luctantia sidera mundo;
omnia, quae possis caelo numerare sereno; 260
e quibus et ratio fatorum ducitur omnis,
ut sit idem mundi primum quod continet arcem* (I 255–62)

“Now shall I tell you in their fixed ranks of the fiery signs which gleam in every part of the heaven. And first my song will be of those that with their slanting array girdle the heavens in the midst thereof and bear in succession through the seasons the Sun and the other planets which struggle against the movement of the celestial sphere, signs all of which you will be able to count in a countless sky and from which the whole scheme of destiny is derived: thus shall that part of heaven be the first which holds the vaults of heaven together.”

*impensius ipsa
scire iuvat magni penitus praecordia mundi,
quaque regat generetque suis animalia signis,
cernere et in numerum Phoebus modulante referre* (I 16–19)

“It is more pleasing to know in depth the very (area before the) heart of the universe and to see how it governs and brings forth living beings by means of its signs and to speak of it in verse, with Phoebus providing the tune.”

*quae, quasi, per mediam, mundi praecordia, partem
disposita, obtineant, Phoebum lunamque vagasque
evincunt stellas nec non vincuntur et ipsa,
his regimen natura dedit* (III 61–4)

“... and to those stars which, deployed about the central region, occupy the (area before the) heart of the universe, as it were, and which outfly the Sun and Moon and planets and are also themselves outflow, to these nature gave dominion.”

The prominence of the zodiac in Manilius' conception of the heavens is firstly observed in the

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fact that he begins his description of the celestial sphere with this celestial band (I 256–274). This beginning is rather unexpected given that Manilius' probable model for the description, the first half of Aratus' *Phaenomena* (1–558), does not single out the zodiacal band among other constellations (Volk 2009, 35). The privileged position of the zodiac is undoubtedly due to the importance of the set of constellations that, according to Manilius' astrological creed, plays the central role in the dispensation of fate. This theoretical prominence rings clear in the following lines of the first and third passages: *e quibus et ratio fatorum ducitur omnis* ('from which comes the whole system of fate'), *his regimen natura dedit* ('to these the nature gave dominion').

Likewise, Manilius' choice of vocabulary makes clear that the author attributes to the zodiac the prerogatives of the Stoic concept of *hegemonikon*. As Schwarz pointed out in an important article over forty years ago, the definition of the zodiac as *praecordia* (literally 'the area before the heart') *mundi* (I 16; III 61) implies that it stands as the governing principle of the soul, i.e. cosmic soul¹⁸. One should bear in mind that the Stoics in general considered the heart to be the *hegemonikon* of animals (Cf. *i.a.* Galen's *On the Doctrines of Plato and Hippocrates* III. 1. 10–15). Manilius himself follows this doxa: *sic animi sedes tenui sub corde locata / per totum angusto regnat de limite corpus* (IV 929–30). Moreover, the idea that the zodiac contains the 'citadel of the

18 Cf. Schwarz (1972, p. 614): 'Der Zodiak ist ihm das Herz der Welt, dem Menschenherzen als Träger von Leben, Empfindung und Gefühl vergleichbar.'

world' (*mundi primum quod continet arcem* I 262) further corroborates this thesis. The Stoic emperor Marcus Aurelius (*Meditations* VIII 48) also defines the seat of the *hegemonikon* as a citadel: 'a mind free from passions is a citadel (*akropolis*).'

It is also noteworthy that the portrayal of the zodiac as *hegemonikon* in the *Astronomica* matches Stoic astrophysics. The Stoics, like Aristotle (*De Caelo* 289a 18-19), regarded the heavenly bodies as composed of 'that in which they are located'. The more rarefied its substance the more divine it was¹⁹. Being formed from the fiery aether, the heavenly bodies possessed an intrinsic heat and rarefaction that increased in proportion to the distance of the stationary cosmocentric Earth. The Moon's own density is defined by the density of air and aether (cf. *Caelestia* II 4. 37-41), at the junction of which the satellite is located (*Cael.* II 3 83-84, 90-1). Bodies located at a point somewhere beyond the Moon become totally igneous, and thus intrinsically luminous, with only the Moon deriving its light from the Sun (*Cael.* II 1 336-38, II 3 91-95, II 5 4-6). As the fixed stars which shape up the sign-constellations of the zodiac were imagined to be in the outermost circumference of the heavens (*Cael.* II 3 49), they were supposedly formed from the most igneous and rarefied aether. Correspondingly, the very position of the zodiacal band certainly contributed to the idea that the twelve sign-constellations formed the hegemonic part of

19 See Achilles *Introductio in Aratum* 10 (= F 128 E-K): "star is a divine body, a body in the heavens that shares the same substance as the place where it is, a body that is radiant and never stationary, but forever moves in a circle."

the universe: they constituted the most central portion of the whole celestial sphere (Schwarz 1972, p. 609). Indeed, these sign-constellations of the zodiac were considered to be living and ensouled beings by Chrysippus and Posidonius (cf. Achilles *Introductio in Aratum* 13 = F 149 E–K).

Manilius, thus, seems to argue for a distinct region of the heavens in the role of 'command-centre' of the universe: the zodiacal band. All the same, one should bear in mind that his very portrayal of the zodiac as hegemonic region still leaves open the possibility that the Sun stands as the definitive 'command-centre'; that is, Manilius, as Cleomedes above, could consider the Sun as the ultimate providential administrator within the heavens²⁰. It is actually noticeable that the Sun has pride of place in the introduction of the zodiacal band as it takes a whole line of description (*solemque alternis vicibus per tempora portant* I 258). Indeed, the zodiacal band as conceived by Manilius might include the Sun in case the zodiacal band represents the whole three-dimensional region of the superlunary skies that has the zodiac as celestial background. This thesis is promptly strengthened in the second description of the zodiacal band in book I (I 666–83) where this same area is said to contain or comprise the heavenly bodies of our solar system: I 682–83 *bis sex latescit fascia partes/quae cohibet vario labentia sidera cursu*

20 'as it goes through the zodiacal circle (that is as it effects this type of course), the Sun by itself harmonizes the cosmos, and so, by being the exclusive cause of continuing stability in the comprehensive ordering of the whole cosmos, it provides the whole cosmos with an administration that is fully harmonic.' (*Cael.* II 1 395–98)

(‘the band that comprises the stars that wander on their varying courses has a width of 12°).

In fact, there are strong suggestions in the text that the Sun stands as the definitive *hegemonikon* in the *Astronomica*. The idea of the Sun as the crucial spot (or the *hegemonikon*) of an organic structure crops up in the passages where Manilius interconnects the Sun and the zodiacal band (*praecordia mundi*). Such idea can be observed in the passage I 16–19 I have displayed above and in the following lines.

fulgentia signa

*alter habet, per quae Phoebus moderatur habenas,
subsequiturque suo solem vaga Delia curru,
et quinque adverso luctantia sidera mundo
exercent varias naturae lege choreas.* (I 666–71)

“To these you must add two circles which lie obliquely and trace lines that cross each other. One contain the shining signs through which the Sun guides his reins, followed by the wandering Moon in her chariot, and wherein the five planets which struggle against the opposite movement of the sky perform the choral dances of their orbits that nature’s law diversifies.”

The first passage (I 16–19 above) comes up right at the programmatic beginning of the work. Manilius first says he is pleased to learn about the constellations and movements of the planets, that is, about astronomical science (I 13–15). The following and more important tasks involve learning about the zodiac which plays a crucial role at the birth and life of human beings (i.e. astrology) and also telling it in verse (I 19). Now, the noun phrase *in numerum*

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Phoebo modulante referre suggests that Phoebus (Apollo or the Sun) harmonizes both Manilius' verse and also the *praecordia mundi* itself; that is, the Sun here turns up as provider of a harmonic structure for the zodiacal band. As scholars have already noted, such double meaning clearly reappears in the following verses *certa cum lege canentem / mundus et immenso vatem circumstrepit orbe* ('the vast celestial sphere rings around the poet singing to a fixed measure' I 22–23)²¹. To summarize, the author introduces the Sun as the ultimate source for the harmony of the zodiac (*praecordia mundi*).

The second passage should be considered a scientific gloss of the concept observed in I 16–19. These are the first lines of the zodiac's second description in the *Astronomica* (I 666–71). Manilius conveys the hegemonic role performed by the Sun across three sentences. In the first sentence, one reads that the Sun guides his reins (*Phoebus moderatur habenas*). Next, the Moon is said to follow the Sun in her chariot (*subsequiturque suo solem vaga Delia curru*), and the last verse *exercent varias naturae lege choreas* refers to the ordered and regular motions of the planets. Accordingly, the view that the planets exhibit choral dances (*varias choreas*) according to the law of nature signalises to the harmonic pattern previously attributed to the Sun's activity (*in numerum Phoebo*

21 See Schrijvers (1983, p. 148–50): 'Il existe une correspondance entre le chanteur terrestre et l'univers qui résonne ... tandis que Phoebus (le Soleil et Apollon) fait vibrer la lyre (de l'univers et l'instrument du poète)'. ... La musique du monde et le monde de la musique s'accompagnent mutuellement.' For the use of *referre* by Manilius in the sense of mirroring the reality of World, see Abry (2006, p. 301-2); Volk (2009, p. 215 n75).

modulante). Specifically, the Sun's guiding (*moderatur*) reins refers to the controlling activity of the Sun over the planets²²: Manilius conveys a partially heliocentric model granting the Sun a hegemonic role in the superlunary region.

There was indeed a cosmological model in the days of the early empire (i.e. Manilius' times) where the Sun exercises control over the five planets (Mercury, Venus, Mars, Jupiter and Saturn). In order to understand this model, let us first remember the motion of the planets as seen from the Earth. The planets sometimes appeared to halt on their path westward alongside the fixed stars (a phenomenon known as station) and sometimes to retrace their steps eastward (a phenomenon known as retrogression). So, according to that astrologically based model the stations and retrogressions of the planets were caused directly by the rays of the Sun and occurred when the planet finds itself in certain positions vis-à-vis the Sun. This cosmological theory is outlined by Pliny the Elder (II 12–13, 59–78), Vitruvius (IX 1 6–14), Theon of Smyrna (III 33), and it has also been observed in Manilius (cf. Volk 2009, 52 n89 and Montanari Caldini 1989). I commented in the paragraphs above the passages where the Sun harmonizes (*Phoebo modulante*) the zodiacal band exercising control (*moderatur habenas*) over the planets. The specific causal pattern where the Sun performs the hegemonic role via radio-solar attractions can be observed in the sentences below.

22 Note that in the *De Republica* Cicero employs similar vocabulary to convey the guiding power of the Sun over the planets: VI 17 *Sol ... dux et princeps et moderator luminorum reliquorum...*

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*sunt alia adverso pugnantia sidera mundo,
quae terram caelumque inter volitantia pendent,
Saturni, Iovis et Martis Solisque, sub illis
Mercurius Venerem inter agit Lunamque locatus.* (I 805–808)

“There exist other stars, which strive against contrary movement of the sky and in their swift orbits are poised between heaven and earth: Saturn, Jupiter, Mars, and the Sun, and beneath them Mercury performing its flight between Venus and the Moon.”

sive illas natura faces obscura creavit

sidera per tenuis caelo lucentia flammis,

*sed trahit ad semet rapido Titanius aestu
involvitque suo flammantis igne cometas,
ac modo dimittit, sicut Cyllenius orbis
et Venus, accenso cum ducit vespere noctem,
saepe nitent falluntque oculos rursusque revisunt* (I 867–73)

“Or perhaps in those torches nature has created dim stars that shine in heaven with meagre flames, but the Sun with its swift radiation (*rapido aestu*) attracts the blazing comets to itself, absorbs them in its own fire, and then releases them: just [like the comets] so do the orb of Mercury and the planet Venus, when she kindles her evening lamp and brings on night, oft disappear and elude our gaze and oft visit us again.”

The first passage shows that Manilius adopted an astronomical system which places the Sun in the middle of the order of the planets²³. The exact order of the heavenly bodies was not uncontroversial in

23 Emma Gee (2013, p. 110–147) comments that the planets are portrayed as an element of subversive disorder in this passage (*sunt alia adverso pugnantia sidera mundo* ...) and in Roman literature in general.

the ancient world. Macrobius discuss the topic at some length (I 19 1–10). He calls this order adopted by Manilius as the Chaldean sequence and contrasts it with the Egyptian sequence which places the Sun next above the Moon. The Chaldean sequence belongs to a more advanced stage of astronomical speculation; it prevails in authors such as Cicero (cf. *De Natura Deorum* II 51–53), Geminus (*Elementa Astronomiae* I 27), Cleomedes (*Caelestia* I 3), and Ptolemy (*Syntaxis Mathematica* IX 1) who seem careful to establish the time it takes for each planet as seen from the Earth to return to a given star (i.e. the sidereal period). Manilius does not provide the sidereal periods, yet he does place the Sun in the prominent centre of the order of the planets.

It is the second passage that illuminates the control exercised by the Sun over the planets. This section is the second option in the doxography about the origins of the comets (I 809–926). One reads there that the comets could be like shadowy stars that shine in heaven with meagre flames (I 867–68 *sive illas natura faces obscura creavit / sidera per tenuis caelo lucentia flammis*). Their behaviour is accordingly explained as the effect of heat waves (*rapido aestu*)²⁴ from the Sun when it involves the comets with its own fire (*suo igne*). Manilius then includes a comparative sentence in the doxa whose reading is rather unclear, *sicut Cyllenius orbis et Venus ... falluntque oculos rursusque revisunt*. As I translate it above, comets are said to be similar to the planets Mercury and Venus which are mostly visible only for a short time before and after

24 *Aestus* means the radiation from the heavenly bodies as in I 21: *ad duo templa precor duplici circumdatus aestu / carminis et rerum*.

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sunrise²⁵. Indeed, this comparison only makes sense²⁶ in case we understand that the same physical process underlies both phenomena: the comet appearances and the planets' orbits. The author implies that the comets are under the same pressure compelling the planets²⁷. He is actually explaining an obscure process, the Sun power over the comets, by identifying it with something more apparent, its sway over Mercury and Venus. Correspondingly, as the authors mentioned above²⁸, Manilius conceives planetary motion as the outcome of comprehensive radio-solar power. One can further speculate that the vocabulary concerning the Sun's controlling activity here alludes to *Phoebus moderatur habenas*: the Sun pulls up (*trahit ad semet*) and releases (*dimittit*)²⁹ the reins of the heavenly bodies.

25 We should remember that the orbits of Mercury and Venus round the Sun lie within that of the Earth and as they approach conjunction with the Sun their light is outshone by its brilliance.

26 The first item of the analogy cannot be the Sun since it does not appear and disappear like those planets. Likewise, the comparison would be tautological in case only the planets' behaviour of appearing at intervals were attributed to the comets.

27 Note that there was a tradition in ancient science arguing for the idea that comets were like planets: "The Pythagoreans count comets with the planets, appearing at long intervals of temporal revolutions and in varied places." (*Scholia in Aratum* 1091 = F 131a E-K). See also Arist. *Meteor.* 342b 30; Aetius III 2 1. Seneca, *NQ* VII 17, ascribes it to Apollonius Myndus and the Chaldeans. Cf. Kidd (1988, p. 490-96). Yet by saying that radio-solar power underlies both phenomena Manilius adds a dynamic cause to this theory.

28 Pliny (II 12-13) and Theon describes the Sun in almost the same terms: the very soul of and earth, the mind and soul of the cosmos. See Keyser (2009, p. 218-33).

29 Cf. *Aeneid* VI 1 *classique immittit habenas*; *Aen.* I 63 *immissis habenis*; Ov. *Met.* 280 *totas immitte habenas*.

Further evidence that Manilius considers the Sun to be the *hegemonikon* can be drawn from references in the *Astronomica* to Lucretius' *De Rerum Natura*. Indeed, as scholars regularly point out, Manilius consistently refers to this didactic poem that conveys Epicurean philosophy (cf. *i.a.* Rösch 1911). The clearest reference to the Epicurean work comes in the passage highlighted above when the author says that 'the universe did not come together at the dictation of chance as he would have us believe who first built the walls of the heavens from minute atoms and into these resolved them again' (I 485–87 *nec forte coisse magistra, / ut voluit credi, qui primus moenia mundi / seminibus struxit minimis inque illa resolvit*). Similarly, unmistakable echoes of the Lucretian text abound in the *Astronomica*. Manilius' strategy lies in articulating his philosophical message via references to the imagery used by his predecessor in Roman didactic poetry³⁰.

There are two passages where Manilius' intertextual engagement with Lucretius aims at conveying the role of the Sun as *hegemonikon*. The first one involves the crucial image of Phoebus controlling the reins of the planets; that is, the activity of the Sun as hegemonic power of the superlunary heavens. The cadence *Phoebus moderatur habenas* (from I 666–71 above) brings to mind the following section of the *De Rerum Natura*.

30 Note that Lucretius employs the same didactic method in relation to Empedocles' work. See Garani 2007.

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*quis regere immensi summam, quis habere profundi 1095
indu manu validas potis est moderanter habenas,
quis pariter caelos omnis convertere et omnis
ignibus aetheriis terras suffire feracis,
omnibus inve locis esse omni tempore praesto,
nubibus ut tenebras faciat caelique serena 1100
concutiat sonitu,...? (De Rerum Natura II 1095–1101)*

“Who is strong enough to rule the sum of the immeasurable, who to hold in hand and control the mighty rein of the unfathomable? Who to turn about all the heavens at one time and warm the fruitful worlds with ethereal fires, or to be present in all places at all times, so as to make darkness with his clouds and to shake the serene sky with thunder ...?” (W. Rouse’ Translation for the Loeb Library)

The passage is part of the second book finale (II 1023 ff.) where Lucretius defends the cosmological view that there are other worlds than this ours for both space and matter are infinite. In the specific section above he asks the questions: who could control the reins of such infinity? Who is responsible for the revolutions of so many skies (*caelos omnis convertere*)? What could send fruitful warm from the skies for all the lands (*omnis ... feracis*)? What is present everywhere so that it is responsible for the meteorological phenomena (*serena concutiat sonitu*)³¹? The gist of this anti-teleological argument is that the infinity of the worlds rules out the hypothesis that there is an ultimate or hegemonic power in the universe (*regere immensi summam?*).

31 Note that Lucretius does speculate about astronomical and meteorological questions in regards with our world in the fifth book of the *De Rerum Natura*.

Now, one should remember that according to Manilius' Stoic worldview the universe means a single world (cf. I 247–54 above: *Hoc opus immensi constructum corpore mundi ...*). Conversely, via the allusion of *Phoebus moderatur habenas* to *quis ... moderanter habenas*, Manilius answers Lucretius' questions by pointing out that the Sun is the *hegemonikon* of the universe. It is the Sun who controls the reins.

Another reference to Lucretius' text following the same intention turns up in the description of the all-pervading pneuma in II 60–66. Manilius does not directly contradict Lucretius in this instance. He rather takes advantage of Lucretius' poetic images by juxtaposing his own theoretical excursus. The intertextual engagement helps to load the didactic verses of the *Astronomica* with additional philosophical charge. I show both passages below.

namque canam tacita naturae mente potentem 60
infusumque deum caelo terrisque fretoque
ingentem aequali moderantem foedere molem,
totumque alterno consensu vivere mundum
et rationis agi motu, cum spiritus unus
per cunctas habitat partes atque irriget orbem 65
omnia pervolitans corpusque animale figuret. (*Astronomica*
 II 60–66)

“For I will sing of god, who silently rules nature and is poured into sky and lands and sea and governs the enormous mass with equal rule, and how the whole world lives by mutual agreement and is driven by the movement of reason, while one spirit lives through all parts and, pervading everything, nourishes the world and shapes its ensouled body.” (Translation of Volk 2009 p. 34)

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*praeterea si quae penitus corpuscula rerum
ex altoque foras mittuntur, solis uti lux
ac vapor, haec puncto cernuntur lapsa diei
per totum caeli spatium diffundere sese
perque volare mare ac terras caelumque rigare* (DRN IV
199–205)

“Besides, if there are particles of matter which are sent out from deep down inside – such as the light and heat of the Sun – which are yet seen to slip and pour themselves through the whole space of heaven in a single moment of the day, to fly through the sea and lands and flood the sky...” (Translation of Godwin 1986)

As commented above, Manilius views the universe as a living being, an organic structure kept alive by divine breath and governed by reason (cf. I 247–54). Here the universe is explicitly pictured as an animal (II 66 *corpus animale*). We also observe in the *Astronomica*’s passage the essential concept underlying the astrological creed: the idea that all distinct parts of the universe are related due to *sympatheia*, the general interconnectedness of everything (*totumque alterno consensu vivere mundum*) brought about by the *spiritus* that permeates the universe (*cum spiritus unus per cunctas habitet partes*). Correspondingly, the *spiritus* which grants the physical continuum interrelating all the parts of the world should be identified as the Stoic pneuma³². The Stoic theory held that the pneuma consists of fire and air. It pervades all the elemental masses and is responsible for the nature of each thing – or rather, for the holding-power, nature, or soul of each thing according to whether it is inanimate or

32 Cf. *i.a.* Volk (2009, p. 227–30).

a plant or an animal. More specifically, *potentem infusum deum caelo terrisque fretoque* entails the pneuma as described, for instance, by the Stoic Posidonius: ‘God is intelligent pneuma pervading the whole of substance, substance being earth, water, air, heaven (F 100 EK = *Scholia in Lucani Bellum Civile* IX 578)’³³.

Manilius’ intertextual engagement with Lucretius should be understood as complementing this specific cosmological concept. Lucretius’ passage plainly describes the speed of the Sun’s light and heat. Accordingly, the identical vocabulary methodically associates the pneuma’s action with the Sun’s. There is an all-encompassing flow in both passages that pervades (*infusum ... totum mundum* DRN *per totum spatium diffundere sese*), flies over (*pervolitans* DRN *volare*) and irrigates (*irriget* DRN *rigare*) the elemental masses (*caelo terrisque fretoque* DRN *per mare ac terras caelumque*). The clear allusion to the *De Rerum Natura* therefore identifies the pneuma as the Sun’s light and heat (*solis lux ac vapor*); that is, the Sun is the god pervading the atmosphere, the sea and the earth. Further details strengthen this connotation. It is also noticeable that Manilius reutilises the significant word *moderans* (cf. *Phoebus moderatur habenas*) to picture the control of god (or the Sun) over the cosmos (*deum moderantem molem*

33 See also Aetius 1. 7. 33: ‘The Stoics declare god intelligent, creative fire proceeding methodically in generation of a cosmos and encompassing all the seminal *logoi* according to which everything happens by fate, and pneuma pervading the whole cosmos and acquiring titles by alternation of the matter through which it has spread.’

II 62). Finally, the passage following the section highlights the providential role performed by the cosmic *hegemonikon*:

*quod nisi cognatis membris contexta maneret
 machina et imposito pareret tota magistro
 ac tantum mundi regeret prudentia censum,
 non esset statio terris, non ambitus astris, 70
 erraretque vagus mundus standove rigeret,
 nec sua dispositos servarent sidera cursus
 noxque alterna diem fugeret rursumque fugaret,
 non imbres alerent terras, non aethera venti
 nec pontus gravidas nubes nec flumina pontum 75
 nec pelagus fontes, nec staret summa per omnis
 par semper partes aequo digesta parente,
 ut neque deficerent undae nec sideret orbis
 nec caelum iusto maiusve minusve vola-
 ret motus alit, non mutat opus.
 sic omnia toto dispensata manent
 mundo dominumque sequuntur (II 67–81)*

“Indeed, unless the whole frame stood fast, composed of kindred limbs and obedient to an overlord, unless providence directed the vast resources of the skies, the Earth would not possess its stability, nor stars their orbits, and the heavens would wander aimlessly or stiffen with inertia; the constellations would not keep their appointed courses nor would alternately the night flee the day and put in turn the day to flight, nor would the rains feed the earth, the winds the upper air, the sea the laden clouds, rivers the sea and the deep the springs; the sum of things would not remain for ever equal through all its parts, so disposed by the fairness of its creator that neither should the waves of the sea fail nor the sea the land sink beneath them, nor the revolving heavens become larger or smaller than the mean. Motion nourishes and does not alter the edifice. In this due order over the whole universe do all things abide, following the guidance of a master.”

The passage reads as a long conditional compound sentence that is rounded off by a categorical statement. The compound sentence can be summarized as follows. Unless there was an indisputable overlord (*imposito magistro*) providentially ruling the structure of the world (*mundi regeret prudentia censum*), the outstanding regularity of the cosmic bodies (the *caelestia* phenomena, II 70–73) and the close interconnectedness in our natural world (the *metarsia* phenomena, II 74–76) would collapse. Next, the final statement asserts the presence of the governing principle: *sic omnia toto dispensata manent mundo dominumque sequuntur*. Accordingly, whilst the concept of the ‘chief-part’ stands clear in the protasis and in the final statement, the apodosis conveys the means by which the relationship of subordination works. The ‘feeding’ carried out between the elemental masses (cf. II 74–75 water→earth, air→fire, water→air) corresponds to the hierarchical structure underlying the cosmic framework³⁴. Likewise, there is a further reference to the Sun as *hegemonikon* here. The Stoics held that the ultimate beneficiary of this relationship of subordination via nourishment is the Sun. The gradual process of nourishment and growth of the Sun via evaporations (cf. *alerent ... aethera venti ... pontus gravidas nubes*) would actually lead to the complete desiccation of the cosmos and to its eventual conflagration (cf. *i.a. De Natura Deorum* II 118).

34 Note that the feeding carried out between the elemental masses is germane to the idea that the universe is a living thing. Cf. Plutarch *De Stoicorum Repugnantiiis* (1052 D): ‘he [Chrysippus] states that there is nourishment of the cosmos also, but even more because he says that the cosmos grows by getting nourishment from itself.’

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We can conclude our analysis now. We have observed that the Stoic concept of *hegemonikon* is an integral part of the worldview portrayed by Manilius. Manilius conveys the idea of a living cosmos whose body is hierarchically disposed. The zodiacal band turns up as the most important area of the divine part of the universe, the skies; there are also strong suggestions that the Sun in turn stands as the ultimate 'command-centre' by providing a harmonic control over the heavenly bodies contained within the zodiacal region. The relationship between the Sun and the twelve sign-constellations is not clear. Yet, given the importance of these constellations for the astrological theory, one can suspect that the hegemonic role of the Sun consists in 'administrating' their all-powerful effluences over the Earth³⁵. In this case, the *Astronomica*'s cosmological model would be very similar to the *Caelestia*'s where the Sun also 'administrates' (II 1. 396) the providential power that emanates from the heavens in their totality.

It is also possible that, as in the case of the *Caelestia*, the cosmological doctrine we have observed in the *Astronomica* belongs to Posidonean or Post-Posidonean Stoicism. The scientifically-driven doxography about comets (I 809–926) that introduces the Sun's control over the heavenly bodies (I 867–73) most probably

35 Note that in section IV 124–293, which describes the character and lifestyle imparted by the sign-constellations, the person's sign is the Sun sign, that is, the sign in which the Sun is positioned at the moment of the native's birth. See Hübner (1982, p. 516–17): 'Diese drei Bilder [IV 144, 218, 162] besagen zwar nicht direct, dass die Sonne die zodiakalen Wirkungen auslost ...' See also the commentary of Feraboli on the same passage (Feraboli et al. 1996–2001 *ad loc*).

belongs to Posidonius.³⁶ Moreover, Manilius' polemic allusions to the text of the *De Rerum Natura* regarding the hegemonic role of the Sun is germane to Posidonius' criticism against the Epicurean tenet³⁷ that the Sun is just as big as it appears (*Cael.* I 8. 157 ff = F 19 E–K)³⁸. These topics concerning the magnitude and cosmological importance of the Sun have shown to be intensely debated in the Post-Hellenistic philosophical circles. In fact, Manilius' *Astronomica* seems to belong to the Posidonean branch of Stoicism in the sense that it provides 'scientific' evidence to support the cosmobiological concept of *hegemonikon*. His astrological doctrine methodically articulates the organic and sympathetic interaction between the hegemonic body, the Sun, and some discrete components of the sublunary realm, the human beings³⁹.

36 Cf. *Scholia in Aratum* 1091 (= F 131 E–K) [see note 27 above]. Seneca *Naturales Quaestiones* VII 19. 1–21. 2 (= F 132 E–K): 'We don't see many comets because they are concealed by the rays of the Sun. Posidonius reports that once in an eclipse a comet had appeared, which had been blotted by the nearness of the Sun'. See Keyser (1994, p. 637–51).

37 Epicurus' doxa is dogmatically reproduced by Lucretius (V 564–91).

38 Note that Posidonius' criticism regarding the size of the Sun frames the passage (II 1. 357–403 above) conveying its hegemonic role: '(F 19 E–K) But having stated that the Sun sends out to us an appearance of being about 1 foot wide, despite its being much larger than Earth, it is the very claim [about its size] that we must demonstrate next by offering [arguments] derived from a group of authors, including Posidonius who have written treatises exclusively on this subject ... (II 1. 404) Epicurus, then, should have attended all this [the Sun's causative power] and reflected on whether a fire that was 1 foot wide could have a power that was so extensive, so great, and so prodigious.'

39 Long (1982) defends the thesis that the Stoics in general (including Posidonius) do not support the so called hard astrology

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advocated by Manilius, that is, the assumption that heavenly bodies are signs and causes of human affairs (cf. n. 19). However, there are some fragments preserved in the works of Cicero and Augustine where it seems that Posidonius has supported this specific belief. See, for instance, the comments of Kidd (1988, p. 438) on Augustine *De Civitate Dei* V 2, ... [*pertinere credebat*] *hoc philosophus astrologus ad vim constitutionemque siderum* (= F 111 E-K = *De Fato* fr. 4 Sharples): 'Augustine clearly places him [Posidonius] in his second category as thinking that the stars exercised an active force (*facere*, Context; *vim*, 8) or influence.' See also the comments of Wardle on *De Divinatione* I 118-24 (2006, p. 390): 'Chrysippus and Antipater (*De Div.* II 35) held that there was a specific divine interpretation to produce each divinatory sign which was to be interpreted ... Posidonius, however, argued that signs and events were connected in a global system of causality which the gods had organized.'

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