

APOTELESMATICA 2. (1) 14–140: SOURCES AND MODELS*

The *Apotelesmatica* transmitted to us under the name of Manetho is a compilation of hexameter astronomical poetry dated in the imperial period. Books 2, 3 and 6 constitute a complete poem and, according to the horoscope the author gives for himself (6.738–50), it has been calculated that he was born in A. D. 80.¹ The author based his long poem on the work of Dorotheus of Sidon, an astronomical treatise, also in hexameter verse, which was used as a source by various writers in the following centuries.² Lines 1–17

*) I would like to thank the anonymous referee and the Editor of *Rheinisches Museum* Prof. Dr. Bernd Manuwald for their useful and constructive comments on the present article.

1) See N. Hopkinson, *Greek Poetry of the Imperial Period* (Cambridge 1994) 204 f., T. Barton, *Ancient Astrology* (London 1994) 58. The following books and articles are cited by author (and date) in the paper: G. Aujac, *Sphère céleste et constellations chez Eudoxe, Aratos, Hipparque, Ptolémée*, in: *Les Astres, Actes du colloque international de Montpellier 1995*, ed. B. Bakhouché, A. Moreau, J.-C. Turpin (Montpellier 1996) 209–26, ead., *La Sphéropée, ou la mécanique au service de la découverte du monde and Globes célestes en Grèce ancienne*, in: ead., *La Sphère, instrument au service de la découverte du monde* (Caen 1993) 157–71 and 215–22 respectively, A. le Bœuffle, *Germanicus, Les Phénomènes d'Aratos* (Paris 1975), id., *Hygin, L'astronomie* (Paris 1983), J. Gronovius, *Manethonis Apotelesmaticorum libri sex* (Leiden 1698), H. G. Gundel, *Zodiakos* (Mainz am Rhein 1992), D. Kidd, *Aratus: Phaenomena* (Cambridge 1997; the translation of the Aratean passages in this paper are taken from his edition), F. Lassere, *Die Fragmente des Eudoxos von Knidos* (Berlin 1966; Eudoxus' fragments are quoted from this edition), A. Koehly, *Arati Phaenomena et Prognostica, Pseudo-Manethonis et Maximi Carmina Astrologica*, in: *Poetae Bucolici et Didactici* (Paris 1851), E. Maass, *Commentariorum in Aratum Reliquiae* (Berlin 1898, repr. 1958), D. Pingree, *Dorothei Sidonii Carmen Astrologicum* (Leipzig 1976), A. M. Salvini, *Manetone Degli effetti delle stèle* (Florence 1976), A. Schlachter, *Der Globus: seine Entstehung und Verwendung in der Antike* (Leipzig/Berlin 1927), G. Thiele, *Antike Himmelsbilder* (Berlin 1898), M. L. West, *Hesiod, Theogony* (Oxford 1966). The text of Pseudo-Manetho's is that of A. Koehly, *Manethoniana* (Leipzig 1858); on a couple of instances I propose corrections (although in various other points Koehly's readings can be disputed as well: the critical edition of the passage under discussion, however, would be out of the scope of the present paper). The English translation is my own.

2) See Barton 58, Pingree xi. Dorotheus' *floruit* can be placed, according to information given in the work, between A. D. 25 and 75, see Pingree x. The know-

are an introduction to the work, briefly displaying the celestial bodies, Sun, Moon, fixed stars and planets. In line 14 the author introduces the five planets whose phases and powers will constitute the theme of his epic and proceeds with the presentation of the sphere: axis, poles, celestial circles (18–140), before entering the main field of his interest, the astrological discussion. The present paper focuses on lines 14–140, as these convey the astronomical information which enables us to examine them with reference to scientific sources. More specifically the discussion intends to demonstrate the influence of Aratus' *Phaenomena* on these lines, and will also trace, to the extent that the extant evidence renders it possible, the poet's use of other sources for the presentation of the constellations in them.

The author is inspired by Aratus, deviating from the presentation of the constellations in his model, however, in numerous details; it will be shown that for the composition of this part of his poem Pseudo-Manetho used a globe, like many astronomical authors of Antiquity.³ The unremitting popularity of the usage of globes even in later times is most eloquently expressed by the rewriting of the Aratean lines about the constellations of the three celestial circles (tropic of Cancer and Capricorn, Equator) by the Byzantine scholar Maximus Planudes (1255–1305), in his revision

ledge of Dorotheus is evident for instance in Hephestion Thebaeus, who composed three books of *Apotelesmatica* at c. A. D. 415, Rhetorius Aegyptius, various Byzantine astrologers, see Pingree xii f.

3) For a discussion of this likelihood for Manilius, Germanicus, Hyginus, Achilles, among others, see Thiele 45 ff., Schlachter 23, 27 ff., le Bœuffle (1975) xxii, id. (1983) x ff. Statues, coins, gems and other works of art depicting globes have survived, see Gundel passim: for the first century B. C. to first century A. D. for instance 281 n. 264, 291 n. 329, 293 n. 314, and passim. For a discussion of the sphaeropoia in Antiquity see Aujac (1993, *La Sphéropée*) 157–71. A whole marble globe in a relatively good condition, with the celestial circles and the constellations on them in relief is the Atlas Farnese globe, an Adrian-age copy of an original of the third quarter of the first century B. C., see Thiele Taf. II–VI, Gundel 204, 207 n. 8. Thiele has argued that it is Hipparchus' globe that the artist of the globe Farnese copied or at least based his work on, see Thiele 27 ff. For the popularity of globes and other artefacts representing the sky in Antiquity, cf. for instance the epigram which accompanies the celestial globe the poet Leonidas of Alexandria offers to Poppaea (AP 9.355) and the pair of cups decorated with constellations offered as a present to Piso (Antip. Thess. AP 9.541), with the help of which the receiver “no longer needs to look up Aratus”, l. 5. Ancient sources again state, inter alia, that globes were indeed necessary for the readers' understanding of Aratus, see Schlachter 21 ff.

of the Aratean text, based on the globe of the 2nd c. A. D. mathematician Ptolemy, according to Triclinius' testimony.⁴ At the same time, Pseudo-Manetho is composing a didactic poem; he uses epic vocabulary in the characteristic, for Hellenistic and later poetry, practice of imitation with variation. Thus specific and elegantly allusive references to Homer and Hesiod can be traced in the *Apotelesmatica*, such that reveal a thorough and detailed knowledge of the old poetry.

The poet is devoting his work to the description of the Sun and Moon and the five planets: in this way he 'completes' Aratus' work, which referred only to the fixed stars. The imitation of Aratus extends to the level of concept and purpose. Aratus turned Eudoxus' astronomical work into hexameter verse; Pseudo-Manetho also bases his work (although with probably a lesser dependence) on a previous treatise, that of Dorotheus, which was however a hexameter poem as well.⁵ The second (first) book of the *Apotelesmatica* is ordered thus:

1–17: brief presentation of the subject of the poem, the Sun, the Moon and the five planets; 18–26: the rotating sky, its axes and poles; 27–56: brief presentation of the nine celestial circles, seven invisible (the northern circle, the summer tropic, the equator, the winter tropic, the southern circle, the Horizon and the Meridian) and two visible (the Galaxy and the Zodiac); 57–140: detailed presentation of the nine circles and the stars each one has; 141–502 (main theme): discussion of the seven planets, their phases and powers.

The part under discussion of Pseudo-Manetho's poem runs thus:

The Five Planets

Πέντε δ' ἄρ' ἀστέρες οἶοι ἀγανότατοι διὰ κύκλου
 Ζωδιακοῦ πλάζονται ἀμειβόμενοι κατὰ κόσμον 15
 ἀλλήκτως, οὓς φύλα βρωτῶν ὀνόμηναν ἀλήτας,
 τῶν μὲν δὴ μετόπισθε φίλη μεμνήσομ' αἰοιδῆ.

The Axis

Μακρὸς δ' αὖ διὰ μέσσου ἐλήλαται οὐρανοῦ ἄξων,
 ἀστεμφής, ὅσσοισιν ὀρωμένῳ ἀπροτίσπτος,
 ὃς περὶ πᾶν γαίης τε καὶ ἀτρυγέτου διὰ πόντου 20
 ὄκα διηνεκέως δινεύμενος οὐκ ἀπολήγει.

4) See further Kidd 55 ff.

5) "Manetho ... Dorothei doctrinas multis versibus explicare conatus est", Pingree xi.

The Poles

Τοῦ δὲ δὺω πόλοι εἰσὶ καταντιπέρην ἀσάλευτοι,

The Northern Pole

ὃς μὲν ἐπὶ κρυεροῦ Βορέω πνοιῆσιν ἀρηρώς

Ursa Minor

καὶ κεφαλῆς ἀγχοῦ βαίης κυνοσουρίδος Ἔρκτου,

The Southern Pole

ἄλλος δ' ἐν διερω Νότῳ ἴσταται· ἀλλ' ὁ μὲν ὕψου

25

κεῖται ὑπερχθόνιος, Νότιος δ' ἀίδηλος ὑπ' αἴαν.

Κύκλοι δ' ἀπὸ πολλοὶ καὶ ἀπείριτοι οὐρανοῦ εἴσω

δινεῦνται, τοὺς αὐτὸς αἰεὶ σφαίρης στροφάλιγγι

τεύχει ἐλισσομένων ἄστρον κατ' ἀπείριτον οἶμον.

30

Τῶν δὲ τε πάντων εἰσὶ πανέξοχοι ἔννεα κύκλοι,

δοιοὶ μὲν προτίοπτι ἰδ' ὀφθαλμοῖσιν ὀρητοί,

οἱ δ' ἄλλοι μῆτι μερόπων πραπίσιν τε νοητοί.

Ἐπτ' αἰδεῖς μὲν ἕασιν ἰδ' ἐν φρεσὶ μόνον ὀρητοί,

ἀλλήλοισι δὲ παραβλήθην στρωφώμενοι αἰεὶ·

(*The Northern Circle*)

ὃς μὲν γὰρ πρῶτος * * *

35

* * * πόλου δινεύμενος ὕψου,

ὄντε Βόρειον φάτες ἐπὶ κλησιν καλέουσιν·

(*The Tropic of Cancer*)

τὸν δὲ μετὰ τροπικὸς θέρεος πυριλαμπέος ὥρης

γίνεται * * *

(*The Equator*)

τείνονται μεσάτοιο, δι' οὐ θοδὸν ἄρμα τιταίνων

ἴσην Ἥλιος τεύχει νύκτ' ἀμβροτον ἡοί·

(*The Tropic of Capricorn*)

τῷ δ' ἐπὶ χειμερίοιο τροπῆς κύκλος ἐστήρικται·

40

(*The Southern Circle*)

ἐξεῖξαι δ' ἐπὶ τῷ Νότιος πέλει, οὐ ρά τε βαίην

φράζω μοῖραν ὑπερθε, τὸ γὰρ πλέον ἔσθ' ὑπὸ γαῖαν·

τοὺς δὲ μέσους τέμνουσι δὺω κύκλοι ἄξονος αὐτοῦ

ἄκρης ἀρχόμενοι κορυφῆς· αὐτοὶ γε μὲν ἄμφω

ἀλλήλους ἄχρις Νοτίου τέμνουσι πόλοιο,

45

(*The Horizon*)

ὃς μὲν ἐνὶ θνητοῖσι καλούμενος ὀρθὸν Ὀρίζων,

(*The Meridian*)

ὃς δὲ Μεσημβρινὸς ὕψου ἄκρης κυρτούμενος αἴθρης.

Ἄμφοτεροὶ δ' ἄρα τοῖγε πόλων ἔντοσθεν ἐόντες

ἐντὸς ἐέργουσιν δίνην περικείμενοι ἄστρον.

50

Οἶδε μὲν ἐν πραπίδεςσιν ἀριφραδέες τελέθουσιν

γνώσασθαι κύκλοι. Τοὺς δ' αὐθ' ἑτέρους καὶ ἐπ' ὄσσοις

δερκόμεθ', εὐτ' ἂν γαῖαν ἐπιτρέχη ἀμβροσίη νύξ,

(*The Galaxy*)

τὸν μὲν ἴσον χροίῃ λευκῷ φαίνοντα γάλακτι,

(*The Zodiac*)

τὸν δ' ὑπὸ δεικήλοισι δωδέκα παμφαίνοντα

Ζωδιακόν· λοξοὶ δ' ἐπαμοιβαδὶς ἐζώσαντο

55

- οὐρανὸν ἀμφοτέροι δίχα τέμνοντές σφεας αὐτούς,
 Ἐπτά δ' ἄρ', ὡσπερ πρόσθεν ἀείσαμεν, εἰσὶν ἄϊστοι
 καὶ μόνον πυκνῆσιν ἐνὶ φρεσὶν ἐστηῶτες,
 οὐνεκεν οὐ ζώων μορφαῖς ὀλκοῖς τε φαινοῖς
 οὐδὲ μὲν οὐ χροίῃσι διάκριτοι εἰσορόωνται, 60
 ἀλλ' αὐτως δίνησιν οἴομεθά σφεας ἄστρον
 κυκλοῦσθαι, τάπερ αὐτὸς ἀτειρὴς αἰὲν ἀγνεῖ
 οὐρανὸς ἐν στροφᾷλιγγι περὶ χθόνα διὰν ἐλίσσω.
 The Northern Circle
 Ἦ γὰρ δὴ τὸν μὲν τε Βορήιον ἄστερες Ἔρκτου
Ursa Major
 μείζωνος, ἦν Ἐλίκην ναῦται νηῶν ὀνόμηναν, 65
 ἀμφιχαράσσονται ροίζῳ στρωφώμενοι αἰεῖ,
 οἴτε οἱ ἀκροτάτοισι φαίνονται περὶ ποσσίν·
Bootes
 ἄντυξ δ' αὖ κύκλιοι μέσσην διὰ χεῖρα Βοώτου
The Serpent
 τέμνει ὑπ' ἀγκῶνος σκαιοῦ, κεφαλῆς τε Δράκοντος
Cepheus
 ἀκροτάτης ψαύει, στέρνον θ' ὑπο Κηφέος εἰσὶν 70
Cassiopeia
 καὶ κλεινῆς ἀλόχοιο παρὰ ποσὶ Κασσιεπείης.
 The Tropic of Cancer
 κύκλος δ', ὅστε τρέπει θέρεος πυριλαμπέος ὄρη,
 ἄστέρι δινεύοντι περιγράφεται κατ' Ὀλυμπον
 Καρκίνου ὀγδοάτης μοίρης ἔπι παμφαίνοντι·
The Crab
 κεῖται δὲ τήγων μέσσην διὰ Καρκίνον αὐτόν, 75
The Lion
 ξανθὴν τ' ἀρχενίην χαίτην χαροποῖο Λέοντος,
The Serpent, Ophiouchus
 σπεῖραν τε πρώτην Ὀφιοῦς, βριαροῦ τ' Ὀφιοῦχου
The Bird
 ὄμους, Ὀρνιθὸς τε δέρην ταυσιπτερύγιοι,
The Horse
 καὶ πόδας Ἰππείους, χειρὸς τ' ἀγκῶνα βορείου
Andromeda
 Ἄνδρομέδης, καρπὸν τε χερὸς λαίην δὲ τε κνήμην 80
Perseus, the Charioteer
 Περσέος, ὑστάτιόν τε ποδὸς θέναρ Ἠνιόχοιο,
The Twins
 καὶ βριαρῶν Διδύμων δύο σὺν χεῖρεσσι κάρηνα.
 The Equator
 αὐτὰρ ἰσημερινόν τις ἐφ' φράσσαιτ' ἐνὶ θυμῷ
The Ram
 ἄστέρος ἐκ μεσάτοιο χαρασσόμενον Κριοῖο,
The Bull
 κεῖθεν δ' αὖ παραμειβόμενον Ταύρου πόδας ἄκρους, 85

- Orion*
καὶ καλὴν ζώνην θηροκτόνου Ὀρίωνος,
Hydra, Creter
Ἵδρης θ' ὄλκον ἀπειρεσίης, Κρητῆρά τε μέσσον,
ἔξῃς δ' ἀκροτάτου στολμοῦ ψαύοντ' ἐρατεινῆς
The Virgin
Παρθένου, ἰοβόλου τε διῆς χηλῆς περώωντα
The Claws, Ophiouchus
Σκορπίου, ἰγνύας τε διακρίνοντ' Ὀφιούχου, 90
The Horse
καὶ χαίτης ἄκρης ἐπαφόμενον ὠκέος Ἴππου,
The Fishes
μέσσον τ' ἀμφοτέροισιν ἐν Ἰχθύσι δινεύοντα.
The Tropic of Capricorn
Χειμερίου δὲ τροπῆς κύκλον θεοῦ Αἰγοκερῆος
Capricorn, the Waterpouner, the Monster
σκέπτει παρ μέσσοιο διεκπερόωντ' ἐπὶ γούνα
ἀμφοτέρ' Ὑδροχόου, καὶ Κήτεος εἰναλίιο 95
The Hare
οὐρῆν, ἥδὲ Λαγωῦ ἀπὸ στέρνων ἐπὶ μέσσα
The Dog, Argo
νισσόμενον, πρώτους τε πόδας Κυνός, ἥδὲ καὶ Ἀργοῦς
ποντοπόρου τέμνοντα δι' αἰθέρος ἄκρα κόρυμβα,
The Centaur
Κενταύρου τ' ὄμους νοτίους, κέντρον τ' ὀλοοῖο
Scorpio, the Archer
Σκορπίου, ἥδὲ βῖον στέρνων μέτα Τοξευτῆρος. 100
The Southern Circle
Τὸν δ' ἄρα δὴ νότιον, μεθ' ὃν οὐκέτι φέγγος ὀράται
ἄστρον ἀνθρώποις, οἳ δὴ χθόνα τήνδε νέμονται,
The Centaur
ὀπλήσιν Κένταυρος ὑπὸ σφετέρῃσι χαράσσει,
Argo
πηδάλιον τε νεός, τὴν ἀκροτάτῃσι καμουῖσα
Πηλίου ἐν κορυφαῖς Παλλὰς θέτ' ἀν' ἀστράσιν Ἀργώ. 105
Οἱ δὲ δύο, τοίπερ τε πόλῳ διαπειραίνονται,
ἀστεμφεῖς ἐστάσι καὶ ἀκλινέες περὶ κόσμον,
πάντων δεικίλων αἰεὶ ἐπαφόμενοι ὄλκου·
The Meridian
ὃς μὲν γὰρ θ' ὕψου θεοῦ οὐρανοῦ ἐστήρικται
ἠφῆν οἶμον καὶ δεῖελον Ἡελίοιο 110
κρίνων καὶ θνητοῖσιν ἄγων βαιὴν λύσιν ἔργων·
The Horizon
ὃς δὲ περιστρέφεται πύματον πόντον τε καὶ αἶαν
φαίνων ἀντολίας, δύσιός θ' ὑπὸ βένθεσι κεύθων,
ὃς βὰ θ' Ὀρίζων κύκλος ὑπ' ἀνθρώπων πεφάτισται,
οὐνεκα μηκίστην ὄσσων ἐπιτέμνει ὀπωπῆν. 115
The Galaxy
Ὀλκὸς δ' αὖτε Γαλαξίῳ βαιῇ μὲν ὀράται

λαμπετόων μοίρη, τὸ δὲ οἱ πλέον ἐστὶν ἀμαυρόν· γυρούται δ' ὑψοῦ μὲν ἐπὶ πνοιαῖς Βορέαο <i>Cassiopeia</i> ἐν θρόνῳ ἐξομένης γούνων ἄχρι Κασσιπεΐης, <i>Cepheus, the Bird</i> πάρ κεφαλὴν Κηφῆος· ὁ δ' Ὀρνιθος πτερὰ τέμνει,	120
<i>The Eagle, the Bow</i> Αἰητοῦ τε μέσον, καὶ Τόξων ἄγχι κορώνης <i>Scorpio</i> ἀκρότατον νεῦρον, θηρὸς φονιοῖό τε κέντρον, <i>The Altar, the Centaur</i> ἠδὲ Θυτήριον ἄκρον ἰδ' ὄπλ' ἀς Κενταύροιο τέσσαρας· ἐκ δ' ἄρα κείθεν ἀνέρχεται ἐκ Βορέαο <i>Argo</i> ἄσπορος διὰ Νηὸς ἀμειβόμενος κατὰ πρύμνην,	125
<i>The Twins, Orion</i> καὶ κνήμας Διδύμων, κορυφῆς θ' ὑπερ' Ὀρίωνος, <i>The Charioteer</i> καὶ γόναθ' Ἡνιόχου, γουνός τ' ἔπι γοργοφόνοιο <i>Perseus</i> δεξιτεροῦ Περσηῆος, ὃ δὴ τέταθ' ὥστε θέοντος, <i>The Zodiac</i> Ζωδιακὸς δ', ὅσπερ τε κατ' οὐρανὸν ἔπλετο πάντων εὐτροχάλων κύκλων μάλ' ἀγαυότατος καὶ ὀρητός,	130
δόδεχ' ὑπ' εἰδώλοισι κεκασμένος εἰσι δι' αἴθρης· ἀμφὶ δ' ἄρ' αὐτὸν κέῖται ὑπ' ἀστράσι παμφαίνοντα <i>The Ram, the Twins</i> Κριὸς καὶ Ταῦρος, Δίδυμοι δ' ἐπὶ τῷδε, μετ' αὐτούς <i>The Crab, the Lion</i> Καρκίνος ἠδὲ Λέων, στάχυάς τ' ἐν χερσὶ φέρουσα <i>The Virgin</i> Παρθένος ἀνθρώπων γενεὴν ποθέουσα παλαιῶν,	135
<i>The Claws (= The Balance)</i> Χηλαί θ', ἃς καὶ δὴ μετεφήμισαν ἄνδρες ἱροὶ καὶ Ζυγὸν ἐκλήρισσαν, ἐπεὶ τετάνυνθ' ἐκάτερθεν οἷαί περ πλάστιγγες ἐπὶ ζυγοῦ ἔλκομένοιο, <i>Scorpio, the Archer</i> Σκορπίος ἐστὶ δ' ἔπειτα, βίη τ' ἔπι Τοξευτήρος, <i>Capricorn, the Waterpouwer, the Fishes</i> καὶ δὲ καὶ Αἰγόκερος, μεθ' ὃν Ὑδροχόος τε καὶ Ἰχθύς.	140
16 ἀλλήκτως scripis: Α' δίκηλ' Gronovius, καὶ δέικηλ' Koechly 104 ἀκροτάτησι Koechly: ἀκροτόμοισι Gronovius καμοῦσα scripis: τεμοῦσα Gronovius et edd. 105 ἐν κορυφαῖς Koechly: ἐκ κορυφῆς Gronovius	

Only five most brilliant stars are wandering through the Zodiac circle, in turn, in neat order (15), eternally, and people have named them 'vagrant'; these I will sing next in my song. A long axis goes through the

middle of the sky, immovable, unseen by the observer's eyes, and does not cease to turn around it everything, going through the earth and the unharvested sea, quickly, continuously (21). The two poles of the axis are opposite one another, still, the one fixed near the breezes of the cold north wind and close to the head of the Cynosouris Small Bear, the other one standing at the watery south (25); but the one lies high over the earth, while the southern pole is invisible under the earth. Many and innumerable circles evolve in the sky, which the sky always creates with the turning of the sphere while the stars rotate on their endless path (29). Of all these, nine circles are most eminent, the two evident and visible to the eyes, and the others comprehensible by the mind and the wisdom of mortals. Seven are unseen and visible only by the intellect, always rotating another being in the way of another; the first one * * * turning high around the pole (35), which men call Northern; after this one there is the Tropic of the bright time of the Summer; * * * they extend in the middle, through which the Sun, governing his swift chariot, makes the night equal to the divine day; on this the circle of the Winter-Turning is fixed (40); next to this there is the Southern circle, a small part of which you may say that is over the earth, for the greatest part is under it; in the middle these are cut by two circles which start from the very top of the axis; these two circles cut each other up to the Southern pole (45), the one rightly called by men Horizon, the other Meridian, curved high in the utmost sky. Both of them, located between the poles, confine the rotation of the stars, clad by it (49). These circles are manifest in the mind. The others again we can see with our eyes as well, when divine night runs over earth, the one appearing very much alike in colour with white milk, the other, the Zodiac, shining with twelve figures (55); and these oblique circles interchangeably girdle the sky, the two of them cutting each other into two. So there are seven circles, as we have sung before, unseen and fixed only in the shrewd mind, because they are not seen with figures of creatures and splendid traces, nor due to the distinction of their colour (60), but we think that they are thus encircled by the orbits of the stars which the indestructible sky itself ever drives on, turning them around the divine earth in a whirl. Indeed, ever rotating in a rush, the stars of the Great Bear, which the sailors call Helice (65), mark the course of the Northern circle, and they appear around her extreme feet; and the rim of the circle cuts through the middle of the arm of Bootes under his left elbow, touches the extremity of the Serpent's head, goes under Cepheus' chest (70) and near the feet of Cassiopeia, his renowned wife. Now the circle which brings the time of the bright summer is drawn around the sky through the orbit of a star shining at the eighth part of the Cancer; and it lies cutting Cancer itself in the middle (75), the blond mane of the terrible Leo, the first coil of the Serpent, the shoulders of the robust Ophiuchus, the neck of the stretch-winged Bird, and the Horse's feet, and the elbow of the northern arm of Andromeda (80), and the wrist of Perseus' hand and his left leg, and the extreme edge of the Charioteer's sole of the foot, and the two heads with the arms of the robust Twins. And someone could imagine the Equator, marked by the mid-

dle of the Ram, and then going past the extremity of Taurus' feet (85), and the beautiful belt of the beast-killing Orion, and the coil of the immense Hydra, and the middle of the Creter, then touching the extremity of the lovable Virgin's garment, passing from the Claw of the poisonous Scorpio, separating Ophiouchus' knees (90), and touching the extremity of the swift Horse's mane, and rotating through the middle of both Fishes. And observe the circle of the Winter-Turning, as it goes, passing through the middle of the swift Capricorn, to both knees of the Waterpouner, and to the tail of the sea-Monster (95), and as it goes from the chest to the middle of the Hare, and to the Dog's front feet, and as it cuts the stern ornaments of the sea-faring Argo through the ether, and the Centaur's shoulders, and the dangerous Scorpio's southern sting and the bow along with the chest of the Archer (100). And the Southern circle, after which men who inhabit this earth can no longer see the light of the stars, the Centaur marks under his claws, and the steering-oar of the ship, which Pallas, having wrought it on the top-most peaks of Pelium, placed among the stars, Argo (105). And the two circles, which pass through the pole, stay unmoved and steady around the world, constantly touching the track of all signs; the one is fixed high on the agitated sky, discerning the morning and the evening path of the Sun (110), and bringing mortals to the quick solution of their tasks; the other is turning around the extreme sea and earth, disclosing the sun-risings, and hiding into the depths the sun-settings, and it is called the Horizon circle by men, because it cuts the longest sight of the eyes (115). Now the shining track of the Galaxy is seen in a small part, and the greatest part is obscure; it rotates high at the blasts of Boreus, up to the knees of the seated Cassiepeia, next to Cepheus' head; and it cuts the Bird's wings (120), and the middle of the Eagle, and the extreme cord near the tip of the Arch, and the sting of the deadly Scorpio, and the extremity of the Altar and the four claws of the Centaur; indeed from there it flows back from Boreus passing from the stern of Argo (125), and the legs of the Twins, and over the top of Orion, and the knees of the Charioteer, and on the right knee of Perseus, the killer of Gorgo, which he stretches as if he is running. And the Zodiac, which is the most splendid and conspicuous among all the well-rounded circles of the sky (130), proceeds through the ether adorned with twelve images; around the gleaming Zodiac, under the stars, lie the Ram and the Bull, after these the Twins, after these Cancer and Leo, and the Virgin who is holding ears of corns in her hands, desiring the generation of old men (135), and the Claws, which were renamed by men and called Balance, because they are extended at both sides like the scales on the balance which draws them, and then there is Scorpio, then the power of the Archer, and the Capricorn, after which are the Waterpouner and the Fishes (140).

Astronomical sources: Aratus revised

The passage under discussion of the *Apotelesmatica* displays occasional similarities to Aratus' model, Eudoxus, and Hipparchus' comments on the *Phaenomena*; it can be further suggested that, apart from other literary sources, such as the now lost *Corpus Arateum*, a collection of various astronomical texts of different periods, commentaries on Aratus and / or other treatises, the poet has not ignored Eudoxus and Hipparchus, not without updating them, however, in the light of more recent research and, more importantly, his globe.⁶ The fact that Pseudo-Manetho bases the *Apotelesmatica* on Aratus but updates his material using other sources as well, is evident by the differentiation his work displays in its description of the constellations of the poles and, mainly, those of the celestial circles in regard to the relevant Aratean passages, as will be demonstrated below.⁷

The presentation of the axes and poles and the circles follows roughly the order of their presentation and discussion in Manilius 1.563–804 (arctic, summer tropic, equator, winter tropic, antarctic, two colures, Meridian, Horizon, Zodiac, Galaxy), cf. also Geminus 4.1 f., 5.1–68 (axes, poles, arctic circle, summer tropic, equator, winter tropic, antarctic circle, two colures, Zodiac, Horizon, Meridian, Galaxy). In Geminus there is no description of the constellations which appear in each circle; Manilius presents the constellations only of the Zodiac (partly) and the Galaxy, and also those of the two colures which are omitted by Pseudo-Manetho. The northern and the southern circles are first described by Eudoxus, fr. 64a and 74. Pseudo-Manetho, however, omits Eudoxus' two colures (fr. 76–78, discussed by Hipparchus [1.11] and also described in Manilius

6) The utilisation of a globe did not exclude the consultation of literary sources as well by astronomical authors; for Germanicus (consultation of Hipparchus or more probably of a commentary on Aratus influenced by the Hipparchean criticism, the commentary of Diodorus of Alexandria; also probably Hyginus, apart from the globe he had in front of him) see le Bœuffle (1975) xviii–xxiii; for Hyginus (consultation of Aratus, Eratosthenes, apart from the globe), see Thiele 49, le Bœuffle (1983) ix ff. Hyginus' work is in a sense stimulated by the Aratean work, in a way comparable to that of Pseudo-Manetho's use of Aratus as a starting point which the present paper intends to show; Hyginus' purpose is to give a more clear and complete description of the sky than Aratus, as he explicitly states more than once, cf. Praefatio (6): *quae fuerunt ab Arato obscurius dicta, persecuti planius ostendimus*, see further le Bœuffle ix.

7) Hyginus, on the contrary, generally stays close to Aratus ignoring the Hipparchean criticism, see le Bœuffle (1983) xv with n.2.

and Geminus). All Pseudo-Manetho's circles, including the two colures, are also discussed in Achilles' *Eisagoge*, 22–27 (p. 51 ff. Maass).⁸ In his account about the poles and the Bears (ll. 22–26), Pseudo-Manetho follows Aratus (24–27, see below, p. 86) in saying that the poles are at the two ends of the axes;⁹ the northern is visible, the southern is not. While Aratus, however, is referring to both Bears as defining the northern pole, Pseudo-Manetho mentions only the Ursa Minor, as it is in fact closer to the pole.¹⁰

In Pseudo-Manetho's presentation (27–56) and description (57–147) of the celestial circles we have serious deviations from Aratus. Arat. 462–558 is devoted to five circles, the tropic of Cancer (480–500), the tropic of Capricorn (501–10), the equator (511–24), the ecliptic or Zodiac (525–58); the last two are compared to the Galaxy (469–79).¹¹ Pseudo-Manetho discerns nine circles and divides them to visible and invisible ones. Visible: the Galaxy and the Zodiac; invisible: the northern circle, the summer tropic, the equator, the winter tropic, the southern circle, the Horizon and the Meridian.

Pseudo-Manetho includes in the northern circle the feet of Ursa Major, the left arm of Bootes, the Serpent's head, Cepheus' breast and Cassiopeia's feet (ll. 64–71). Eudoxus included all of these and moreover a part of the Crown, Lyra and the Bird's wing (fr. 64a). Criticising Eudoxus, Hipparchus rejects the Crown and Lyra, but he also rejects Cepheus' breast, accepting Eudoxus' inclusion of a part of the Bird's wing (1.11,2–4).¹² In his account of

8) The celestial circles (arctic, tropics, Equator, Zodiac, Meridian) were first inscribed on the globe of Thales, according to the testimony of Aetius, see Aujac (1993, *La Sphéropée*) 158 f. We have evidence for twenty-six globes of Eudoxus, ead. 160. Eudoxus was however the first to create a globe with the constellations on it, see Aujac (1993, *Globes*) 217.

9) Cf. for instance Anon. 1.3 (Maass p. 91, l. 31 ff.) ὁ ἄξων ἀπὸ ἀρκτικού πόλου μέχρι τοῦ ἀνταρκτικού διήκει, διὰ τοῦ αἰθέρος καὶ τῶν ἄλλων στοιχείων ἰκνούμενος. Ἡ γῆ οὖν βαρυτάτη οὐσα ἐνεῖρται καὶ ἐμπερόνηται ἐμπεριελημμένη ὑπὸ τοῦ ἄξωνος.

10) See Kidd on 26–44. In his account about the northern pole Aratus departs completely from Eudoxus who takes the pole for a single star and is criticised by Hipparchus, 1.4,1; Hipparchus gives credit to Pytheas from Marseille for the location and description of the North pole, see further Aujac (1996) 217 f.

11) These circles were probably introduced by Eudoxus (fr. 64–74), see Kidd 348.

12) Hyginus (4.6,2) is closer to the author of the *Apotelesmatica*, as he includes the constellations of Pseudo-Manetho plus certain parts of the constellation known as the Engonasin.

the southern circle (ll.101–4), Pseudo-Manetho includes only Centaur's claws and the steering-oar of Argo, while Eudoxus included various other constellations (the River, Argo's deck, the Beast, the Thymiaterion, the right legs of the Archer, Canopus, fr. 74), accepted by Hipparchus κατὰ συνεγγισμὸν (1.11,7), except for Canopus.¹³ The author's utilisation of a globe, different from that of Hipparchus, is evident from the description of these constellations, as well as of those which follow.

In his first account of the Meridian and the Horizon (ll. 43–9), Pseudo-Manetho emphasises the idea that the two circles are “between the poles”, and retain inwards the orbit of the stars (ll. 48 f.). This emphasis probably aims to clarify that the circles are in fact in the sphere, and that they are conceived as being external only for the sake of comprehension by human mind, as commentators of Aratus remind the reader.¹⁴

The author of the *Apotelesmatica* calls the tropic of Cancer τροπικὸς θέρεος (l. 38, cf. 72) and the tropic of Capricorn χειμερινὸς τροπῆς κύκλος (l. 40, cf. 93); here he follows Hipparchus who calls them ὁ θερινὸς τροπικὸς and ὁ χειμερινὸς τροπικὸς respectively, while Aratus does not use these terms, although he defines the tropics with reference to the north and south and the summer-winter solstices.¹⁵ Aratus presents the tropic of Cancer in variation of Eudoxus' account, beginning with the Twins and moving westward to end with the Crab (480–500), ἀπὸ τῶν ἐσχάτων ἀρξάμενος, as Hipparchus comments (1.2,18 f.), while Eudoxus begins with the Crab and is moving eastward to end again with the Crab.¹⁶ Pseudo-Manetho retains this ‘proper order’ of Eudoxus.

13) Hyginus is again not very far from Pseudo-Manetho, as he includes only the extreme part of Argo and Centaur's feet, the Altar and the extreme trace of the River (4.6,3).

14) Cf. Ach. 22 (p. 52 Maass) τὸν δὲ ὀρίζοντα καὶ μεσημβρινὸν ἐντὸς εἶναι τῆς σφαιρας τῶν ὅλων νοητέον (οὐδὲν γὰρ τῶν ὄντων αὐτῆς ἐστὶν ἐκτός), ὑπὲρ δὲ τοῦ παρακολουθήσαι ἡμᾶς ἐκτός εἶναι λέγονται; cf. Anon. 1 (p. 95 Maass) ὁ δὲ ὀρίζων ... κείται δὲ ἔξω τῆς σφαιρας ὡς πρὸς τὴν ἡμετέραν ὄψιν. τὸ δ' ἀληθές, τῷ νῶ αὐτὸν ἔσω δεῖ παραλαβεῖν κείμενον.

15) Cf. ll. 499–500 θέρεος δὲ οἱ ἐν τροπαί εἰσιν./ Ἄλλ' ὁ μὲν ἐν βορέω περὶ Καρκίνου ἐστήρικται, 507–9 τὸν πύματον καθαροῖο παρερχόμενος βορέω/ ἐς νότον ἡέλιος φέρεται, τρέπεταιί γε μὲν αὐτοῦ/ χειμέριος.

16) The Aratean order is also kept by Hyginus (4.2,1), Aratus Latinus VII (p. 277 ff. Maass).

The Twins

Ἐν δέ οἱ ἀμφοτέραι κεφαλαὶ Διδύμων φορέονται,

The Charioteer

ἐν δὲ τὰ γούνατα κείται ἀρηρότος Ἡνιόχοιο,

Perseus

λαϊὴ δὲ κνήμη καὶ ἀριστερὸς ὤμος ἐπ' αὐτῷ

Andromeda

Περσέος, Ἀνδρομέδης δὲ μέσην ἀγκῶνος ὑπερθεν

δεξιτερὴν ἐπέχει· τὸ μὲν οἱ θέναρ ὑψόθι κείται

ἀσσότερον βορέαιο, νότῳ δ' ἐπικέκλιται ἀγκῶν.

The Horse

Ὅπλα δ' ἵππειοι καὶ ὑπαύχενον Ὀρνίθειον

The Bird

ἄκρη σὺν κεφαλῇ καλοὶ τ' Ὀφιοῦχοι ὄμοι

Ophiouchus

αὐτὸν δινεύονται ἐληλάμενοι περὶ κύκλον.

Ἡ δ' ὀλίγον φέρεται νοτιωτέρῃ οὐδ' ἐπιβάλλει

The Lion, the Cancer

Παρθένος, ἀλλὰ Λέων καὶ Καρκίνος.

(Arat. 481–91)

On it move the two heads of the Twins, on it lie the knees of the steadfast Charioteer, and after him the left leg and left shoulder of Perseus. It occupies the middle of Andromeda's right arm above the elbow; her palm lies above it, nearer the north, her elbow inclines to the south. The Horse's hoofs, the Bird's neck with the head at one extremity, and the bright shoulders of Ophiouchus revolve riding round the actual circle. The Maiden goes a little farther south and does not touch it, but the Lion and the Crab do.

Aratus occasionally deviates from Eudoxus; Pseudo-Manetho sometimes agrees with Aratus, while in other cases his description is closer to Eudoxus or Hipparchus. Pseudo-Manetho's account about the Crab and Lion is considerably briefer than that of Aratus; he states simply that the tropic cuts the Crab in the middle (close to Eudoxus' fr. 66,10, τὰ μέσα τοῦ Καρκίνου)¹⁷ and includes the Lion's mane, a poetic description about Lion's parts appearing in the tropic, signifying the upper part of the Lion. Aratus (492 ff.) has αὐτὰρ ὁ κύκλος / τὸν μὲν ὑπὸ στήθος καὶ γαστέρα μέχρι παρ' αἰδῶ / τέμνει, Eudoxus (fr. 66,10 f.) καὶ τὰ διὰ τοῦ σώματος κατὰ μῆκος τοῦ Λέοντος. Pseudo-Manetho's description implies that the author was inspired by the depiction of the Lion on a globe. Aratus does not mention the Serpent at all; by referring to σπειράν τε πρώτην Ὀφιοῦς, Pseudo-Manetho follows Eudoxus (fr. 66,12) who

17) Cf. also Hyginus 4.2,1 *Cancer autem sic dividitur medius*.

includes ὁ ἀρχὴν τοῦ ἐχομένου Ὕφρωσ in the stars of the tropic, approved by Hipparchus (1.10,15) and followed also by Germanicus (467).¹⁸ Pseudo-Manetho speaks of βριαροῦ τ' Ὀφιοῦχου/ ὄμους, here agreeing with Aratus who deviates from Eudoxus who refers to ἡ κεφαλὴ τοῦ Ὀφιοῦχου (fr.66,13), both criticised by Hipparchus who rejects the head as well as the shoulders (1.10,9 and 1.10,14).¹⁹ Pseudo-Manetho, like Aratus and Eudoxus (fr. 66,13 f.), includes the Bird's neck in the circle²⁰ and omits Aratus' head of the Bird, staying close to Eudoxus who does not include the head, without including Eudoxus' καὶ ἡ ἀριστερὰ πτέρυξ which he however perhaps echoes with his ταυσιπτερύγοιο; Hipparchus (1.10,8) totally rejects the occurrence of any part of the Bird in the tropic. Pseudo-Manetho refers to πόδας Ἰπτείους, staying closer to Eudoxus fr.66,14 οἱ τοῦ Ἰππου πόδες, while Aratus describes them as ὄπλαί, a statement criticised by Hipparchus (1.10,7): τίνας μὲν οὖν ἀστέρας ἐτίθει (Aratus) ἐπὶ ταῖς ὄπλαῖς τοῦ Ἰππου, ἄδηλον. Pseudo-Manetho mentions only Andromeda's ἀγκῶν, while Eudoxus (66,14 f.) speaks of the δεξιὰ χεῖρ τῆς Ἀνδρομέδας, and Aratus makes the distinction between Andromeda's palm and elbow; the author of the *Apotelesmatica* deviates from Aratus who holds that the elbow inclines to the south, agreeing with Hipparchus' comment that the elbow must be well to the north of the tropic (1.10,6);²¹ he does not share Hipparchus' view, however, that the elbow does not actually belong to the tropic and so refers to it by χειρός τ' ἀγκῶνα βορείου/ Ἀνδρομέδης. Referring to the "wrist and the left leg" of Perseus, Pseudo-Manetho disagrees with both Aratus and Eudoxus who include the left shoulder of the hero in the tropic (Eud. fr.66,15 f. τοῦ Περσέως ὁ ἀριστερός ὤμος καὶ ἡ ἀριστερὰ κνήμη), being closer to Hipparchus (1.10,5) who held that not only the left shoulder but also the central star of Perseus is farther north, while the left leg (1.6,13) is

18) *Primis ignibus Anguis*. Germanicus, following Eudoxus, also speaks of a part of the Engonasin as included in the tropic, omitted by Aratus and Pseudo-Manetho, and accepted as correct by Hipparchus (1.10,15).

19) For Aratus' deviation from Eudoxus, probably due to the fact that Ophiuchus' shoulders are brighter, see Kidd on Arat. 488.

20) Omitted by Germanicus (465 f.), Hyginus (4.2,1) and Avienus (959 f.), see J. Soubiran, Avienus, Les Phénomènes d'Aratos (Paris 1981) 231 f.

21) For the lengths of Andromeda's stars and Aratus' deviation from his model see Kidd on Arat. 484.

nearer to the tropic but still a little north of it.²² The author of the *Apotelesmatica* again follows a different line in regarding only the extremity of the Charioteer's foot as belonging to the tropic, while Aratus and Eudoxus speak of τὰ γόνατα τοῦ Ἡνιόχου (Eud. fr. 66,16); Hipparchus (1.10,3) maintains that the Charioteer has no stars at his knees and that the stars nearest to the tropic are his feet.²³ Pseudo-Manetho includes in the tropic the heads and the arms of the Twins, while Aratus, following Eudoxus, had included only the heads, which Hipparchus (1.10,1 f.) rejects.

In general the author of the *Apotelesmatica* is inspired by and follows Aratus in the presentation of the constellations of the tropic of Cancer; his deviations which sometimes agree with Hipparchus' criticism (10.1–9), sometimes with Eudoxus' original views, are explained by the assumption that he actually describes a globe, having probably in mind, however, Eudoxus' and Hipparchus' texts.²⁴ This assumption is further reinforced by the elaboration of the description of certain constellations, which point at the ecphrastic depiction of a work of art, cf. the presentation of the Lion, Ophiouchus, the Bird, the Twins.²⁵

Similar observations can be made about Pseudo-Manetho's description of the stars of the Equator (ll. 83–92), which are described by Aratus after the presentation of the winter tropic:

The Ram, the Bull

Σῆμα δέ οἱ Κριὸς Ταύροί τε γόνατα κείται,
Κριὸς μὲν κατὰ μήκος ἐληλάμενος διὰ κύκλου,
Ταύρου δὲ σκελέων ὄσση περιφαίνεται ὀκλάς.

22) See Kidd on 483.

23) See Kidd on 482.

24) Hyginus (4.2,1) stays close to Aratus, while Germanicus (460–72) updates his material according to Hipparchus' criticism and/or the globe of Atlas Farnese, see le Bœuffle (1975) 30, id. (1983) 203, Kidd 354.

25) That the author has in front of him a globe other than that of the Atlas Farnese is indicated by certain dissimilarities, for instance: Ophiouchus' shoulders (Pseudo-Manetho)/his head (globe Farnese), the Bird's neck (Pseudo-Manetho)/the tropic touches slightly its beak (globe Farnese). The globe of Ptolemy, as we can gather from Planudes' description, is again quite different from that of Pseudo-Manetho. It includes in the tropic of Cancer the middle of the Twins, the Hyades, the extremity of the Pleiades, the head of one of the Fishes, the head of Andromeda, the Bird's beak, the Horse's knee, the shoulder of the Engonasin, the nostril of the Serpent, a star of Ophiouchus and a star of Arcturus, the loin and the mane of the Lion, the northern of the stars of the "Ovo, the Crab.

Orion

Ἐν δὲ τέ οἱ ζώνῃ εὐφεγγέος Ὠρίωνος

Hydra

καμπή τ' αἰθομένης ὕδρης, ἐνὶ οἱ καὶ ἔλαφρός

Creter, Corax

Κρητήρ, ἐν δὲ Κόραξ, ἐνὶ δ' ἀστέρες οὐ μάλα πολλοὶ

The Claws, Ophiouchus, the Eagle

Χηλάων, ἐν τῷ δ' Ὀφιοῦχεα γούνα φορεῖται.

Οὐ μὴν Αἰητοῦ ἀπαμείρεται, ἀλλὰ οἱ ἐγγύς

Ζηνὸς ἀητεῖται μέγας ἄγγελος· ἡ δὲ κατ' αὐτὸν

The Horse

Ἴππεῖν κεφαλή καὶ ὑπάουχενον εἰλίσσονται.

(Arat. 515–24)

As a guide the Ram and the knees of the Bull lie on it, the Ram as drawn lengthwise along the circle, but of the Bull only the widely visible bend of the legs. On it the belt of the radiant Orion and the coil of the blazing Hydra, on it too are the faint Bowl, on it the Raven, on it the not very numerous stars of the Claws, and on it the knees of Ophiouchus ride. It is certainly not bereft of the Eagle: it has the great messenger of Zeus flying near by; and along it the Horse's head and neck move round.

According to Hipparchus' testimony (1.10,22, Eud. fr. 71), Aratus agrees with Eudoxus except for certain details: Eudoxus includes the middle of the Claws, the left wing of the Eagle, the Horse's loin as well; in regard to the last point Hipparchus remarks that the loins do not belong to the Equator: Aratus seems to have corrected Eudoxus here and Pseudo-Manetho agrees with Aratus and Hipparchus. Eudoxus (fr. 71) includes the northern of the Fishes (omitted by Aratus), Hipparchus rejects it (1.10,23), while Pseudo-Manetho agrees with Eudoxus only if we interpret that the Equator passes between the Fishes, and not that it passes through the middle of both.²⁶ With his precision about the Ram (ἀστέρος ἐκ μεσάτοιο χαρασσόμενον Κριοῦ, l. 84), the author of the *Apotelesmatica* clarifies the Aratean expression being close to Eudoxus who refers to the middle of Aries, τὰ τε τοῦ Κριοῦ μέσα (fr. 69), a point criticised by Hipparchus.²⁷ Hipparchus' rejection of the participation of Corax and the Eagle in the Equator (1.10,19–20, 1.10,23)

26) Koehly (1851) translates "mediumque amobus in Priscibus se-volventem". Salvini (39) translates "e rigirando in mezzo ad ambi i Pesci". Ptolemy, according to Planudes (c 13 f.), seems to agree with the view of Eudoxus: τῶν νεπόδων δέ/ὄς νοτιώτερός ἐστι διχάζεται, ἀλλ' ἐπὶ μήκος.

27) See Kidd on 516.

is in accordance with their omission by Pseudo-Manetho; Hipparchus also holds that only the bright star in the northern Claw is near the Equator, a view in accordance with Pseudo-Manetho's διὰ κληῆς περὶ ὄντα / Σκορπίου (ll. 89 f.). Hipparchus, however, rejects also Hydra, Creter, Ophiouchus' knees (1,10,19–20), included by Eudoxus, Aratus and Pseudo-Manetho. Hipparchus also accepts Aratus' Eagle (1,10,21), omitted by Pseudo-Manetho.²⁸ Pseudo-Manetho's inclusion of a part of the Virgin (even only the extremity of her garment) to the stars of the Equator finds a parallel only in Aratus Latinus VIII (Maass p.279) and the globe of Ptolemy, according to Planudes' description.²⁹

In his description of the tropic of Capricorn, by contrast to his handling of the tropic of Cancer, Aratus does follow Eudoxus, presenting the constellations in the 'proper' order, going eastward from Capricorn to the Archer, as Pseudo-Manetho also does (Apot. 2. [1] 93–100).

The Capricorn

Ἄλλος δ' ἀντιῶντι νότῳ μέσον Αἰγοκερῆα

The Waterpouwer

τέμνει καὶ πόδας Ὑδροχόου καὶ Κήτεος οὐρήν·

The Monster, the Hare

ἐν δὲ οἱ ἐστὶ Λαγῶς, ἀτὰρ Κυνὸς οὐ μάλα πολλήν

The Dog, Argo

αἰνῶνται, ἀλλ' ὀπόσῃν ἐπέχει ποσίν· ἐν δὲ οἱ Ἀργῶ

The Centaur

καὶ μέγα Κενταύροιο μετάφρενον, ἐν δὲ τὸ κέντρον

Scorpion's sting, the Archer

Σκορπίου, ἐν καὶ τόξον ἄγαυοῦ Τοξευτήρος.

(Arat. 501–6)

Another circle in the opposing south cuts the middle of Capricorn, the Waterpouwer's feet, and the Monster's tail. The Hare is on it, but it does

28) Hyginus generally agrees with Aratus, see le Bœuffe (1983) 206.

29) *Virgiliae quidem secus*; cf. Planudes, (c 1.5) Παρθενικῆς δ' εἶδωλον ἔπειτα διάνδιχα τέμνει. Again certain details agree with the depictions of the constellations which pass from the Equator on the globe Farnese, like for instance the extremity of the Virgin's garment and the extremity of the Horse's mane, but others do not: the Ram's feet (Pseudo-Manetho) / its middle (globe Farnese), the middle of the Creter (Pseudo-Manetho) / its extremity (globe Farnese). Ptolemy's globe, as we have it in Planudes' description, is again different from the globe of Pseudo-Manetho. It includes the Knot, the mouth of the sea-Monster, the belt of Orion, the first coil of Hydra, the Virgin, the head, the first coil and the extremity of the tail of the Serpent, the right shoulder of Ophiouchus, the Eagle, the head of the Waterpouwer, the northern of the two Fishes.

not take up much of the Dog, only the space the Dog occupies with its feet. On it are the Argo and the Centaur's great back, on it is the Scorpion's sting, on it the bow of the brilliant Archer.

Pseudo-Manetho agrees with Aratus in that he omits the Beast, included by Eudoxus (fr.73,13) in his description of the stars of the tropic, a passage criticised by Hipparchus, as the Beast is south of the tropic: πολλῶ γάρ νοτιώτερόν ἐστι τὸ Θηρίον τοῦ χειμερινοῦ τροπικοῦ, Hipp. 1.10,17. The Waterpouurer's knees are mentioned only by Germanicus 486 who possibly describes a figure on the globe of the Atlas Farnese or a sketch similar to it.³⁰ Pseudo-Manetho is also very probably inspired by an analogous figure. Similar observations can be made about the description of the stars of Argo. The author agrees with Eudoxus who speaks of καὶ τῆς Ἀργούς ἢ πρύμνα καὶ ὁ ἰστός (fr.73,12), with his poetically elaborated image, ll. 97–8 ἠδὲ καὶ Ἀργούς/ποντοπόρου... ἄκρα κόρυμβα.³¹ As probably happens with the ξανθὴν τ' αὐχενίην χαίτην χαροποῖο Λέοντος and the description of the Bird, Ophiouchus and the Twins in the tropic of Cancer, this vivid image presumably indicates an artistic representation of the ship on a globe the author has in front of him. The River, included by Eudoxus (fr.73,4) and not commented upon by Hipparchus, is omitted both by Aratus and Pseudo-Manetho. Pseudo-Manetho, however, like Eudoxus and Aratus, includes the Scorpion's sting in the stars of the tropic, a choice with which Hipparchus (1.10,16) disagrees.³²

30) See le Bœuffe (1975) 31 n. 2.

31) This precision is also found in Germanicus 489 *sacrae speciosa aplustria Puppis*, Hyginus 4.4 *navis ipsius puppim*, Planudes (b l.5 f.) εἶτα δ' ἄκροστόλιόν τε καὶ ἰστόν Ἀργούος ἄκρον/σχίζει. The depiction of Argo on the globe Farnese is impressive indeed and probably gives us a characteristic example of the ship's artistic representations on globes; Germanicus' expression further reinforces the assumption that he did have a globe in front of him, probably a similar one to the globe Farnese. Cf. the analogous implications of Manilius' elaborated expression about the Horse (1.4,348) and other constellations, see Thiele 47. Planudes and the globe of Ptolemy include in the tropic of Capricorn the Capricorn, the middle of the Waterpouurer, the tail of the sea-Monster, the front foot of the Hare, the middle of the Dog, the stem-post ornaments and the extremity of the sail of Argo, a part of Corax, the edge of Hydra's tail, Antaris, a star of Scorpio, the Archer's head.

32) Cf. Kidd on Arat. 501–510 and 505. In general the description of the constellations of this tropic here is not far from their depiction on the globe Farnese, with the exception of the description of the parts of Argo, as on the globe Farnese

After the tropic of the Capricorn the author describes the southern circle (see above, p. 75 f.). He proceeds with the description of the Meridian (ll. 109–11) and the Horizon (ll. 112–5). The two circles are also described in Geminus 5.54–67, Hyginus 4.10,1, and Manilius 1.633–65. Interesting is Pseudo-Manetho's account about the Horizon (ll. 112–5). Achilles (Eis. 22, p. 51 f. Maass) repeats the common ancient view that the Horizon, which surrounds earth, is the poets' Ὠκεανός, while φιλόσοφοι δὲ καὶ γεωμέτραι ὀρίζοντα αὐτὸν καλοῦσιν.³³ He also mentions Aratus' ἦχι περ ἄκραι/ μίσγονται δύσιές τε καὶ ἀντολαὶ ἀλλήλησιν in regard to the Horizon (Arat. 61 f.), and in Eis. 35 (Maass p. 71 f.) he discusses the confusion between the Horizon and the Meridian, caused by the Aratean expression, the line taken to be referring to the Meridian which is seen as a boundary between east and west.³⁴ He explains that this is not correct, as τὸν γὰρ ὀρίζοντα μεταξὺ τοῦ ὑπὲρ γῆς καὶ ὑπὸ γῆν ἡμισφαιρίου εἶναι συμβέβηκε and that Aratus refers to the Horizon, καθ' ὃ τοῦ ὀρίζοντος ἐφαπτομένη ἢ κεφαλὴ τοῦ Δράκοντός ἐστι καὶ πρὸς τῷ μεσημβρινῷ, καθ' ὃ συμβολὴ γίνεται τοῦ μεσημβρινοῦ καὶ τοῦ ὀρίζοντος καὶ τέμνουσιν ἀλλήλους. Pseudo-Manetho seems aware of the confusion Aratus' phrasing caused and tries to avoid it with his elegant chiasmic line 113 φαίνων ... κεύθων which echoes the Aratean line explaining and clarifying, however, its content; thus the author of the *Apotelesmatica* makes clear that by Horizon he means the dividing line not between east and west but between the hemisphere where the solar movement is visible to the viewer and the hemisphere where it is not.³⁵ Pseudo-

both the πρύμνα and the ἰστός of the ship cross the tropic, while Pseudo-Manetho speaks only of the stern, cf. Photius' Lex. and Suda s.v. ἄκρα κόρυμβα: τὰ ἀκροστόλια τῶν νεῶν τὰ ἐξέχοντα κατὰ πρύμναν ἢ πῶρᾶν.

33) Cf. Strabo 1.1,6 διὰ δὲ τοῦ Ὠκεανοῦ τὸν ὀρίζοντα (δηλοῦ), εἰς ὃν καὶ ἐξ οὗ τὰς δύοσεις καὶ τὰς ἀνατολάς ποιεῖ (sc. Homer), Eust. on Il. 5.6 (514,33 ff.) Ὠκεανός δὲ κατὰ μὲν ἀλληγορίαν ἐστὶ κύκλος διχάζων ἐνοσηματικῶς τὴν οὐρανίαν σφαιρὰν κατὰ ἰσότητα τοῦ τῆς γῆς ἐπιπέδου καὶ τέμνων διχῆ κατ' ἐπίνοιαν αὐτὴν εἰς τε τὸ ὑπὲρ γῆν καὶ εἰς τὸ ὑπὸ γῆν ἡμισφαίριον καὶ διὰ τοῦτο ὀρίζων λεγόμενος. Ἐκ τοῦ τοιοῦτου Ὠκεανοῦ, κύκλω περιειληφότος τὴν γῆν, οἱ ἀστέρες ἀνέρχονται καὶ εἰς αὐτὸν ἀυθις δύνονται; cf. also Schol. on Arat. 26 and Kidd on *ibid.*

34) For this confusion in Schol. on Arat. 62 as well as in Strabo 2.3,8, cf. Kidd 200.

35) Cf. Geminus' account (6.16 ff.) of the visible and the invisible hemisphere of the earth, divided by the Horizon, with examples from Homer about peoples who inhabit the part "under" the Horizon and near the pole, where there is semes-

Manetho also seems to have in mind Schol. on Aratus 26, where the scholiast remarks that Aratus is using Oceanus to indicate the horizon and proceeds by saying that it κύκλω μὲν γὰρ τὴν καθ' ἡμᾶς περίκειται οἰκουμένην, ἔξ αὐτοῦ δὲ καὶ εἰς αὐτὸν αἶ τε δύσεις καὶ ἀντολαὶ γίνονται. Apot. 2. (1) 112–3 is a poetical elaboration of this description, with line 113 clarifying the statement about the sun-risings and settings.

The description of the Meridian and the Horizon by Pseudo-Manetho deserves a particular attention in regard to other points as well. It is interesting to notice that the author presents them as “unmoved and steady” (l. 107). Manilius says that these two circles “have wings”;³⁶ this notion is due to the fact that the Horizon and the Meridian are not the same for every place of Earth, but change position according to the viewer’s standpoint.³⁷ However there is no contradiction here: the two circles are unmoved because they do not participate in the circular movement of the sphere, their position being irrelevant to the position of the constellations, and for this reason are not depicted on the globes.³⁸ Of special interest is Pseudo-Manetho’s statement that the two circles begin “from the top of the axis” (implication of the Northern pole, l. 44) and “cut each other up to the Southern pole” (l. 45). The Meridian does pass from the poles.³⁹ But what about the assertion that the Horizon

trial night; also cf. Geminus 5.54 ὀρίζων δέ ἐστι κύκλος ὁ διορίζων ἡμῖν τό τε φανερόν καὶ τὸ ἀφανὲς μέρος τοῦ κόσμου καὶ διχοτομῶν τὴν ὄλην σφαῖραν τοῦ κόσμου, ὅστε ἡμισφαίριον μὲν ὑπὲρ γῆς ἀπολαμβάνεσθαι, ἡμισφαίριον δὲ ὑπὸ γῆν. Hyginus (4.3,3) mentions the Aratean passage (ll. 61 f.) in his discussion about the equator, which implies that he regards the Horizon as coinciding with the equator. This view, i. e. that the poets’ Ocean lies between the tropics, is criticised by Geminus, 16.22 ff., see G. Aujac, Geminus, Introduction aux phénomènes (Paris 1975) ad loc.

36) *Hos volucris fecere duos*, 1.633.

37) Cf. Man. 1.637 ff., 661 f.; also Geminus 5.58 οὐ κατὰ πᾶσαν δὲ χώραν καὶ πόλιν ὁ αὐτός ἐστιν ὀρίζων, id. 5.66 οὐ κατὰ πᾶσαν δὲ χώραν καὶ πόλιν ὁ αὐτός ἐστι μεσημβρινός.

38) Cf. Gem. 5.62 οὐ καταγράφεται δὲ ὁ ὀρίζων ἐν ταῖς σφαίραις δι’ αἰτίαν τοιαύτην, ὅτι οἱ μὲν λοιποὶ κύκλοι πάντες φερομένου τοῦ κόσμου ἀπ’ ἀνατολῆς ἐπὶ τὴν δύσιν συμπεριστρέφονται καὶ αὐτοὶ ἅμα τῇ τοῦ κόσμου κινήσει, ὁ δὲ ὀρίζων ἐστὶ φύσει ἀκίνητος τὴν αὐτὴν τάξιν διαφυλάττων διὰ παντός, 5.65 (the Meridian) καὶ οὗτος δὲ ἐστὶν ὁ κύκλος ἀκίνητος ἐν τῷ κόσμῳ καὶ τὴν αὐτὴν τάξιν διαφυλάσσων ἐν ὄλῃ τῇ τοῦ κόσμου περιστροφῇ. Οὐ καταγράφεται δὲ οὐδὲ οὗτος ὁ κύκλος ἐν ταῖς κατστηριζομέναις σφαίραις διὰ τὸ καὶ ἀκίνητος εἶναι καὶ μηδεμίαν ἐπιδέχεσθαι μετάπτωσιν. See also Aujac (1993, La Sphéropée) 166 f.

39) Cf. for instance Gem. 5.64 Μεσημβρινός δὲ ἐστὶ κύκλος ὁ διὰ τῶν τοῦ κόσμου πόλων καὶ τοῦ κατὰ κορυφὴν σημείου γραφόμενος κύκλος.

also starts from the top of the axis and reaches the Southern pole? This can be explained by the recognition that the Horizon, that is the sum of all the possible horizons of the globe, does pass from the poles in principle (and by contrast to the five parallel circles which, cut vertically by the axis, do not), as it depends from the position of the viewer: for the inhabitants of either pole it coincides with the Equator, while for the inhabitants of the Equator it passes from the poles.⁴⁰

For the Zodiac Aratus uses the term ζῳϊδίων . . . κύκλον (544), while Pseudo-Manetho prefers the term Ζῳδιακός, used by Euclides, Hipparchus, later Nonnus.⁴¹ The author of the *Apotelesmatica*, who presents the twelve signs with a brief introduction, does not model his description of the Zodiac (2. [1] 129–40) on Aratus' relevant passage (537–49) in which the introduction is lengthier, provides a detailed account of the size of the circle and the relevant position of constellations on it and, by contrast to Pseudo-Manetho, presents very briefly the twelve signs. It is noteworthy that the Maiden in the description of the Zodiac in the *Apotelesmatica* is holding the Spica in “her hands” (l. 134);⁴² the author here seems trying to avoid the controversy on the subject. Aratus is referring to one hand with no further definition, while most authors refer to the left hand, with the exception of Hyginus 3.24 who speaks of the right hand.⁴³ Pseudo-Manetho explains also the change of the name of Χηλαί to Ζυγός (136 ff.), as caused by the resemblance of the constellation to the scales of a balance. Schol. on Arat. 89 as well as

40) Cf. for instance Gem. 5.34–36. Strabo attests that for the Cinnamon-producing country, being in the middle of the distance between summer tropic and Equator, the arctic circle touches the Horizon (2.5,35). This happens even in more northern regions, cf. Achilles' comment on Aratus, 35 (p. 71 Maass) ἡ δὲ κατὰ τὰ Φαινόμενα Ἄρατου τῆς σφαίρας θέσις ὀφείλει ἔχειν τὸν ἀρκτικὸν κύκλον τοῦ ὀρίζοντος ἐφαπτόμενον. Needless to say, the Meridian and the Horizon described thus should not be confused with the two colures, which also pass through the poles, cf. Eud. fr. 76,5 ff. περὶ γὰρ τῶν κολούρων λεγομένων κύκλων, οἱ γράφονται διὰ τε τῶν πόλων καὶ διὰ τῶν τροπικῶν καὶ ἰσημερινῶν σημείων, κτλ.

41) Euc. Phaen. 6, Hipp. 1.6,4, Nonnus D. 6.68, see further Kidd on Arat. 544.

42) Kidd wrongly cites Pseudo-Manetho's passage as στάχυας ἐν χειρὶ φέρουσα.

43) Germanicus (96 f.), following Hipparchus (2.5,12), mentions the left hand, see le Bœuffle (1975) 7; also Geminus 3.6,1, Schol. on Arat. 97. For the Spica of the Virgin see Kidd on Arat. 97. Aratus' version, among other mythological accounts about the Maiden of Antiquity, is recorded in Hyginus 2.25.

Anonymus 1,5 (Maass 94, l.28 f.) report that it is the Egyptians who call the Claws Balance. The explanation of Pseudo-Manetho is similar to that of Schol. on Arat. 88, who gives, however, one more alternative.⁴⁴

Aratus uses the Galaxy (469–79) as a means of comparison to the Equator and the Zodiac. The only other reference to the constellations Galaxy goes through in extant Greek literature is the detailed account of Ptolemy (Synt. Mathem. 8 β); accounts in Latin are that of Manilius (684–700) and Hyginus (4.7). In general, in his description of the Galaxy and its constellations (ll. 116–28), Pseudo-Manetho is closer to Manilius' description than that of Hyginus and of Ptolemy; it is noteworthy that both Manilius and Pseudo-Manetho start from the polar circle to define the beginning of the Galaxy.⁴⁵ Manilius did use a globe with the Galaxy on it,⁴⁶ we do not know the exact position of the constellations this globe depicted on the other circles, since Manilius describes only the stars

44) Ταύτας δὲ οἱ ἀστρολόγοι Ζυγὸν εἶναι φασίν, ἥτοι ὅτι ἐμφορεῖς εἰσι πλάστιγγι, ἢ ὅτι παρὰ τοῖς ποσίν εἰσι τῆς Παρθένου. Ἡ αὐτὴ δὲ ἐστὶ Δίκη, ἥτις τὰ ζυγὰ ταλαντεύει. Another explanation is that at this time of the year the farmers measure the grain and gather it into their homes, Sphaera 121 ff. (p. 164 ff. Maass). There are further views as well, for instance that the sign is the castrated Palamedes who invented the balance, see A. Bouche-Leclercq, *L'Astrologie Grecque* (Paris 1899) 141 with n.2. It has been held that it is Hipparchus who invented the term ζυγός, see id. *ibid.* n. 1.

45) Cf. R. Scarcia (et al.), *Manilio, il poema degli astri*, 2 vols. (Milan 1996) 258. Hyginus is less precise on this point and, in his account about the constellations of the Galaxy, he follows the opposite order in regard to Manilius and Pseudo-Manetho. The differentiations between the Greek and the Latin poet in their accounts of the constellations of the Galaxy are: the Altar and "Orion's top" over which the Galaxy passes (omitted by Manilius); the Bird's Wings and the Charioteer's knees (the Bird and the Charioteer are mentioned but their parts which are on the Galaxy are not specified by Manilius); Perseus' right knee (Manilius refers vaguely to "the figure of Perseus"). The two authors agree in the inclusion of the sting (tail in Manilius) of Scorpio, if we interpret Pseudo-Manetho's θῆρ (l. 122) as Scorpio, which seems plausible, as it would be pointless to speak of the Beast's sting. Ptolemy does not speak about Orion, while he includes the Kids, a part of the Dog, a part of Ophiouchus.

46) The Galaxy was depicted on some globes (cf. An. I, p. 95 Maass, ἔστι δὲ ὁ κατακεχρισμένος ἐν τῇ σφαίρᾳ κηρῷ λευκῷ), but not all (cf. Geminius 5.69 οὐχ ὄρισται δὲ αὐτοῦ τὸ πλάτος, ἀλλὰ κατὰ μὲν τινὰ μέρη πλατύτερός ἐστι, κατὰ δὲ τινὰ στενότερος. Δι' ἣν αἰτίαν ἐν ταῖς πλείεσταις σφαιραῖς οὐδὲ καταγράφεται ὁ τοῦ γάλακτος κύκλος). It is a reasonable assumption that Manilius used a globe with the depiction of the Galaxy on it, see G. P. Goold, *Manilius, Astronomica* (Loeb edition), xxxiv.

of the two colures, omitted by Pseudo-Manetho, and those of the Galaxy, while speaking briefly of four constellations of the Zodiac. It seems that Pseudo-Manetho's globe had the Galaxy marked on it and, given the relative chronological proximity of the two authors, it would be plausible to suggest that the Greek poet's globe might look like that of Manilius, without being identical however.

From the above observations it is evident that Pseudo-Manetho bases his work on Aratus but also uses a globe in combination with numerous other sources which he updates according to the knowledge of his time. The variety and diversity of his sources reveals an author aspiring to be comparable to the great scholars of Hellenistic times who had a wide range of interests and talents and a deep erudition like Callimachus or Eratosthenes. The author of the *Apotelesmatica* takes his role as didactic poet really seriously, trying to exhaust all the sources available to him in order to produce a work with scientific as well as literary value. Probably following the example of Aratus who did not transfer unquestioningly Eudoxus' views into verse, Pseudo-Manetho does not stick slavishly to a model but on the contrary forms personal opinions originating from thorough investigation and painstaking reading; he is constantly cross-examining the writings of astronomical authors, seeking to clarify obscure points, to correct errors, to offer a view of his topic as comprehensive and accurate as possible. It becomes clear therefore that he does see didactic poetry as a vehicle of popularisation of science and a serious source of learning, according to the traditional concept of the genre. The effort for scientific integrity and reliability with which he treats his subject does not of course prevent him from also trying to attain high aesthetic standards in the presentation of his material, again according to the traditional purposes of didactic poetry, displaying a commendable competence regarding the imaginative exploitation of earlier poetry, as will be demonstrated below.

*The influence of Aratus on the level of poetry:
concept, images, vocabulary*

The principal technique in which the author of the *Apotelesmatica* uses the *Phaenomena* is generally variation and imitation by contrast, manifest throughout the lines in which there is reference to Aratus. As will be shown, Pseudo-Manetho's play with Aratus on the level of expression is evident in the lines under discussion in which, as we have seen, the Hellenistic poet is also used on the level of content.

The author of the *Apotelesmatica* does the exact opposite of what Aratus did; the Hellenistic poet referred briefly to the five planets (Hermes, Aphrodite, Ares, Zeus, Cronus), "for the sake of completeness",⁴⁷ devoting his poem to the fixed stars and their significance for the weather; Pseudo-Manetho, on the contrary, refers briefly to the fixed stars, also for the sake of completeness, one can indeed remark, his main theme being the five planets themselves. The author presents his subject in the opening of the *Apotelesmatica* (2. [1] 14–17) imitating Aratus in opposition, as his image echoes the relevant Aratean passage and is directly opposite in purpose:

Οἱ δ' ἐπιμιῖξ ἄλλοι πέντ' ἀστέρες οὐδὲν ὁμοίῳ
πάντοθεν εἰδῶλων δυοκαίδεκα δινεύονται.
Οὐκ ἂν ἔτ' εἰς ἄλλους ὁρῶν ἐπιτεκμήραιο
κείνων ἦχι κέονται, ἐπεὶ πάντες μετανάσται.

...
Οὐδ' ἔτι θαρσαλέος κείνων ἐγώ· ἄρκιος εἶην
ἀπλανέων τά τε κύκλα τά τ' αἰθέρι σήματ' ἐνισπεῖν.

(Arat. 454–7, 460–1)

But there are five other stars among them, but quite unlike them, that circulate all the way through the twelve figures of the zodiac. You cannot in this case identify where these lie by looking at other stars, for they all change positions (...). I am not at all confident in dealing with them: I hope I may be adequate in expounding the circles of the fixed stars and their constellations in the sky.

Pseudo-Manetho presents the image of the planets wandering through the Zodiac in a condensed form, by comparison with his model, and comes to the opposite conclusion: these five planets are exactly the subject of his poem. On 455 (πάντοθεν ... δινεύονται)

47) Kidd 343.

Kidd notes that the meaning is not “on every side of the Zodiac constellations, but all the way through them”; the rightness of this interpretation is further supported by the passage of the *Apotelesmatica*, as the sense is taken up by Pseudo-Manetho in his διὰ κύκλου / Ζωδιακοῦ (ll. 14 f.).⁴⁸ Note also the emphasis put on the name men have given to the planets, ἀλήται, directly corresponding in meaning to Aratus’ μετανάσται, and placed also at verse-end, position which further underlines the analogy of the two terms.

Clearly Aratean is the use (l. 14) of the originally Homeric ἀγαυός, not seldom applied on stars in the *Phaenomena*: 71, 90, 392, 469. In addition, Pseudo-Manetho’s οὐς φῶλα βροτῶν ὀνόμηναν ἀλήτας (l. 16) is a playful reminiscence of similar Aratean passages.⁴⁹

The *Apotelesmatica* continue with the description of the axis and poles of the sky (ll. 18–21), presented in the beginning of the *Phaenomena*:

Οἱ μὲν ὁμῶς πολέες τε καὶ ἄλλυδις ἄλλοι ἔόντες
οὐρανῷ ἔλκονται πάντ’ ἤματα συνεχές ἀεὶ·
αὐτὰρ ὃ γ’ οὐδ’ ὀλίγον μετανίσσεται, ἀλλὰ μάλ’ αὐτως
ἄξων αἰὲν ἄρρηεν, ἔχει δ’ ἀτάλαντον ἀπάντη
μεσσηγῆς γαίαν, περὶ δ’ οὐρανὸν αὐτὸν ἀγινεῖ.

(Arat. 19–23)

The numerous stars, scattered in different directions, sweep all alike across the sky every day continuously for ever. The axis, however, does not move even slightly from its place, but just stays for ever fixed, holds the earth in the centre evenly balanced, and rotates the sky itself.

Pseudo-Manetho again imitates his model in opposition. Aratus first presents the axis in regard to earth, while Pseudo-Manetho reverses the order by speaking first about the sky in regard to the axis. The two poets continue with exactly the opposite order: Aratus proceeds with a reference to the sky while the author of the *Apotelesmatica* mentions the earth and the sea in his account of the axis rotating the universe around it (ὄς περὶ πᾶν ... δινεύμενος, ll.

48) This interpretation is also supported by Avienus’ translation of Aratus’ work, 908 ff. *quinque itidem stellae ... / per bis sena poli volitant rutilantia signa*.

49) Cf. Arat. 92 τὸν ῥ’ ἄνδρες ἐπικλείουσι Βοώτην, 36 καὶ τὴν μὲν Κυνόσουραν ἐπὶ κλήσιν καλέουσι. For the astronomical connotations of ἐπὶ κλήσιν καλέουσι in Homer, see Kidd ad loc.; the phrase also in 544. Cf. also 331 f. καὶ μιν καλέουσ’ ἄνθρωποι / Σεῖριον, 388 Νότιον δέ ἐ κικλήσκουσιν, 399, 442, 476. Pseudo-Manetho repeats this use elsewhere, for instance 2. (1) 46, 114, 136 f.

20f.).⁵⁰ Pseudo-Manetho also transfers the emphatic and pleonastic presentation of continuity from the eternal movement of the stars (οὐρανῶ ἔλκονται πάντ' ἤματα συνεχῆς αἰεὶ, in Aratus), to the eternal rotation of the world around the axis (ὄκα διηνεκέως δινεύμενος οὐκ ἀπολήγει, l. 21), in Aratus described with a simple αἰέν. These Aratean lines are further exploited in another passage of the *Apotelesmatica*, 2. (1) 61–63. Here Pseudo-Manetho presents a reversal of the image of Aratus, using the latter's ἀγινεῖν and the emphatic reference to the sky (οὐρανὸν αὐτόν) to describe now the act of the sky which rotates the stars around earth, while in his model the sky was the object of the rotating force of the axis.⁵¹ On the level of vocabulary, one can observe that ἐλίσσεσθαι is commonly employed by Aratus in descriptions of stellar movement.⁵² Furthermore ἐλίσσόμενος περι χειρῆ / καμπῶ / φύσας / δίνας are epic formular phrases.⁵³ The use of the verb's active form can be seen within the poet's characteristic tendency for avoidance of the exact

50) Pseudo-Manetho points out that the axis turns the universe around it passing, at the same time, through the land and the sea, or being extended across them (see LSJ s. v. διά A 4), since it is the axis of both earth and universe and its rotating force affects the whole world (πάν); cf. for instance Posidon. fr. 3c, 29 ff. ἡ γῆ ... ὁμόκεντρος μὲν τῷ οὐρανῷ πέλει καὶ αὐτῆ καὶ ὁ δι' αὐτῆς ἄξων καὶ τοῦ οὐρανοῦ μέσου τεταμένος, ὁ δ' οὐρανὸς περιφέρεται περὶ τε αὐτὴν καὶ περὶ τὸν ἄξωνα ἀπ' ἀνατολῆς ἐπὶ τὴν δύσιν, σὺν αὐτῷ δὲ οἱ ἀπλανεῖς ἀστέρες ὁμοταχεῖς τῷ πόλῳ, Eust. Od. 1.17,29 τὸν νοητὸν ἄξωνα νοοῦσι τὸν διὰ μέσης τῆς γῆς ἐληλάμενον ... περὶ ὃν, ὡς καὶ τῷ Ἀράτῳ δοκεῖ, οὐρανὸς εἰλεῖται. For the axis turning the sky around it, cf. also Schol. on Arat. 23 περιάγει, φησίν. ὁ ἄξων τὸν οὐρανόν, Achilles, Eis. 28 (p. 61, l. 4 ff. Maass): ὀνόμασται δ' ἄξων διὰ τὸ περὶ αὐτὸν ἄγεσθαι, καὶ περιδινεῖσθαι τὸν οὐρανόν. For a transitive use of δινεύεσθαι, in an active meaning, cf. Diosc. AP 7.485 περιδινήσασθε μακρῆς ἀνελίγματα χαίτης, “whirl your long flowing locks” (Paton's translation, in the Loeb edition). Note the tmesis in the phrasing of Aratus (περὶ ... ἀγινεῖ), imitated also by Pseudo-Manetho with his περὶ ... δινεύμενος. Διά is constructed apo koinou with γαίης and πόντου: similar constructions, with περι, occur in book 6 of the same work, ll. 227 f. ὅσσοι δὴ χθονίῳ τε καὶ αἰπυτάτῳ περὶ κέντρῳ / ἀστέρας εὐεργούς φάτες βεβαβάτας ἔχουσιν, κτλ., l. 305 τόσος' εἰπὼν ἀτέκνων τε καὶ ἀσπέρμων περὶ φωτῶν.

51) For the variants attested from antiquity in regard to the reading οὐρανὸν αὐτόν of Arat. 23 and a discussion of their possibility of rightness, see Kidd ad loc. Kidd's argumentation in favour of οὐρανὸν αὐτόν seems adequate for the acceptance of this reading. Ἀγινεῖ at verse-end, apart from Arat. 23 where the whole passage refers, also occurs in the epic, cf. Od. 14.105, 22.198, Hes. Op. 576; also Arat. 38, 356, 623, 666, 792.

52) See Kidd on 147.

53) Cf. Il. 1.317, 18.372, 21.11, 22.95; see N. Richardson, *The Iliad: A Commentary*, vol. VI: books 21–24 (Cambridge 1993), on 22.95.

repetition of the formula; it might also be a playful variation of the Aratean account about the manufacture of the globe with its axis and circles, through a comparison with the work of an excellent craftsman who would τοῖά τε καὶ τόσα πάντα περὶ σφαιρηδὸν ἐλίσσω (same sedes), Arat. 531.⁵⁴ The use of the otherwise Homeric στροφάλιγξ for the sky moving the stars around it recalls the Aratean employment of the noun also on the rotation of a star; in Arat. 43 the movement of the Small Bear is described, μειοτέρη γὰρ πᾶσα περιστρέφεται στροφάλιγγι, cf. Kidd ad loc.

After the presentation of the axis, both Pseudo-Manetho (ll. 22–26) and Aratus continue with the two poles:

καὶ μιν περαίνουσι δύο πόλοι ἀμφοτέρωθεν·
ἀλλ' ὁ μὲν οὐκ ἐπίστος, ὁ δ' ἀντίος ἐκ βορέας
ὑψόθεν ὀκεανοῖο. Δύο δέ μιν ἀμφίς ἔχουσαι
Ἄρκτοι ἅμα τροχόωσι· τὸ δὲ καλέονται Ἄμαξαι.

(Arat. 24–27)

Two poles terminate it (sc. the axis) at the two ends; but one is not visible, while the opposite one in the north is high above the horizon. On either side of it two Bears wheel in unison, and so they are called the Wagons.

The reference to the northern pole as ἐπὶ κρυεροῦ Βορέω πνοιῆσιν ἄρηρως in the *Apotelesmatica* (l. 23) probably echoes Arat. 480 τῶν ὁ μὲν ἐγγύθεν ἐστὶ κατερχομένου βορέας, in this passage referring to the northern tropic, cf. also Arat. 241 with Kidd ad loc. The use of ἀγχοῦ for Ursa Minor is also characteristic for Pseudo-Manetho's allusive writing in regard to Aratus; the present passage can support Buhle's reading of the adverb in Arat. 63 with a reference to Ursa Major (see Kidd ad loc.), which will then be an ἄπαξ λεγόμενον in Aratus. Ὑψοῦ, an adverb often used by Pseudo-Manetho,⁵⁵ occurs once in Aratus, also at verse-end, line 509.

In his description of the tropic of Cancer (ll. 72–82), Pseudo-Manetho is echoing Aratus 481–91 in the general principals of presentation, although differences occur, not only due to the different

54) The lines further recall Orph. fr. 235 Abel τηλεπόρου δίνης ἐλικαυγέα κύκλον/οὐρανίαις στροφάλιγξι περίδρομον αἰὲν ἐλίσσω. For the exploitation of the Orphic passage in the Homeric hymn 8.6, see T. W. Allen/W. R. Halliday/E. E. Sikes, *The Homeric Hymns* (Oxford 1936) ad loc.

55) Cf. for instance 2. [1] 35, 47, 109, 118.

sources the author uses,⁵⁶ but also due to his taste for elegant variations. The application of the epithet βριαρός to Ophiouchus (l. 77) is of a particular interest, as it seems to be not only a description of a vivid artistic representation (cf. above, p. 78), but also a deliberate allusion to Arat. 577 μογερόν Ὀφιοῦχον, where μογερός “refers to the effort involved in controlling the serpent” (Kidd ad loc.). What is more, ποδὸς θέναρ Ἠνιόχοιο (l. 81) is a direct reference to Arat. 718, where the rare in literature θέναρ ποδός is applied exactly to the Charioteer’s foot. The phrase θέρεος πυριλαμπέος ὄρην (l. 72), apart from recreating a Hesiodic atmosphere (see below, p. 95), is an imitation in opposition of Aratus 850 and 977 χείματος ὄρη.

As far as the account of the constellations of the Equator (Apot. 2. [1] 83–92) is concerned, it is worth noting that Pseudo-Manetho’s description of Orion’s Belt and Hydra is a careful imitation with variation of Aratus’ corresponding lines: Pseudo-Manetho changes the adjectives, replacing Aratus’ εὐφεγγέος with θηροκτόνου about Orion and Aratus’ αἰθομένης with ἀπειρεσίης about Hydra, retaining, however, the Aratean structure of the two lines (the whole line occupied by the description of Orion and almost the same word-order, three and a half feet for Hydra in the next line).

Pseudo-Manetho opens the description of the tropic of Capricorn (ll. 93–100) with σκέπτεο (l. 94), often used by Aratus for the introduction of a new topic.⁵⁷ With his γοῦνα/ἀμφοτέρ’ Ὑδροχόου καὶ Κήτεος εἰναλίιο/οὐρήν, the author of the *Apotelesmatica* offers a variation of Aratus’ chiasmic expression about the Water-pourer and the Beast in the description of the same tropic in the *Phaenomena* (l. 502).⁵⁸ Now the description of Argo (ll. 97–8 ἠδὲ καὶ Ἀργούς/ποντοπόρου ... ἄκρα κόρυμβα), apart from suggesting an artistic representation of the ship on a globe the author has in front of him (see above, p. 82), also echoes Aratus 686 ἄκρα κόρυμβα ... πολυτερέος Ἀργούς.⁵⁹ Ἐστήρικται, used by Pseudo-

56) For this, together with the Aratean passage, see above, under Astronomical sources.

57) Lines 778, 799, 832, 880, 892, 994 (see Kidd on 778), always at verse-opening, as in the present passage of the *Apotelesmatica*.

58) Which echoes that of Eudoxus, οἱ πόδες τοῦ Ὑδροχόου καὶ τοῦ Κήτους ἠ οὐρά (fr. 73,10f., cf. Kidd on 502).

59) A Homeric echo (Il. 9.241), κόρυμβα being a Homeric ἄπαξ λεγόμενον, see further Kidd ad loc.

Manetho about the Meridian (l. 109), is used by Aratus on fixed stars.⁶⁰ Cf. also the same form in Arat. 351, same sedes.

While Pseudo-Manetho does not base his detailed description of the Galaxy (ll. 116–28) on the Aratean one, it is noteworthy that in his first, brief account of the Galaxy (ll. 51–3), the author of the *Apotelesmatica* is inspired by the relevant Aratean passage, especially ll. 470 and 477:

εἴ ποτέ τοι νυκτὸς καθαρῆς, ὅτε πάντας ἀγανούς
 ἀστέρας ἀνθρώποις ἐπιδείκνυται οὐρανὴ Νύξ,
 (...)
 εἴ ποτέ τοι τῆμόσδε περὶ φρένας ἕκετο θαῦμα
 σκεψαμένῳ πάντῃ κεκασμένον εὐρέϊ κύκλῳ
 οὐρανόν, ἢ καὶ τίς τοι ἐπιστάς ἄλλος ἔδειξε
 κείνο περιγληνὲς τροχαλόν (Γάλα μιν καλέουσι)
 τῷ δὴ τοι χροίῃν μὲν ἀλίγκιος οὐκέτι κύκλος
 δινεῖται, κτλ.

(469–78)

If ever on a clear night, when all the brilliant stars are displayed to men by celestial Night, ... if ever at such a time a wondering has come into your mind when you observed the sky split all the way round by a broad circle, or someone else standing beside you has pointed out to you that star-emblazoned wheel (men call it the Milk), no other circle that rings the sky is like it in colour, etc.

Characteristic for Pseudo-Manetho's style is, once more, the adjectival variation of Aratus' οὐρανὴ Νύξ with ἀμβροσίη, a Homeric adjective for night (see below, p. 95), the connection between Aratus and the *Apotelesmatica* further reinforced with the same metrical position of the two phrases. Similarly, although Pseudo-Manetho's source for the description of the Zodiac (ll. 129–40) is clearly not Aratus (see above, p. 86), it is interesting to note that his account of the Maiden recalls the famous Aratean description of how Justice, disappointed of people's malice, abandoned the world when the Bronze Age men succeeded those of the Golden and Silver Age, and went to live in the sky (Arat. 96–136). Apot. 2. (1) 134 f. recalls Arat. 97 Παρθένον, ἣ ῥ' ἐν χειρὶ φέρει Στάχυν αἰγλήεντα in combination with another Aratean passage, the account about Justice's disapproval of the Silver Age men and her longing for those of the Golden Age, line 116 ποθέουσα παλαιῶν ἤθεα λαῶν.

60) Probably echoing Il. 4.443 and Hes. Th. 779; see Kidd on Arat. 10. For the special association of the verb with the stars, cf. the discussion about its etymology in regard to Arat. l. 10 in Achilles' Commentary ad loc. (p. 84 Maass) παρὰ τὸ ἐστηρίχθαι ἠτυμολόγησε τῶν ἀστέρων τὸ ὄνομα. Ἄλλοι δέ φασιν ἀπὸ Ἀστραίου.

Other literary echoes: Homer, Hesiod, Apollonius, Manilius

The epic style of Pseudo-Manetho's work invites reference to old epic and indeed encompasses echoes mainly from Homer and Hesiod creatively exploited and adjusted in the new context. It would be sufficient here to refer to certain characteristic cases, including adaptations and variations of epic formulas. Such is *φύλα βροτῶν* (l. 16), a variation of the epic *φύλ' ἀνθρώπων*.⁶¹ *Φίλος*, again, an adjective commonly used in epic formulas, freely combined with various nouns in a sense equivalent to the possessive pronoun, 'my', 'your' (*πατρὶς γαῖα*, *θυμός*, *υἱός*, *ἄλοχος*, etc.); Pseudo-Manetho attaches it to *ᾠοιδή* (l. 17) to indicate his own poetry, attaching thus his work, from the opening section, to the didactic tradition, as it is exactly this genre, described as *ᾠοιδή*, that the Muses taught Hesiod, according to his own testimony.⁶²

Κατὰ κόσμον (l. 15) is an epic expression meaning 'properly', 'in a becoming way', 'in order'.⁶³ If we place the phrase in an adjunct with the "signs" (*καὶ δείκηλ'*), as Koechly does, we are obliged either to connect two terms not syntactically equal and have another *κατὰ* meant ("in neat order and through the signs"), which would result to an impossible construction, or take *κόσμος* to mean 'world' and translate "through the world and the signs", which is unlikely after *διὰ κύκλου Ζωδιακοῦ*, especially when *ἀμειβόμενοι* invites the adverbial sense of *κατὰ κόσμον* = "in order". Given that G most probably transmits the manuscript's reading,⁶⁴ the non-sense A' *δίκηλ'* of the codex could be corrected to *ἀλλήκτωσ*⁶⁵ or

61) Od. 3.282, 7.307, 15.409, h. Apol. 161, al., Hes. fr. 1,1.

62) Th. 22 *αἴ νύ ποθ' Ἡσίοδον καλὴν ἐδίδαξαν ᾠοιδήν*. Cf. also Hes. Th. 31 *ἐνέπνευσαν δέ μοι ᾠοιδήν*, if this variant, instead of the vulgate reading *αὐδήν*, is correct, see West ad loc. *Ἀεΐδειν* has become common in expressions of self-referentiality in poetry, and poets do speak of their work in the first person with this verb, cf. for instance Theogn. 4, Pind. N. 5.50, N. 10.31. Callimachus often uses the verb, especially in pieces of programmatic importance: fr. 1.33 *δρῶσον ἦν μὲν ἀεΐδω*, 612.1 *ἀμάρτυρον οὐδὲν ἀεΐδω*, H. 2.106; cf. H. 1.1, *ibid.* 92, H. 2.31.

63) Il. 2.214, 8.12, 10.472, 11.48, al.

64) "Gronovius summa fide codicem descripsit" (Koechly 1851, iii). "Hunc poetam summa cum cura primum ex MS bibliothecae Mediceae manu mea descripsi, deinde numerum versuum ad MS exegi", according to Gronovius himself (Praefatio 4).

65) The poet uses *ἄλληκτα* (3. [2] 206) and *ἄλληκτων* (3. [2] 252) also as adjectives.

εὐκλήως.⁶⁶ Koechly's less radical suggestion ἄν δείκηλ', "through the signs", cannot be excluded.

Epic colour is again not absent from the description of the axis (ll. 18–21): ἀτρυγέτος πόντος (l. 20) is an epic formula;⁶⁷ furthermore, the whole line echoes the epic contrasting pair land-sea, with a variation by the use of πόντος instead of θάλασσα.⁶⁸ Ἀμβροσίη νύξ (l. 52) is a playful variation of Aratus' οὐρανίη νύξ (l. 270, see above, p. 93), but also a Homeric reminiscence, as ἀμβροσίη νύξ occurs at verse-end thrice in the *Odyssey*.⁶⁹ Πυκινήσι ἐνὶ φρεσίν (l. 58) is again Homeric.⁷⁰ The epic tone is heard also in line 63, with the formulaic δῖαν χθόνα.⁷¹

In his description of the tropic of Cancer, by his θέρεος πυριλαμπέος ὥρην (l. 72), apart from echoing Aratus (see above, p. 92), Pseudo-Manetho colours his picture with a Hesiodic touch, as he produces a variation of an expression of the didactic epic, cf. Op. 584 θέρεος καματώδεος ὥρη, *ibid.* 664 θέρεος καματώδεος ὥρης, both at hexameter-end.⁷² It is also worth noting that the adjective Pseudo-Manetho attributes to the Lion, χαροπός (l. 76) is a Homeric ἄπαξ λεγόμενον, Od. 11.611, where it describes nothing other than lions, χαροποί τε λέοντες.⁷³

In his account of the tropic of Capricorn Pseudo-Manetho gives Argo (ll. 97 ff. Ἀργούς ... ποντοπόρου) its Homeric adjective, which appears the only time we hear about the ship in Homer, Od. 12.69 f. ποντοπόρος νηῦς, / Ἀργὼ πᾶσι μέλουσα. Δι' αἰθέρος in l. 98 is in its Homeric sedes, before the bucolic diaeresis.⁷⁴ In his description of the stars of the Southern circle, Pseudo-Manetho refers to the construction of Argo by Athena (ll. 104 f.);⁷⁵ I have correct-

66) Cf. Hesych. εὐκηλα, εὐπρεπῆ.

67) Il. 15.27, Od. 5.84, 140, 7.79, *al.*, Hes. Th. 241, 696.

68) Il. 14.204 γαίης νέρθε καθεῖσε καὶ ἀτρυγέτοιο θαλάσσης, cf. *h. Hom.* 22,2 γαίης κινητήρα καὶ ἀτρυγέτοιο θαλάσσης, Hes. Th. 413 μοῖραν ἔχειν γαίης τε καὶ ἀτρυγέτοιο θαλάσσης (*with West ad loc.*).

69) 4.427, 4.574, 7.283.

70) Πυκινὰς φρένας, Il. 14.294, *h. Ven.* 38, 243.

71) Cf. Eust. on Il. 24.532 (950) Χθὼν δὲ δῖα, καθὰ καὶ θάλασσα, διὰ τὸ ἔντιμον.

72) The Homeric formula is ἔαρος / εἰσιρινῆ ὥρη, Il. 2.471, 16.643, *al.*

73) For the characteristic use of the adjective on animals' eyes and its other meanings in literature, see Kidd on Arat. 394.

74) Il. 2.458, 17.425, 19.351.

75) See Ap. Rh. 1.111, 527, 551, *al.*, see F. Vian, *Apollonios de Rhodes, Argonautiques*, t. I, 55 n. 112. For the construction of the ship from pines of Pelion, cf. Hdt. 4.179, Eur. Med. 3 f., Ap. Rh. 1.386 *with Vian ad loc.*

ed the τεμοῦσα of the codex (if Koechly reports accurately the reading of the manuscript, the rare in poetry Attic aorist participle τεμοῦσα [>ἔτεμον] is almost surely a mistake, as we should have the epic [and also generally used] participle ταμοῦσα) to καμοῦσα because not only is this adjective far more appropriate for the description of the construction of an artefact in this phrasing and syntax,⁷⁶ but is actually repeatedly used by Apollonius on the same subject (cf. 1.111 αὐτὴ γὰρ καὶ νῆα θοὴν κάμε, 3.340 νῆα δ' Ἀθηναίη Παλλὰς κάμεν). Apot. 2. (1) 104 f. is thus a playful combination with variation of these passages and Ar. Rh. 2.1187 f. τὴν γὰρ Ἀθηναίη τεχνήσατο καὶ τάμε χαλκῶ / δούρατα Πηλιάδος κορυφῆς πάρα.

In its normal Homeric sedes is also ἄψορος in the description of the constellations of the Galaxy (l. 125): the variation in regard to tradition lies here in that it is the adverb ἄψορον that usually occupies the verse-opening in Homer.⁷⁷ The epic tone rings through the lines in the account about the Meridian (ll. 109–11);⁷⁸ ἠφῆν οἶμον (l. 110) further seems a variation of the Homeric formula about water and air, ὑγρὰ κέλευθα, Il. 1.312, Od. 3.71, 4.842, al., ἠερόεντα κέλευθα, Od. 20.64.

It should not go unattended, in this discussion, that Manilius is occasionally echoed in the text of Pseudo-Manetho. In an instance of his account of the Meridian (ll. 110 f.), the author takes up Manilius' *discernit diem* (1.635). Interesting is also Apot. 2. (1) 73, which opens the account about the Tropic of Cancer, with Olympus indicating the sky, as often in Manilius,⁷⁹ also at verse-end; the image moreover recalls Man. 1.576 *ingenti spira totum*

76) There is no reference to the trees which could be 'cut' by Athena, to justify the use of τέμνειν, and this verb cannot be forced to mean 'make', as if it were κάμνειν: meaningless is the rendering of Koechly (1851): "et gubernaculum navis, quam summis secans / Pelii in verticibus Minerva posuit in stellis Argo". Salvini (39) renders "ed il timone della nave / cui di Pelio tagliando dalla cima, / Argo, Pallade pose infra le stelle" as if the text had ἐκ κορυφῆς, which is Gronovius' reading, and so probably indeed the reading of the transmitted text, but seems to be rightly corrected by Koechly to ἐν κορυφαῖς. Likewise the ἀκροτόμοισι that is the reading of Gronovius, and also presumably that of the codex, is most probably rightly corrected to ἀκροτάτησι.

77) Il. 4.152, 7.413, 12.74, 16.376, 21.382, Od. 10.558, 11.63.

78) Cf. Il. 21.111 ἔσσειται ἠὲ ἠὸς ἢ δαίλη ἢ μέσον ἡμαρ, Hes. Op. 404 χρεῖων τε λύσιν, ibid. 810 εἰνάς δ' ἠ μέσση ἐπὶ δαίελα λῶιον ἡμαρ. Cf. Kidd on Arat. 118. Δαίελον in Pseudo-Manetho (l. 110) occurs at the Hesiodic sedes.

79) For instance 1. 576, [595], 609, 634, 711, al.

praecingit Olympum, on the Equator “girding” the sky like a ring. In his description of the constellations of the Galaxy and while speaking about the “turning” of the Galaxy after the feet of Centaur and before Argo (ll. 124 f.), Pseudo-Manetho’s phrasing again seems modelled on Manilius’ *rursusque ascendere caelum / incipit* (ll. 693 f.), an echo which can imply a similar depiction of the stars on the globes the two authors used (see above, p. 86 f.), but also Pseudo-Manetho’s acquaintance with the text of Manilius. Pseudo-Manetho’s remarks about the invisibility of all circles which can be grasped only by the intellect, apart from the Galaxy and the Zodiac (ll. 31 f., 57 f.), are parallel to Manilius’ account of the Zodiac (ll. 677 ff.): *nec visus aciemque fugit tantumque notari / mente potest, sicut cernuntur mente priores, / sed nitet ingenti stellatus balteus orbe*, etc.

In general it can be observed that the author follows the Alexandrian literary practice according to which poets produce variations of one another’s verses and their writings are full of echoes of the works of the past in the fashion of the *arte allusiva*. His playful use primarily of Aratus as well as of Homeric and Hesiodic formulas reveals that he, a *poeta doctus*, consciously places himself in the Hellenistic tradition of poetry writing and that he tries to find creative ways to exploit the possibilities the diction of the great works offers him, incorporating their expressions, phrasings and images in his composition through constant variations which endow his verses with the sense of an elegant balance between originality and freshness on one hand and the expected epic grandeur and dignity on the other.

* * *

Granted the loss of numerous astronomical treatises and, needless to say, that of the various illustrations in painting and sculpture of the celestial globe of Antiquity it is impossible to reconstruct the exact models of the first lines of book 2 of the *Apotelesmatica*. Our extant evidence, however, does allow certain observations in the course of suggesting possible passages the author might have consulted. It is obvious and beyond doubt that Aratus’ work constituted a source of inspiration for Pseudo-Manetho who uses the text of his Hellenistic predecessor with a

constant reference to its updated commentaries, and also with the help of a globe which he in fact seems describing, perhaps a globe similar to that of Manilius. From this point of view his work is comparable to that of Aratus for a further reason: the author of the *Apotelesmatica* imitates the poet of the *Phaenomena* in that he also treats his model, Aratus, in a critical way, as Aratus too was not absolutely faithful in his rendering of Eudoxus, but had occasionally deviated from his model following his own observations and research. Pseudo-Manetho is thus continuing the practice of a critical and imaginative dialogue on both literary and scientific grounds his Hellenistic predecessor introduced and aspires to a poetic composition based on the astronomical knowledge of his era which has, at the same time, strong roots in the didactic genre and in the epic tradition more generally.

Leukosia

Maria Ypsilanti