

Aratus

Phaenomena (Excerpts)

A Greek Reader

prepared by
Rev. Dr. R. D. Anderson
(last revised 3 May 2017)

Introduction

Aratus, said to have been a medical doctor by profession, was also a student of philosophy and a poet. Among others, he wrote a didactic poem which became incredibly popular in the ancient world, particularly in the time of the New Testament, the *Phaenomena*. There were at least five translations into Latin by the end of the first century¹ and even the apostle Paul himself is seen to be quoting from the poem's introduction in Acts 17:28 when speaking in the Areopagus at Athens. At least 27 commentaries were written on this poem in antiquity!

The poem itself was written *ca.* 276 BC, probably at the Macedonian court of Antigonas Gonatas, one of the successors to Alexander the Great. The tradition of writing instruction in dactylic hexameters goes all the way back to Hesiod around the 8th century BC and remained popular in imperial times.

This particular poem sets out to give the reader/hearer a map of the heavens, charting the stars and what we can learn from them for organising our daily life as the gift of 'Father Zeus'. By taking from the astronomical learning of Eudoxus, who wrote a generation earlier, and casting this in hexameters, Aratus managed to popularise the subject, which was in any case in vogue in the first centuries BC and AD. His outlook conforms to a typically Greek geocentric view of the universe. Around the small static sphere of the earth revolves another sphere upon which the stars find their placement. Interestingly, Kidd shows time and again that the names of the major constellations actually have their roots in the Babylonian tradition. Aratus notes that there are some wandering stars (the planets) which he does not feel confident to discuss (§§454-61), but the planets were also of no use in determining times and seasons, the practical purpose of this poem. Only two wandering stars are discussed in detail, because of their great practical value, namely the sun and the moon. A modern person may question the need to be able to recognise the movements of the fixed stars and the solstices of the sun. Surely weather patterns and agricultural cycles can be mapped onto days of the month? The ancient world, however, used *lunar* months which were never completely in step with the solar (seasonal) year. Extra months were intercalated from time to time, but each Greek city made its own intercalations, meaning that no given date was valid for all towns. The Israelites also intercalated months, but we know very little as to how they did this. Knowing the day of the month was simply not a very reliable guide. For this reason many Greek towns and cities had public stone *pegmata*, a calendar with pegs which were moved indicating the relation between dates and the movement of the stars. Of course, there were other signs which people used as indications for the agricultural cycle, such as the first appearance of snails, or the reappearance of certain kinds of birds, but the stars remained the most reliable guide.

Paul's possible knowledge of Aratus is not surprising against this background, particularly when we realise that Old Testament Israel also relied upon recognition of the constellations in the night sky as evidenced by passages such as Job 9:9; 38:31-32; Amos 5:8 etc.

The text presented here is that of D. Kidd, *Aratus: Phaenomena ed. with Introduction*,

¹ E. Gee, *Aratus and the Astronomical Tradition* (Oxford: University Press, 2013) p.5.

Translation and Commentary (Cambridge: University Press, 1997). This is currently the standard edition of Aratus. The illustrations supplied are taken from *Aratos Phaenomena: Sternbilder und Wetterzeichen*, Griechisch-deutsch Herausgegeben und übersetzt von Manfred Erren (Düsseldorf: Artemis & Winkler, 2009), p.161ff. Erren's commentary in essence predates that of Kidd, and there is no indication that he has used it. The following works have also been consulted:

G R. Mair, *Aratus with an English Translation*, Loeb Classical Library (London: William Heinemann, 1921)

J. Martin, *Arati Phaenomena. Introduction, texte critique, commentaire et traduction* (Florence: La Nuova Italia, 1956)

M. Possanza, 'Review of D. Kidd (*op.cit.*)' *Bryn Mawr Classical Review* 1999.09.01

As textbook please read:

M. L . West, *Introduction to Greek Metre* (Oxford: Clarendon Press, 1987) pp.1-23, 77-79.

Contents

Introduction.....	2
Dactylic Hexameter.....	5
Acts 17.....	6
Genesis 1:14-19.....	7
Dedication (1-18).....	8
Aratus' Cosmos (19-27).....	9
Draco (45-62).....	10
Virgo (96-136).....	12
Signs for sailors (740-777).....	14

Dactylic Hexameter

The following are a few short notes on dactylic hexameter.

The two *cola* of the dactylic hexameter

— ∪ — ∪ — | ∪ — ∪ — ∪ — x || *masculine caesura*

— ∪ — ∪ — ∪ | ∪ — ∪ — ∪ — x || *feminine caesura*

Wernicke's bridge

The two shorts may be replaced by one long (contracted biceps), but only in the first foot should this *contracted biceps* mark a word ending.² Note that appositives are reckoned together with the word that they relate to. If a new word follows a *contracted biceps* in the fourth foot then it should end with a long vowel in its final syllable.

— ∪ — ∪ — ∪ | ∪ — ∪ — ∪ — x ||
 .. (— —) (— —)

Hermann's bridge

Word end is avoided between the two shorts of the fourth foot.

— ∪ — ∪ — ∪ | ∪ — (∪∪) — ∪ — x ||

Hiatus

Hiatus can occur with long vowels at the princeps (the long syllable at the beginning of a foot), or with short vowels at the feminine caesura or the end of the fourth foot after two short syllables.

Initial Continuants

Certain consonants (λ, μ, ν, ρ, σ, and originally ϕ) are capable of being slightly prolonged, delaying the release of the syllable and so adding length to the preceding one. This usually occurs to an initial consonant at the princeps position.

Final Continuants

A final continuant (ν, ρ, σ) is occasionally lengthened as if syllable-closing although a vowel follows.

Correption

A final long vowel or diphthong is usually shortened when the next word begins with a vowel (unless there is period-end). This is almost confined to double-short rhythm.

² This covers both Hilberg's law (that a word-end after a contracted biceps in the second foot is generally avoided) and Naeke's law (that a word-end after a contracted biceps in the fourth foot is generally avoided).

Acts 17

In Acts 17:16-34 we read of Paul's address to the Areopagus. In the midst of Luke's summary we hear Paul quoting from the dedicatory introduction of Aratus' *Phaenomena*. The passage begins with Paul waiting for Silas and Timothy to catch up with him in Athens:

16 Ἐν δὲ ταῖς Ἀθήναις ἐκδεχομένου αὐτοῦ τοῦ Παύλου παρωξύνετο τὸ πνεῦμα αὐτοῦ ἐν αὐτῷ θεωροῦντος κατείδωλον οὔσαν τὴν πόλιν. 17 διελέγετο μὲν οὖν ἐν τῇ συναγωγῇ τοῖς Ἰουδαίοις καὶ τοῖς σεβομένοις καὶ ἐν τῇ ἀγορᾷ κατὰ πᾶσαν ἡμέραν πρὸς τοὺς παρατυγχάνοντας. 18 τινὲς δὲ καὶ τῶν Ἐπικουρείων καὶ Στωϊκῶν φιλοσόφων συνέβαλλον αὐτῷ, καὶ τινες ἔλεγον· τί ἂν θέλοι ὁ σπερμολόγος οὗτος λέγειν; οἱ δὲ ξένων δαιμονίων δοκεῖ καταγγελεὺς εἶναι, ὅτι τὸν Ἰησοῦν καὶ τὴν ἀνάστασιν εὐηγγελίζετο. 19 ἐπιλαβόμενοί τε αὐτοῦ ἐπὶ τὸν Ἄρειον πάγον ἤγαγον λέγοντες· δυνάμεθα γινῶναι τίς ἡ καινὴ αὐτῆ ἢ ὑπὸ σοῦ λαλουμένη διδαχὴ; 20 ξενίζοντα γὰρ τίνα εἰσφέρεις εἰς τὰς ἀκοὰς ἡμῶν· βουλόμεθα οὖν γινῶναι τίνα θέλει ταῦτα εἶναι. 21 Ἀθηναῖοι δὲ πάντες καὶ οἱ ἐπιδημοῦντες ξένοι εἰς οὐδὲν ἕτερον ἠκαίρουν ἢ λέγειν τι ἢ ἀκούειν τι καινότερον.

22 Σταθεῖς δὲ [ὁ] Παῦλος ἐν μέσῳ τοῦ Ἀρείου πάγου ἔφη· ἄνδρες Ἀθηναῖοι, κατὰ πάντα ὡς δεισιδαιμονεστέρους ὑμᾶς θεωρῶ. 23 διερχόμενος γὰρ καὶ ἀναθεωρῶν τὰ σεβάσματα ὑμῶν εὗρον καὶ βωμὸν ἐν ᾧ ἐπεγέγραπτο·

Ἄγνωστω θεῷ.

ὁ οὖν ἄγνωστοὺς εὐσεβεῖτε, τοῦτο ἐγὼ καταγγέλλω ὑμῖν. 24 ὁ θεὸς ὁ ποιήσας τὸν κόσμον καὶ πάντα τὰ ἐν αὐτῷ, οὗτος οὐρανοῦ καὶ γῆς ὑπάρχων κύριος οὐκ ἐν χειροποιήτοις ναοῖς κατοικεῖ 25 οὐδὲ ὑπὸ χειρῶν ἀνθρωπίνων θεραπεύεται προσδεόμενός τινος, αὐτὸς διδούς πᾶσι ζωὴν καὶ πνοὴν καὶ τὰ πάντα· 26 ἐποίησέν τε ἐξ ἑνὸς πᾶν ἔθνος ἀνθρώπων κατοικεῖν ἐπὶ παντὸς προσώπου τῆς γῆς, ὀρίσας προστεταγμένους καιροὺς καὶ τὰς ὁροθεσίας τῆς κατοικίας αὐτῶν 27 ζητεῖν τὸν θεόν, εἰ ἄρα γε ψηλαφήσειαν αὐτὸν καὶ εὔροιεν, καὶ γε οὐ μακρὰν ἀπὸ ἐνὸς ἐκάστου ἡμῶν ὑπάρχοντα.

28 ἐν αὐτῷ γὰρ ζῶμεν καὶ κινούμεθα καὶ ἐσμέν, ὡς καὶ τινες τῶν καθ' ὑμᾶς³ ποιητῶν εἰρήκασιν·

τοῦ γὰρ καὶ γένος ἐσμέν.

29 γένος οὖν ὑπάρχοντες τοῦ θεοῦ οὐκ ὀφείλομεν νομίζειν χρυσοῦ ἢ ἀργύρου ἢ λίθου, χαράγματι τέχνης καὶ ἐνθυμήσεως ἀνθρώπου, τὸ θεῖον εἶναι ὅμοιον. 30 τοὺς μὲν οὖν χρόνους τῆς ἀγνοίας ὑπεριδὼν ὁ θεός, τὰ νῦν παραγγέλλει τοῖς ἀνθρώποις πάντας πανταχοῦ μετανοεῖν, 31 καθότι ἔστησεν ἡμέραν ἐν ἣ ἔλλει κρίνειν τὴν οἰκουμένην ἐν δικαιοσύνῃ, ἐν ἀνδρὶ ᾧ⁴ ὤρισεν, πίστιν παρασχὼν πᾶσιν ἀναστήσας αὐτὸν ἐκ νεκρῶν. 32 Ἀκούσαντες δὲ ἀνάστασιν νεκρῶν οἱ μὲν ἐχλεύαζον, οἱ δὲ εἶπαν· ἀκουσόμεθά σου περὶ τούτου καὶ πάλιν. 33 οὕτως ὁ Παῦλος ἐξῆλθεν ἐκ μέσου αὐτῶν. 34 τινὲς δὲ ἄνδρες κολληθέντες αὐτῷ ἐπίστευσαν, ἐν οἷς καὶ Διονύσιος ὁ Ἀρεοπαγίτης καὶ γυνὴ ὀνόματι Δάμαρις καὶ ἕτεροι σὺν αὐτοῖς.

κατείδωλος, ον, full of idols, given to idolatry (<i>coinage based on the Jewish-Greek εἶδωλον</i>)	δεισιδαίμων, ον, <i>gen. ονος</i> , (δειδω) fearing the gods, 1. <i>in good sense</i> , pious, religious, 2. <i>in bad sense</i> , superstitious
σπερμολόγος, ον, picking up seeds (e.g. of birds); as <i>Subst.</i> , one who picks up and retails scraps of knowledge	σεβάσμα, ατος, τό, that for which awe is felt, an object of awe or worship
ξενίζω, surprise, astonish by some strange sight (<i>can be positive or pejorative</i>)	προσδεόμεναι, to be in want of, stand in need of besides, τινος ὁροθεσία, ἡ, fixing of boundaries: in pl., limitations, boundaries
τίνα θέλει ταῦτα εἶναι 'what these things wish to be', an idiomatic use of θέλω in respect of phrases related to meaning = τίνα ταῦτα εἰσιν.	ψηλαφάω, feel about for, grope or search after
εὐκαιρέω have opportunity, leisure or time	χάραγμα [χά], ατος, τό, (χαράσσω) any mark engraved, imprinted, or branded
	πίστις, ἡ, <i>gen. εως</i> , here in the sense of assurance, guarantee

3 κατα + acc. is often used periphrastically in Hellenistic Greek with a noun for the adverb. It is used with pronouns instead of a possessive to emphasise the limiting aspect. Paul is saying that *their* poets, not those of other nations (e.g. Jews?) say this. Does the pronoun refer to Greeks in general or more specifically to Stoics?

4 = ᾧ, see 'A note on the attraction of the relative' following *Animal Story* 16.

Genesis 1:14-19

Aratus presumed that the ‘stars’ (i.e. sun, moon, stars, planets) had been fixed in the firmament by Zeus in order to give ‘signs’ to mankind for determining years, seasons, months and to aid in predicting weather. Aratus’ astronomy is limited to what is necessary for someone wishing to use the ‘stars’ for this purpose. For a Jew, such a didactic poem would surely have been seen as explaining God’s purpose in giving the night sky to man.

¹⁴ Καὶ εἶπεν ὁ θεὸς Γενηθήτωσαν φωστῆρες ἐν τῷ στερεώματι τοῦ οὐρανοῦ εἰς φαῦσιν τῆς γῆς τοῦ διαχωρίζειν ἀνὰ μέσον τῆς ἡμέρας καὶ ἀνὰ μέσον τῆς νυκτὸς καὶ ἔστωσαν εἰς σημεῖα καὶ εἰς καιροὺς καὶ εἰς ἡμέρας καὶ εἰς ἐνιαυτοὺς ¹⁵ καὶ ἔστωσαν εἰς φαῦσιν ἐν τῷ στερεώματι τοῦ οὐρανοῦ ὥστε φαίνειν ἐπὶ τῆς γῆς. καὶ ἐγένετο οὕτως. ¹⁶ καὶ ἐποίησεν ὁ θεὸς τοὺς δύο φωστῆρας τοὺς μεγάλους, τὸν φωστῆρα τὸν μέγαν εἰς ἀρχὰς τῆς ἡμέρας καὶ τὸν φωστῆρα τὸν ἐλάσσων εἰς ἀρχὰς τῆς νυκτὸς, καὶ τοὺς ἀστέρας. ¹⁷ καὶ ἔθετο αὐτοὺς ὁ θεὸς ἐν τῷ στερεώματι τοῦ οὐρανοῦ ὥστε φαίνειν ἐπὶ τῆς γῆς ¹⁸ καὶ ἄρχειν τῆς ἡμέρας καὶ τῆς νυκτὸς καὶ διαχωρίζειν ἀνὰ μέσον τοῦ φωτὸς καὶ ἀνὰ μέσον τοῦ σκοτοῦς. καὶ εἶδεν ὁ θεὸς ὅτι καλόν. ¹⁹ καὶ ἐγένετο ἑσπέρα καὶ ἐγένετο πρωί, ἡμέρα τετάρτη.

v.14

Γενηθήτωσαν φωστῆρες

The singular Hebrew imperative is ‘corrected’ to plural. For ὁ φωστήρ see ‘A note on stars’ in my *The Ancient Prophecy of Enoch: 1 Enoch 1 – 11*.

ἐν τῷ στερεώματι

The adjective στερεός, ἄ, ὄν meaning ‘firm / solid’ gave rise to the noun στερέωμα, initially with the meaning ‘solid body’ and then ‘foundation / framework’. Jews took this word over to refer to the firmament. The Hebrew רָקִיעַ is, however, derived from רָקַע ‘to spread out’.

εἰς φαῦσιν τῆς γῆς

φαῦσις (‘illumination’) is an unusual word, but is found in astronomical and philosophical writings from at least the first century BC. The phrase is not found in the Massoretic text.

εἰς σημεῖα

This could easily be understood as either navigational or weather signs.

v.16

εἰς ἀρχὰς

Twice LXX has read the noun as a plural: מְמַשְׁלֵת.

וַיֵּאמֶר אֱלֹהִים יְהִי מְאֹרֹת בְּרָקִיעַ הַשָּׁמַיִם לְהַבְדִּיל בֵּין הַיּוֹם וּבֵין הַלַּיְלָה וְהָיוּ לְאֹתוֹת וּלְמוֹעֲדִים וּלְיָמִים וּשְׁנָיִם:	14
וְהָיוּ לְמְאֹרֹת בְּרָקִיעַ הַשָּׁמַיִם לְהָאִיר עַל־הָאָרֶץ וַיְהִי־כֵן:	15
וַיַּעַשׂ אֱלֹהִים אֶת־שְׁנֵי הַמְּאֹרֹת הַגְּדֹלִים אֶת־הַמְּאֹרֹת הַגְּדֹלִים לְמַמְשְׁלֵת הַיּוֹם וְאֶת־הַמְּאֹרֹת הַקְּטָנִים לְמַמְשְׁלֵת הַלַּיְלָה וְאֵת הַכּוֹכָבִים:	16
וַיִּתֵּן אֹתָם אֱלֹהִים בְּרָקִיעַ הַשָּׁמַיִם לְהָאִיר עַל־הָאָרֶץ:	17
וּלְמַשֵּׁל בַּיּוֹם וּבַלַּיְלָה וּלְהַבְדִּיל בֵּין הָאֹר וּבֵין הַחֹשֶׁךְ וַיֵּרָא אֱלֹהִים כִּי־טוֹב:	18
וַיְהִי־עֶרֶב וַיְהִי־בֹקֶר יוֹם רְבִיעִי: פ	19

Dedication (1-18)

The form of the dedication and prayer follow the line of didactic poetry from Hesiod. The ‘Zeus’ described here, however, is not the angry mythological Zeus of Hesiod, but the Stoic Zeus, the Father of mankind who has fixed the stars on the expanse to help and benefit man. The older gods recede before this pervasive god of the Stoics, who rules not just the marketplaces (a traditional domain for Zeus), but also the highways (traditionally of Apollo) and the sea (of Poseidon). Jews could feel much more comfortable with such a description of ‘god’, and in fact the Jewish philosopher, Aristobolous (*fr.* 4), when quoting this section of the poem only has to substitute θεοῦ for Διός.

<p>1 5 10 15</p>	<p><i>Dedication</i></p> <p>Ἐκ Διὸς ἀρχόμεσθα, τὸν οὐδέποτ' ἄνδρες ἐῶμεν ἄρρητον. μεστὰ δὲ Διὸς πᾶσαι μὲν ἀγυαίαι, πᾶσαι δ' ἀνθρώπων ἀγοραί, μεστή δὲ θάλασσα καὶ λιμένες· πάντη δὲ Διὸς κεχρήμεθα πάντες.</p> <p>Τοῦ γὰρ καὶ γένος εἰμέν· ὁ δ' ἥπιος ἀνθρώποισι δεξιὰ σημαίνει, λαοὺς δ' ἐπὶ ἔργον ἐγείρει μιμνήσκων βιότοιο, λέγει δ' ὅτε βῶλος ἀρίστη βουσί τε καὶ μακέλησι, λέγει δ' ὅτε δεξιά ὦραι καὶ φυτὰ γυρῶσαι καὶ σπέρματα πάντα βαλέσθαι.</p> <p>Αὐτὸς γὰρ τὰ γε σήματ' ἐν οὐρανῷ ἐστήριξεν ἄστρα διακρίνας, ἐσκέφατο δ' εἰς ἐνιαυτὸν ἀστέρας οἳ κε μάλιστα τετυγμένα σημαίνουσιν ἀνδράσιν ὥράων, ὄφρ' ἔμπεδα πάντα φύωνται. Τῶ μιν αἰεὶ πρῶτόν τε καὶ ὕστατον ἰλάσκονται.</p> <p><i>Prayer</i></p> <p>Χαῖρε, πάτερ, μέγα θαῦμα, μέγ' ἀνθρώποισιν ὄνειαρ, αὐτὸς καὶ προτέρη γενεή. Χαίροιτε δὲ Μοῦσαι μειλίχια μάλα πᾶσαι. Ἐμοί γε μὲν ἀστέρας εἰπεῖν ἧ θέμις εὐχομένῳ τεκμήρατε πᾶσαν ἀοιδήν.</p>	<p>1. -μεσθα for -μεθα is used in Epic when required by the metre (Smyth §465d)</p> <p>2. ἄρρητον – a possible pun on the epic version of the poet's name Ἀρητος (ἄ).</p> <p>10. οὐρανῷ ἐστήριξεν – Correction</p> <p>11. ἄστρα – used by Aratus for ‘constellations’ as opposed to ἀστέρες for ‘individual stars’ (Kidd)</p> <p>12. τετυγμένα sc. σήματα</p> <p>12. κε = ἄν</p> <p>13. ἔμπεδα πάντα φύωνται neut. pl. with pl. verb seems to be an imitation of Homer (Kidd)</p> <p>11-13. ... ‘and he examined stars for the year which would signify to men the especially formed (signs) of the seasons (i.e. times for doing things)’</p> <p>14. καὶ ὕστατον – Correction</p> <p>16. προτέρη γενεή ‘earlier race’ is variously interpreted in the scholia as 1. Zeus; 2. Titans; 3. Zeus' brothers; 4. the earlier astronomers; 5. the heroes.⁵ Kidd argues that αὐτὸς καὶ ... is Homeric idiom for someone and a closely related group, here ‘the race of gods’.</p> <p>16. The use of opt. χαίροιτε is a less common, but also known, form of greeting.</p> <p>17. εἰπεῖν can take a direct obj. in poetry, ‘to speak, mention’</p>
------------------------------	--	---

Vocabulary

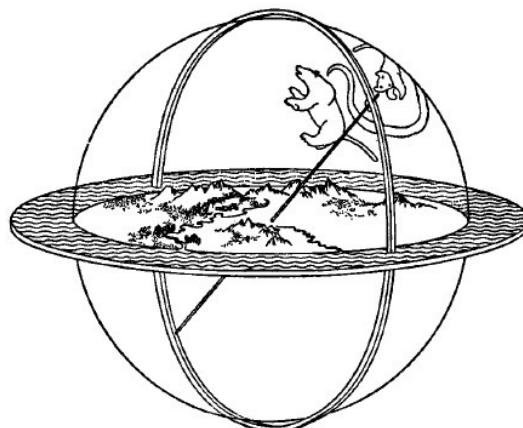
ἄγυια, ἄς, ἡ, street, highway
 πάντη *adv.* in every way
 εἰμέν Ion./Ep. = ἐσμέν
 ἥπιος, α, ον, gentle, kind
 δεξιός, α, ον, right; (metaph.) clever, skilful; favourable
 βίος, ὁ, Ep., = βίος
 βῶλος, ἡ, clump of earth; (Poets) land, soil
 βούς, ὁ/ἡ, a single beast from among the cattle
 μακέλη, ἡ, pickaxe
 γυρῶ, to plant in a round hole (cf. γῦρος, ‘circle’)
 σῆμα, ατος, τό, sign
 διακρίνω, to separate; distinguish
 τεύχω (pf. pass. τέτυγμα) to make ready; form, make, cause
 ὥρων, gen. pl. of ἡ ὥρα, any period (fixed by natural laws and revolutions) whether of the year, month, or day
 ὄφρα + subj., in order that

ἔμπεδος, ον, in the ground
 τῶ, *dat. sg. neut. of ὁ, ἡ, τό, used abs.*, therefore, in this wise, then
 ἰλάσσομαι, to appease
 ὄνειαρ, ἄτος, τό, Ep., that which brings profit, advantage; boon
 μειλίχιος, α, ον, gentle, soothing; (of persons) mild, gracious
 γε μὲν Ep./Ion. = γε μὴν, nevertheless
 θέμις, ἡ (*gen.* θέμιστος), what is meet and right due to established custom, ἧ θέμις (ἐστί) ‘as the custom is’ (*idiomatic expression*), but Kidd argues that speaking of the stars is hardly customary, and the phrase must refer to treating of stars in hexameters. In the plural it can refer to judgments or judicial decisions (*esp. of gods or kings*).
 ἀοιδή [ἄ], = ὦδή, ἡ
 γενεή, ἡς, ἡ, Ep. = γενεά, race, generation
 τεκμαίρω, (act. voice only found in post-Homeric poets) show by sign or token, indicate, guide

5 Adapted from the note of G.R. Mair, LOEB ed.

Aratus' Cosmos (19-27)

The world of Aratus was one which saw the flat disc of the earth poised and balanced on an axle which ran through its middle and rotated the firmament upon which the stars were affixed. Encompassing the earth was the great river, known as the 'ocean'.



19	Οἱ μὲν ὁμῶς πολέες τε καὶ ἄλλυδις ἄλλοι ἐόντες οὐρανῶ ἔλκονται πάντ' ἤματα συνεχῆς αἰεὶ· αὐτὰρ ὃ γ' οὐδ' ὀλίγον μετανίσσεται, ἀλλὰ μάλ' αὐτῶς ἄξων αἰὲν ἄρηρεν, ἔχει δ' ἀτάλαντον ἀπάντη μεσηγύς γαῖαν, περὶ δ' οὐρανὸν αὐτὸν ἀγινεῖ. Καί μιν πειραίνουσι δὺς πόλοι ἀμφοτέρωθεν·	19. Οἱ μὲν <i>sc.</i> ἀστέρες 20. οὐρανῶ either locative or instrumental (of impersonal agent) 20. συνεχῆς the lengthened $\bar{\upsilon}$ is common in epic (Kidd) 23. περὶ ... ἀγινεῖ = περιαγινεῖ 24. δὺς Ep. = δύο 24. πειραίνουσι = περαίνουσι
25	ἀλλ' ὁ μὲν οὐκ ἐπίοπτος, ὁ δ' ἀντίος ἐκ βορέαο ὑψόθεν ὠκεανοῖο. Δὺς δέ μιν ἀμφὶς ἔχουσαι Ἄρκτοι ἅμα τροχῶσι· τὸ δὴ καλέονται Ἄμαξαι.	26-27. 'And 2 bears holding (themselves) around it wheel around at the same time'

vocabulary

ὁμῶς, *Adv.* of ὁμός, equally, likewise, alike

πολέες Ep. = πολλοί

ἄλλυδις Ep. = ἄλλοσε, to somewhere else; ἄλλυδις ἄλλοι = some hither, some thither

ἤμαρ, ατος, τό, Ep. = ἡ ἡμέρα

αὐτὰρ / αὐτάρ, Ep., but, nevertheless

μετανίσσομαι [ῖ], change position, cross over (νίσσομαι, go, come)

αὐτῶς, *adv.* likewise

ἄξων, ονος, ὁ, axle, axis

ἀράρισκω, intransitive perfect (Ep.) ἄρηρα, to be fixed

αἰὲν, Ion./Ep. = αἰεὶ, every, always

ἀτάλαντος [ἄτᾱ], ον, equal in weight; *here in context* equally balanced / poised

μεσηγύς, Ep. in the middle, inbetween

γαῖα, ἡ, *poetic* for γῆ

περιαγινέω, lead around = περιάγω (ἄπαξ λεγόμενον)

περαίνω, bring to an end, finish

πόλος, ὁ, pole (knob at the end of the axle)

ἐπίοπτος-ος, ον, (poet. for ἔποπτος), observed; visible (*used only here and also once in Oppian*)

ὑψόθεν + *gen.* above

ὠκεᾶνός, οὔ, ὁ, sea (conceived of as a great river compassing the earth's disc)

ἀμφὶς + *acc.* about, around (*when used with the acc. it always follows the substantive it governs*)

τροχῶ, wheel around

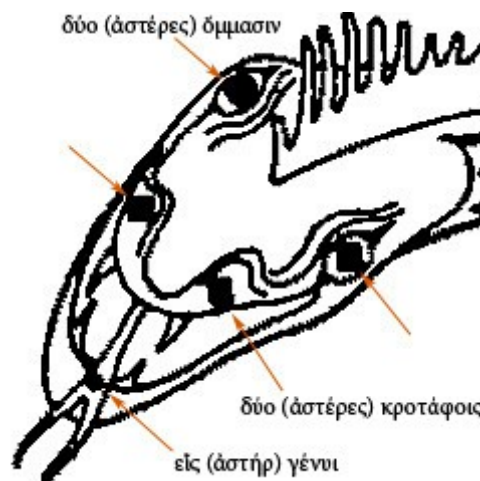
τό, wherefore

ἅμαξαι, ἡ, wagon (*Aratus may be punning on the etymology ἅμα + ἄξων*)

The two bears mentioned were given the names Cynosura and Helice. According to Kidd, Greek sailors steered by Helice (using it to indicate North), which was more conspicuous, while Phoenician sailers steered by Cynosura, which was closer to the pole. It has been suggested that the Greek ἄρκτος, naming the constellation, is a corruption from Akkadian *eriqqu* 'wagon' (Kidd citing Szemerényi).

Draco (45-62)

The constellation 'draco' (snake) lies behind the description of the σημεῖον ('sign' / 'constellation') of the devil in Rev. 12:3-4. Revelation is not actually describing this constellation, but John is often taken to be describing a (revelatory) constellation like it which tells the story he relates in this chapter. The illustration below shows how Aratus describes the sign of Draco winding its way between the two bears.



Aratus has just described the two bears (αἱ ἄρκτοι), between which the snake (δράκων) winds ...

45	Τὰς δὲ δι' ἀμφοτέρας οἴη ποταμοῖο ἀπορρώξ εἰλεῖται μέγα θαῦμα Δράκων, περί τ' ἀμφί τ' ἐαγῶς μυρίος· αἱ δ' ἄρα οἱ σπείρης ἐκάτερθε φέρονται Ἄρκτοι, κυανέου πεφυλαγμένοι ὠκεανοῖο. Αὐτὰρ ὁ γ' ἄλλην μὲν νεάτη ἐπιτείνεται οὐρῇ, 50 ἄλλην δὲ σπείρη περιτέμνεται. Ἡ μὲν οἱ ἄκρη οὐρῇ πὰρ κεφαλὴν Ἑλίκης ἀποπαύεται Ἄρκτου, σπείρη δ' ἐν Κυνόσουρα κάρη ἔχει· ἡ δὲ κατ' αὐτῆν εἰλεῖται κεφαλὴν καὶ οἱ ποδὸς ἔρχεται ἄχρισ, ἐκ δ' αὐτῆς παλίνορσος ἀνατρέχει. Οὐ μὲν ἐκείνη 55 οἰόθεν οὐδ' οἴος κεφαλῇ ἐπιλάμπεται ἀστήρ, ἀλλὰ δύο κροτάφοις, δύο δ' ὄμμασιν, εἷς δ' ὑπένερθεν ἔσχατιὴν ἐπέχει γένυος δεινοῖο πελώρου.	45. ἀπορρώξ ('breaking off') could be a waterfall (Erren), the branch of a river, a portion of a river (Possanza). 46. εἰλεῖται subj. Δράκων, obj. τὰς (ἄρκτους) 46. θαῦμα Δράκων in Attic prose, and often in poetry, a stop + liquid are treated as 1 consonant (thus keeping a previous syllable short). See West, pp.16-17. 46. περί τ' ἀμφί τ' both prepositions are used here as adverbs, 'around about on both sides' 48. πεφυλαγμένοι, apparently a reference to the fact that these stars never set in Northern latitudes. ⁶ 49-50. ἄλλην sc. ἄρκτου 51. πὰρ = παρά 52. σπείρη δ' ἐν = ἐν δ' σπείρη ('but Kyn. has her head in the coil') from L.50b the direction moves from the tip of the tail back to the head of the snake 52. κάρη (τό) = κεφαλῇ (ἡ)
----	--	--

vocabulary

δι' ἀμφοτέρας, in poetry διά + acc. may take the same meaning as διά + gen.

ἀπορρώξ, ὠγος, ὄ, ἡ, (ἀπορρήγνυμι) broken off; subst. a piece broken off, branch.

εἰλέω, wind, turn around

ἐαγῶς, perf part act (used in a pass. sense) from ἄγνυμι break (In Greek a river can have a 'broken course', i.e. *winding*)

μυρίος, α, ον I. 1. innumerable, infinite; 2. (poetic of size) immense; II. (in pl.) 10,000.

σπεῖρα, ἡ, anything twisted or wound; coil

κυῖανος, α, ον, dark-blue (colour of the sea)

φυλάσσω Mid. beware of + gen. (πεφυλαγμένοι = perf. mid./pass. part.)

νεάτος (also νεῖατος), η, ον, uttermost, outermost

ἐπιτείνω, to stretch upon / over + acc.

ἐλίκη, ἡ, winding; ἐλίκη ἄρκτος = 'winding bear' (the constellation of the Great Bear, from its revolving round the pole)

ἀποπαύω, stop or hinder from, make to cease from

κυνόσουρα, ἡ, dog's-tail (a name for the constellation Little Bear)

ἄχρισ + gen. even to, as far as

παλίνορσος, ον, backwards, back

ἐξαῦτις, Ep. Adv. once more, anew

οἰόθεν, Adv. from one only, i.e. by oneself, alone

κροτάφος, ὄ, 'side of the forehead', pl. 'temples'

οἴος, α (Ep. η), ον, alone, lonely

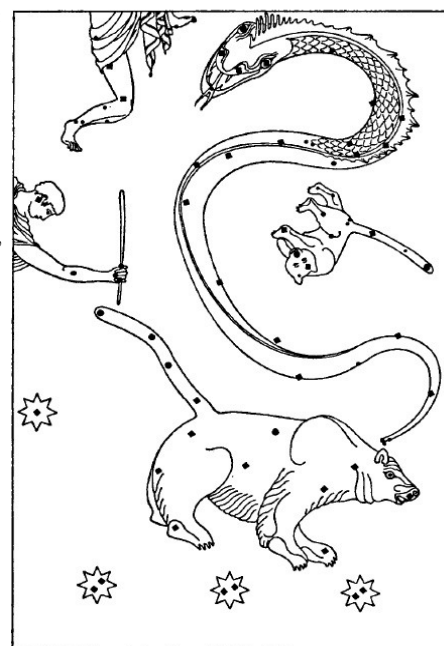
ὑπένερθε, Adv. underneath

γένυς, υος, ἡ, dat. jaw

πέλωρος, η, ον, monstrous, huge

ἐπέχω, hold towards

ἔσχατιή, ἡ, farthest part, edge, border



6 According to a note of G. R. Mair, the LOEB translator, cf. Kidd who suggests that Aratus took this from Homer.

58	Λοξόν δ' ἐστὶ κάρη, νεύοντι δὲ πάμπαν ἔοικεν	59. ἄκρην εἰς Ἑλίκης οὐρῆν = εἰς ἄκρην οὐρῆν Ἑλίκης
60	ἄκρην εἰς Ἑλίκης οὐρῆν· μάλα δ' ἐστὶ κατ' ἰθὺ καὶ στόμα καὶ κροτάφοιο τὰ δεξιὰ νειάτῳ οὐρῆ. Κεῖνη που κεφαλὴ τῆ νίσσεται, ἧχί περ ἄκραι μίσγονται δύσιές τε καὶ ἀντολαὶ ἀλλήλησι.	59. ἰθὺ = εὐθύ; νειάτῳ should be fem., only here a 2- termination adj. 62. μίσγονται = μείγνυνται 62. ἀντολαὶ = ἀνατολαὶ

vocabulary

λοξός, ῆ, ὄν, slanting, crosswise

ἔοικα (*pf. form, act. mng*) to be like, look like + dat.

που, in some degree (*marking an approximation*)

ἧχι, Ep. = ἧ, Adv. where

δύσις [ῦ], εὖς, ῆ, (δύω) setting of the sun or stars

Virgo (96-136)

The constellation 'virgo' is probably what lies behind the σημεῖον μέγα which John sees in Rev. 12:1-2. It is a pregnant woman in labour clothed with the sun, the moon under her feet and a wreath with 12 stars on her head. The constellation represents the church which gives birth to the Messiah.

<p>96 Ἀμφοτέροισι δὲ ποσσὶν ὑπο σκέπτοιο Βοώτεω Παρθένον, ἣ ῥ' ἐν χειρὶ φέρει Στάχυν αἰγλήεντα. Εἴτ' οὖν Ἀστραίου κείνη γένος, ὃν ῥά τέ φασιν ἄστρων ἀρχαῖον πατέρ' ἔμμεναι, εἴτε τευ ἄλλου, εὐκηλος φορέοιτο. Λόγος γε μὲν ἐντρέχει ἄλλος ἀνθρώποις, ὡς δῆθεν ἐπιχθονίη πάρος ἦεν, ἦρχετο δ' ἀνθρώπων κατεναντίη, οὐδέ ποτ' ἀνδρῶν οὐδέ ποτ' ἀρχαίων ἠνήνατο φῦλα γυναικῶν, ἀλλ' ἀναμίξ ἐκάθητο καὶ ἀθανάτη περ ἑοῦσα.</p> <p>100 Καὶ ἐ Δίκην καλέεσκον· ἀγειρομένη δὲ γέροντας ἠέ που εἰν ἀγορῇ ἢ εὐρυχώρῳ ἐν ἀγυιῇ, δημοτέρας ἦειδεν ἐπισπέρχουσα θέμιστας. Οὐπω λευγαλέου τότε νεῖκος ἠπίσταντο οὐδὲ διακρίσιος περιμεμφέος, οὐδὲ κυδοιμοῦ,</p> <p>105 αὐτῶς δ' ἔζων· χαλεπὴ δ' ἀπέκειτο θάλασσα, καὶ βίον οὐπω νῆες ἀπόπροθεν ἠγίνεσκον, ἀλλὰ βόες καὶ ἄροτρα καὶ αὐτὴ πότνια λαῶν μυρία πάντα παρῆχε Δίκη, δῶτειρα δικαίων. Τόφρ' ἦν ὄφρ' ἔτι γαῖα γένος χρύσειον ἔφερβεν.</p>	<p>96. Βοώτεω the last 2 vowels are spoken as one (= synekphonesis, see West, pp.14-15)</p> <p>97. ῥ' = ῥα Ep. = ἄρα</p> <p>98. Ἀστραίου .. γένος, Astraeus was a 2nd generation Titan who fathered the 4 winds and the stars.</p> <p>99. ἔμμεναι Ep. = εἶναι</p> <p>99. τευ Ep. = τινος</p> <p>100. φορέοιτο, optative of wish</p> <p>101. ἦεν Ep. = ἦν</p> <p>103. ἠνήνατο note the double augment (cf. Smyth §451)</p> <p>104. καὶ .. περ = καίπερ</p> <p>105. ἐ = acc. sg. 3rd pers. pronoun, see Smyth §325</p> <p>105. καλέεσκον Ion. iterative impf., see Smyth §495</p> <p>106. ἠέ = ἦ</p> <p>106. εἰν poetic = ἐν</p> <p>107. ἦειδεν Ion. impf. 3rd sg. from ἄδω</p> <p>108. ἐπίσταμαι usually takes the acc. Kidd states that the gen. suggests 'becoming aware of' as opposed to 'understanding'.</p>
--	---

vocabulary

βοώτης, ου, ό, ploughman

στάχυς [στᾰχῦς, but στᾰχῦν], υος, ό, ear of grain (e.g. wheat), *it is also the name given to the chief star of the constellation Virgo.*⁷

αἰγλήεις, εσσα, εν, dazzling, radiant

ἀστραῖος, α, ον, (ἄστρον) starry

εὐκηλος, ον, free from care, without fear; *in Alexandr. and later Ep. (of things) still, silent*

φορέω, to bear along to and fro

δῆθεν, Adv. I suppose

ἐπιχθόνιος, ον, Ep. Adj., (χθών) upon the earth, earthly

πάρος, poet. Particle : Adv., aforesaid, formerly

κατεναντίος, α, ον, face to face with, w. gen. (ἄπαξ λεγόμενον)

ἀναινομαι, refuse, spurn

ἀναμίξ, Adv. by way of mixing

ἀγείρω, pass. gather, assemble

εὐρύχωρος, ον, with broad places, spacious

ἄγυια, ἄς, ἦ, street, highway

ἐπισπέρχω, urge on

δημότερος, α, ον = δημόσιος, of the people (δῆμος) *here often interpreted as*

'friendly to the people'

λευγαλέος, α, ον, wretched

νεῖκος, εος, τό, quarrel, strife, feud

περιμεμφής, ἐς, blaming greatly (ἄπαξ λεγόμενον)

διάκρισις, εως, ἦ, determination, decision

κῦδοιμός, ό, din of battle, uproar

ἀγινέω, lengthd. Ep./Ion. form of ἄγω, mostly used in pres. and impf. load, bring,

cf. Smyth §495 for the form

ἀπόπροθεν, Adv., from afar

ἄροτρον [ἄ], τό, plough

πότνια, ἦ, poet. title of honour for addressing females, whether goddesses or women

δῶτειρα, ἦ, fem. giver

τόφρᾱ, demonstr. Adv. of Time, up to or during that time, so long, answering to

relat. ὄφρα, which follows

φέρβω, feed, nourish



⁷ Kidd relates that this star was also called an 'ear of corn' by the Babylonians. Its rising marked the time of harvest.

<p>115 Ἀργυρέω δ' ὀλίγη τε καὶ οὐκέτι πάμπαν ἑτοίμη ὠμίλει, ποθέουσα παλαιῶν ἦθεα λαῶν. Ἄλλ' ἔμπης ἔτι κεῖνο κατ' ἀργύρεον γένος ἦεν, ἦρχετο δ' ἐξ ὀρέων ὑποδείελος ἠχηέντων μουνάξ, οὐδέ τεω ἐπεμίσηγετο μειλιχίοισιν, 120 ἄλλ' ὀπότ' ἀνθρώπων μεγάλας πλήσαιτο κολῶνας, ἠπέιλει δῆπειτα καθαπτομένη κακότητος, οὐδ' ἔτ' ἔφη εἰσωπὸς ἐλεύσεσθαι καλέουσιν· »Οἶην χρύσειοι πατέρες γενεὴν ἐλίποντο χειροτέρην· ὑμεῖς δὲ κακώτερα τέξείσεθε. 125 Καὶ δὴ που πόλεμοι, καὶ δὴ καὶ ἀνάρσιον αἶμα ἔσσεται ἀνθρώποισι, κακῶν δ' ἐπικείσεται ἄλγος». Ἵως εἰποῦσ' ὀρέων ἐπεμαίετο, τοὺς δ' ἄρα λαοὺς εἰς αὐτὴν ἔτι πάντας ἐλίμπανε παπταίνοντας. Ἄλλ' ὅτε δὴ κάκεῖνοι ἐτέθνασαν, οἱ δ' ἐγένοντο 130 χαλκήϊη γενεὴ προτέρων ὀλοώτεροι ἄνδρες, οἱ πρῶτοι κακοεργὸν ἐχαλκεύσαντο μάχαιραν εἰνοδίην, πρῶτοι δὲ βοῶν ἐπάσαντ' ἀροτήρων, καὶ τότε μισήσασα Δίκη κείνων γένος ἀνδρῶν ἔπταθ' ὑπουρανίη, ταύτην δ' ἄρα νάσσατο χώρην, 135 ἦχι περ ἐννυχίη ἔτι φαίνεται ἀνθρώποισι Παρθένης ἐγγὺς ἐοῦσα πολυσκέπτοιο Βοώτεω.</p>	<p>115. Ἀργυρέω sc. γένει 115. ὀλίγη has an adverbial sense here 'seldom' 117. ἔμπης, poetic adv. = ὅμως 117. κείνο κατ' .. γένος = κατὰ κείνο τὸ ἀργύρεον γένος 119. τεω Ion. = τινι 119. μειλιχίοισιν sc, ἔπεσοι (= λόγους) 122. καλέουσιν = dat. part. 124. χειροτέρην, poetic = χείρονα (Att. χείρους) 124. κακώτερα sc. τέκνα 124. τέξείσεθε an invented form = τεκεῖσθε 126. ἔσσεται Ep. = ἔσται 128. λιμπάνω = λείπω 128. εἰς αὐτὴν .. παπταίνοντας belong together 129. οἱ δ' = demonstrative article 134. ἔπταθ' = ἔπτατο aor. from πέτομαι (a verb which used both 1st and 2nd aor. endings)</p>
--	---

vocabulary

ἀργύρεος [ῥ], α, ον, of silver

ὠμίλειω, to be in company with, consort with

ὑποδείελος, ον, (δείλη) towards evening (ἄπαξ λεγόμενον)

μουνάξ, Adv., (μοῦνος) singly

ἐπιμίσηγε, older poet. and Ion. form of ἐπιμείγνυμι, mingle with, have dealings with + dat.

μειλίχιος, α, ον, gentle, soothing

κολῶνη, ἦ, hill, mound (a typical place for meetings or assemblies, cf. the Areopagus)

πίμπλημι (aor. ἔπλησα), fill

καθάπτω, fasten upon; upbraid + gen.

εἰσωπός, ὄν, visible

ἀνάρσιος, ον, incongruous: hence, of persons, hostile, implacable

ἄλγος, εος, τό, pain, grief

ἐπιμαίομαι, strive after, seek to obtain, aim at + gen.

παπταίνω, Ep., look about one with a sharp, searching glance

ὀλοός, ἦ, ὄν, (ὄλλυμι) destructive, deadly

χαλκεύω, make of copper or bronze

ἐνόδιος, α, ον, Ep. εἰνόδιος, ἦ, ον, along the way (here the reference seems to be to a highway robber's sword)

πᾶτέομαι (aor. ἐπάσάμην), eat of / partake of + gen.

ὑπουρανίος [ἄ], ον, and in Arat. 134 ἦ, ον, under heaven, under the sky (as opposed to gods who live ἐπουράνιοι)

ναίω Ep. (aor. 1 νάσσατο) dwell

ἦχι (not ἦχι), Ep. for ἦ, Adv. where

πολύσκεπτος, ον, far-seen (ἄπαξ λεγόμενον). Kidd prefers: seen over a wide area / conspicuous.

Signs for sailors (740-777)

The section (740-758) ends Aratus' treatment of the reliable astronomical signs. He has just discussed how the length of the night can be estimated by the risings and settings of the Zodiac (in relation to the sun).⁸ He now continues by saying that although these 12 parts of the 'circle of the *Zodia* ('animal figures') are useful in this way, even more useful is the use of the stars for determining dates throughout the whole year.

740	Ἄκρα γε μὴν νυκτῶν κείναι δυοκαίδεκα μοῖραι ἄρκιαι ἐξειπεῖν. Τὰ δὲ που μέγαν εἰς ἐνιαυτόν, ὥρη μὲν τ' ἀρόσαι νειούς, ὥρη δὲ φυτεῦσαι, ἐκ Διὸς ἤδη πάντα πεφασμένα πάντοθι κεῖται.	740. κείναι δυοκαίδεκα μοῖραι = <i>i.e.</i> of the Zodiac 740. Ἄκρα .. νυκτῶν Kidd argues cogently that the 'extremities of the nights' refer to 'the successive ends of the nights throughout the year'.
745	Καὶ μὲν τις καὶ νηὶ πολυκλύστου χειμῶνος ἐφράσατ' ἢ δεινοῦ μεμνημένος Ἄρκτούροιο ἠέ τεων ἄλλων, οἳ τ' ὠκεανοῦ ἀρύονται ἀστέρες ἀμφιλύκης, οἳ τε πρώτης ἔτι νυκτός.	741. μέγαν εἰς ἐνιαυτόν = εἰς μέγαν ἐνιαυτόν 744. "In poetry the dative without a preposition is used to denote place." Smyth §1531. 746. ἠέ = ἢ 746. ὠκεανοῦ partitive genitive

vocabulary

μοῖρα, ἦ, part, portion

ἄρκιος, α, ον *Ep. Adj.* to be relied on, sure, certain, II. enough, sufficient

ἐξειπών, tell out, declare (*not used in the present tense*)

ἀρόω, plough

νειός, ἦ, fallow-land

φράζω, point out, show; *Mid./Pass.* indicate to oneself, *i.e.* think or muse upon, consider, ponder, perceive + *acc. or gen.*

μιμνήσκομαι + *gen.*, I. remember, II. make mention of, III. give heed to

Ἄρκτούρος, ὅ, (οὔρος, guard) the star Arcturus, Bearward.⁹

ἀρύω, draw (*e.g.* water)

ἀμφιλύκη νύξ, ἦ, half light, morning twilight

⁸ The risings and settings of stars occur just before the Sun rises or just after the Sun sets. When a star is too close to the Sun it becomes invisible for a period, before reappearing on the horizon. These observations were most important in enabling people to tell the time of the year.

⁹ Arcturus' morning rising was strongly associated with the Autumn equinox, which marked the end of the sailing season. Kidd notes that Aratus was just possibly thinking of the evening setting of this star around the end of October, just before the onset of winter. See also James Beresford, *The Ancient Sailing Season* (Leiden: E. J. Brill, 2013). This constellation is generally identified with the Hebrew constellation ψ(Ψ) in Job 9:9 and 38:32.

748	ἦτοι γὰρ τοὺς πάντας ἀμείβεται εἰς ἐνιαυτὸν ἡέλιος μέγαν ὄγμον ἐλαύνων, ἄλλοτε δ' ἄλλω	748. τοὺς πάντας sc. ἀστέρας 749. ἡέλιος = ἡλιος
750	ἐμπλήσσει, τοτὲ μὲν τ' ἀνίων, τοτὲ δ' αὐτίκα δύνων, ἄλλος δ' ἀλλοίην ἀστήρ ἐπιδέρκεται ἡῶ. Γινώσκεις τάδε καὶ σύ, τὰ γὰρ συναίδεται ἤδη ἔννεακαίδεκα κύκλα φαεινοῦ ἡελίοιο, ¹⁰ ὅσσα τ' ἀπὸ ζώνης ¹¹ εἰς ἔσχατον Ὑρίωνα	750. αὐτίκα LSJ suggest that in Aratus = αὖθις 750. The effect of the sun's proximity to a star is to cause it to be invisible for several weeks. 751. Each star has its morning rising at a different time of the year. 752. τάδε refers back to the annual risings and settings of the stars.
755	νύξ ἐπιδινεῖται Κύνα τε θρασὺν Ὑρίωνος, οἳ τε Ποσειδάωνος ὀρώμενοι ἢ Διὸς αὐτοῦ ἀστέρες ἀνθρώποισι τετυγμένα σημαίνουσι.	752. συναίδεται Kidd argues that the reference is to the 'by now' common celebration on <i>pegmata</i> . 753. κύκλα, i.e. the annual circuits of the sun through the Zodiac. 754. ὅσσα = ὄσα, the line speaks of the year marked from one rising of Orion's belt to the next a year later. Kidd thus takes ἔσχατον adverbially (i.e. ἔσχ. εἰς Ὑρίωνα). τε ..τε mark the two direct objects, ὄσσα and Κύνα. 757. Compare line 12 of the dedication.

vocabulary

ἦτοι, in truth

ἀμείβω, (also sometimes *Mid.*) change place with + acc., the meaning seems to be that the sun passes through all the stars on an annual basis.¹²

ὄγμος, ὄ, furrow (in ploughing); metaph. orbit

ἐλαύνω, 1. trans. drive (a chariot), 2. intrans. drive, 3. + acc. loci. drive (a course)

ἐμπλήσσω, strike against + dat.

ἐπιδέρκομαι, look upon, behold (aor. ἔδρακον)¹³

ἡώς, ἡ, (gen. ἡούς; dat. ἡοῖ; acc. ἡῶ) = ἔως, dawn

φάεινός, ἡ, ὄν poet. Adj., shining, radiant

ἔσχατος, η, ὄν, of Space, farthest, uttermost; of Time, last

ἐπιδίνεω, whirl (for the throw), swing round (before throwing)



In the centre is the hunter Orion with traditional club and sword.
Three bright stars mark his belt.

10 The Greek astronomer Meton of Athens observed that a period of 19 years is almost exactly equal to 235 lunar months. This observation enabled calculations for intercalendary months. When Meton introduced the cycle around 432 BC, it was already known by Babylonian astronomers.

11 Orion's Belt consists of three bright stars more or less evenly spaced in a straight line, and so can be visualised as the belt of the mythological hunter, Orion. This constellation is generally identified with the Hebrew constellation כסיל, 'the insolent one', cf. Job 9:9; 38:31

12 Kidd suggests that there is an amusing reference to the simile in Homer's *Odyssey* 683-84 of 'the sure-footed acrobat leaping from horse to horse'.

13 The aor. participle gives us δρακόν, which is etymologically related to ὁ δράκων ('snake'), presumably hinting at the snake's gaze / stare.

This next section forms the introduction to Aratus' discussion of the less reliable weather signs, a lengthy discussion which lasts until the end of the poem. Indicators for this are phenomena such as the appearance of the sun, moon and stars, of the clouds and the winds, and certain kinds of animal and bird behaviour as well as the vegetation.

758	Τῶ κείνων πεπόνησο. Μέλοι δέ τοι, εἴ ποτε νηὶ πιστεύεις, εὐρεῖν ὅσα που κεκρημένα κεῖται	758. πεπόνησο = perf. mid. imperat. 2 nd pers. sg.
760	σήματα χειμερίοις ἀνέμοις ἢ λαίλαπι πόντου. Μόχθος μὲν τ' ὀλίγος, τὸ δὲ μυρίον αὐτίκ' ὄνειαρ γίνετ' ἐπιφροσύνης αἰεὶ πεφυλαγμένω ἀνδρί. Αὐτὸς μὲν τὰ πρῶτα σαώτερος, εὖ δὲ καὶ ἄλλον παρειπῶν ὦνησεν, ὅτ' ἐγγύθεν ὥρορε χειμῶν.	759. κεκρημένα – this is the pf. mid. spelling, but the participle is pf. pass. here (normally κεκρησμένα), see 'A note on χράω / χράομαι' following <i>Animal Story</i> 21. The following datives are dat. of respect. 763. σαώτερος = comparative of σώω 764. παρειπῶν, 1 st syllable is long as in Homer 764. ὥρορε stands for ὄρωρε (= perf. ὄρνωμι)
765	Πολλάκι γὰρ καὶ τίς τε γαλιναῖη ὑπὸ νυκτὶ νῆα περιστέλλει πεφοβημένος ἦρι θαλάσσης· ἄλλοτε δὲ τρίτον ἡμαρ ἐπιτρέχει, ἄλλοτε πέμπτον, ἄλλοτε δ' ἀπρόφατον κακὸν ἴκετο. Πάντα γὰρ οὐπῶ ἐκ Διὸς ἄνθρωποι γινώσκομεν, ἀλλ' ἔτι πολλὰ	767. ἐπιτρέχει, subj. = κακόν, there is no indirect obj.
770	κέκρυπται, τῶν αἴ κε θέλη καὶ ἐς αὐτίκα δώσει Ζεὺς· ὁ γὰρ οὖν γενεὴν ἀνδρῶν ἀναφανδὸν ὀφέλλει πάντοθεν εἰδόμενος, πάντη δ' ὅ γε σήματα φαίνων. Ἄλλα δέ τοι ἐρέει ἢ που διχόωσα σελήνη πληθύος ἀμφοτέρωθεν ἢ αὐτίκα πεπληθυῖα,	770. αἰ Ep. = εἰ
775	ἄλλα δ' ἀνερχόμενος, τοτὲ δ' ἄκρη νυκτὶ κελεύων ἥλιος. Τὰ δέ τοι καὶ ἀπ' ἄλλων ἔσσεται ἄλλα σήματα καὶ περὶ νυκτὶ καὶ ἡματι ποιήσασθαι.	773-76. Ἄλλα = obj., σελήνη and ἥλιος are the subjects of ἐρέει. 774. πληθύος Ion./Ep. = πληθεος – here referring to the fullness of the moon 775. ἄκρη νυκτὶ 'at the extreme edge of night' = nightfall

vocabulary

τῶ, dat. sg. neut. of ὅ, ἡ, τό, used abs., therefore, in this wise

πονέομαι, work hard (It would seem that only Aratus uses the genitive with this verb, in the sense: work hard at)

μέλω, to be an object of care or thought

σημα, ατος, τό, sign, mark, token (used in pl. of the heavenly bodies)

χειμερίος, α, ον, wintry, stormy

πόντος, ὁ, sea, esp. open sea

όνειαρ, ἄτος, τό, that which brings profit, advantage

ἐπιφροσύνη, ἡ, thoughtfulness, wisdom (here in the sense of thoughtful observation)

σῶς, ὁ, ἡ, σῶν, τό, (adjective w. quite varied spellings according to dialect) safe, preserved

όνίνημι [ἴ] (aor. ὦνησα) profit, benefit

παραφήμι, Mid. persuade (aor. = παρεῖπον)

ὄρνωμι (poetic verb) stir up (Mid. & act. perf. = stir oneself up)

γαλιναῖος, α, ον, calm

ἦρι, Ep. Adv. early, in the morning

περιστέλλω, wrap around, clothe; (metaph. protect – in the case of a ship, fastening things down and shortening sail)

ἐπιτρέχω, run on + dat. (indicating the surface upon which the subject is running on)

ἀπρόφατος, ον, unforetold, unexpected

ἰκνέομαι, come, arrive

ὀφέλλω Ep., increase, enlarge, strengthen

εἶδομαι, to be seen, appear

διχάω, poet. for διχάζω, Ep. part. διχόωντι, -όωσα, divide in two