

## ANIMALS AS PART OF THE COMPOSITIONAL STRATEGY IN ARATUS' PHAENOMENA

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**Abstract.** *This paper is focused on the compositional features of Aratus' Phaenomena and the poet's strategy in proportioning astronomical and meteorological material. Apparently uneven as they are, two principal parts of the poem pose certain difficulties regarding the general importance of the meteorological signs and their relation to the astronomical ones. It seems that animals, playing their role in both parts of the Phaenomena, and both types of visible signs (i.e., as virtual shapes of heavenly bodies and real, terrestrial creatures) can provide a certain integrating key and better understanding of the poet's strategic decisions in shaping the Phaenomena as a solid and seamless piece of poetry.*

**Keywords:** Aratus, Phaenomena, Prognostica, astronomy, meteorology.

There is more than one way of reading and analyzing Aratus' famous poem on the "visible signs" (Φαινόμενα), as sharply translated by Douglas A. Kidd (1997).<sup>1</sup> One can focus on many different aspects of this capacious piece of poetry, but it is the title term – quite versatile and abstract, yet specific enough – that offers perhaps the most fruitful angle and a unifying key to analyse different layers of the poem, including its subject matter, its philosophical background, its poetics, its didacticism, and, indeed, its compositional pattern. The latter alone presents several curious problems – or, rather, several interdependent aspects of one question – to be addressed in this paper.

<sup>1</sup> To distinguish from modern Latinized usage, all Aratus' names used in this paper are rendered into English by Douglas A. Kidd (1997), so it is "Crab," not "Cancer," "Twins," not "Gemini" etc.

### 1. Astronomy and Meteorology

The question could be phrased as follows: what exactly is the relation between the two principal parts of the poem, *Phaenomena* (astronomical material, 19–757<sup>2</sup>) and *Prognostica* (meteorological material, 778–1141, thus titled by Cicero: Martin 1956, 9–10)? Kidd anticipates: "Meteorology is still a part of astronomy, and this is an integral section of the *Phaenomena*, not a separate poem, as was for a long time supposed" (Kidd 1997, 438). In this single-book poem, no doubt, all topical transitions are smooth, the arrangement of the material is highly sophisticated, and an impression of impeccable integrity never abandons the reader. In any case, we are discussing the times of unsurpassed

<sup>2</sup> These numbers refer to the lines of Aratus' *Phaenomena*, unless indicated otherwise.

literary quality and the most elaborate artistry that was ever displayed in poetry, so there is no much doubt about the *Phaenomena* and *Prognostica* being a single, solid poem. However, the first part of Kidd's statement looks slightly oversimplified and should not be taken as plain and obvious – for several reasons.

First, it is worth noting that Eudoxus, Aratus' primary source, did not include Διοσημεῖα[ι] / Προγνώσεις (on the manuscript headings cf. Kidd 1997, 425), Hipparchus did not comment on it, and Germanicus did not translate it (actually, the meteorological part in the *Aratea* is represented almost only by Avienus, as we have but few fragments of it left in Cicero's translation).

Second, the proportion between *Phaenomena* and *Prognostica* is disturbingly uneven (738 and 363 lines respectively, excluding the *prooemia* and final conclusion). One might suggest a slightly different distribution of the material and divide the astronomical part into two minor pieces: a description of stars and constellations (19–461) and a measuring of time (462–757), but that would not provide a principal solution, as it is still astronomical material all along. One may be tempted to imagine that Aratus, having completed the Eudoxus' part of the poem, was surprised to see some clean papyrus left and arbitrarily decided to fill it with meteorological material in order not to waste it.

And finally, the description of heavenly bodies and their eternally regular movement (“les signes réguliers, qui sont liés à la structure même de l'univers,” Martin 1998: I, LXXII) can actually be achieved up to a level of completeness and claim the status of “scientific” material, while

the meteorology of uncertain terrestrial signs (“les signes contingents, incertains,” *ibid.*) is irregular and somewhat infinite, which, in a way, makes their description and explanation tricky tasks to undertake. An excellent poet as he was, Aratus must have realized that it is simply not possible to mention or describe all meteorological signs. Had he tried to do so, his poem would have turned to an unbearable bore, an endless catalogue, an archival chronicle of probable events, which would be impossible to rationalize as a whole. Therefore, we could presume that he had to develop some sort of a strategy in choosing specific signs to become part of his *Prognostica*.

The notion of a visible sign in general, as said above, sheds much light into understanding the whole of *Phaenomena* as an integral piece of poetry containing a considerable amount of well-managed material. The Benevolent Zeus has graciously revealed to us a great deal of natural phenomena loaded with important prognostic capabilities that should be regarded as a cultural feature – not a natural one. Humankind, when cultivated enough, may become capable of interpreting the signs for its own benefit (cf. both *prooemia*, 1–18 and 758–777). This particular quality of the natural signs integrates astronomy and meteorology quite satisfactorily but still does not solve the compositional issues. We should take one more step further and try to look for more specific unifying elements that could provide us with a better understanding of Aratus' strategy in shaping the poem and proportioning its principal parts.

Among the possible empirical links between *Phaenomena* and *Prognostica*, one might focus on animals and their virtual

reflections in the “mirror” of the night sky as good instances of such links. They are more specific as visible signs, yet general enough to be a consolidating element to Aratus’ poem as an integral unity. There are, on the one hand, virtual animals presented as eternally moving – hence vivid – shapes of heavenly bodies (mostly constellations) and, on the other hand, real existing creatures that play their role as terrestrial, meteorological signs.

## 2. Animals: Statistical Cut

In Aratus’ *Phaenomena* as a whole, there are twenty-six virtual animals, i.e., constellations and other astronomical objects named as animals. Among these, there are nineteen real animals (e.g., Σκορπίος “Scorpion,” 85; Λέων “Lion,” 148; Λαγῶς “Hare,” 338 etc.), five mythical or imaginary animals (Δράκων “Dragon,” 46; Αιγόκερως “Capricorn,” 284; Κῆτος “Sea-monster,” 354; Κένταυρος “Centaur,” 431; Ὕδρα “Hydra,” 444 etc.) and two nonspecific animals (Ὄρνις “Bird,” 273; Θηρίον “Beast,” 442). Only Asses (Ὄνοι, γ and δ Cnc) and their Manger (Φάτνη, M44) are described in 892–908, i.e., outside the astronomical part.

Also, there are thirty-seven real animals or animal groups mentioned in the poem, mostly as parts of meteorological signs. Among these, we find thirty-four specific species (e.g., ἀγριάδες νῆσσαι “wild ducks,” 918; μύρμηκες “ants,” 956; χῆνες “geese,” 1021) and three nonspecific groups of birds (λιμναῖαι ἢ εἰνάλια ὄρνιθες “lake- or sea-birds,” 942; νησαῖοι ὄρνιθες “island birds,” 982, 1095; ὄρνεα πάντα ἐκ πελάγους φεύγοντα “all kinds of birds flying in from the sea,” 1024–1025).

There is one exceptional animal, namely the ὀλολυγών (948), translated by Kidd as “tree-frog” but not identified for sure – and therefore not translated by Martin at all (“*l’ololygon*,” Martin 1998, 1, 56). Some of the animals, naturally, are mentioned more than once and play their part in more than one terrestrial sign (e.g., γέρανοι “cranes,” 1010, 1031, 1075).

It is not surprising that most of these animals (or animal names) are to be found within their own respective part of the poem, except for only a few being mentioned in both parts: the oxen (and cattle in general, βοῦς / βόες, 8, 132, 954, 1082, 1114) and shearwater (αἶθουα, 296, 919). Despite this fact, neither is involved as a heavenly body (in fact, there is a constellation of Ταῦρος “the Bull,” but the word is different and, apart from the oxen, there is nowhere a single bull mentioned in the poem).

Among all animals described or mentioned in the poem, there are five of them that play part both in the *Phaenomena* and *Prognostica*. Let us then zoom in the contexts of the following visible signs both in Aratus and the *Aratea*, and see if they can claim the title of the integrating element we are looking for:

Καρκίνος “Crab” (147 etc.) and καρκίνος “crab” (1138);  
 Αἶξ “Goat” (157 etc.) and αἶγες “she-goats” (1068, 1072, 1122);  
 Κριός “Ram” (225 etc.) and κριοί “rams” (1106) or μῆλα “ewes” (1068, 1072, 1082);  
 Κύων “Dog” (327 etc.) and κύνες “dogs” (1135);  
 Κόραξ “Raven” (449 etc.) and κόρακες “ravens” (966, 1003).

### 3. Crab

As an astronomical sign: Arat. 147 (Καρκίνος) = Cic. *Arat. Ph. fr.* XXII Soubiran (*Cancer*) = Germ. *Arat.* 147–148 (*Cancrum*) ≈ Avien. *Arat.* 379 (*Cancer*) = *Arat. Lat.* 147 (*Cancerem*). Elsewhere in Aratus' *Phaenomena*: 445–446 (an identifier of Hydra's position); 491–500 (an identifier of the northern tropic and June solstice); 538–539 (an identifier of the ecliptic); 545 (part of the zodiac); 569–589 (rising); 893, 996 (an identifier of the Manger).

The Crab is a zodiacal constellation, a point of the northern, or summer, tropic. The ecliptic, as the last of four celestial circles, is defined by Aratus geometrically: beginning with the Capricorn (the southern, or winter, tropic) and ending with the Crab (535–539), while the zodiac, as the series of constellations, is defined consecutively: beginning with the Crab and ending with the Twins (544–549).

As a meteorological sign, the crab indicates a rising storm when coming out of the water to land: Arat. 1138–1139 (καρκίνος). Having no equivalent in the *Aratea*, this passage is quite lonely and curious. It is of complicated textual tradition and until recently was considered as spurious or apocryphal, not discussed in scholia and not translated by either Avienus (cf. Soubiran 1981, 62, 172) or the *Aratus Latinus* (Maass 1898, 305–306). However, as Kidd points out, “their style is certainly Aratean, for example in their Homeric echoes, alliteration, and ascribing of human feelings to animals” (Kidd 1997, 570).

### 4. Goat and the Kids

As an astronomical sign: Arat. 156–166 (Αἰγὸς ἀντήρ ἢ Ἐπίφωρ [...], Αἰξ ἱερή

[...], Ἐπίφωρ etc.) = Cic. *Arat. Ph. fr.* XXV–XXVI Soubiran (*Capra* [...] *clara* [...], *contra Haedi*) ≈ Germ. *Arat.* 165–170 (*Cretaeae* [...] *Caprae* [...], *Haedus*) ≈ Avien. *Arat.* 408–416 (*Capra* [...], *Haedorum*) = *Arat. Lat.* 162–166 (*Caprea sacra* [...], *Capream nutricem* [...], *subtiles Heduli*). Elsewhere in Aratus' *Phaenomena*: 679–682 (indication of storms); 718 (rising).

The Goat makes only one, albeit extremely bright, star of the Charioteer. Capella (α Aur), in Latinized, modern astronomical nomenclature, is the sixth-brightest star in the night sky, the third-brightest in the northern celestial hemisphere, after Arcturus and Vega, and, of course, the brightest in the constellation of Auriga. In Aratus' *Phaenomena*, the Goat (a star on the Charioteer's left shoulder) and its Kids (a group of fainter stars on his wrist) is a sure sign of the sea storm at their evening rising in September (Kidd 1997, 239).

As a meteorological sign, mating she-goats indicate a severe winter: Arat. 1068–1071 (θήλειαι [...] αἰγες) = Avien. *Arat.* 1794–1799 (*capra*) = *Arat. Lat.* 1068–1071 (*caprae*). Elsewhere in Aratus' *Phaenomena*: 1072–1074 (similarly, but this time, the late mating of goats, sows and ewes indicates a fine year); 1122–1123 (goats hovering about a prickly oak indicate bad weather).

### 5. Ram

As an astronomical sign: Arat. 225–227 (Κριοῖο) ≈ Cic. *Arat. Ph. fr.* XXXIII Soubiran = Germ. *Arat.* 224–226 = Avien. *Arat.* 508–510 ≈ *Arat. Lat.* 225–227 (*Arries*). Elsewhere in Aratus' *Phaenomena*: 238 (an identifier of the Triangle), 357 (an

identifier of the Sea-monster), 515–517 (an identifier of the equator); 549 (a part of the zodiac); 708–709 (rising); 713 (setting).

The Ram is a faint, yet important zodiacal constellation, located on the intersection of ecliptic and celestial equator; thus, it is a point of vernal equinox.

As meteorological signs, sheep, rams and lambs indicate storms: Arat. 1104–1107 (ἀρνάσι [...], κριοί [...] καὶ ἀμνοί) ≈ Avien. *Arat.* 1837–1845 (*ouis* [...], *aries* [...], *haedi*). Elsewhere in Aratus' *Phaenomena*: 1082–1085 (sheep, μῆλα, digging the ground and straining their heads against the north wind indicate an extremely stormy winter).

## 6. Dog

As an astronomical sign: Arat. 326–327 (Κύων) = Cic. *Arat. Ph.* 107–108 ≈ Germ. *Arat.* 333–334 ≈ Avien. *Arat.* 724–727 ≈ *Arat. Lat.* 326–227 (*Canis*). Elsewhere in Aratus' *Phaenomena*: 342, 352 (an identifier of Argo); 503 (an identifier of the southern tropic); 595, 603 (rising); 676 (setting); 755 (Kidd 1997, 436–437: “Orion and his Dog make a spectacular group that gives a rough and reliable sign of the end of one year and the beginning of the next”).

The Dog is a constellation in the southern hemisphere containing Sirius ( $\alpha$  CMa), the brightest star in the night sky, which alone was primarily called the [Orion's] Dog, thus in Homer (X, 26–29). Aratus highlights Sirius as an extremely dangerous phenomenon, which, at its morning rising in summer, either strengthens or destroys all growth (332–335).

As a meteorological sign, dogs, digging the ground with their two paws, indicate a

rising storm: Arat. 1135–1137 (κύνες [...], κύων) = Avien. *Arat.* 1859–1860 (*canis*).

## 7. Raven

As an astronomical sign: Arat. 448–449 (εἰδῶλον Κόρακος) = Cic. *Arat. Ph.* 219–221 = Germ. *Arat.* 429–430 (*Coruus*) = Avien. *Arat.* 899–901 (*Coruum*) ≈ *Arat. Lat.* 448–449 (*Corvo*). Elsewhere in Aratus' *Phaenomena*: 520 (an identifier of the equator).

The Raven is a small constellation in the southern hemisphere, located on the celestial equator, which is perhaps its most important feature.

As a meteorological sign, ravens and crows indicate the onset of rain: Arat. 963–967 (γενεαὶ κοράκων [...], κόρακες) = Avien. *Arat.* 1714–1715 (*corui*). Elsewhere in Aratus' *Phaenomena*: 1001–1004 (a cry indicates a fading storm).

## 8. Common Denominators and Conclusions

Contextual environments reveal quite obvious links among these five animals. Firstly, all are important celestial bodies denoting either crucial seasonal boundaries (the Crab, Ram, Raven) or critical seasonal difficulties (the Dog, Goat and the Kids). The first common denominator is relevant to all men, but the latter is more curious, as it concerns both explicit didactical addressees of Aratus' poem, namely the farmers (represented by the Dog) and the sailors (represented by the Goat). Second, as meteorological signs, all these animals indicate bad weather and storms, except maybe for the goats, which can predict either a severe winter or a fine year accordingly, yet the Goat and its Kids in

the sky – described not as an astronomical but as meteorological sign – do not promise anything good at all.

It is then fairly probable that these five animals articulate a contextual, integrating summary of the poem, comprising almost all discussed subjects, including the zodiac, which is the central topic and the divisional landmark of the astronomical part (represented mostly by the Crab and Ram), the measuring of time and seasonal changes (represented by the Dog, Goat, and Crab) and the most important, alerting meteorological signs relevant equally to both of the explicit addressees of the poem.

On the other hand, regarding the material presented in the poem, the statistical cut of total numbers provides us with a slightly different perspective than we could have expected. Not surprisingly, the amount of text dedicated to astronomical phenomena is significantly larger than that of meteorological signs, yet the numbers show that there are actually much more meteorological phenomena described – not to forget the rest of the signs not involving any animals, which would make the discrepancy even greater. The proportions are somewhat inverse: the more of a dedicated text we have (in case of the *Phaenomena*), the less phenomena are actually described,

and vice versa: the less of a particular text we have (in case of the *Prognostica*), the more signs we find there. Thus, the density of the text regarding the meteorological signs is not even double but triple.

Hence, several conclusions may be drawn from what is said. The five animals coinciding in both parts of the poem, on the one hand, make a perfect compositional integration of the astronomical and meteorological parts of Aratus' *Phaenomena* – uneven in many ways – and sensibly summarize the most important subject matter points of the poem. However, the number of *phaenomena* described or mentioned is inversely proportional to the text dedicated to the respective part of the poem, and this fact would assert the obvious difference in the general importance of the two types of phenomena involved.

Here it becomes clearer that for Aratus, meteorology is not merely a lesser or greater part of astronomy but rather objectively different, albeit highly respectful and perfectly integrable, part of Zeus' plan to reveal as many useful signs as human-kind is able to perceive. Consequently, this creative concept is a comfortable background for the poet to shape his compositional strategy and arbitrarily select which meteorological signs to describe.

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## GYVŪNAI KAIP ARATO *REIŠKINIŲ* KOMPOZICINĖS STRATEGIJOS DALIS

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Santrauka

Straipsnyje aptariami Arato „Reiškinių“ kompoziciniai klausimai, susiję su dviejų pagrindinių poemos dalių tarpusavio santykiu ir strategija, pasitelkta formuojant poemos visumą ir astronominės bei meteorologinės medžiagos išdėstymo proporcijas. Kitados laikyta atskira poema, meteorologinė „Reiškinių“ dalis – *Prognostica* – kelia dalykinės medžiagos atrankos ir proporcijų interpretavimo sunkumų tiek kiekvienoje dalyje aprašytų regimųjų reiškinių masyvo, tiek kiekvienai daliai skirto teksto kiekio požiūriu. Panašu, jog gyvūnai, atlikdami tam tikrą vaidmenį abiejose „Reiškinių“ dalyse ir abie-

juose regimųjų reiškinių tipuose, gali tapti svarbiu vienijančiu elementu ir padėti geriau suprasti poeto strategiją, susijusią su poemos kompozicinėmis ypatybėmis. Bendras poemoje minimų gyvūnų skaičius nurodo atvirkštinę proporciją tarp aprašytų reiškinių ir teksto, skirto konkrečiai poemos daliai, kiekio. Tačiau penki gyvūnai – vėžys, ožka, avinas, šuo ir varnas – kontekstualiai apima beveik visas poemoje aptartas temas ir dėl to galėtų būti laikomi tam tikra vienijančia temine visų regimųjų reiškinių santrauka bei bendruoju vardikliu, kompoziciškai siejančiu astronominę ir meteorologinę Arato poemos dalis.

*Gauta:* 2017-08-30

*Priimta publikuoti:* 2017-12-01

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