

## **The *Aratus latinus* and Revised *Aratus latinus* (*Aratus latinus recensio interpolata*)**

Some time during the Alexandrian age, a number of related Greek texts started to appear alongside the original Greek version of the *Phaenomena* of Aratus to form a new astronomical corpus.<sup>1</sup> These appended texts included some spurious prefaces, various versions of the life of the poet, one or two lists of constellations attributed to Eratosthenes and Hipparchus and discussions of the constellations as they appear on the sphere. This compilation also included abbreviated versions of the catasteristic myths associated with each constellation and descriptions of the shapes of the individual constellations with disposition of the stars within each figure. Some of these texts are associated with an astronomical treatise attributed to Eratosthenes (ca. 276 BC– ca. 195 BC), the details of which are described in the section on pseudo-Eratosthenes.

The Alexandrian compilation seems to have been extremely popular across the Graeco-Roman world, appearing in several different formats with varying additions and subtractions and serving as the inspiration for numerous authors and poets in both languages. A definitive version of the Aratean corpus, with a set group of texts ordered in a particular fashion, appears to have come together some time between the beginning of the 2nd and end of the 3rd century AD. No complete version of this compilation, which philologists usually refer to as ‘Φ’, has survived, but its contents have been largely reconstructed by combining a number of the later Greek and Latin fragments that formed a part or were derived from the original version of the original grouping of texts.

In the middle years of the 8th century, however, a version of ‘Φ’ was translated into Latin.<sup>2</sup> Unfortunately, its author’s talent for translation fully reflects the standards of his age. Classicists describe this work as ‘*versionis rara barbaries*’,<sup>3</sup> and that ‘*la langue n’en est pas seulement barbare, elle est inintelligible, au moins pour la texte poétique lui-même*’,<sup>4</sup> and it is

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1. The best scholarly work on this complicated subject can be found in MARTIN 1956, esp. pp. 69 ff.
  2. Maass had mistakenly believed that possible dates of this translation were bounded by the certain interpolations taken from Isidore (ca. 630 AD) and the composition of the pseudo-Bedan star catalogue, *De signis caeli* (ca. 730 AD). See MAASS 1898, pp. xxxvi-xliv. This opinion was followed by Martin 1956, pp. 44-46). More recently, Le Bourdellès has argued that, from a close examination of the language of the *Aratus latinus*, it seems likely that the translation took place around 750-760 and probably was executed at Corbie. See Le BOURDELLÈS 1985, *passim*, but esp. the conclusions on pp. 259-63.
  3. MAASS 1898, p. xxxvii.
  4. MARTIN 1956, p. 11.

‘often nonsensical’.<sup>5</sup> For those scholars who are more comfortable with the idiosyncrasies of early medieval texts, the Latin translation provides a series of fascinating insights into the levels of knowledge of Greek during the period and of the state of the Latin language itself.<sup>6</sup> This Latin version of the Aratean compilation is usually simply called ‘the *Aratus latinus*’.

Perhaps owing to the fact that the original version of the *Aratus latinus* was so difficult to comprehend, a revised and modified version of the text was created almost immediately – sometime during the second half of the 8th century. This work is generally referred to as the *Aratus latinus recensio interpolata* or as the *Revised Aratus latinus*.<sup>7</sup>

The early history of the editions of the *Aratus latinus* is slightly confusing. In 1897, Manitius first described eight manuscripts in which the two variant forms of the *Aratus latinus* text are described.<sup>8</sup> The same year, however, Breysig published a group of texts that he believed to be three different sets of scholia to the Latin translation of the *Phaenomena* by Germanicus.<sup>9</sup> Breysig called these texts the *scholia Sangermanensia*, *scholia Stroziana* and *scholia Bernensia* after the manuscripts in which they appeared.<sup>10</sup> It was soon noticed, however, these so-called ‘scholia’ were actually slightly varying versions of the *Aratus latinus* texts that had already been identified by Manitius. The *scholia Sangermanensia* was, indeed, nothing less than the original text of the *Aratus latinus*. The *scholia Stroziana* was a version of the text that had been contaminated by extracts from the true Germanican scholia: the so-called ‘*scholia Basileensia*’.<sup>11</sup> And the *scholia Bernensia* was actually an independent text known as the pseudo-Bedan *De singis caeli*.

In 1898, Maass made the first great effort towards reconstructing the text of the *Aratus latinus* in his *Commentariorum in Aratum*,<sup>12</sup> where he brought together all the dispersed bits and pieces to form what is now considered to be the more-or-less definitive text. In the main text,

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5. *Aratus Phaenomena*, ed KIDD 1997, p. 52.

6. See, for example, the more positive view voiced by Le BOURDELLÈS 1985, p. 12.

7. Le BOURDELLÈS 1985, p. 81.

8. MANITIUS 1897, pp. 305-32.

9. BREYSIG 1867.

10. The scholia *Sangermanensia* was named after the manuscript that was then in the Sangerman collection and is now in the Bibliothèque nationale de France (Paris, BN, lat 12957). See BREYSIG 1867, pp. 105-232. The *scholia Stroziana* is named after the Strozzi manuscript now in Florence (Biblioteca Laurenziana, Ms Plut 89, sup 43; formerly Strozianus XLVI). See BREYSIG 1867 pp. 105-220. And the *scholia Bernensia* was found in the manuscript in Bern (Burgerbibliothek, Ms 88). See BREYSIG 1867, pp. 233-38.

11. First identified by ROBERTS 1878, pp. 220 ff.

12. MAASS 1898, esp. pp. 102-306.

the reader is provided with the *Aratus latinus* and, running along the *bas-du-page*, is the later version of the text, the *Aratus latinus recensio interpolata* or *Revised Aratus latinus*. Maass's editions of these texts remain the touchstone for all subsequent studies. Nevertheless, as Le Bourdellès has pointed out, the confidence with which this edition was produced has often prevented later scholars from appreciating many of the complex problems surrounding the history, structure and language of the texts as they appear in the actual manuscripts.<sup>13</sup>

As a philologist, it seems that Maass's primary interest in the *Aratus latinus* was to establish a definitive text. When it came to editing the *Revised Aratus latinus* (the *Aratus latinus recensio interpolata*), however, he only provided those sections that correlated to and, therefore, supported the original text. As a result, the text Maass provides does not fully reflect what appears in the manuscripts themselves. Ironically, several of these sections had been edited by Breysig under the misnomer of the *scholia Sangermanensia*. As both Martin and Le Bourdellès have made clear, for the modern scholar to appreciate the full breadth of the text of the *Revised Aratus latinus*, it is necessary to make one's own compilation by combining passages taken from both Maass and Breysig.<sup>14</sup>

The full text of the *Revised Aratus latinus* contains the following sections:

- I. *Arati ea quae videntur. Ostensionem quoque de quibus videntur oportet fieri— quorum ab eo dicta sunt.*  
This is an elementary astronomical introduction, sometimes attributed in the Greek manuscripts to Eratosthenes or Hipparchus. (cf. Maass 1878, pp. 102- right 104, right column; pp. 105-23 (odd pages, left column); and pp. 124-26, right column).
- IIa. *Erastosthenis de circa exornatione stellarum et ethymologia de quibus videntur. Haec autem sunt — fluvius, piscis, quinque stellae erraticae.*  
A list of constellation names attributed to Eratosthenes (cf. Maass 1898, 134-35, right column).
- IIb. *Ipparcus de magnitudine et positione errantium stellarum. constat autem in aquilonio semispherio haec —. Aries, Taurus, Gemini.*  
A second list of constellation names attributed to Hipparchus (cf. Maass 1898, p. 137-39 left column).

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13. Le BOURDELLÈS 1985, p. 11: '*Mais on peut regretter que ses collations ou copies de collations de manuscrits aient été négligentes et qu'il se soit contenté d'une présentation très sommaire des problèmes que pose le texte latin pour lui-même. Ainsi, par la faute de Maass, l'Aratus Latinus est apparu comme un document propre à alimenter les recherches de philologie antique, ce qu'il est, mais non exclusivement, et la philologie du latin tardif l'a presque entièrement oublié*'.

14. MARTIN 1956, pp. 37-72 and esp. pp. 44-46 and Le BOURDELLÈS 1985, pp. 20 and 73-74.

- IIIa. *Quibus Arati videntur quaedam sunt secundum caelum stellarum — quia simili modo in ipsum suggerunt.*  
Fragment of a preface to one version of the poem (cf. Maass 1898, pp. 140-44).
- IIIb. *Alia descriptio praefationis. Subtus terra, ubi adornantur sigma septem Heridanus Navis Centaurus Serpentarius usque ad genua.*  
A second redaction of section I, starting at the third paragraph ( cf. Maass 1898, pp. 105-123, right column).
- IIIc. *Erastosthenes de exornatione et proprietate sermonem quibus videntur et Ipparci de magnitudine et positione inerrantium stellarum. Secundum qualiter sunt circumvenientia secundum Ipparcum et Eratosthenem. Septentrio maior Pisces, Caetus, Orionem.*  
A second redaction of the list of constellations found in IIb (cf. Maass 1898, p. 137-39, right column).
- IV. *Descriptio duorum semispherorum. Habet autem pondus totum medium terrae terrenum — in medio iacet duobus semispheriis.*  
Description of the polar axis of the world (cf. Maass 1898, p. 145).
- V. *Arati genus. Aratus patris quidem est athinodori filius matris autem — repperimus autem illum et super... (ends imperfectly).*  
Short biography of the poet (cf. Maass 1898, pp. 146-50, right column).
- VI. *De caeli positone. Caelum quippe circulis quinque distinguunt — anteposita his biformia.*  
On the five circles and five celestial zones (cf. Breysig 1867, pp. 105-107 as *scholia Sangermanensia*).
- VII. *De stellis fixis et errantibus. Stellarum aliae cum caelo feruntur ... et quomodo consentit aut visus est.*  
On the wandering stars (*i.e.*: planets) (cf. Breysig 1867, pp. 221-24 as *scholia Sangermanensia*).
- VIII. *Involutio sphaerae. Hic est stellarum ordo — conexio vero piscium communem habet stellam.*  
A partial and re-ordered version of the text on the spheres that appears in the *Aratus latinus* (cf. Maass 1898, 155-61, bottom of the pages, and Breysig 1867, pp. 107-09 and 224-25 as *scholia Sangermanensia*).
- IX. *Porro duodecim signorum ordo his est. Primum arietis signum — id est Saturnus Iovis Mars sol Venus Mercurius luna.*  
Section on the signs of the zodiac (cf. Breysig 1867, pp. 225-26 as *scholia Sangermanensia*).

- X. *Vertices extremos, circa quos sphaera caeli volvitur — sed a navigantibus observantur. maria enim conturbat.*  
Section on the northern and southern celestial poles (cf. Maass 1898, p. 180, bottom of the page).
- XI. *Helice autem dicit Hesiodus Licaonis filiam fuisse — et ad capiendos lepores sive in omni studio venandi exercitatus extiterit. Habet quidem stellas III.*  
Mythological tales about the constellations and descriptions of the positions of the stars within each constellation (cf. Maass 1898, pp. 180-271, bottom of the pages).<sup>15</sup>
- XII. *Cum sole et luna vii astra — et Mercurio demonstrata esse credebantur.*  
Section on the planets (cf. Maass 1898, pp. 272-75, bottom of the pages).
- XIII. *Lacteus circulus quem Greci Galaxian vocant — in Sagittario tantum se contingent.*  
Section on the Milky Way (cf. Maass 1898, pp. 276-77, bottom of the pages).
- XIV. *Zodiacus, vel singifer, est circulus duodecim signis — duabus, Saturni duabus ut Sol.*  
Section on the signs of the zodiac and ecliptic (cf. Maass 1898, pp. 285-87, bottom of the pages)
- XV. *Luna terris vicinior est — sin ortu quarto, namque is certissimus auctor.*  
Section on the Moon, with passages taken from Isidore, *De natura rerum*, XIX and XXXVIII, 2 and *Etymologia* III, 52 with a ending quote from Virgil, *Georgics*, I, 432 (cf. Maass 1898, pp. 290-92, bottom of the pages).
- XVI. *Solem per se ipsum movere — quod horae nonae proclivior vergens occasibus pronus incumbat.*  
Section on the Sun, with sections taken from Isidore, *De natura rerum*, XXXVIII; *Etymologia* III, 48 and III, 57 and Fulgentius, *Mythologiarum* I, 11 (cf. Maass 1898, pp. 292-95, bottom of the pages).
- XVII. *Sydera, quae gentiles Praesepe et Asinos vocaverunt — adeptos fuisse opinabantur victoriam.*  
Section on the Crab nebula = Asini/ Praesepe (cf. Maass 1898, pp. 296-97, bottom of the pages).

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15. As Maass noted, a much shorter variant of this text appears in St Gall 250, pp. 527-532, which he published as the 'Anonymus Sangallensis De astronomia Arati'. See MAASS 1898, pp. 594-601. It is primarily pieces of the mythological fables attached to each constellation. An edition based on a larger number of texts appears in dell'Era 1973. I would like to thank Giovanni Fiori of the Biblioteca Centrale of the University of Palermo for providing me with a copy of the text.

To date, there are 15 known manuscripts of the *Revised Aratus latinus* dating from the 9th to the 15th century. Twelve contain more-or-less complete versions of the text, while the remaining three preserve only excerpts.<sup>16</sup>

Cologne, Dombibliothek	Ms 83. II	c. 798-805 Cologne
Dresden, Landesbibliothek	Ms D.C. 183	early 9th century West Francia (Cologne?) (destroyed 1945)
Göttweig, Stiftsbibliothek	146 (red) /190 (black) olim Ms 7	first half 15th century North Italian (Lombard? Emilian?) (also contains Cicero, <i>Aratea</i> with Hyginus <i>scholia</i> )
Munich, Staatsbibliothek	clm 560	9th century Reichenau (illustrated in the 11th and 14th c)
Paris, Bibliothèque Nationale	lat 12957	early 9th century West Francia (Corbie)
Paris, Bibliothèque Nationale	nouv. acq. 1614	early 9th century (809?) West Francia (Tours?) (also contains the Compilation of 810)
Prague, University Library	Ms IX.C. 6 (1717)	11th century French
Paris, Bibliothèque Nationale	n.a. 176	14th century
St Gallen, Stiftsbibliothek	Ms 250	last ¼ 9th century St Gallen

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16. For a convenient list, see HAVRVAVÁ 2019, who also lists the contents and provides a useful resume of the correlations and differences between the texts.

St Gallen, Stiftsbibliothek	Ms 902	mid- 9th century West German (St Gallen ?)
Siena, Biblioteca comunale	Ms L. IV 25	end 14th century North Italian (Lombard?) (fragment of the RAL)
Vatican, Biblioteca Apostolica	Reg lat 1324	second half 14th century French

The three manuscripts containing short excerpts from the text of the *Revised Aratus latinus* are:

Brussels, Bibliothèque royale	cod. 5413-5422	c. 800-830
Oxford, Bodleian Libraray	Digby 83	mid-12th century English
Baltimore, Walters Art Gallery	cod. W 734	second ½ 12th century Northern Italy or France

In terms of the text of the *Revised Aratus latinus*, there are two distinct lines of transmission, both of which descend ultimately from the original (revised) compilation, which was written towards the end of the 8th century – presumably in the same Benedictine monastery in Corbie where there original (unrevised) version of the text (the *Aratus latinus*) had been written a generation earlier, during the second quarter of the 8th century.

In one family, the second part of the star catalogue (from Lyra to Canis Minor, with the exception of Ara) has been abbreviated and reduced. The manuscripts of this family are:

Paris, BnF, lat. 12957  
Cologne, Dombibl., 83 II  
Paris, BnF, na 1614  
St Gallen StB, 902  
St Gallen, StB, 250  
Siena Bib. Com., L IV 25  
Göttweig BS, StB 146 (red) 190 (black), olim cod. 7

The second family contains a complete set of descriptions of the constellations and star lists. These are:

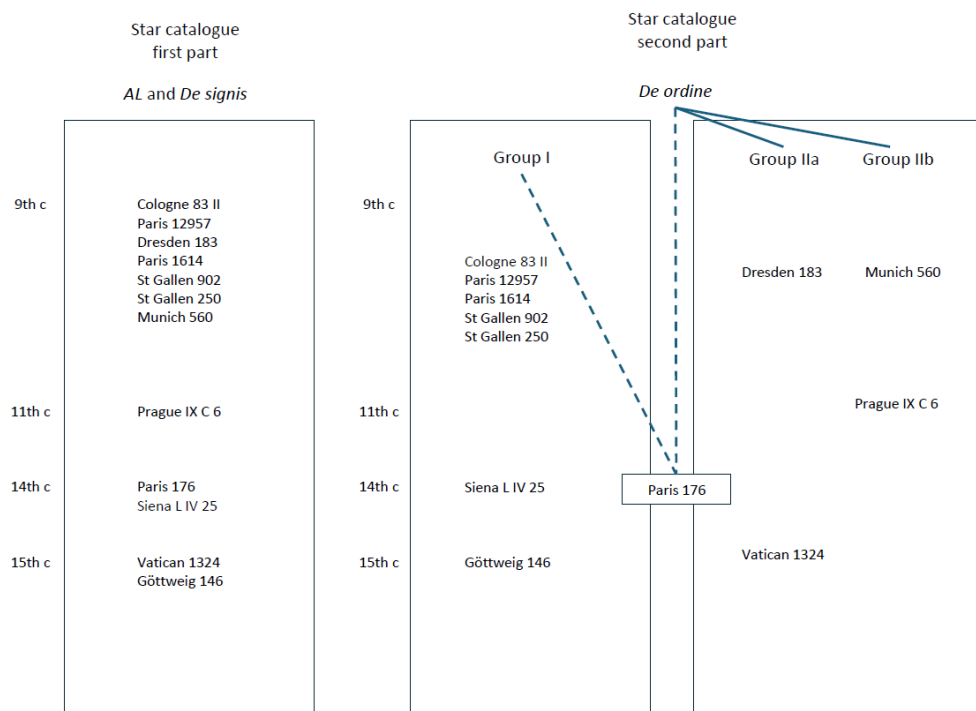
- Dresden, UB, Dc 183
- Munich, BSB, cIm 560
- Prague, NL, IX C 6
- Vatican, BAV, Reg. lat. 1324.

The final manuscript, Paris BnF na 176, includes elements from both branches, apparently representing some sort of intermediary stage between the two.

Given that the oldest manuscript of both groups is the one currently in Dresden and dates to the 9th century, it is obvious that these two branches must have split soon after the original compilation had been made.

In her detailed study of these two families, Alena Hadravá was able to conclude that the first part of the *Revised Aratus latinus* star catalogue relies most heavily on a combination of texts: the *Aratus latinus* and the *De signis caeli*; while the second part of the catalogue is drawn mostly from the text of the *De ordine ac positione stellarum*. Furthermore, there is frequent evidence or correlations being made with other texts, such as Hyginus's *De astronomia* and the *scholia Stroziana*.

Her conclusions led her to construct the following *stemma codicum*:



Needless to say, a similar mixing of sources reoccurs when one comes to address the illustrations that appear in these manuscripts – though the divisions into families do not always follow the same pattern one sees with the texts. For example, an interesting ‘spot-check’ of the arrangement of the Pleiades that occur in eight of the *Revised Aratus latinus* manuscripts shows the following distribution:

	occurs in	Dresden DC 183 Vatican BAV 1324	Group IIa Group IIa
	occurs in	Paris BnF 12757 Siena L IV 25 Göttweig 146	Group I Group I Group I
	occurs in	St Gallen 902 St Gallen 250 Prague IX C 6	Group I Group I Group IIb

## **The illustrations of the *Revised Aratus latinus* (*Aratus latinus recensio interpolata*)**

Eleven of the twelve complete manuscripts of the *Revised Aratus latinus* contain illustrations:<sup>17</sup>

Cologne, Dombibliothek	Ms 83. II	c. 798-805 Cologne
Dresden, Landesbibliothek	Ms D.C. 183	early 9th century West Francia (Cologne?) (destroyed 1945)
Göttweig, Stiftsbibliothek	146 (red) /190 (black) olim Ms 7	first half 15th century North Italian (Lombard? Emilan?) (also contains Cicero, <i>Aratea</i> with Hyginus <i>scholia</i> )
Munich, Staatsbibliothek	clm 560	9th century Reichenau (illustrated in the 11th and 14th c)
Paris, Bibliothèque Nationale	lat 12957	early 9th century West Francia (Corbie)
Paris, Bibliothèque Nationale	nouv. acq. 1614	early 9th century (809?) West Francia (Tours?) (also contains the Compilation of 810)
Prague, University Library	Ms IX.C. 6 (1717)	11th century French
St Gallen, Stiftsbibliothek	Ms 250	last ¼ 9th century St Gallen

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17. Of the manuscripts containing excerpts from the RAL, it might be noted that the Baltimore manuscript (W. 734) contains an image of the Asini (Praesepe) that can be tied to this tradition (see the page for that manuscript under 'Hyginus mss.').

St Gallen, Stiftsbibliothek	Ms 902	mid- 9th century West German (St Gallen ?)
Siena, Biblioteca comunale	Ms L. IV 25	end 14th century North Italian (Lombard?) (fragment of the RAL)
Vatican, Biblioteca Apostolica	Reg lat 1324	second half 14th century French

There are 41 separate illustrations accompanying section XI, all of which have the same incipits and explicits (see above).<sup>18</sup> This selection adds a depiction of the Pleiades as a proper ‘constellation’ in its own right, but also conflates a number of constellations that are usually recognised as separate ones into composite stellar groupings, such as Ophiuchus and Serpens, Centaurus and Lupus and Aquila and Sagitta into a single constellation. The constellation groupings are presented and named in the following order:

1.	UMa	Arcturus Maior
2.	UMi	Arcturus Minor
3.	Dra	Serpens Inter Ambas Arcturos
4.	Her	Hercules
5.	CrB	Corona
6.	Oph/Ser/Sco	Serpentarius (With Serpens and Scorpio)
7.	Sco	Scorpio
8.	Boo	Bootes
9.	Vir/Lib	Virgo (With Libra)
10.	Gem	Gemini
11.	Cnc	Cancer
12.	Leo	Leo
13.	Aur	Agitator
14.	Tau	Taurus
15.	Cep	Cepheus (Coepheus)
16.	Cas	Casiepeia
17.	And	Andromeda
18.	Peg	Equus
19.	Ari	Aries
20.	Tri	Deltoton
21.	Psc	Pisces
22.	Per	Perseus
23.		Virgiliae

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18. The section with the text: *Helice autem dicit Hesiodus lycaonis filiam fuisse — ad capiendos lepores sive in omni studio venandi exercitatus extiterit. Habet quidem stellas.* (cf. Maass, pp. 181-271).

24.	Lyr	Lyra
25.	Cyg	Cygnus
26.	Aqr	Aquarius
27.	Cap	Capricorn
28.	Sgr	Sagittarius
29.	Aql/Sge	Aquila (with Sagitta)
30.	Del	Delphinus
31.	Ori	Orion
32.	CMa	Canis
33.	Lep	Lepus
34.	Arg	Navis
35.	Cet	Coetus
36.	Eri	Eridanus
37.	PsA	Piscis
38.	Ara	Sacrarium
39.	Cen/Lup	Centaurus (with Bestia)
40.	Hya/Crt/Cor	Ydra (With Crater and Corvus)
41.	CMa	Antecanis

This shows that, in terms of the order of the constellations at least, there is a high degree of consistency throughout the manuscripts, the only exception being the two St Gallen manuscripts, which show a slight deviance.<sup>19</sup>

The manuscripts also share a number of illustrations that are not part of the constellation series. For example, there is a picture of two hemispheres divided at the equinoxes and centred on the solstices, arranged so that the north pole is at the top of each map.<sup>20</sup> The placement of the hemispheres within the text is not entirely consistent within the manuscripts. In most cases, the two hemispheres are shown together on one page, but in Paris BN 12957, the maps run across two facing folii. In general, though, one can say that the images of the hemispheres tend to ‘accompany’ the text of section IV: *DESCRIPTIO DUORUM SEMISPHERORUM: Habet autem pondus — in medio iacet duobus semispheriis.* (cf. Maass, p. 145).<sup>21</sup> For example:

Dresden DC 183, fol. 8v

The hemispheres are placed on a full sheet.

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19. The two St Gallen manuscripts have a variation in the order of Cyg, Aqr and Cap, so that the pictures run: 25. Aquarius; 26. Cygnus; and 27. Capricorn.

20. For a full description of these Hemispheres, see DEKKER 2013, *ad cit.*

21. O’Connor points out that there is no depiction of the hemispheres in Cologne 83. II, but that a blank space has been left in the text at the appropriate position. See O’CONNOR, 1980, pp. 60. 65-66 and 103-07.

Paris BN 12957, ff. 60v and 61r

The hemisphere centred on the winter solstitial colure appears at the bottom of the page containing text of section IV: *DESCRIPTIO DUORUM SEMISPHERORUM: Habet autem pondus ... in medio iacet duobus semispheriis.* (cf. Maass 1898, p. 145).

The hemisphere centred on the summer solstitial colure is on the same folio as the text of section V, the biography of Aratus: *Aratis genus. Aratus patris quidem est athinodori filius matris autem ... repperimus autem illum et super...* (cf. Maass 1898, pp. 146-50).

Paris BN, n.a. 1614, fol. 81v  
St Gall 250, p. 462  
St Gall 902, p. 76

The hemispheres appear after the text of section IV: *DESCRIPTIO DUORUM SEMISPHERORUM: Habet autem pondus ... in medio iacet duobus semispheriis.* (cf. Maass 1898, p. 145).

Vatican Reg lat 1324, fol. 23v

The hemispheres appear on a full sheet following the text of section IV: *DESCRIPTIO DUORUM SEMISPHERORUM: Habet autem pondus ... in medio iacet duobus semispheriis.* (cf. Maass 1898, p. 145). It is followed by a blank folio.

As Martin has suggested, it is really only the title of this section IV that pertains to the illustration of the hemispheres. The title could well have been just a label for the pictures themselves instead of a particular text, but somehow managed to attach itself to this section of corpus. The remainder of the text is actually a fragment of a commentary on *Phaenomena*, v. 22, where Aratus describes the position of the polar axis.<sup>22</sup> As such, the proper image for this text should be the depiction of a globe set within its stand (see below). Instead, it seems that the hemispheres originally may have been included as illustrations to either of the two elementary astronomical sections: section I (*Arati ea quae videntur. Ostensionem quoque de quibus videntur oportet fieri — quorum ab eo. dicta sunt.*)<sup>23</sup> or the abridged version of

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22. MARTIN p. 140, citing Rehm's review of Maass's *Commentariorum* (REHM 1899).

23. MAASS 1898, pp. 102-26.

this passage, which often appears as section IIIb in the *Revised Aratus latinus* manuscripts (*Alia descriptio praefationis. Subtus, ubi adornantur sigma septem Heridanus Navis Centaurus — Serpentarius usque ad genua*).<sup>24</sup> In his study, Martin notes the close connection between these texts and sections of Books I and IV of Hyginus's *Astronomica* and concludes that both the 'Aratean' and Hyginian descriptions point to a similar source, which is probably associated with the original texts of Eratosthenes.<sup>25</sup>

As mentioned, there is also the depiction of a globe set on a stand supported by seven columns in several of the *Revised Aratus latinus* manuscripts.<sup>26</sup> Similarly, the placement of these globes amongst the texts is not completely consistent:

<p>Dresden DC 183, fol. 13r Göttweig 7 (146), fol. 6r</p>	<p>The globe follows a shortened version of section IIIb: <i>Alia descriptio praefationis. Subtus terra in quo adfirmatur signa sex — septem errantes stele feruntur. Id est saturnus, Iovis, mars, sol, venus. Mercurius. Luna.</i> (cf. Maass 1898, pp. 105-09). In the Dresden manuscript, the picture itself is labelled: <i>INVOLUTIO SPHAERA</i></p>
<p>Paris BN 12957, fol. 63v St Gall 250, p. 472 St Gall 902, p. 81</p>	<p>The globe precedes section X on the northern and southern celestial poles: <i>Vertices extremos, circa quos sphaera caeli volvitur — sed a navigantibus observantur. Maria enim conturbat.</i> (cf. Maass 1898, p. 180)</p>
<p>Vatican Reg lat 1324, fol. 27r</p>	<p>Is at the top of the page on which the text of section X on the northern and southern celestial poles begins: <i>Vertices extremos, circa quos sphaera caeli volvitur — Sed a navigantibus observantur. Maria enim conturbat.</i> (cf. Maass 1898, p. 180). Labelled: <i>Involutio sperae.</i></p>

Nevertheless, there does seem to be an association in the *Revised Aratus latinus* manuscripts between the depiction of the globe and the section on the northern celestial pole, which precedes the text describing each of the constellations. If, as Martin, suggests, the more

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24. MAASS 1898, pp. 105-123, right column.

25. MARTIN 1956, pp. 115-26.

26. For a fuller description, see DEKKER 2013, *ad cit.*

appropriate text for this image is section IV on the celestial axis then one can only suggest that, perhaps, their current 'misplacement' reflects a model in which the full-page illustrations, which had been placed between particular segments of text, were simply miscollated.

The depictions of the 5 planet gods set within roundels accompanying the text of section XII on the planets: *Cum sole et luna vii astra — et Mercurio demonstrata esse credebantur*<sup>27</sup> appear in:

Dresden DC 183, fol. 27r  
Paris BN 12957, fol. 71v  
Prague IX. C. 6, fol. 151v  
St Gallen 205, p. 509  
St Gallen 902, p. 98

A set of concentric circles intended to depict the Milky Way or galaxia accompanies the text of section XIII: *Lacteus circulus quem Greci Galaxian vocant — in Sagittario tantum se contingunt*<sup>28</sup> in:

Dresden DC 183, fol. 27r  
Paris BN 12957, 71v  
St Gall 250, p. 509  
St Gall 902, p. 98

A depiction of Sol and Luna surrounded by the 12 signs of the zodiac accompanies the text of section XIV on the signs of the zodiac and ecliptic: *Zodiacus vel singifer, est circulus duodecim signis — duabus, Saturni duabus ut Sol*<sup>29</sup> in the following manuscripts:

Dresden DC 183, fol. 28v  
Paris BN 12957, fol. 72r  
St Gallen 250, p. 515  
St Gallen 902, p. 100

Luna shown in a cart drawn by two bulls, which accompanies section XV on the moon: *Luna terris viciniorest — sin ortu quarto, namque is certissimus auctor.*<sup>30</sup>

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27. MAASS 1898, pp. 272-75

28. MAASS 1898, pp. 276-77.

29. MAASS 1898, pp. 285-87.

30. MAASS 1898, pp. 290-92.

Dresden DC 183, fol. 29v  
Paris BN 12957, fol. 73r  
Prague IX. C. 6, fol. 152r  
St Gallen, p. 518  
St Gallen 902, p. 102

A similar image of a winged female figure riding in a *biga* drawn by a light and a dark horse appears in the Cologne manuscript on fol. 154v, preceding the opening to section X (*Vertices extremos, circa quos sphaera caeli volvitur...*).<sup>31</sup> Although she has a moon with its crescent highlighted on her head, she does not appear to be Luna. Her right hand touches a large circle, which nearly encompasses the chariot. Her left hand touches an almond-shaped line that recalls certain later depictions of the ecliptic or the Milky Way. It could well be that this figure represents a personification of one of these celestial phenomena which, for whatever reason, failed to become a familiar part of the accepted canon of astral gods.<sup>32</sup>

The series of additional pictures ends with the image of Sol-Apollo in his *quadriga* accompanies section XVI on the sun: *Solem per se ipsum movere — quod horae nonae proclivior vergens occasibus pronus incumbat*.<sup>33</sup> The picture appears in the following manuscripts:

Dresden DC 183, fol. 31r  
Paris BN 12957, fol. 74r  
Prague IX. C. 6, fol. 153r  
St Gallen 250, p. 521  
St Gallen 902, p. 103.

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31. MAASS 1898, p. 180.

32. von Euw suggests that this figure is the creation of the Carolingian illuminator of this manuscript, based on the image of Sol-Apollo and Luna with some influence from the depictions of Auriga (citing the light and dark horse in the picture of Auriga in Munich, clm 210, fol 11v). Given the context of these illustrations in general, it would seem more likely that this figure represents a relatively faithful copy of a classical prototype whose exact significance has been lost. See von EUW 1993, pp. 251-269, esp. pp. 262-63. Kerschler identifies the female figure as Luna as part of the 'Typus I – Sol- und Luna-Darstellung', not recognizing that this is an isolated figure placed in a different place within the manuscript. See KERSHER 1988, pp. 14, 54, n. 50 and fig. 29.

33. MAASS 1898, pp. 292-95.

## The pictorial families of the *Revised Aratus latinus* (*Aratus latinus recensio interpolata*)

Most the art historians who have studied the illustrations of the constellations in the *Revised Aratus latinus* tend to see them as representing a single pictorial family (**RAL I**), with the eldest manuscripts, Cologne 83. II, standing slightly apart, apparently due to the incomplete nature of its drawings.<sup>34</sup> In fact, the Cologne appears to differ in so many of its details, that one should probably suggest it belongs to a different pictorial group. In the absence of other manuscripts with comparable features, it is listed here as **RAL-singleton**.

There are a number of dissimilarities within the individual constellations found in the **RAL I** group, however. Some of these are due to the changing stylistic vocabularies of different ages. Others reflect idiosyncrasies that seem to pass from manuscript to manuscript in irregular and somewhat mysterious ways. This high degree of variety in what is, after all, a relatively homogenous grouping of illustrations suggests that the existing group of **RAL I** manuscripts probably reflects only a fraction of what once existed.

Having said that, however, it is worth pointing out that there are two sets of manuscripts within the **RAL I** group that should be set to one side as distinct ‘mother-daughter’ or ‘sister’ manuscripts. In the case of the two St Gallen manuscripts – St Gallen 902 and St Gallen 250 – the latter has obviously been copied from the former. They are particularly close to the Dresden DC 183 and Paris BN 12957 manuscripts, but do have a set of details that are completely their own. In two of the 15th-century manuscripts – Göttweig 7 (146) and Siena L. IV. 25 – the illustrations are so close that they may have even come from the same Lombard scriptorium or school. Again, the connection to the earlier manuscripts, particularly Paris BN 12957, is very close, but stylistically, they stand quite far apart. To highlight the closeness of these manuscripts to each other, it might be useful to have the sub-groups of **RAL Ia** for the St Gall manuscripts and **RAL Ib** for the Lombard manuscripts.

Beyond this, it is also worth noting that the illustrations in *Revised Aratus latinus* sections of Paris BN n.a. 1614 have been heavily influenced by the pictures in the *De ordine ac positione* portion of the manuscript – to such an extent that both sets hover somewhat uncomfortably between the two pictorial traditions. Similarly, Munich 560 shows a high degree of deviation from the **RAL I** family, but the fact that many of the pictures have been left unfinished in this manuscript makes close analysis almost impossible. Finally, the illustration in the Vatican manuscript, Reg lat 1324 are certainly related to the rest of the **RAL I** manuscripts, but the level of artistic invention and intervention – such as in the depiction of two-legged centaur for Sagittarius and Centaurus and of a French chateau for Ara – is so high that it stands at the very edge of the disintegration of the tradition. For these reasons, these three manuscripts will be considered as a separate group, called **RAL Idr** (distant relatives).

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34. See, for example, O’CONNOR 1980, p. 66.

The groups within **RAL I**, then, have been arranged as follows:

<b>RAL I</b>	Dresden DC 183 Paris BN 12957 Prague IX. C. 6
<b>RAL Ia</b>	St Gall 250 St Gall 902
<b>RAL Ib</b>	Göttweig 7 (146) Siena L. IV. 25
<b>RAL Idr</b>	Paris BN n.a. 1614 Munich 560 Vat. Reg lat 1324
<b>RAL singleton</b>	Cologne 83. II

Using this set of sub-divisions, the first section describes the family profile of **RAL I** (that is, those features that appear in the **RAL I** manuscripts and its sub-groups **RAL Ia** and **RAL Ib**). The second section lists the variations amongst the manuscripts in this group. This is followed by a discussion of the three, distantly-related manuscripts (**RAL I dr**). And the final section provides a description of the characteristics of the lone **RAL-singleton** Cologne 83. II.

In the **RAL I** manuscripts (that is, Dresden DC 183, Göttweig 7 (146), Paris BN 12957, and Prague IX. C. 6, Siena L. IV. 25 St Gall 250 and St Gall 902), the defining features are:

1. **URSA MAIOR** and **URSA MINOR** are depicted both individually and as part of the *Draco inter arctos* grouping.
2. In the individual depictions of the constellations, **URSA MAIOR** and **URSA MINOR** face to the left.
3. **DRACO INTER ARCTOS** is shown with 3 curves in its snaky body; the bears are placed back-to-back and facing in opposite directions (except in the Prague manuscript, where both backs are uppermost).
4. **HERCULES** is nude; he kneels towards the left and the snake in the Garden of Hesperides (except in the Prague manuscript, where he is standing and takes a step to the left).
5. **OPHIUCHUS** stands on SCORPIO.
6. **Second SCORPIO** follows OPHIUCHUS.
7. **VIRGO** is dressed in a long gown and holds the scales in her outstretched left hand and some kind of plant in her right hand.
8. The **GEMINI** are depicted as two youths holding spears or staves in their outer hands (IN THE Prague manuscript, the left Twin holds a viol).
9. **LEO** prances to the left.

10. **AURIGA** is a figure who kneels to the right, with a flail in his right hand and two Kids standing on his outstretched left arm
11. **CEPHEUS** stands with his arms outstretched with his cape falling over his elbows into two cascades of fabric.
12. **ANDROMEDA** is depicted with the sleeves of her robe hanging over her elbows in tube-like forms. There are no toilet articles on any of the rocks.
13. **ARIES** moves to the left and is looking backwards over his shoulder; it has a lacy band or disc around its middle.
14. **PEGASUS** is depicted as half a winged horse. He faces to the right and has his legs extended in front of him
15. **PISCES** is depicted as two fish, both with their backs uppermost, swimming in opposite directions and their mouths connected by a line
16. **PERSEUS** faces the left, with his legs seen in profile, but his chest seems to face towards the viewer in the Dresden manuscript, but away from the viewer in all the other manuscripts. (The orientation is difficult to determine. For example, the torso of Perseus in Siena faces away from the viewer note how the hands are oriented. It certainly faces away in Göttweig and probably faces away in Prague – see the hands.) (same reasons); and it might face away from the viewer in Paris BN 12957 because the line down the back looks like a backbone and the curl on the arm looks like an elbow and the rolls of flesh under the arm all make it look like a back view.) His right leg leads and his left leg follows (the opposite is true in the Prague manuscript). He wears a long cloak and a hat. He holds the Medusa's head in front of him with his extended arm and a weapon behind him in his other hand
17. The **PLEIADES** appear as 7 veiled women set within circular frames.
18. **AQUARIUS** is shown walking or standing to the right, using both hands to hold an urn upside-down and pour water from it.
19. **CAPRICORN** faces to the left and has a curled tail.
20. **SAGITTARIUS** is depicted as a horned centaur that rushes to the left.
21. **AQUILA** stands to the right and turns his head backwards over his right wing towards the left.
22. **CANIS MAIOR** leaps to the left
23. **LEPUS** leaps to the left
24. **NAVIS** is depicted as half a ship, cut off at the right side; it has two oars and a house-like structure on deck
25. **CETUS** is depicted as a dog-faced monster with a curled tail, facing right
26. **PISCIS** is depicted as a large fish placed upside-down
27. **CENTAURUS** is depicted as a centaur walking to the right, holding an animal by its heels in one hand that is extended in front of him. He also has a second animal on the end of a stick which rests on his other shoulder.
28. **ARA** is depicted as a multi-storied structure with numerous 'windows' or vents and flames coming out of the top in all
29. **HYDRA** is a long snake slithering to the left, with the **CRATER** placed in the middle of his back and the **CORVUS** standing somewhere near the snake's tail facing forward
30. **CANIS MINOR** leaps to the left

At this point, it might be useful to recall that there is another manuscript from the ps-Bede *De signis caeli* (**DSC**) tradition, which is very closely related to the **RAL I** family: the **DSC singleton** Montecassino 3. As has been outlined in that section, this manuscript is important as its constellation illustrations seem to vacillate between those that appear in the **DSC II** group (Paris BN 5543, Paris BN 5239, Vat lat 643, Zwettl 296 and Klosterneuberg 685) and those found accompanying the text of the *Revised Aratus latinus*. Indeed, all but one of the features listed here as parts of the family profile of **RAL I** are shared by the **DSC singleton**, Montecassino 3. The single exception is that the Pleiades are not represented in this manuscript. In the following descriptions, Montecassino 3 will be mentioned when there are particularly striking examples of shared pictorial or iconographic details.

If one compares the list of defining characteristics of the **RAL I** family with those traits that appear in the distantly-related RAL manuscripts (**RAL I dr**), one can see that they differ at rates of about 50% or more from the family profile. This confirms one sense that, although sharing a number of the defining traits of the family, all members of **RAL I dr** have a sufficiently high number of significant variants to warrant the recognition of that extra distance. Finally, one can also see that drawings in the oldest manuscript in the RAL group, Cologne 83. II, have very little in common with the drawings in any of the other manuscripts.

#### **RAL Ia:**

In addition to those **RAL I** features listed above, the two **RAL Ia** manuscripts (the two St Gall manuscripts) share the following details:

- **URSA MAIOR** and **URSA MINOR** have their tongues sticking out (in St Gall 250 only **Ursa minor**)
- **DRACO** has long, pointed ears.
- **CORONA** has the 'gems' arranged in a 'D' shape, similar to the image in the Ps-Bede **DSC** manuscripts, Montecassino 3.
- **OPHIUCHUS** is a nude figure facing the viewer with the snake held flat (with no windings around his body).
- **BOOTES** is standing facing the viewer, nude to his waist, wearing a short skirt, holding a thin stick upright in his left hand and a lion's skin over his outstretched right arm.
- **LEO'S** tongue sticks out in **RAL Ia**
- **CASSIOPEIA** sits on a throne without back and she wears a crown.
- **ANDROMEDA** has an odd trefoil hair ornament on top of her head.
- **PERSEUS** holds an instrument that appears to taper like a palm leaf, instead of a knife. He wears a striped cloak, reminiscent of the depiction in the Ps-Bede **DSC** manuscript, Montecassino 3.
- **LYRA** has strings represented as looping lines.
- **CYGNUS** looks more like a long-legged stork or heron and walks to the right with his wings held slightly behind him.
- **AQUILA** has long legs, slightly resembling a wading bird, such as a stork or heron – and similar to the image found in the Ps-Bede **DSC** manuscript, Montecassino 3.

- **DELPHINUS** has a dog's face and pointed ears.
- **ORION** holds a sword aloft in his left hand.
- **ERIDANUS** holds his right hand in a gesture of benediction. This gesture represents a misunderstanding of one part of the picture in Paris BN 12957. To the right of the Paris river god, there is an object that appears to be a woven basket containing a plant. Considering the sleeve of the St Gall figures, one notes that the cross-hatching on the cuff is extremely close to the weaving of the basket. Moreover, the fluid gesture made by the fingers recalls the same form made by the frond of the plant in the Paris picture. From the poor reproductions in Dresden DC 183, it looks as though this figure also has a strange hand-cuff-basket-plate object on its right side. The same hand gesture appears in the **DSC** manuscripts, Montecassino 3.
- **CORVUS** pecks at the snake's tail.

#### **RAL Ib:**

In addition to those RAL I features listed above, the two 'Renaissance' manuscripts of the *Revised Aratus latinus*, Göttingen 7 (146) and Siena L. IV. 25, have the following details in common:

- **HERCULES** holds a short knife in his left hand.
- **CORONA** appears as a leafy wreath
- **BOOTES** stands on a grassy knoll with his back to the viewer and has an indeterminate flayed skin over his left arm.
- **AURIGA** is dressed identically in both manuscripts and has a halo encircling his head.
- **CEPHEUS** has a halo encircling his head.
- **CASSIOPEIA** wears a dome-shaped hat/crown and her head is encircled by a halo.
- **ANDROMEDA** has a halo encircling her head and stands between two lumpy plant-forms
- **ARIES** has a disc-shaped contraption around his middle.
- **PERSEUS** has wings on both ankles and there is blood dripping from the Medusa's severed neck, which falls upon a pile of rocks
- **LYRA** has the strings fixed to the fret-bar with nails
- **AQUARIUS** has a halo encircling his head.

Examining the individual constellation images within the **RAL I** manuscripts a bit more closely, one can see that, despite the numerous characteristics that are shared amongst them, there is still considerable variation inside this group. For example:

#### **DRACO INTER ARCTOS**

1. in Paris BN 12957: Draco has a snake-head seen from the top rather than in profile.

#### **HERCULES**

1. in Dresden DC 183: and **RAL Ia** Hercules holds a leafy frond

2. in Prague IX. C. 6: **Hercules** shown as a youth and is positioned half-way up the tree, so he flanks it at branch-height.

#### **CORONA**

1. in Dresden DC 183, Paris BN 12957 and Prague IX. C. 6: **Corona** appears as separate 'gems'
2. in Paris 12957: there is a figure to one side of **Corona**, possibly holding the crown (Bootes?).

#### **OPHIUCHUS**

1. in Paris BN 12957, **RAL Ib** and Prague IX. C. 6: **Serpentarius** is nude, facing to the left, but with buttock facing the viewer and with snake wrapped twice around his body
2. in Dresden DC 183: **Serpentarius** is nude, facing away from the viewer and has the snake knotted around his middle.

#### **BOOTES**

1. in Paris BN 12957 (and possibly Dresden DC 183): **Bootes** faces the viewer with a thin stick in his right hand and the drape or skin sometimes held in his outstretched left forearm has been transformed so that a wing replaces his shoulder and arm.
2. in Prague IX. C. 6: **Bootes** is nude and rushing to the left, holding a drape over his left arm and a straight sword upraised in his right.

#### **VIRGO**

1. in St Gall 250: **Virgo** has wings.

#### **GEMINI**

1. in Paris BN, 12957 and St Gall 902: the twins hold their inner hands across their chests.
2. in St Gall 250: the twins lean on their staves as if they were crutches.
3. in Prague IX. C. 6: the right twin holds a lyre (as in many **DAO** manuscripts).

#### **CANCER**

1. in the Siena L. IV. 25: Cancer is placed vertically between the feet of the Gemini (as one sees in the ps-Bedan **DSC** manuscripts) and faces towards the left

#### **AURIGA**

1. in Dresden DC 183, Paris BN 12957, **RAL Ia** and **RAL Ib**: there is also a goat standing in front of **Auriga**
2. Prague IX. C. 6: **Auriga** is without goat

#### **TAURUS**

1. in Dresden DC 183, Paris BN 12957, **RAL Ia** and **RAL Ib**: **Taurus** is depicted as ½ a bull facing to the right with his right foreleg tucked under and his left leg extended in front of him

- in Prague IX. C. 6: **Taurus** is a full bull, half lying down, half standing and facing to the right

### CASSIOPEIA

- in Dresden DC 183, Paris BN 12957, Prague IX. C. 6 and **RAL Ib: Cassiopeia** sits on a boxy throne with her hands outstretched. Her throne is high-backed

### ANDROMEDA

- in Paris BN 12957 and **RAL Ib: Andromeda** stands in or in front of stylised water

### ARIES

- in Dresden DC 183, Paris BN 12957, Prague IX. C. 6 and **RAL Ia: Aries** wears a lacy band around his waist
- in Dresden DC 183, Paris BN 12957, **RAL Ia** and **RAL Ib: Aries** is depicted as a ram leaping to the left
- in Prague IX. C. 6: **Aries** is depicted as a ram walking leaping to the left

### TRIANGULUS

- in Dresden DC 183, Paris BN 12957, **RAL Ia** and **RAL Ib: Deltoton** is decorated with wavy lines
- in Prague IX. C. 6: **Deltoton** is plain

### PERSEUS

- in Paris BN 12957: **Perseus** appears to have wings on his left ankle

### PLEIADES

- in Dresden DC 183, the seven circles are displayed as

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o o o
      o
o o o

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- in Paris BN 12957 and **RAL Ib**, the seven circles are displayed as

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o o o
o o o
  o

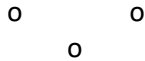
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- the seven circles are displayed in Prague IX. C. 6 and **RAL Ia** as

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  o
o   o
  o

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#### LYRA

1. in Dresden DC 183, Paris BN 12957, **RAL Ia** and **RAL Ib**: **Lyra** Has a zither-shaped base (*i.e.*: the top left corner of the base is angled) and oxen horn side supports
2. in Prague IX. C. 6: **Lyra** has a rectangular bottom and a curled upper support and there is an animal head at one edge of the fret-bar

#### CYGNUS

1. in Paris BN 12957 and **RAL 1b**: **Cygnus** is depicted standing to the right with his wings extended, but his right wing raised over his head and with his right leg raised (similar to those in **DSC II** manuscripts)
2. in Dresden DC 183: **Cygnus** is depicted standing to the right with a long neck
3. in Prague IX. C. 6: **Cygnus** is positioned heraldically, in front view with his long neck snaking upwards (similar to the image in **DOA I** manuscripts)

#### AQUARIUS

1. in Paris BN 12957 and **RAL 1b**: **Aquarius** is nude to the waist.
2. in Prague IX. C. 6 and **RAL Ia**: **Aquarius** wears a short tunic and a calf-length cape.
3. in Dresden DC 183: **Aquarius** wears long robes
4. in the Paris BN 12957, Dresden DC 183 and Prague IX. C. 6: **Aquarius** looks up and backwards over his shoulder (similar to the posture that appears in the Germanicus manuscripts).

#### SAGITTARIUS

1. in Paris BN 12957: **Sagittarius** has the additional attribute of Sagitta beneath his forefeet and his cloak is clearly an animal's skin

#### AQUILA

1. Dresden DC 183, Paris BN 12957 and Prague IX. C. 6: **Aquila** stands on Sagitta

#### DELPHINUS

1. in Paris BN 12957: **Delphinus** has an exceptionally curvy body which is somewhat carried over in Dresden DC 183
2. in Prague IX. C. 6: **Delphinus** is transformed into a bizarre concertina-like form

#### ORION

1. in Dresden DC 183 and **RAL Ia**: **Orion** is dressed in a short tunic and has a longer cape, which covers his right shoulder and arm
2. in Dresden DC 183, Paris BN 12957 and St Gall 250: **Orion** he has a scabbard at his waist.
3. in Prague IX. C. 6: **Orion** has a longer cape, which covers his left shoulder and arm. And he holds a sword aloft in his right hand.

### **CANIS MAIOR**

1. in Dresden DC 183, Paris BN 12957 and St Gall 902: **Canis maior** has a halo around his head
2. in Paris BN 12957, Prague IX. C. 6 and St Gall 250: **Canis maior** has his tongue sticking out

### **ERIDANUS**

1. in Dresden DC 183, Paris BN 12957, Prague IX. C. 6 and **RAL Ia: Eridanus** is represented as the bust of a wild-haired male figures, surrounded by water

### **PISCIS**

1. in Dresden DC 183, Göttweig 7 (146), Paris BN 12957 and St Gall 902: **Piscis** has a gaping mouth

### **ARA**

1. in Prague IX. C. 6: **Ara** has only 3 arches but the picture is otherwise of the general type

### **CENTAURUS**

1. in Dresden, DC 183, Paris BN 12957 and **RAL Ia: Centaurus** has his back facing the viewer
2. in Prague IX. C. 6: **Centaurus** faces the viewer
3. in Göttweig 7 (146): **Centaurus** wears an animal skin as a cloak
4. in Prague IX. C. 6: **Centaurus** wears a Phrygian cap

### **CANIS MINOR**

1. in Prague IX. C. 6: and **RAL Ia, Canis minor wears** a collar

### **The 'distant relatives' of RAL I:**

As mentioned above, there are three manuscripts in the *Revised Aratus latinus* group that are obviously related to **RAL I** but do not share a sufficient number of pictorial details with the rest of the manuscripts to fit easily into the prescribed family profile. These are Paris BN n.a. 1614, Munich 560 and Vatican Reg lat 1324. The constellations that do not conform to the RAL family profile in these manuscripts are listed below, followed by some addition features.

#### **Paris BN n.a. 1614**

##### **a. Deviations from the family profile**

- **URSA MINOR** faces right
- **DRACO INTER ARCTOS** is depicted with 4 curves

- **AURIGA** he has lost all of his goats; he is depicted in a horse-drawn cart as in Vat. Reg lat 1324
- **ANDROMEDA** is drawn as a standing female figure without attributes and she is without tube-like sleeves.
- **ARIES** is not looking backwards. The same feature is seen in Munich 560 and Vat Reg lat 1324. He stands to the right as in Munich 560.
- **PISCES** is depicted as two fish placed perpendicularly
- **PERSEUS** is dressed in a long robe, faces frontally and he has a straight sword upheld in his right hand and Medusa's head in his left hand.
- **PLEIADES** are missing.
- **CANIS MAIOR** leaps to the right.
- **ARGO** has the three-pronged endings (most often seen in the *De ordine ac positione* manuscripts).
- **CETUS** faces left and has a curled snout with horns.
- **HYDRA** slides to the right and **Corvus** faces backwards towards the tip of the tail.

b. Additional characteristics

- **HERCULES** holds a leafy frond as in Dresden DC 183, **RAL Ia** and Vat Reg lat. 1324
- **CORONA** as separate 'gems' as in Dresden DC 183, Paris BN 12957 and Prague IX. C. 6.
- **OPHIUCHUS** is nude and is facing away from the viewer, as in Dresden DC 183; he has the snake knotted around his middle as in Dresden DC 183 and Vat Reg lat. 1324.
- **SCORPIO** faces to the right, as in Cologne 83.II
- **BOOTES** is depicted with only one attribute: a leafy frond held in his left hand.
- **VIRGO** has wings as in St Gall 250 and Vat Reg lat. 1324.
- **GEMINI** gesticulate with their inner hands.
- **LEO'S** tongue sticks out as in **RAL Ia**.
- **TAURUS** is a full bull lying down and facing left.
- **TRIANGULUS** is plain as in Prague IX. C. 6 and Vat Reg lat 1324
- **CANIS MAIOR** has his tongue sticking out as in Paris BN 12957, Prague IX. C. 6, St Gall 250 and Munich 560.
- **ERIDANUS** is represented as a clothed seated river god as in Vat Reg lat 1324, but here he holds also a spear (similar to those held in the **DOA** manuscript, Vienna 12600)
- **CENTAURUS** has a very shaggy horse's body; he faces the viewer as in Prague IX. C. 6 and Vat Reg lat 1324; he wears an animal skin as a cloak as in Göttweig 7 (146)

Vat Reg lat 1324

a. Deviations from the family profile

- **OPHIUCHUS** does not stand on Scorpio.
- **Second SCORPIO** is absent.

- **AURIGA** is shown in a horse-drawn cart as in Paris BN n.a. 1614; the goats have been transformed into 4 small rabbits (!).
- **CEPHEUS** is shown sitting on a throne (similar to Cassiopeia's).
- **ANDROMEDA** is nude to the waist and without tube-like sleeves.
- **PEGASUS** faces left and has his forelegs crossed in front of him.
- **ARIES** does not turn his head back. The same feature is seen in Paris BN n.a. 1614 and Munich 560.
- **PISCES** are without a connecting line.
- **SAGITTARIUS** is a hybrid centaur/satyr with only two bestial legs – though they appear to be more equine than goat-like.
- **NAVIS** is a full ship.
- **CETUS** is depicted as a fish as in Munich 560.
- **PISCIS** is drawn with his back on top and he swims to the left as in Munich 560.
- **ARA** is depicted as a chateau, with four corner turrets.
- **CENTAURUS** has the same hybrid, 2-legged centaur/satyr that appears for Sagittarius; he faces the viewer as in Prague IX. C. 6 and Paris BN n.a. 1614.
- **CANIS MAIOR** wears a collar as in Prague IX. C. 6 and RAL Ia.

b. Additional characteristics

- **HERCULES** holds a leafy frond as in Dresden DC 183, **RAL Ia** and Paris BN n.a. 1614. He is shown as a youth and is positioned half-way up the tree, so he flanks it at branch-height as in Prague IX. C. 6.
- **CORONA** is depicted as a crowned king
- **OPHIUCHUS** has the snake knotted around his middle as in Dresden DC 183 and Paris BN n.a. 1614; he is facing the viewer as in Vat Reg lat 1324.
- **BOOTES** faces the viewer with a thin stick in his right hand and the drape or skin sometimes held in his outstretched left forearm has been transformed so that a wing replaces his shoulder and arm, as in Paris BN 12957 and possibly Dresden DC 183.
- **VIRGO** has wings as in St Gall 250 and Paris BN n.a. 1614.
- **GEMINI** hold their inner hands across their chests as in Paris BN 12957 and St Gall 902.
- **TAURUS** is a full bull lying down; he is facing right as in Prague IX. C. 6.
- **CASSIOPEIA** sits on a boxy throne without a back, with outstretched hand as in **RAL Ia**.
- **ANDROMEDA** stands between two lumpy plant-forms as in **RAL Ib**.
- **TRIANGULUS** is plain as in Prague IX. C. 6 and Paris BN n.a. 1614.
- **PERSEUS** is completely nude.
- **PLEIADES** are displayed in the same format as in Dresden DC 183 (see above).
- **LYRA** looks like a traditional Irish harp.
- **CYGNUS** is depicted with a long neck as in Dresden DC 183 and walks to the left (similar to the picture in the Cicero manuscripts).
- **AQUARIUS** wears long robes as in Dresden DC 183 and Munich 560.

- **ORION** wears a short cape that covers only his right shoulder, holding book in his right hand
- **CANIS MAIOR** has a halo around his head as in Dresden DC 183, Paris BN 12957 and St Gall 902.
- **ERIDANUS** is represented as a clothed seated river god as in Paris BN n.a. 1614, he is nude as in Munich 560.

### Munich 560

#### a. Deviations from the family profile

- **PEGASUS** has a rear end that tapers and curls under.
- **ARIES** stands to the right as in Paris BN n.a. 1614. He does not look backwards. This latter feature is also seen in Paris BN n.a. 1614 and Vat Reg lat 1324.
- **PISCES** are not connected as in Vat Reg lat 1324; both have their backs uppermost, facing in opposite directions
- **SAGITTARIUS** is a satyr with **SAGITTA** flying in front of him
- **CETUS** is depicted as a fish swimming to the right
- **PISCIS** is drawn with his back on top swimming to the left as in Vat. Reg lat 1324
- **HYDRA** is presented without **Crater** and **Corvus**

#### b. Additional characteristics

- **CORONA** is depicted as a crown.
- **TAURUS** is a full bull facing right as in Prague IX. C. 6 and Vat Reg lat 1324, but here walking
- **AQUARIUS** wears long robes as in Dresden DC 183 and Vat Reg lat 1324.
- **DELPHINUS**: the underscoring suggests a horned fish swimming to the right
- **CANIS MAIOR** has his tongue sticking out as in Paris BN 12957, Prague IX. C. 6, St Gall 250 and Paris n.a. 1614.
- **ERIDANUS** is represented as a nude seated river god without attributes

### **The RAL-singleton: Cologne 83 II**

The Cologne manuscript is a difficult manuscript to analyse as very few of the drawings have been completely finished. Several of the pictures exist only as under-drawings or traces of scoring on the page. Some, perhaps unfortunately, have 'benefited' from a later hand tracing what appear to be the outlines of the under-drawings in a fluid pen-and-ink sketch. It is often tricky to determine if these later sketches do, indeed, follow the original, intended outlines. Regardless, if one takes the group of constellations as a whole, only three appear to conform to those characteristics that defined the **RAL I** family profile: Hercules, Auriga and, to some extent, Perseus. This strongly suggests that the drawings in Cologne 83 II stem from a

completely different family, the characteristics of which should include, at least, the following critical features:

1. **URSA MAIOR** and **URSA MINOR** are facing in opposite directions
2. **DRACO** appears on his own without the two bears.
3. **HERCULES** is in the Garden of Hesperides
4. **OPHIUCHUS** is not depicted together with Scorpio
5. **PISCES** are connected by a line that encircles both of their tails.

Examining the individual constellations a bit more closely, one finds:

- **URSA MINOR** is walking to the left but looking backwards with hunched shoulders as appears uniquely in some **DSC I** manuscripts.
- **HERCULES** is a nude hero kneeling to the left with his left leg forward and actually kneeling on his right knee. He has a lion's skin over his left arm and a straight stick upraised in his right hand. He faces the snake in the Garden of Hesperides. These features are similar to those found in the RAL I manuscripts, but not exclusively so.
- **OPHIUCHUS** is nude; he stands towards the left with his back towards the viewer and his left foot slightly raised. The snake wraps once around his torso, making an 'X' under his left armpit, similar to the formula found in several of the ps-Bedan **DSC** manuscripts. The snake's head faces the man and has a comb and a beard.
- **SCORPIO** faces to the right, as it does in Paris BN n.a. 1614.
- **BOOTES** leans towards the left, faces the viewer and wears a garment that exposes his right shoulder.
- **VIRGO** is winged and wears a garment that exposes her right shoulder. She appears to be winged, but it is impossible to see if she holds the scales.
- **GEMINI** are dressed in long cloaks; , left twin rests outer hand on his hip and right twin holds a lyre, both rest inner arms on the other's shoulder, similar to those in the **DSC I** manuscripts
- **CANCER** faces towards the right.
- The drawing is unfinished, but it appears that **AURIGA** is depicted in a short tunic, which exposes his right shoulder, standing/kneeling (?) with two kids standing on his outstretched left arm.
- **ARIES** is depicted as a ram leaping to the right, with his head turned back over his shoulder to the left. He has a ring about his middle.
- **DELTOTON** is drawn simply as two concentric triangles.
- **PISCES** are depicted as two fish swimming in opposite directions and connected by a line that encircles both of their tails.
- **PERSEUS** is nude, rushing to the left with a long weapon held behind him in one hand.
- **CYGNUS** appears to be moving to the left with a long snaky neck stretched out in front of him, perhaps similar to those in the **DSC I** manuscripts.
- **SAGITTARIUS** appears to be a centaur facing the right.

- The head of **AQUILA** appears to be facing over its shoulder to the right.
- **DELPHINUS** is a long, curvy fish swimming to the left with beard and fin on head
- **ERIDANUS** is a naturalistically rendered young man sitting beside a river, who rests his right elbow on an upturned urn pouring water.
- **PISCIS** is upright and swims to the left.
- **ARA** is a square altar set upon four legs with flames coming from the top.

In the later pen sketches, one finds more interesting details but, as these have been added later, these features remain somewhat suspect and probably should not bear the same weight as those listed above. These features include:

- **LYRA** as a classical harp.
- **ANDROMEDA** is nude and standing with her arms outstretched. She has no attributes. If this is reliable, then it would be quite close to some of the rogue depiction of Andromeda in the **DSC** manuscripts, such as Durham Hunter 100.
- **PEGASUS** as half a winged horse, facing towards the left with his forefeet stretched out in front of him.
- **AQUARIUS** nude, standing frontally and holds the pouring urn in his outstretched left hand, while lifting his right hand to his head. The formula is reminiscent of some of the depictions that appear in the **DOA** manuscripts, such as Vienna 12600, and in the 15th-century **Hyginus** manuscripts.
- **ORION** dressed in a short tunic and raises his right arm. His left arm is depicted as tube-like, which might convince the optimist that this is a prototype for some of the depictions of Orion that appear in Arabic stellar tables. In fact, it seems to be the conflation of his left hand being clasped to his breast and his scabbard. With this understanding, one can see parallels with some of the drawings found in the **DSC I** manuscripts (especially Dijon 448, Laon 442 and Oxford Laud misc 644).
- **LEPUS** running to the right.
- **ARGO** as a full ship with a rudder and 5 oars and, possibly, with a figurehead at its bow.
- **CAPRICORN** facing right and has a cork-screw tail.
- **CENTAURUS** rushing to the right with a dead animal lying in the hand of his outstretched right arm with its feet pointing upwards.
- **CETUS** as a classical sea monster facing to the right.
- **CENTAURUS** rushing to the right with a dead animal lying in the hand of his outstretched right arm with its feet pointing upwards. The formula recalls similar depictions in several of the pseudo-Bede **DSC** manuscripts.
- **HYDRA** snaking to the right, with a vase-like **CRATER** in the middle of his back and **CORVUS** facing his tail towards the end.
- **CANIS MINOR** rushing to the right.

If these later drawings can be trusted, it does seem that the illustrations in the Cologne manuscript are regularly closer to those found in the **DSC I** family of manuscripts than to the

rest of the **RAL** corpus. As it is such an early manuscript, it is tempting to see the Cologne drawings as the possible model for the later pseudo-Bedan pictures. Yet, this cannot be the full story since two of the five critical characteristics listed above – those of illustration of **Hercules** and **Pisces** – do not re-appear in the **DSC I** manuscripts.

Finally, considering that none of the other manuscripts of the *Revised Aratus latinus* include the depictions of the stars within its constellation illustrations, the appearance of stars on some pages of St Gallen 250 is rather intriguing. As noted in the catalogue entry on this manuscript, stars have been included in the constellation figures of Draco, Ursa Maior and Ursa Minor within the *Draco inter arctos* grouping, and in Hercules, Virgo, Gemini, one star on Cancer, stars on Leo, Auriga, Taurus, Cepheus, Cassiopeia, Andromeda, Pegasus, Aries, Triangulum, Pisces, Aquarius, Cygnus, Capricorn, Sagittarius, Aquila, Delphinus, Orion, Canis Maior, Lepus, Navis, Centaurus, Hydra/Crater/Corvus and Canis Minor.

There are different hands evident in the illumination of this manuscript, and it seems that the decision to include stars rests with one particular illuminator. As noted, however, St Gallen 250 is a copy of the slightly older manuscript, St Gallen 902, which has benefited from having been corrected against another manuscript. As St Gallen 902 does not include stars, it seems most likely that the stars in St Gallen 250 were imported from another source – either from the one against which it had been corrected or, perhaps, from another manuscript family all together. Indeed, if one considers the positions of the stars in St Gallen 250 more closely, a number of factors begin to reveal themselves. The first thing to note is that the stars themselves have been added in a rather haphazard or, perhaps, hasty, manner. In several instances, the orange dots representing the stars have been smudged and there are a number of possible drips, making a reckoning of the intended number and positions of the stars rather difficult. Second, the stars in St Gallen 250 are often placed in such a schematic fashion (often in lines or in geometric groupings of three and fours). This limits the possibility that there was a sophisticated astronomical source behind this importation. Instead, it would suggest the converse: that the illuminator of these illustrations has taken the information on which he based the placement of his stars either directly from the text of one of the available stellar catalogues and placed them as best he could, relying on his own intuition, or he took the placement of the stars from existing illustrations, which were themselves quite basic.

In considering the likelihood that the placement of the stars has been derived directly from a text, a comparison between the positions of the stars in the St Gallen manuscript with the descriptions in the star catalogues reveals that the level of co-incidence is surprisingly low. Surprisingly, the highest level of co-incidence is with the text of Hyginus, closely followed by the ps-Bedan *De signis caeli*, then ps-Eratosthenes (!!), the *scholia Stroziana* and the *Aratus latinus*, with the text of the *Revised Aratus latinus* actually lagging quite far behind the front runner. Since the level of correlation is so low across the board, it would be ill-advised to suggest that this list reflects the specific influence of a Hyginus text upon the illustrations of the St Gallen manuscript. And the fact that the concurrence between texts of the *Revised Aratus latinus* and the positions of the stars in St Gallen 250 is one of the lowest amongst the comparators, the most attractive hypothesis – that the positions of these stars were copied from an unknown version *Revised Aratus latinus* manuscript in which the stars were included

seems equally unlikely – unless it, like St Gallen 250, featured this a similar disjunction between text and illustration.

As it seems impossible to identify a textual source for these star positions, the next alternative is that they were copied from existing pictures. Unfortunately, there does not seem to be a larger pictorial tradition or, even, a single manuscript that shares even a majority of its star positions with St Gallen 250. To take one example, in the figure of Hercules in St Gallen 250, the stars are placed as follows: 1 star in each shoulder, 1 at each elbow, 1 in the lion skin, 2 at the waist, 3 on the right thigh (with no stars on the left leg or the club).

In comparison:

- a number of manuscripts – such as Aberwystwyth Germanicus and the three ps-Bedan *De signis caeli* manuscripts – do have the stars being limited to the right leg (often with three marked in the thigh), but they all lack the stars at the waist and have a star in the club.
- The rudimentary drawings in the ps-Bedan manuscript, Paris BN n.a. 1614 appear slightly closer in having 3 stars in front of the stomach of the figure, 2 stars in the right leg (and none in the left), a star in the lion's skin and none in the club.
- The *De ordine ac postione stellarum* manuscript, Los Angeles Getty VII.5, also has stars across the stomach, none in the club, and stars limited to the right leg, but there is a star on the head of Hercules, and he lacks the stars in each shoulder and elbow.
- In some ways, the Hyginus manuscripts, Munich clm 10270, Baltimore W 734, Berlin 8°44 (and the 'German star books') and Leiden, Voss lat 8°15 have stars that are most similar, with 1 in each shoulder, 1 in each elbow, 2 at the chest and a number of stars running down the right leg, while the left one and the club are empty of stars. The lion, however, has 4 stars on its skin.

But, again, none of these other examples is sufficiently close to suggest that one of their type served as the model for the placement of the stars in St Gallen 250.

In short, the origin of these stars remains a mystery.