## Madrid <br> Bibloteca Nacional

Ms 19 (16)

Germanicus, Aratea with scholia Strozziana

Southern Italy (near Montecassino?)
XII century

## text

ff. 55r-74r Germanicus, Aratea with scholia Strozziana
ff. 1r-53r Excerpts from Bede (De natura rerum) interspersed with verses
fol. 55r Incipit liber arati philosophi. De astronomia. ARATUS patris quidem est athinodori
filius - parens affirmatur \& non solum hominum sed etiam deorum. (= 'Aratus genus' (V) section from Revised Aratus latinus, cf. Maass, 1898, pp. 146-50)
fol. 55v Indefessa trahit proprio cum pondere cęlum
Axis sat motus semper vestigial servat -
Sidoniamque ratem nunquam spectata fefellit...
(= Germanicus Aratea, vv. 18-47; cf. Breysig 1867, pp. 2-4)
the next line is partially erased, then

In manis serpens sinuosa volumina torquet.
Hinc atque hinc superaque illas mirabile monstrum -
Semper in occidius servants ignibus axem.
(=Germanicus Aratea, vv. 49-64; cf. Breysig 1867, pp. 4-5)

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fol. 55v: scholia Strozziana (Matritsiensia) begins: Vertices ęxtremos circa quos sphera cęli volvitur polos greci nuncupaverunt. ... (cf. Breysig, 1867), p. 111 and dell’Era, 1979, p. 176)
note: a number of lines from the verse are missing throughout. These seem to abut areas into which pictures have been inserted and are not the same lines as those that are missing from the Basle manuscript or from the other, supposedly related mss of the 'Siciliensis family'. The missing lines are:
v. 65
v. 70: after picture of Hercules
v.75: after picture of Corona Borealis
v. 90: after picture of Serpentarius
v. 96: after picture of Bootes
v. 147: after the picture of Virgo
v. 149: after the picture of Gemini
v. 157: after picture of Leo
v. 174: after the picture of Auriga
v. 184: after the picture of Taurus
v. 192: after the picture of Cepheus
v. 201: after the picture of Cassiopeia
vv. 206-07: after the picture of Andromeda
v. 224: after the picture of Pegasus
v. 234: after the picture of Aries
v. 240: after the picture of Deltoton
vv. 248-51: after the picture of Pisces
vv. 255-58: after the picture of Perseus
vv. 270-73: after the picture of Pleiades
vv. 278-81: after the picture of Lyra
vv. 284-87: after the picture of Cygnus
v. 306: after the picture of Aquarius and Capricorn, but not on the same folio, showing that these cuts were made in the model when the verse followed directly on from the picture on the same page
vv. 315-18: after the picture of Centaurus
vv. 321-24: after the picture of Aquila
vv. 328-31: after the picture of Delphinus
vv. 333-336: after the picture of Orion
vv. 341-42: after Canis Maior
vv. 344-48: after Lepus
vv. 356-59: after Navis
note: the text on fol. 65 v ends with v. 362 , then scholia on Cetus and the picture of Cetus. The following pages seem to be out of order. The current content is as follows:

1. fol. 66r:

- picture of Centaurus
- v. 430
- scholia on Hydra, Crater and Corvus
- picture of Hydra, Crater and Corvus
- v. 433 (indicating that vv. 431-32 are missing)
- scholia on Canis Minor

2. fol. 66v:

- continued scholia on Canis Minor
- vv. 438-39 (indicating that vv. 434-37 are missing)
- scholia on the planets: Dum Sole \& luna septem astra - sicut hesiodus refert. \& a sole parte// (cf. Breysig 1867, pp. 182-85)

3. fol. 67r:

- vv. 367-378 (indicating that vv. 363-66 are missing)
- scholia on Eridanus
- picture of Eridanus
- 383-392 (indicating that vv. 379-82 are missing)
- scholia on Piscis ending: sive sive (sic) signa quę planetę appellantur (cf. Breysig 1867, p. 176)
- picture of Navis

4. fol. 67v:

- vv. 397-413 (indicating that vv. 393-96 are missing)
- scholia on Ara
- picture of Ara
- 418-425 (indicating that vv. 414-417 are missing)
- scholia on Centaurus ending: ... Thyrsus autem habet stellas tres Fiunt omnes in simul xxxiii.//

5. fol. 68r:

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- scholia on planets continues: ... inter sidearm collocatus. lovis stella aqua se accipere - facit et significat pestilential. (cf. Breysig, 1867, pp. 18586)
- picture of 5 planet gods
- vv. 444-58
- scholia on Milky Way, ending: ... invirtutem. Qui cum // (cf. Breysig 1867 pp.186-187)

6. fol. 68 v :

- scholia on Milky way continues until ... in sagittario tantum se coningant. (cf. Breysig 1867, p. 187).
- vv. 464-519 (indicating that vv. 459-63 are missing)

7. fol. 69r:

- vv. 520-521
- vv. 536-581
- scholia on bright stars: Dubium enim non est tringinta quinque defixis circulis diversis sua// (cf. Breysig 1867, pp. 188-90)

The order of the above pages should run: $3,4,1,2,5,6,7$.
fol. 69v: scholia Strozziana (Matritiensia )continues from previous recto, ending: ... diebus exiguis noctes efficit grandiores. (cf. Breysig, 1867, p. 198)
ff. 69v-70v luppiter est illo leto magis hic ubi solus. Non frustat animum certo me limite ducit. haec eadem tibi signa dabunt non irrita pisces. (= fragment iii, cf. Breysig 1867, pp. 44-54)
ff. 70v-72r Solem per se ipsum moveri non cum mundo verti. sed in zodiaci circuli obliquitate. cursum pragere -quarto nanque his certissimus auctor. (= excerpt from scholia Strozziana, cf. Breysig 1867, pp. 193-202)
ff. 72r-72v A bruma in favonium. Cesari nobilia sydera significant - Anaximander XXXI Euctemon XLVIII. nos sequimur observationem cęsaris. XLV dies ab aequinoctio. (= excerpt from Pliny, NH, XVIII; cf. Breysig1867, pp. 203-09)

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| ff. 73r-73v | Ante omnia autem duo genere esse cęlestis iniurie - rana in media segete: non esse noxias tempestates. explicit. (= excerpt from Pliny, NH, XVIII; cf. Breysig 1867, pp. 210-15) |
| :---: | :---: |
| fol. 73 v | Vertices extremos circa quo sphera cęli volvitur - In cauda tres. Fiunt omnes viginti. (= excerpt from the scholia Strozziana; cf. Breysig 1867, pp. 111-12) |
| ff. $73 \mathrm{v}-74 \mathrm{r}$ | PRimumque a sole capiemus pręsagia. Purus oriens: atque non fervens -Si ante ortu radii se ostendent. aquam \& ventum significant. (= Pliny, NH, XVIII, II. 341- 42) |
| fol. 74r | Proximas intuere lunae pręsagia. quartam eam maxime - pręsagia eius hoc. III. VII. XI. XV. XVIIII. XXIII. XXVII. et interlunium. [???] |
| ff. 74r-74v | Tertio loci. stellarum observationem esse oportet - quia exiliunt. Ceteri. in imo gurgitis descendunt. [???] |
| ff. $75 r-88 \mathrm{r}$ | Computistical texts (cf. Inventario de la Biblioteca Nacional, Madrid 1953, I, pp. $\square$ ) |
| ff. $88 \mathrm{r}-114 \mathrm{r}$ | Experimentum de egrotantibus. Disce diem linae in qua quis decubuit - Ratio sphere pitagore quam Apuleis descripsis. The follows a number of excepts from Isidore. |
| ff. 115r-133v | Bede, De natura rerum (chaps. 1-136) |
| ff. 133v-190r | Excerpts from Church Fathers |
| ff. 190v- | Donation of Constantine |

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Illustrations


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ff. 56r-67r Coloured drawings of the 43 constellations set within frames, with the stars marked. The stars are shaped like crosses with four dots set in the spaces between the bars. The missing constellations are: Equuleus, Libra and Corona Austrinus. note: the manuscript illustrations have been badly abraded, so it is difficult to determine the number of stars in many cases.
ff. $2 v-4 v \quad$ Series of figures gesticulating to indicate counting system (Bede).
fol. $55 r \quad$ Aratus and Urania. He is dressed in a toga and seated in front of a globe set on a tripod stand. He points to the globe with a long finger and a radius. Urania stands to the right
of him, and also points to the globe with her right hand. Both seem to hold a papyrus roll in their left hand. There is an architectural background of a three-columned arcade and a drape tied to the right side of the composition.

Jupiter facing to the left, wearing a wreath on his head which, in turn, is encircled by a halo and a large curve of drapery. He is holding a sceptre in his left hand so it rests on his left shoulder and something that looks like a quiver with four arrows (presumably his thunder) in his right. He wears a wreath on his head and is bearded. He seated on his eagle, which faces to the right and has its wings outspread. The eagle is standing on a looped piece of cloth.

DRACO INTER ARCTOS with Draco shaped like an ' $S$ ', but the loops are nearly closed so that it nearly forms a figure 8. His mouth touches the hind feet of Ursa Maior (sic!) and he has a comb and beard.

URSA MAIOR and URSA MINOR set within the curls of Draco, placed back-to-back with both of their heads towards the top of the page. They appear to be standing on the toes of their hind feet with their clawed front feet rubbing on the body of Draco. Ursa Minor has a hump. All three are marked by stars, with a number clearly evident around the head of Draco and along the back of the Bear closest to Draco's head.
fol. $56 \mathrm{r} \quad$ HERCULES is nude and kneels to the left on his left knee, facing the Serpent in the Garden of Hesperides. Though his body is in profile, he faces the viewer. He is bearded and has the lion's skin over his right arm, (the tail and least one foot visible). He raises an oddly-patterned baguette-like stick above his head in his left hand. The Serpent curls around the tree, which is festooned with round fruit. Its tail comes near to Hercules's right foot. A few stars are visible in his right leg, around his head and near his club.

CORONA BOREALIS is a leafy wreath that has a square jewel at the top and is bound at the bottom, with two trailing ribbons. The stars are marked outside the wreath.

OPHIUCHUS is nude and stands facing towards the left. His anatomy is a bit odd, but his buttocks are clearly visible and the position of his hands on the SERPENS suggests that he is facing away from the viewer. The Snake faces him, flicking its tongue towards his face, and is wrapped once around the man's waist and then again around his right hand. It has a comb. He stands with both feet on SCORPIO, which faces towards the left. The Scorpion has two large segmented claws and 8 (?) legs and a
curled tail. All three are marked by stars, with at least 30 appearing along the body of Serpens. In Ophiuchus, there is 1 star in the man's head, 1 on each shoulder, 1 on his back 1 on each knee and several scattered between his legs and feet. Scorpio is also highly decorated with stars.

BOÖTES stands facing the viewer, lunging towards the right. He is dressed in a short exomis that exposes his chest and right shoulder. His dress has a band around the waist and running from his waist to his hem. He wears his sword on his left hips so that it swings behind his body and is visible between his legs. He is bearded and holds his left hand out in front of him. In his raised right hand he holds a stick. He is marked by stars, with the clearest ones being 1 at his head, 1 on each shoulder 1 on the right elbow, 4 around his right hand, 1 in each foot and one at the end of his sword (presumably Arcturus).
fol. 57v VIRGO is a winged female figure, who faces the viewer. She is dresses in a peplos that exposes her right breast and has decorative bands along the upper and lower hems. The skirt of the garment falls open so that the entire length of the right leg is exposed She holds a sheaf of wheat in her upraised right hand and holds a caduceus in the crook of her left arm. She has arm bands on her upper arms. She has star-like decorations in her hair, but if there are other stars, their traces are too faint to detect.
fol. 58r
fol. 58v

GEMINI are both nude, except for long mantles (the left Twin has his clasped at his right shoulder and the right Twin has his slung over his left shoulder). The left Twin walks towards the right one, slightly in profile, with his right leg crossed over his left and closer to the viewer. He carries a curved stick behind him in his right hand and extends his left hand towards the other's Twin's right armpit. The right Twin holds a U-shaped lyre or harp in his left hand and extends his right arm outwards, so it rests across the shoulders of the left Twin. Their heads appear to be exposed.

At their feet, there is CANCER, which faces towards the left. It has a circular body, two long segmented front claws and 8 V -shaped legs. All three are marked by stars, with stars being most evident near the feet and heads of the Twins and between the claws of Cancer.

LEO leaps to the left with his tail raised and teeth bared. He is marked by stars, including 3 on his head, 2 on his neck, 3 along his back some on his belly 2 on his tail and some on his hind feet.
fol. 59r
fol. 59v
fol. 60r
fol. 60 v
fol. 61r

AURIGA stands facing the viewer, at the edge of a quadriga, which is placed to his left. The horse nearest to him looks back towards him. He wears a helmet and seems to have a kind of halo around his head, which seem to be an approximation of the helmet's crest. He is dressed in a toga that exposed his right shoulder and chest. Both arms are outstretched with an upright spear held in his right hand. The palm of his left is held facing upwards. He is marked by stars, including the 1 in his right hand, 1 in his right shoulder, 1 in his hat, and 1 in his right hip.

TAURUS is depicted as $1 / 2$ a bull facing to the left, with his left leg tucked under and his right leg extended in front of him. He is marked by stars.

CEPHEUS stands facing the viewer, dressed in oriental costume. His head is covered with a hat that appears to be slightly conical and he holds out his hands, palms upwards, to either side. He wears a sword at his left side. He is marked by stars, but only the one beneath his belly shines clearly.

CASSIOPEIA is seated in a throne that has a tubular armature defining its structure and a cushion on its seat. Her head is uncovered and her robe is draped to expose her right breast. She holds out her hands to either side and there is blood dripping from them. She is marked by stars, with the one on her head, 1 in her right hand and 1 on the right top support of her throne most evident.

ANDROMEDA stands frontally between two piles of rocks, with her arms raised as if she were chained (but there seems to be no trace of chains, though). Her head is uncovered and she tilts is slightly to the left. She wears a long robe that exposes her naked arms. She is marked by stars, including at least 3 visible at her waist.

PEGASUS is $1 / 2$ a winged horse that flies to the right, with both legs bent, but stretched in front. It is marked by stars. It is marked by stars, including 2 in the ears, 3 on the face, 2 on the chest, 1 on the left fore-knee, 1 on each hoof (?), 1 in the shoulder, 1 on the belly, 2 on the cut and 2 or 3 in the wings.

ARIES is a light-coloured Ram that leaps to the left, but looks back over its shoulder to the right. It has curly horns (the right one looking like it actually curls around his ear) and a long, fat tail that is lifted upwards. It has a ring around its middle. He is marked by stars, including 2 on the nose, 1 on the neck, 3 on the back and 3 on the belly and 1 on each hoof

TRIANGULUM is an isosceles triangle with its shortest side at the base. It is marked by 3 stars.

PISCES are swimming in apposite directions, with their bellies together. They both have down-turned mouths, which are connected by a cord. They do not appear to be marked by stars.

PERSEUS is flying to the left, with his back (and visible buttocks) facing the viewer. He is nude, except for a kind of Phrygian cap and a cloak that covers the top half of his body. He has wings on his feet. In his left hand, he holds the Medusa's head in front of him and he holds the harpe in his right hand behind his head. He is marked by stars, but only the one on his right hand shines clearly.

The PLEIADES are represented as seven women, set in two rows, with four on the top and three on the bottom. It is as if they are seen behind parapets as each is visible from head to waist. Each one inclines her head slightly to one side and each has a halo. A number of them (all?) are marked with a star on her halo.
$\mathbf{u}$ is a U-shaped lyre with at least 13 strings that rise past the crossbar, ending in little knobs. The 'sounding chamber' is depicted as a series of semi-circles representing the markings of a tortoise shell. It is marked by stars. Cygnus is a swan standing to the right and has its wings extended backwards from its body. Its long neck stretches forwards well in front of its body.

AQUARIUS and CAPRICORN are illustrated together, within the same panel. Aquarius is shown as Ganymede, walking to the right, dressed in baggy trousers and with a nude torso. He has a hood (or a Phrygian cap) and wears a cloak, pinned at his right shoulder that flows off to the left. He looks back over his shoulder to the left. He holds the upturned urn in front of him, with his right hand on the base and his left hand holding the mouth of the jar. It pours water towards his feet. Capricorn faces to the left (towards Aquarius) and has long, gracefully curving horns and a long neck. Its tail ends in an acanthus leaf-shape. Both are marked by stars, with 1 visible in the head of Aquarius and 1 on each should, 2 at his waist 1 on his right knee and some on his urn and his water. Capricorn has 4 on the tips of his horns and some in his face.

SAGITTARIUS runs to the left. His human torso appears to be clothed, but is mostly covered by the lion's skin he wears as a cape, that also covers his left arm and flows out to the right, with a paw and a tail visible. He holds the bow in front of him with his left arm and pulls back the string with his right. He is bearded, has a ring where his
human and equine halves meet and has a pair of short, curved horns on his head. 1 star is visible behind his right rear leg.

AQUILA stands with its body facing to the right, but its head turned back to the left. Its wings are outstretched and it stands on an inclined SAGITTA, whose head is towards the right.

DELPHINUS is depicted as a beaked dolphin that swims to the left with a marked dorsal and chin fin and big round eyes. There is 1 star visible below its belly, 1 near his tail and 1 in the middle of its back.

ORION stands facing the viewer and lunging towards the right. He wears an exomis that exposes his chest and left shoulder and knee length boots with exposed toes. Much of his right arm is covered by a short cloak, but his hand is free. In his outstretched left hand, he holds a short, straight sword vertically. He is marked by stars of which 2 are visible in his head, 1 on each shoulder, 1 below his left elbow, some in his sword, 1 near each thigh and 1 near each foot.

CANIS MAIOR runs to the left, with his mouth open and his head encircled by a halo with rays. He is marked by stars, such as 4 on his back, 2 beneath his belly and one on his right foreleg.

LEPUS leaps to the left. There is 1 star visible in front of its chest.

ARGO is depicted as $1 / 2$ a ship, with three oars and two steering oar and a mast. There is a rectangular opening in the stern for the steering oar. [I can't see that] There are stars evident beneath the keel and around the top of the mast.

CETUS faces to the right. He has a dog's face and a corskscrew tail. There are stars visible below his belly and around the tip of his tail.

CENTAURUS walks to the right with his right foreleg raised. His human half is nude. The skin he wears as a cape sticks out horizontally, with a lion's paw at one end. And he carries a stick over his left shoulder from which there is a small animal hanging. In his right hand, there is LUPUS (an animal) that lies on its back, with its feet in the air. There are a number of stars around his legs and beneath his belly and 2 by his head.

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fol. 66r HYDRA, CORVUS and CRATER are depicted together with Hydra as a long, thin snake with his head raised vertically, at $90^{\circ}$ from his body. Crater is very large and placed in the middle of his body and Corvus stands on his tail, facing forward and pecking at the Snake's body. There are 3 stars in Hydra's head and at least 12 along his body. There are some stars encircling both Crater and Corvus.
fol. 66 v CANIS MINOR is a snub-nosed dog that wears a collar and leaps to the left. There is one star visible in his chest.

PISCIS AUSTRINUS is 'upside-down', with its stomach towards the top. There are stars around its head.
fol. 67v
fol. 68 r
fol. 68v
fol. 71r
fol. 72 r
fol. 73 v

ERIDANUS is depicted as if he were swimming on his stomach. He is nude, with his right side facing towards the viewer and his buttocks uppermost. He raises his right hand back, behind his body and holds the palm upwards. The other hand appears to be bent so that he rests his chin in its palm (?). He does not seem to be marked by stars.

ARA is shaped like a goblet made of two cones that meet at the middle, where there is a large circular boss, decorated like a target. It has three legs and three tongue of flame coming from the top. It has 1 star at the upper left.

Five planet busts set amongst the clouds.

Milky Way / Galaxia as two women. One of the women appears lying down in the front, with her right shoulder and breast exposed. She holds a circular ring in her left hand in front of her to the right. The other has her mantle drawn over her head and looks to the right.

Sol is standing frontally in a quadriga, drawn by 4 horses that are split into two pairs on either side. He is dressed and has a long cape and has a halo with rays around his head. He holds both his hands outstretched, with an orb in his left hand and a flaming torch in his right.

Luna is riding in a biga, drawn by two oxen with their heads bent, facing to the right. She is dressed and has a long cape flowing out behind and in front of her. She has a halo and a crescent moon (looking more like horns) on her head. She holds two flaming torches in front of her.

Austronotus as a female centaur leaping to the left, with prominent dugs on her

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belly and with bunches of flowers in each of her outstretched hands. She has some stars marked on her: 4 on her head, 2 on her rump, 1 on her chest (?), 2 in her left hind foot and 1 or 2 on her left hind flank.
fol. 88r Diagram of the winds
fol. 120r Schema of the winds as cherubim, each blowing on a central earth that is divided into two halves, each of which is occupied by a mermaid/siren.
fol. $120 \mathrm{r} / \mathrm{v}$ ? Three astronomers standing before a seated king, discussing the heavens placed above them (which includes Luna and Sol). (cf Haffner p.126: 120v the 3 magi before Herod)
fol. 121r Circular diagram divided into 4 parts, each of which has a toga-wearing figure, whoholds the hands of the figure next to him/her. Above two gesticulating figures looking up to a floreat diagram in 24 parts. (cf Haffner p.126: 121r personifications of the 4 seasons)

## notes

text detailed in Inventario generale. *** CHECK

The curve of drapery around the head of Jupiter (that could be misconstrued to be a halo) is also seen in Vat Barb lat 76.

The number and position of the stars are very difficult to determine as they have been damaged by abrasion. Haffner (Sternbilderzyklus, pp. 134-161) has noted the following: [but I don't believe that she has seen these]
p. 134: Draco has 11 stars, the left bear 11 stars and the right bear 22 stars.
p. 135: Hercules has around 21 stars
p. 136: Corona Borealis has 9 stars.
p.137: Ophiuchus has 12 stars, Serpens has around 30 stars and Scorpio has 19 stars.
p. 138:Boötes has 14 stars.
p. 139: the left Twin around 9 stars, the right Twin has around 7 stars and Cancer has 17 stars.
p. 140: Leo has 19 stars.
p. 141: Auriga has 6 stars

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p. 142: Taurus has at least 10 stars.
p. 143: Cepheus has about 17 stars
p. 144: Cassiopeia has about 13 stars
p. 146: Pegasus has at least 17 stars
p. 147: Aries has 17 stars.
p. 149: Perseus has at least 9 stars.
p. 150: Lyra has 8 stars.
p. 151: Cygnus has about 13 stars.
p. 152: Aquarius has about 29 and Capricorn has 16 stars.
p. 150: Delphinus has about 6 stars.
p. 155: Orion has 14 stars; belt is missing and therefore also 3 stars in the belt.
p. 156: Canis Maior has 16 stars.
p. 158: Canis Minor has about 26 stars.
p. 162: Centaurus has at least 27 stars
p. 163: Hydra has about 28 stars, Crater has 6 and Corvus has 5.
p. 164: Canis Minor has at least 1 star.
p. 159: Eridanus has around 12 stars. I don't see any
p. 161: Ara has 4 stars.

## bibliography

Reeve, CQ, 1980, p. 513.
Germanicus Aratea written about XII c in Montecassino or thereabouts; also contains poem by Paul the Deacon, therefore Montecassino or Salerno

Reeve, 1983, p. 21.
comes from southern Italy or Sicily; illustrations in this or a similar ms long been recognised as an important influence on the work of Michael Scot, working at court of Frederick II at Palermo (1227-35)

Martin, Hist, p. 38.
XIIc, offers fables inserted into the text of Germanicus, 43 illustrations; first representation of Aratos and his muse (which is very close to a 4th C mosaic in Monnus); therefore really does represent an antique tradition; also has seated Zeus, Pleiades, Milky Way and Sol and Luna; Madrid and Basle really represent the two most successful types of manuscripts in the M Ages (acc to Thiele); also cites muse in Vienna 2352
P. von Winterfeld, 'De Germanici codibus', Fest Joh Vahlen, Berlin 1900, pp. 395-96.

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J.M. Burham assigns to Ripoll in Catalonia and this is cited by Millas Vallacrosa in Assaig d'hist de les idees fisiques mathematiques a la Catalunya medievales, Barcelona 1931, pp. 237-40.

A Cordoliani, Riv de Archivios Bibliotecas y Museos, 57, 1951, p. 7 and Ann de Estudios Medievales, 3, 1966, pp. 66-67.
says that Burnham's ideas are wrong and at least part was copied from Beneventan exemplar.
J. Domíguez Bordoña, Manoscr. con picturas, no, 141, refutes totally
see Inv. gen. de mss. de la Bibl Nacional, I, Madrid 1953

Illustrations have long been recognised as having influenced Michael Scot: see Boll, Sphaera, p. 445;

Saxl-Meier, III, xxxv-xliii;

Thorndike, Scot

McGurk 'Aberystwyth', p. $\qquad$ _.
illustrations the same as Basel AN IV 18 (no, actually v different see Eridanus and no Austronotus!) And in same place as Aberystwyth, therefore reflects arrangement of $\mu$; therefore $\mu$ could not have been sicilianensis; (p. 198 and 214, n. 15) also draws attention to the fact that the Aberystwyth manuscript includes depictions of the Aratus with his Muse, whose only manuscript appearance is in the Germanicus manuscript, Madrid 19. Cites the Michael Scot manuscript, Vienna 2352, as having a 'very debased form 'of the Aratus portrait [but this is clearly a picture of Michael Scot and his Muse, who shows him how to consult the stars, using a quadrant. Saxl simply says the picture illustrates 'Zwei Astrologen, einer weist zu den Sternen, der andere zur Erde'. Saxl, II, p. 86). ]

Bethe Rh Mus, 1893, pp. 91 ff

Thiele Ant Himmels, pp. 143 ff .

McGurk, IV, p. xvi.
remarkable, antique-looking pictures to a Germanicus Aratea, but these appear in a setting provided by Bede and the Carolinigian Computus

Le Boeuffle, Germanicus edn, 1975, p. xxxviii.
on parchment in grand format; ff 55-73v contains v 18-581 and fragment IV; equipped with an incipit and scholia; regular loss of a verse after every passage of scholia; 43 images; apparent parentage in the Abbey of c. Montecassino, 12th c

McGurk, New Witness, p. 198.
says that the iconography of Madrid ms archetype has long been known to come from monumental painting of the late Roman period and probl first appeared in a ms in the 4th c; cites Weitzmann
K. Weitzmann, 'Book Illustration of the Fourth Century', Studies in Classical and Byzantine manuscript Illumination, ed. H. Kessler, Chicago and London 1971, pp. 116 ff

Weitzmann, Roll and Codex, p. 161.
kind of error when scribe writes a whole text and leaves pictures to be illustrated later, sometimes illuminator puts pictures in the wrongs place: Boulogne 188 from the 10th c depicts youth clad in an exomis and holding a skin and a lagobolon, so this is not the figure of Hercules described in the text as a kneeling figure; also in Madrid 19 from the 12th century, represents Hercules as a nude kneeling figure in the Garden of Hesperides '... and this is undoubtedly the original constellation type'. The picture in the Boulogne ms cannot be described as a disguised or corrupted type of Hercules, but must have originally represented another constellation type, which by mistake has been inserted here. Thiele has convincingly shown that this is really a representation of Boötes, for whom exomis, lagobolon and striding position are more characteristic (Thiele, pp. 92-93, fig. 19). A special group of mss all share this mistake, showing them to be of the same recension (Leiden, Boulogne and Bern - from the 11th c)

Weitzmann, 'Book Illustration', pp. 116-17:.
says that the almost square format typical of early codex gave illuminator chance to copy monumental paintings and have more complex compositions, such as man of letters inspired by Muse; 12th c ms; suggest that copied from monumental painting, which Thiele dates to 4th 5th c; he says may mot have been a mosaic, but might have been a fresco; the effect of the open window in the upper left supports this idea; therefore archetype of Madrid 19 must date close to Calendar of 354 (i.e.: mid-4th c)
F. Hettner, 'Das Mosaik des Monnus in Trier', Antike Denkmaler, I, 1889, pp. 35ff and pls 47-49.
E. Lott, 'The florilegium of Cava 3, Madrid 19 Paris 7418', Harvard Studies in Classical Philology, LXXXV, 1981, pp. 307-09.

Haffner, Sternbilderzyklus, pp. 91-101.
Germanicus with the scholia Strozziana is put in the middle of a series of computistical texts, with a focal point of Bede's work, was brought together in the Cloister of Montecassino around 1060 (see Cordiolani, 1960 and Lott 1981); the Aratea is the only continuous text within the codex; the 43 coloured illustrations are between text and scholia, and have a roughly square format; show a dependence on the same model as the Basle AN IV 18 miniatures, mentions the way the bears are put within the Draco who hugs the frame; the conflation of Twins with Cancer; the addition of a cart to Auriga; the conflation of Aquarius with Capricorn. On the other hand, there is difference in the maintenance of colour and the addition of certain illustrations, such as the author portrait and the Jupiter with his eagle, Pleiades, 5 planets, Milky Way and Sol and Luna and also the Austronotus/Thetis. Also, Madrid 19 is closer to its model, noting connection between Ophiuchus and how he is described in the text and that Auriga has a quadriga and adds as evidence that the direction of Sagittarius is to the left and Orion looks back view and the sea monster faces to the right; these show that the Madrid is more authentic than Basle. Also Cepheus in Phrygian cap, short mantle and hose; and Cassiopeia with an exposed breast; and the $U$ form of Lyra; and Navis without a sail all come from the model. But there are some independent developments, such as the rough hair of Jupiter, the grey hairiness of Boötes, the blood-stream of Cassiopeia's hand; the arrangement of the fish, the horns of the Sagittarius, the position of the wings of Aquila, the nakedness of Eridanus and lack of an urn, the beats on a lance held by Centaurus and the unique form of the Crater and Hydra; therefore is likely that this is the most careful copy from antiquity known

For a long time, the Madrid ms has been dated to the first $1 / 2$ of the 12 th c and thought to originate in Spain (S Maria in Ripoll), Sicily or southern Italy (especially Montecassino) (Haffner lists who thinks where); the contents seem Montecassino; the script southern Italian and the style of the initials allow us to locate this precisely; the miniatures are a bit easier to place and she concludes that the manuscript (as well as its computistical contents probably also came from Montecassiono or somewhere under its influence during the time of Abbot Desiderius (1058-1087), the so-called 'Golden Time' of the establishment of Benedictin cloisters and (p.101) she says that the Madrid Germanicus could be another bit of evidence of contact between Montecassiono and the Norman's; in the 13th c there must have been in the palace of Frederick II in Palermo and illustration cycle, which was close to the model for Madrid 19.
pp. 125-129: 203 ff from vellum with last 5 pp paper with a watermark, first pub's by Bethe in 1893, Thiele 1898 (pp. 143-49) and the Bordona catalogue 1933. Byvanck in 1949 (p. 216), Cordiolani in 1951 and Millas Vallicrosa in 1959. A detailed list of the contents
appears in the Inventario generale I, 1953, pp. 20-23. Miniatures espagnoles et flammandes dans les collections d'Espagne (Brussels 1964, p.13) and Fernandez 1984, pp. 307ff; codex is $39.4 \times 26.2$ (which Bishoff noted has been cut down from its original size), the divisions into quires is 9 th c ; (flesh to flesh and hair to hair); text in black in with a brown gleam, text is in Carolingian miniscule (Roman/Italian 'stamp'); the artistic bits are concentrated in three places: ff $2 v-4 v$ (gestures), 55r-73v (43 coloured pics of constellations); 120r (12 winds, land and sea); 120v (3 magi before Herod), fol 121r (personification of the 4 seasons of year).

Difficult to reconstruct how writer, illustrator and painter worked together; notes a hole to the left of the miniature of Sol (71r), and emphasises how careful the planning had to be to have the pictures appear in the right place (notes poor placement of pic of 5 planets on fol 68 v ) and suggests that these must have come directly from the model; says that first drew the figure, then the background and then the frame; used a restricted palette of strong light/bright red for the frames, bright blue for the background, salmon-coloured light brown for the bodies, grey and brown for robes and hair, with highlights in white, shadows as bands; often there are pencil marks near the outlines of the figures (=underdrawings) and she says they glitter as if varnished; the original binding is lost. contents of codex is an extensive compilation of computistical texts:
ff 1r-48r: Bede De temporum ratione;
ff. 48r-49v: the so-called 'Martyrologium' of Bede, actually composed by Monk Erchembert in Montecassino in 9-10th c; then a computistical poem by Paul the Deacon (also from Montecassino)
ff 51r-52r: a poetic paraphrase of Bede's De tempore (which has been dated after 1069 by Cordiolani);
ff. 55r-74v: Aratea of Germanicus preceded by the Vita Arati (Maass, pp. 147-150), with the commentary from the scholia Strozziana, which is the earliest appearance of it (ed. dell Era);
ff. 75r-113v: amongst others a Greek and Latin version of the computus (dated 904, see Reeve 1980), Isidore on the effect of the elements on bodies, extracts of Vidicanus's medical tratises; ff 115r-133v: Bede, De natura rerum, ff 133v-203v: excerpts from the council acts, Church fathers, and finally chemicals and cooking recipes.

The composition of the codex shows the special interest in the Bede texts and the Montecassino connections; Cordiolani dated the youngest poem before 1069; tempting to see the author as Paul the Deacon, but cannot securely attach it to him; also the scholia
strozziana; history of the codex still in shadow and probably was in Sicily before came to Madrid
E.K. Rand, Studies in the Script of Tours. A Survey of the Manuscripts of Tours, Cambridge MA 1929, p. 11.
says that the way this ms is put together is the 'new style' from about 820 onwards.
L.R. Fernandez, Catalogo de los manuscriptos clasicos latinos existentes en España, Madrid 1984, pp. 307 ff.

Miniatures espagnoles et flammandes dans les collections d'Espagne, Brussels 1964, p.13.

A Cordiolani, 'Un manuscrit de comput ecclesiastique mal connu de la Bibliothèque Nationale de Madrid', Revista de Archivos, Bibliotecas y Museos, XVII, 1951, pp. 5-35.
A. Cordiolani, 'Le comput de Dicuil', Cahiers de civisation medievale, III, 1960, pp. 325-37.
J.M Millas Vallicrosa, 'Sobra el manuscrito 19 de la Biblioteca Nacional', Revista de Archivos, Bibliotecas y Museos, LXVII, 1959, pp. 119-26.

Dell’Era, 'Scholia strozziana', 1979, p. $\qquad$ -
archetype is lost; first called scholia Strozziana by Breysig, 1867, terminus post quem must be the Revised Aratus latinus (7-8th c) and the terminus ante quem is the oldest manuscript with the text (Madrid 19) to the 12th c; mechanical aspect to the compilations, so he just copies texts rather than referring to them; this is good for us because it preserves the original language; editio princeps was done by A della Strata in Venice 1488; then the Aldine edition of 1499 and that of $G$ Morel of 1559; nothing substantial added in the following editions (1569 Cologne, 1570 Basle, 1589 Heidelberg and 1801 of Buhle). [note in margin that Hyginus of 1549 also has this and others have it too]; In 1867, Breysig used Strozzi XLVI, 13th C, Urb lat 1358 (15th c) and Palermo 2 Qq. E. 11 (15th c) and decided that Strozzi was the best, hence the name; Dell'Era has used Madrid 19 (12th c) and London Arundel 268 (13-14th c), both of which are related to Vat Reg lat 1801 (15th c), which is quite close to Palermo (Haffner p. 128, note 357, says that according to dell'Era the scholia Strozziana are composed of scholia Basileensia, DSC, RAL, Excerpts from Pliny, Martianus Capella, Fulgentius, Isidore)
P. Meyvaert, 'A Metrical Calendar by Eugenius Vulgaris', Analecta Bollandiana, LXXXIV, 1966, pp. 349-77, esp. pp. 350-56.
vast miscellany executed in 'ordinary' miniscule hand of 12 th c ;
first section has a whole section of computus and then there is the whole text of Bede's Liber de Temporibus (ff. 1-48); the a metrical 'matyrology ascribed to Bede into which are inserted some additional verses by Erchempert, a Cassinese monk, historian and poet of the late 9th c (ff. $48 \mathrm{r}-\mathrm{v}$ ); then short poem of 12 lines without title or colophon, inc: Ecce fui quondam florens qui nunc modo marcens (fol. 48v) and another of 191 lines also without title or colophon:Sepentis binis constat divisio saecli (ff. 48v-49v); and both these are attributable to Eugenius Vulgarius.

Re: the provenance of the ms, the ms was formerly considered, on insufficient evidence to be the product of the scriptorium of Monte Cassino (Breysig was the only one to doubt this attribution, pp. vi-vii, but this was trampled on by Winterfeld, pp. 395-96; Lowe first said yes in Beneventan script (pp. 17 and 71) and then withdrew it in the addenda and corrigenda (xiv); and Ullmann introduces the idea that it might be authograph of Peter the Deacon. Meyvaert knows the hand of Peter the Deacon and says this is not possible. Also has been attributed to the monastery of S Ripoll in Catalonia, but this seems equally unsound based on J.M. Burnham's idea that this was the original version of the compilation and the combo of Greek, Syriac and Hispano-arabic elements could only appear in catalonia; This has been accepted by Millas Vallicrosa and Cordolani, but not by Dominquez Bordona; there are two other versions of the miscellany and they are all Italian (Cava 3, 11th c; Paris BN 7418, Ital 14th c); wherever it was copied, its exemplar was written in Beneventan script (esp. the subscript interrogation sign); the compilation itself suggests southern Italy as the original home of the miscellany
A.W. Byvanck, 'De platen in de Aratea van Hugo de Groot', Mededelingen der Koninklijke Nederlandsche Akademie van Wetenschappen, Afd. Letterkunde, nieuwe reeks, XII, no. 2, 1959, pp. 169-235, esp. pp. 216-17 (no. 44).
with Vita Arati and author portrait and scholia Strozziana, 43 illustrations; Montecassino 12th c

The description of the contents had benefited from notes by 'E.R' (Elizabeth Rosenbaum), preserved in the Warburg Institute Photographic Collection.
notes on the star catalogue in Madrid 19:

| Scholia strozziana found in | Madrid 19 | 12th c |
| :--- | :--- | :--- |
|  | London 268 | 13-14thc |
|  | Flor Laur Strozzi XLVI | 11th c |
|  | Palermo 2Qq E. 11 | 15th c |
|  | Vat reg lat 1801 | 15th c |

MADRID

In the Madrid ms, the scholia begins with the 'Vertices extremos' section on fol. 55 v so the first 3 bits of scholia (as defined by Breysig and dell'Era) are missing from this version:
'Celum circulis V distinguitur' = on the circles;
'Hic est stellarum ordo’ = placement on sphere; and
'Quaritur quare a love' = Jupiter on the eagle.
microfilm 10.04

