

Antichistica 13
Filologia e letteratura 2

Certissima signa

A Venice Conference on Greek and Latin Astronomical Texts

edited by
Filippomaria Pontani



Edizioni
Ca' Foscari

Hyginus, Michael Scot (?) and the tyranny of technology in the early Renaissance

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Abstract: Whereas the earliest history of illustrations accompanying the text of Hyginus's *De astronomia* remains a mystery, the iconography found in fifteenth-century illuminated manuscripts is relatively straight-forward and fairly consistent. Intriguingly, however, the woodblock images in the first illustrated edition of the text (Venice: E. Ratdolt, 1482) do not appear to follow any known Hyginian model, but closely resemble the idiosyncratic drawings that accompany the texts of Michael Scot's *Liber introductorius*. This paper explores current assumptions about Ratdolt's pictorial model and traces the impact of his illustrations on subsequent generations of astro-mythological treatises.

Keywords: astronomy, manuscripts, incunables Classical tradition, book illustration, illumination, Italian humanism

The production of deluxe, illustrated astro-mythological manuscripts in fifteenth-century Italy was centred largely on two classical texts: the *De Astronomia* of Hyginus and the Germanicus translation of Aratus's *Phaenomena*. There are seventeen known copies of the former and at least eleven surviving examples of the latter.¹ Not surprisingly, given the highly collaborative nature of the humanist scholars and their scribes across Italy during this period, there is a high degree of homogeneity in both the texts and illustrations of these two manuscripts families.

The earliest edition of the Hyginus text was printed in Ferrara in 1475 by Agostino Carnerio.² Philological evidence suggests that the text was copied from a contemporary, fifteenth-century manuscript, keeping all the idiosyncratic readings. As the textual relationship amongst these manuscripts is so close, it is difficult

I wish to thank Filippomaria Pontani for his sage advice during the preparation of this paper, Karen Limper-Herz, Dorothea McEwan, David McKitterick and Emma Stanford for their invaluable assistance and Dieter Blume for allowing me to read the second volume(s) of *Sternenbilder* prior to its publication.

¹ Illustrations and analyses of all these manuscripts can be found in BLUME – HAFFNER – METZGER 2016 and on The Saxl Project website, *ad vocem*.

² HAIN 906; GW n0368; ISTC ih00559000; USTC 994237. For further information on the Carnerio press (which appears to have been started by Antonio's father, Bernardo, in 1474 and ceased operation in 1478), see BARUFFALDI 1777, 60-69; ANTONELLI 1830, 30-31 (no. 26); CITTADELLA 1873, 13-15; FUMAGALLI 1905, s. v. Ferrara; BMC 1909, vol. X, 106; SCHOLDERER 1925/1966; *DBI* (P. Veneziani), vol. XX, 1977, 464-65; MCKITTERICK 2003, 76; MCKITTERICK 2014.

to trace the exact manuscript (if, indeed, it still survives).³ One simple, but telling, detail can be found in the description of Sagittarius, however, where the star that should be listed as being *in poplite* ('in the knee') appears as *in pollice* ('in the thumb') [figure 1]. As the detail of the text from the late twelfth- or early thirteenth-century Hyginus manuscript in the British Library shows,⁴ a transposition from *in poplite* to *in pollice* would have been an easy mistake for a slightly inattentive scribe to make [figure 2]. In the Hyginus manuscripts from the fifteenth century, though, this small oddity becomes the norm, with at least twelve manuscripts preserving the error in the text and/or in the illustrations of the constellation.⁵

The 1475 Ferrarese edition was not illustrated, but spaces were left in the text for decorative capitals and images. As is well known, this was not an uncommon practice with the earliest books printed in Italy and, especially, those printed by native Italians.⁶ It is not clear whether this was due to the fact that Italian printers had yet to master the specialist skill of woodcut book illustrations, or that their clients preferred books that could be more elaborately illuminated by accomplished miniaturists. The former is certainly plausible, given the level of technical expertise required to complete this process successfully. If the latter is the case, however, it is easy to imagine such a decision reflecting a combination of purely aesthetic preference, the desire to personalise and 'add value' to what might have been perceived as a 'mass-produced object' and, perhaps, a certain degree of inherent conservatism – although, as David McKitterick has warned: 'It is always dangerous to make assumptions about the

³ Michael Reeve's call to arms for a full study of the manuscripts of Hyginus's text ('Has any classical text been so ill-served by recent scholarship as this?') remains, sadly, unanswered. See REEVE 1983, 187-89.

⁴ London, BL, Arundel 339, fol. 82v. The manuscript originated in Southern Germany, almost certainly from the Benedictine Abbey of St Peter at Kassel. See SAXL - MEIER 1953, 93-98; BLUME - HAFFNER – METZGER 2012, I, i, 302-07 (dating the manuscript to c. 1200 and before 1222 on account of the list of abbots 'huius loci', which ends in 1222 (fol. 151v)).

⁵ It is worth noting that modern editors of Hyginus, such as Le BOEUFFLE and VIRÉ, do not include readings from these fifteenth-century manuscripts as part of their apparatus. The star 'in pollice' appears in Cambridge, Fitzwilliam Museum, Ms 260; Florence, Bibl. Laurenziana, Ashb. 1148 (with a marginal correction) and Plut. 89, sup. 43; Milan, Bibl. Ambrosiana, T. 47 sup.; New York Public Libr., Spencer 28; Oxford, Bodleian Libr., Can. class. lat. 179 and Can. misc. 46; Pavia, Bibl. Universitaria, Aldini 490; Siena, Bibl. Comunale, L VI 25; Vatican, BAV, Urb. lat. 1358 and Vat. lat. 3110.

⁶ For an overview of this practice, see ARMSTRONG 1994, 35-47. Note especially her observation that: 'The technology of printing woodcuts simultaneously with the text was well developed in Germany in the 1470s, but with few notable exceptions, Italian printers had resisted incorporating many woodcuts into their publications until the end of the 1480s' (p. 45). See also BROWN 1891, 27; GERULAITIS 1976, 18-19; ARMSTRONG 1991; MCKITTERICK 2013, 68-82.

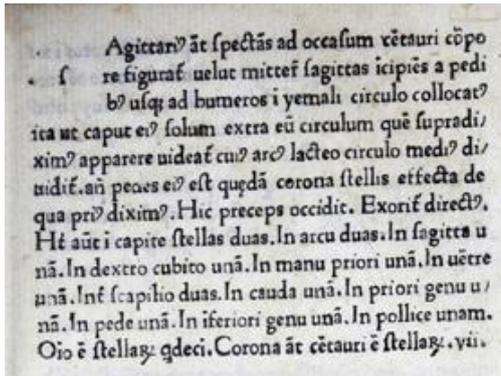


Figure 1. *Sagittarius* from Hyginus, *De Astronomia*, Book III. Ferrara: Augustino Carnerio, 1475. Oxford, Bodleian Library, Auct. L. 4. 26 (The Bodleian Library, University of Oxford)

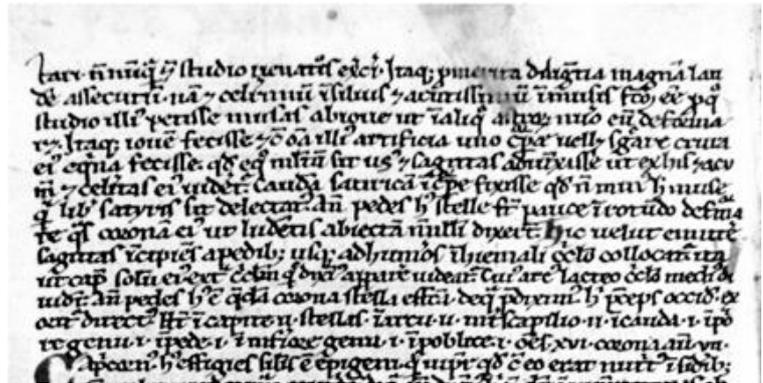


Figure 2. *Sagittarius* from Hyginus, *De Astronomia*, Book III. London, British Library, Arundel ms. 339, fol. 82v (© The British Library Board)

expectations of readers'.⁷ With regard to the Carnerio edition of Hyginus, McKitterick has noted that only three of the fourteen known copies of the volume have had manuscript illustrations inserted.⁸

The first illustrated edition of *De Astronomia* was published by Erhard Ratdolt in 1482.⁹ In this version, each of the 42 constellations that Hyginus describes in Book III is followed with a relatively large woodcut figure in which the stars have been marked [figure 3].

There are two things to note about this pairing of text and image. First, the text of Ratdolt's edition was also based on a fifteenth-century exemplar (note, for example, the appearance of the tell-tale star in the thumb of *Sagittarius*). The editors of the volume are named as Jacobus Sentinus and Johannes Lucilius Santritter, both of whom provide self-promotional poems at the end of the volume. Sentini was responsible for editing the text and Santritter – who is often

⁷ McKITTERICK 2013, 70.

⁸ McKITTERICK 2003, 75-79, fig. 20 and McKITTERICK 2013 citing Cambridge, Trinity College, Grylls 3. 290; Naples, Bibl. Naz., S.Q.VII.C. 6 and Rome, Bibl. Lancisiana, Inc. 44. As McKitterick notes, the illustrations in the Trinity College volume strongly reflect the pictorial traditions found in fifteenth-century manuscripts of Hyginus. To his citation of the similarities between some of the Trinity illustrations and those in the Paduan manuscript, Milan, Bibl. Trivulziana, T. 47 sup., one might also add the close resemblance of the depiction of *Argo* to those in Florence, BNC, Magl. XI, 141; Oxford, Bodleian Libr., Can. class. 179 and Verona, Bibl. Capitolare, Ms 261. The Lancisiana pictures also appear to have been copied from a fifteenth-century Hyginus manuscript. I thank David McKitterick for sharing his illustrations of this volume with me.

⁹ For more on Ratdolt and his activities, see REDGRAVE 1894; SCHRAMM 1943, 3-15; GERULAITIS 1976; EISENSTEIN 1979, II, 587, n. 34; LOWRY 1991, 211-13; LANDAU – PARSHALL 1994, 180 and 381, n. 13; DE SIMONE 2004, 54-56 and 75-77.

praised by contemporaries for his mathematical skills – was possibly the advisor or ‘artist’ behind the woodcut figures.¹⁰ The text relies on a manuscript very close to the one used by Carnerio or – despite Santritter’s claims that their edition is better than existing manuscripts and the previous edition – it could have been copied more-or-less directly from the Ferrarese edition itself, with the only significant differences being in the page lay-out and the abbreviations used.¹¹

Second, although the *text* has a clear connection to extant fifteenth-century Hyginus manuscripts, the link between the woodcut illustrations in Ratdolt’s edition and existing Hyginus manuscripts is less apparent. This perception may be due partly to the ‘Germanic’ pictorial style in which the illustrations have been executed, which is markedly different from the suavely classicizing or charmingly courtly illuminations that appear in most contemporary Italian manuscripts of Hyginus’s text. Nevertheless, in 1983, Ulrike Bauer¹² proposed that the images of the constellations in Ratdolt’s volume were not related to existing Hyginus manuscripts but, instead, were drawn directly or indirectly from the illustrations that appear in the late-medieval manuscripts of Michael Scot’s *Liber introductorius* and the related *Liber de signis et ymaginibus celi*.¹³

¹⁰ Sentini calls Santritter ‘doctus’ in his colophonic poem. See REDGRAVE 1894, 18; HIND 1935, II, 462; POLLARD 1914, 24-25; MCKITTERICK 2014, 73. It is worth noting that the two poems celebrating Sentini and Santritter’s collaboration disappear from subsequent editions, while the longer descriptive poem by Sentini remains.

¹¹ ‘If what you have here does not please you, compare it with the manuscripts, or with the earlier printing (*quae pressa fuere prius*), and you will be able to judge for yourself’. MCKITTERICK 2014, 75.

¹² BAUER 1983, 12. Although Georg Thiele signalled a connection between the ‘woodcuts of the oldest prints’ (‘die Holzschnitte der ältesten Drucke’) of the constellations with the Viennese manuscript, Vindob. 2352 – the author of which he appears not to have known and describing the manuscript only as ‘a pedestrian medieval description of the sky’ (‘...gehört zu einer mittelalterlichen prosaischen Himmelsbeschreibung’, cf. Thiele 1898, 149-150) – Bauer was the first to make the connection between Michael Scot and the Ratdolt illustrations explicit. She notes that the woodcuts in Ratdolt’s ‘second’ edition (1485) have been copied from Michael Scot, but does not mention that the same is true for the 1482 edition (though she does cite the earlier edition on p. 71). She also draws attention to the repeated use of the woodblocks in Ratdolt’s 1488 Augsburg edition of the *Flores Astrologiae* of Albumasar, and cites the similar Michael Scot-based images in the Germanicus *Aratea* (Venice: de Strata, 1488), the Ratdolt edition of Leopold of Austria’s *Compilatio de astrorum scientia* (Venice, 1489 OS) and the illustrations in the *Astronomici veteres* (Venice: A. Manuzio, 1499: see PONTANI – LUGATO, this volume), as well as in two large-scale decorative cycles. On the subtleties of how these images were adapted and evolved, see below.

¹³ The exact relationship between the texts of the tri-partite *Liber Introductorius* and the much more compact *Liber de signis et ymaginibus celi* (as well as the ‘authorship’ of the surviving versions of both texts) remains the subject of

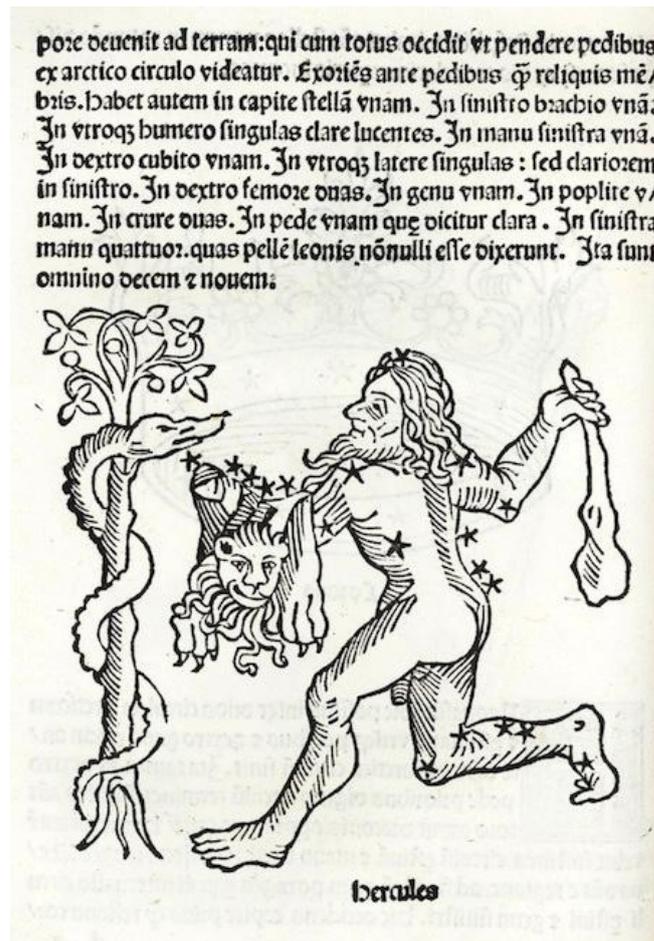


Figure 3. *Hercules* from Hyginus, *De Astronomia*, Book III.

Venice: Erhard Ratdolt, 10 October 1482. Munich,
Bayerische Staatsbibliothek, 4 Inc.c.a.234a ([http:// inkunabeln.digitalesammlungen.de](http://inkunabeln.digitalesammlungen.de))

Those who have studied the history of illustrated astronomical manuscripts are only too well acquainted with the habit of some medieval scribes using the images normally attached to one text to illustrate another.¹⁴ Perhaps naively, modern scholars tend to see this blurring of boundaries as a kind of invention either borne out of necessity – that is to say, we assume it as the natural response to a lack of resources – or to be regarded as a ‘natural trait’ of the scholastic

scholarly debate. For the differing views, see EDWARDS 1978, xx-xxii; EDWARDS 1985; BURNETT 1994; ACKERMANN 2008; GREBNER 2008a, 285-86; GREBNER 2008b, 253-56; ACKERMAN 2009, 66-75.

¹⁴ See, for example, the use of illustrations normally associated with the pseudo-Bedan *De signis caeli* in early manuscripts of Hyginus (cf. LIPPINCOTT 2014, 14). See also the eloquent response to Salvatore Settis’ plea for clear philological and iconographic *stemma* of the corpus of astro-mythological manuscripts in OROFINO 2013, 25 (responding to SETTIS 1985, 21-22).

temperament, in which the act of compilation often was seen as a preferable method to textual or pictorial integrity.¹⁵ Discovering that the first Renaissance edition of a widely-circulated classical text has been illustrated with constellation images taken from a medieval compilation, however, seems more disconcerting – primarily because it appears to run contrary to everything we have been taught to believe about the ethos of early Renaissance scholarship. Be that as it may, a sense of discomfort is fully warranted in this particular case, as nothing about this apparent ‘contamination’ turns to be straight-forward.

Citing Scot as the source for Ratdolt’s woodcuts raises a number of issues. The first concerns the textual and pictorial sources that Michael Scot himself used when compiling his treatise. In 1898, Georg Thiele noticed that some of Michael Scot’s illustrations seemed to ‘imitate’ (‘anknüpfen’) the images that appear in the twelfth-century Germanicus manuscript now in Madrid (hereafter Madrid 19),¹⁶ which preserves the Latin translation of the *Phaenomena* of Aratus interspersed with sections of prose text – known as the ‘*scholia Stroziana*’ – that provide ancillary information about the mythological origins of each constellation and a list of the positions of the stars.¹⁷ Several aspects of this fascinating manuscript – such as the place of its manufacture and its possible travels after it was written – remain the subject of intense scholarly debate.¹⁸ Moreover, its precise connection to the text and illustrations of Michael Scot’s manuscripts continues to be debated.¹⁹ As will become apparent below, many of these unresolved issues are critical to our understanding of the illustrations in Ratdolt’s edition of Hyginus.

Identifying the textual and pictorial sources that Michael Scot used to compile his descriptions of the constellations is complicated by the fact that the manuscripts present a unique vision of the constellations and their astro-mythical significance. The format in which the information is conveyed varies from manuscript to manuscript, but the shared content is as follows [figure 4]:²⁰

¹⁵ As, for example, with the eleventh-century compilation from Santa Maria di Ripoll, Vatican, BAV, Reg. lat. 123. See LIPPINCOTT 2014.

¹⁶ THIELE 1898, 149-50. Madrid, Bibl. Nacional, Matritensis 19 (olim Fol. A. 16).

¹⁷ So-called on account of their appearance in Florence, Bibl. Laurenziana, Strozzi 46, a fourteenth-century manuscript once owned by the great Florentine humanist, Coluccio Salutati. For additional information, see ULLMAN 1963, 168, 188-89 and pl. VII, 2; de la MARE 1973, I, 41; REEVE 1980, 511-12.

¹⁸ The range of views on Madrid 19 is well summarised in OROFINO 2013, 32-39.

¹⁹ For the most recent discussions of the relationship between Madrid 19 and Michael Scot’s illustrations, see OROFINO 1994, 135-41; BAUER, 2008; ACKERMANN 2009, GREBNER 2008b; BLUME – HAFFNER – METZGER 2012, I, 202ff, 346ff, no. 32; OROFINO 2013, 32-41; BLUME – HAFFNER – METZGER 2016, II, i, 30-48.

²⁰ THORNDIKE 1923-58, II (1923), 327; THORNDIKE 1965, 97; ACKERMANN 2009, 77-83; BLUME – HAFFNER – METZGER 2016, II, i, 31-32. Scholars have yet to trace Scot’s source for the sections describing the astrological influence of each constellation, arguably the sections of these descriptions in which the majority of his readers would have been most interested. Ackermann has signalled a forthcoming publication on this topic (‘*Natus in hoc signo erit...* Predictions for a person’s future in Michael Scot’s *Book of the Stars*’) in the bibliography of her 2013 edition, which may resolve this issue.

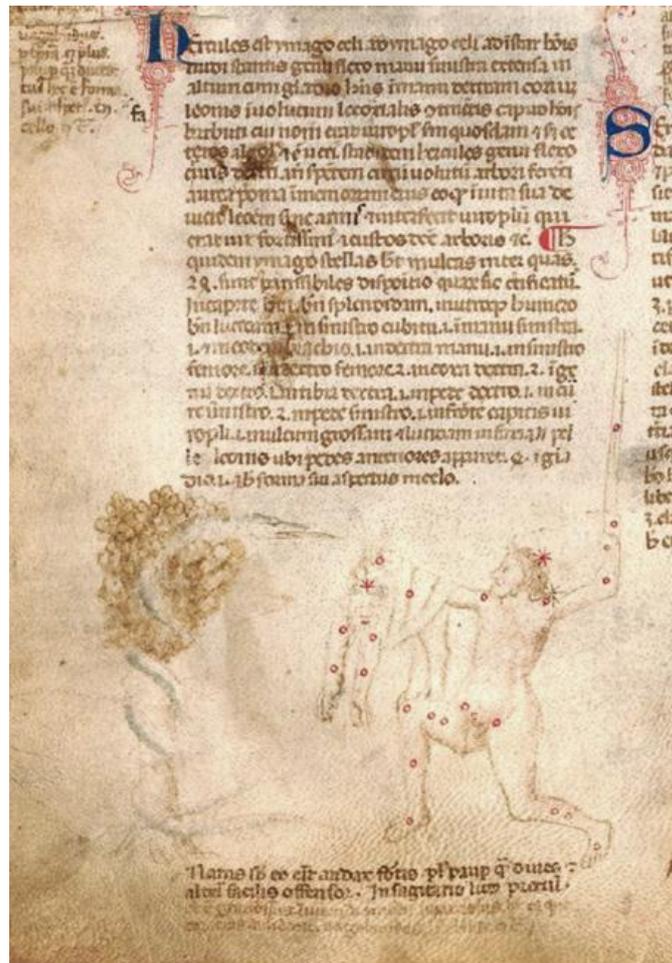


Figure 4. *Hercules* from Michael Scot, *Liber Introductorius*. Munich, Bayerische Staatsbibliothek, clm. 10286, fol. 80v (<http://daten.digitalisammlungen.de>)

1. an explanation of the identity and catasteristic myth behind each figure
2. a list of the position of the stars in each figure
3. an illustration
4. an astrological formula for the appearance, character and, sometimes, fate of people born under the influence of the constellation.

Michael Scot's reliance on a source similar to Madrid 19 is apparent in two aspects of his descriptions. The first is the list describing the placement of the stars in each constellation, which

has been drawn nearly word-for-word from the star-lists provided by the *scholia Stroziana*.²¹

Taking the constellation of Hercules as an example, we find the following:

*scholia Stroziana*²²

Michael Scot, *Liber de signis*²³

in capite 1	in capite 1 bene splendidam
in singulis humeris singulas splendidas	in utroque humero 1 bene lucidam
in sinistro cubito 1	in sinistro cubitu 1
in eadem manu 1	in manu sinistra 1
in eodem brachio 1	in eodem brachio 1
in sinistro femore 1	in sinistro femore 1
in dextra parte femoris 2	in dextro femore 2
in dextra coxa 2	in coxa dextra 2
in eadem tibia 1	in tybia dextra 1
ΕΠΙΓΟΝΑΤΟC 1	[missing] ²⁴
in crure 2	in crure sinistro 2
in eodem pede 1	in pede sinistro 1
in dextro pede 1	in pede dextro 1
in dextra manu 1	in dextra manu 1
in clava, quam tenet in eadem manu 1	in gladio 1
in leonina pelle 4	in faxiali pellis leonis, ubi pedes anteriores apparent, 4
sunt omnes 24	24 sunt parisibiles

The second parallel is the similarity in the illustrations, which has been fully documented by Bauer.²⁵ Here, the arguments that Madrid 19 itself was the actual manuscript used by Michael Scot to compile his treatise begins to unravel slightly, since a close comparison between the set of illustrations in Madrid 19 and any of the known Scot manuscripts reveals a disconcerting number of pictorial differences. Some of them are minor and could be attributed to inexperienced or

²¹ Ackermann also notes a series of distinctive readings found in Madrid 19, which influence Scot's text and tie it directly to this branch of the philological stemma: ACKERMANN 2008, 274-78; ACKERMANN 2009, 83-88.

²² Dell'ERA 1979, 180.

²³ ACKERMANN 2009, 176.

²⁴ This apparent failure to list this star might raise questions concerning Scot's ability to translate from the original Greek source, or it might simply reflect the inability of a later scribe to understand the significance of these letters. The former has been previously argued by SARTON 1927-48, III, 2 (1931), 581; PRIORESCHI 2003, 337-39.

²⁵ BAUER 1983, 32-79 and 105-07. See also ACKERMANN 2009, 337-412; BLUME – HAFFNER – METZGER 2016, II, i, 32-38.

inattentive artists, but others are quite major and suggest the likelihood of more than one intermediary between Madrid 19 and Michael Scot's original composition and/or between Scot's original work and the earliest surviving illustrated manuscripts. Of course, it must be remembered that our understanding of Scot's models is hampered by several factors, the most troublesome being the fact that the earliest surviving illustrated version of the works in question postdate Michael's death by more than eighty years. The oldest illustrated version of the *Liber introductorius* is the Paduan manuscript, Munich, BSB, clm. 10268, datable to c. 1320;²⁶ and the oldest manuscript containing an illustrated version of the *Liber de signis* is the north-Italian manuscript in St. Petersburg, which bears a date of 1348.²⁷

Nevertheless, the discrepancies between the sets of illustrations seem somewhat puzzling given the obvious closeness between the text of the *Liber de signis* and Madrid 19. For, as Silke Ackermann has pointed out, several of Michael Scot's idiosyncratic readings seem to stem directly from his apparently having misunderstood the sorts of scribal abbreviations that are evident in the text of the Madrid manuscript.²⁸ As is true in so many other cases, though, this seeming antithesis between textual and pictorial traditions reflects a fundamental aspect of manuscript production that is often overlooked: namely, that there are at least three separate elements that come into play when a manuscript is being compiled. The scholar tends to be interested primarily in preserving or recapturing what he or she thinks is the most authoritative form and meaning of the text, while a professional scribe's proficiency is measured by the ability to create a faithful copy, often regardless of whether the model preserves an exemplary or miserable version of the text. By analysing the evidence left by these various incursions, modern philologists can often create convincing *stemmata* that provide historical overviews of when and how a text has changed and developed. Conversely, an artist's talent is most often gauged by the level of 'creativity' shown in response to an image or verbal description. As a result, the pictures have a much greater tendency to diverge from their purported models and, often, in quite unexpected ways. Art historians are left to quantify how much change within a kind of free-form continuity signals the arrival of new pictorial or stylistic influences, evidence of collaboration, changes in fashion or the relegation of certain tasks to a workshop assistant. In the very circumscribed arena of astro-mythological manuscripts, the genealogies of the textual tradition vary enormously from the pictorial ones. This fact is usually side-

²⁶ BAUER 1983 (says c. 1340); ACKERMANN 2009 (c. 1320); BLUME – HAFFNER – METZGER 2016, II, i, 186-91 (1320-30).

²⁷ ACKERMANN 2009, 528-30 (c. 1350); BLUME – HAFFNER – METZGER 2016, II, i, 192-97 (third quarter fourteenth century, c. 1350?).

²⁸ ACKERMANN 2008, 275-78; ACKERMAN 2009, 83-87.

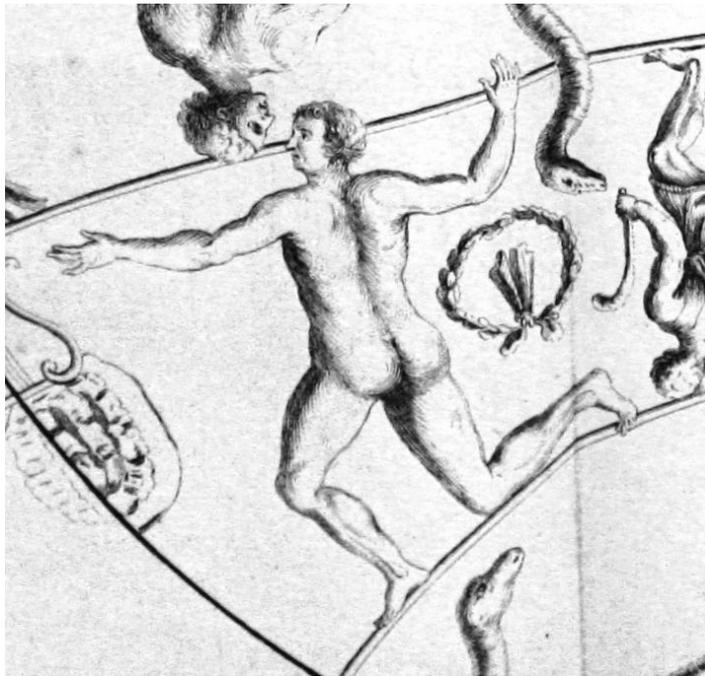


Figure 5. 'Engonasin' (*Hercules*) from the planispheric maps derived from the Farnese globe.
 Marcus Manilius, *Astronomica*. Richard Bentley (ed.) London 1739
 (Author's photograph)

stepped by modern scholars, since philologists tend not to look at pictures and art historians rarely read the texts. Historians of science, who are often looking for quantifiable data, simply despair.

By-and-large, Michael Scot's descriptions of the constellations show him to be, literally, a fairly prosaic scholar in that he shows minimal interest in the text of Germanicus. To take one example, the text of the poem itself provides relatively little information about the identity or form of the constellation of Hercules. The figure is not named, but only described as kneeling on his right knee with his palms upwards as if praying to the gods.²⁹ Germanicus also mentions that the figure's left foot stands on the temple of the dragon (*Draco*), that his right hand is raised and that he looks as though he has been working very hard and is worn out with his toil [figure 5].³⁰ This is not the

²⁹ Germanicus, *Aratea*, vv. 67-68: ... diversa que tendens / brachia, suppliciter passis ad numina palmis ... (LeBOEUFFLE 1975, 5)

³⁰ Germanicus, *Aratea*, vv. 271-273 (LeBOEUFFLE 1975, 18). The characterization of the figure with his left foot on *Draco's* head reflects Germanicus's incorporation of Hipparchus's correction of the descriptions of Eudoxus and Aratus, both of whom claim it is the right foot that rests on the Dragon's head. See Hipparchus, *In Arati et Eudoxi Phenomena ...*, I, ii 6 (MANITIUS 1894, 10-13).

image of the demigod that makes its way into the Madrid manuscript or into Michael Scot's text and image, both of which depict the Hercules accomplishing one of his twelve labours, that of stealing the golden apples from the Garden of the Hesperides.

Given his apparent neglect of the content of the poem itself, it is worth remembering that, far from being a champion for the Classical tradition, Scot himself argues that the pagan myths underpinning the forms of the constellations provide little value to the 'modern' astrologer.³¹ This may well be the impetus behind his decision not to provide a simple digest of the mythological information contained in the *scholia Stroziana*; but, instead, he uses both the texts and pictures to craft his own bizarrely sensationalised versions of the each set of myths. For, while it is possible that Scot's versions of these tales are based on a series of genuine misunderstandings of the Classical myths and/or an inability to 'read' the details of a Classical image, it seems more likely that his version of the catasteristic myths reflects a personal, possibly culturally-motivated animosity towards the behaviour of the gods and heroes of the pagan world.³²

To take one example, Scot's description of Andromeda is typical of the way in which he distorts his sources [figure 6].

Andromeda fuit filia Cephei et Casiepie, que, cum esset pulcherrima iuuenis, dictum est a Iove, quod ipsa valde vexabatur libidine et quod tradatur Cetui ad devorandum. Que suspensa est ramis arborum quercus inter duos montes et hec inventa a Perseo liberata est. Quem amplexans, stricte numquam voluit parentes videre nec alium virum, quam ille Argis conduxit letanter.

*Et quia sic urebat intrinsecus, figuratus est femina desuper et masculus ab umbilico deorsum. Et hec mulier partim erat vestita et partim nuda pro facti significacione.*³³

(Andromeda was a daughter of Cepheus and Cassiopeia. As she was a very beautiful girl, Jupiter said she was possessed by lust and ordered that she be thrown to a sea monster to be eaten. She was hung between two hills on the branches of an oak tree. Here she was found by Perseus, who freed her. She embraced him and then consistently refused to see her parents or any other man. He [Perseus] then joyfully brought her to Argos.

³¹ ACKERMANN 2009, 126 (A 29): «Insuper dicendum, quod predictae ymagines a multis recitantur fabulose, qualiter suam habent formam et unde originem habuerunt, et recitatur de illis in figura picturarum. Sed illarum fabulas in hoc libro non curamus, eo quod non sunt alicuius utilitatis».

³² See the characterisation of Scot's myths as focussed on 'rape and sexuality' ('Im Mittelpunkt stehen in seiner Fassung zumeist die Liebschaften, Vergewaltigungen und Sexualität, also Bereiche, die von der Astrologie und den Geistern in besonders starkem Maße beeinflusst wurden'. cf. BLUME – HAFFNER – METZGER 2016, II, 1, 31).

³³ ACKERMANN 2009, 190-92.



Figure 6. *Andromeda* from Michael Scot, *Liber introductorius*.
 Munich, Bayerische Staatsbibliothek, clm. 10286, fol. 81v.
 (<http://daten.digitale-sammlungen.de>)

And because she suffered this internal torment, she is depicted as a woman in her upper part, and as a man from her navel downwards. And this woman was partly clothed and partly naked to mark this fact.)³⁴

With a stroke of his metaphorical pen, Michael Scot has managed to transform the beautiful Ethiopian princess, whose only crime is to have a vain and ambitious mother, into a tormented and lustful hermaphrodite.³⁵ Several other constellations meet with a similar fate, revealing Michael Scot as a rather peculiar medieval inversion of Thomas Bowdler.

Again, hoping not be overly prejudiced in one's assumptions about what sort of illustrations a fifteenth-century printer might find appropriate to place in an edition aimed specifically, one assumes, at a well-educated market with 'humanist' inclinations, it remains difficult not to be somewhat baffled at Ratdolt's apparent choice to use Michael Scot's figures. One possible explanation might be that Michael Scot's reputation amongst the academics in the university towns of Padua and Bologna was so high that using the illustrations from manuscripts of his texts would be seen as acceptable. Another possibility, suggested recently by the authors of *Sternbilder des Mittelalters und der Renaissance*,³⁶ is that it could have been Ratdolt's original intention to print an illustrated version of Michael Scot's *Liber de signis* and that he had already begun the process of cutting the blocks based on the illustrations in a manuscript copy of the text, but then he changed his mind when he realised that the market in Venice favoured classical authors. As the major expense of cutting the blocks had already been incurred, it was more 'cost efficient' to use them to illustrate the potentially more lucrative venture of an illustrated Hyginus. This suggestion sounds much more in keeping with the sorts of concerns that would inform the business decisions of a fifteenth-century printer, especially if he could take advantage of the fact that the text had already been edited by Carnerio in Ferrara few years earlier.³⁷ Nevertheless, the decision to use Scot-based images to illustrate the text of Hyginus generates two additional problems.

³⁴ I have suggested elsewhere that this description of Andromeda as a hermaphrodite may come from clever philological manipulations between Greek and Latin (see LIPPINCOTT 1993, 43-44). A similar suggestion has been made, possibly independently, in MARIANI CANOVA 2001, 396. I now wonder if it simply reflects a pictorial misreading of the knot holding her skirt just below her waist as male genitalia.

³⁵ Blume, Haffner and Metzger more generously characterise Scot's interpretations of the classical myths and their illustrations as evidence of his intelligent, reflective and 'quasi-scientific' approach to this material. BLUME – HAFFNER – METZGER 2016, II, i, 37-38.

³⁶ BLUME – HAFFNER – METZGER 2016, II, i, 131-33.

³⁷ There is the possibility that Santritter's edition could have been, despite his claims of editorial superiority and originality, largely based on Carnerio's text. As his tax records show, Ratdolt was one of the wealthiest men in

First, although the positions of the stars described by Scot bear a close resemblance to those listed in the *scholia Stroziana*, they are markedly different from those provided by Hyginus. For example, a comparison of the placement of the stars in Sagittarius shows:

Hyginus, *De astronomia*³⁸

Michael Scot, *Liber de signis*³⁹

in capite stellas duas
 in arcu duas
 in sagitta unam
 in dextro cubito unam
 in manu priori unam
 in ventre unam
 inter scapilio duas
 in cauda unam
 in priori genu unam
 in pede unam
 in inferiori genu unam
 in pollice (sic) unam
 omnino est stellarum quindecim

Corona autem centauri est stellarum septem.

In capite habet 2
 in arcu 2
 in latitudine acuminis sagitte 2
 in dextro cubito 1
 in manu dextra 1
 in ventre thauri (!) 1 bene claram
 in spina dorsi 2
 sub cauda 2
 in quolibet genu pedum anteriorum 1

Sagittarius habet stellas multas, inter quas sunt 19
 parisibiles
 sub cruribus sunt 7, sed parve, quare raro videntur,
 et nisi qui habet subtilem visum et longinquum,
 nemo eas umquam videt.

Second, the illustrations that appear in Michael's Scot's manuscripts reflect a very different pictorial tradition from that found in a 'typical' fifteenth-century Hyginus manuscript.⁴⁰ As a result,

Augsburg soon after his return to the city from Venice. See WEHMER 1955, 151 as cited by LANDAU –PARSHALL 1994,180.

³⁸ As per Ratdolt 1485. In English, the text reads: 'He has two stars on his head, two on his bow, one on the arrow, one on the right elbow, one on the leading hand, one on the chest, two on the shoulder blades, one on the tail, one on the front knee and one on the foot, one on the hind knee, one on the thumb (*sic*). In total, there are 15 stars. There are also seven in the crown of the Centaur'.

³⁹ See ACKERMANN 2009, 162. In English: 'Sagittarius has many stars, among which 19 are visible and are arranged as follows: there are 2 in the head, 2 in the bow, 2 in the wide (?) end of the arrow, 1 in the right elbow, 1 in his right hand, 1 nicely clear one in the belly of the steer, 2 in the spine of the back, 2 under the tail, 1 in each knee of the front feet. There are 7 under the legs, but they are small, which explains why they are rarely seen, and then only by someone who has particularly good eyesight for distant objects'. Incidentally, the stars listed do not total nineteen.

⁴⁰ See APPENDIX II.

the configurations of each constellation, as well as many of their attributes, have been significantly altered. The task is not only to reposition that stars, but to place them within a figure that regularly has a totally different arrangement of limbs and accessories.

Nevertheless, if one compares the star positions in Ratdolt's figures with the descriptions in the accompanying Hyginian text – as well as with contemporary manuscript illustrations of Hyginus and those found in Michael Scot illustrations – it does seem that there has been an attempt to place the stars in accordance with the star lists of Hyginus, but that this process has met with limited success. To cite a few examples:

	Michael Scot	Hyginus, Book III	Ratdolt Hyginus image
Aries	3 stars in the nose 1 in each front foot	none in the nose 1 in the right front foot	none in the nose 1 in the right front foot
Bootes	3 in the right hand 1 on each knee 4 on the right hand	none in the right hand none on the knees 4 on the right hand	none in the right hand none on the knees none on the right hand
Hercules	1 in the sword (gladio)	not mentioned	none in the raised club
Cepheus	7 on the sword's strap 1 on the right hip	not mentioned none on the hip	none on the strap none on the hip
Eridanus	17 stars on the man's body	none on the figure	none on the figure

The repositioning of the stars raises some doubts over the otherwise attractive hypothesis made by Blume, Haffner and Metzger that Ratdolt previously had commissioned a series of blocks to illustrate an edition of Michael Scot and simply substituted these figures for his new edition of Hyginus. Given the technical realities of the relief-printing process, in which the uncut surfaces take the ink, the figures and their stars would have to have been cut at the same time. Therefore, the Hyginus-based positioning of the stars proves that the woodblocks were commissioned and executed specifically for an edition of the *De astronomia*. The question of why Scot-derived figures were used remains open, but the fact that these figures and their stars were executed specifically to illustrate his edition of Hyginus seems fairly clear. Perhaps this was the 'scientific' aspect of the project that required Santritter's particular skills. If so, one admires his stamina and inventiveness.

Whereas the relationship between the Scot images and those that appear in Ratdolt's woodcuts is relatively close, there is a sufficient number of significant differences between the two to suggest that that the actual model for Ratdolt's edition was either a Michael Scot manuscript with a decidedly altered corpus of images, or that there was an unknown quantity of intermediary manuscripts in which the pictorial changes had been introduced. The first possibility is supported

by the number of cases where variant imagery can be found amongst the surviving Scot manuscripts.⁴¹ The second seems equally possible, given that Michael Scot imagery was widely disseminated throughout Europe from the early fourteenth to the mid-fifteenth century, and served as the model for several writers on astronomical and astrological subjects, such as Bartolomeo da Parma,⁴² Domenico d'Arezzo,⁴³ Ludovicus de Angulo,⁴⁴ and Fazio degli Uberti.⁴⁵ For example, Ratdolt's departure from what seems to be canonical Scot iconography in the depiction of Ophiuchus standing on the back of Scorpio, can be found in two illustrated manuscripts of Domenico d'Arezzo's *Fons memorabilia* where the Scorpion is missing;⁴⁶ the similarly unusual Ratdoltian image of Corona borealis as a metal crown also appears in the Domenico d'Arezzo manuscripts, as well as in a French translation of Lodovico de Angulo's *De figura seu imagine mundi*;⁴⁷ and the 'peasant' Cepheus and exposed Andromeda are included amongst the illuminations of Fazio degli Uberti's *Dittamondo*.⁴⁸

A third option is raised if one considers the possibility that neither Ratdolt nor Santritter was responsible for deciding to use illustrations derived from Michael Scot's, but that they actually possessed a Hyginus manuscript in which that process had already been achieved.

In 1966, Patrick McGurk noted a group of fifteenth-century Italian manuscripts containing texts of the so-called 'Sicilian Germanicus' in which 'particular groups of texts and pictures always maintain the same alliance'. From this group, five manuscripts could be said to form a single iconographic family,⁴⁹ but the

⁴¹ As noted in APPENDIX II.

⁴² Bartolomeo da Parma, *Breviloquium de fructu artis tocus astronomiae* (composed in Bologna in 1326). For additional information, see NARDUCCI 1885; DUHEM 1916, 210-29; *DBI* VI, 1965, 747-50 (Bruno Nardi); BURNETT 2001; ACKERMANN 2001; BLUME – HAFFNER – METZGER 2016, II, i, 41, 48 and *ad vocem* for the manuscripts.

⁴³ Domenico Bandini (d'Arezzo), *Fons memorabilium universi* (begun before 1374; the final version dates to 1408-13). See THORNDIKE 1934, III, 560-67 and 759-61; HANKEY 1957; HANKEY 1960.

⁴⁴ Ludovicus de Angulo (*alias* Louis de Lange, Louis de Langle and Luís de Angulo), *De figura seu imagine mundi* (completed in 1456). See FERNÁNDEZ-POUSA 1941; HUSTACHE 1988; BLUME – HAFFNER – METZGER 2016, II, i, 133-36 and *ad vocem* for the manuscripts.

⁴⁵ Fazio degli Uberti, *Dittamondo* (begun in 1346 and not completed at his death, sometime after 1467). See ZANOTTO 1835; CORSI 1952; CUDINI 1978, 52-71; MILANESI 1994; and BLUME – HAFFNER – METZGER 2016, II, i, 48 and *ad vocem* for the manuscripts.

⁴⁶ Madrid, Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r.

⁴⁷ Madrid, Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v. The Ludovicus de Angulo image appears in Paris, BN, fr. 612, fol. 102v.

⁴⁸ Paris, BN, ital. 81, fol. 165v (Cepheus) and fol. 176r (Andromeda).

⁴⁹ MCGURK 1966, pp. xvii-xix. These are:

1. Vatican, BAV, Vat. lat. 3110 - Florence, c. 1370; owned by Coluccio Salutati (1331-1406)
2. Florence, BNC, Magl. XI. 114, 1 - Italy (Florence?), early fifteenth century
3. Vatican, BAV, Urb. lat. 1358 - Florence, early 1470s; made for Federico da Montefeltro, prior to his elevation to Duke of Urbino in 1474; written by the scribe of the 'Vite di Vespasiano di Bisticci'; illuminated by Bartolomeo Fonzo
4. Florence, Bibl. Laurenziana, Plut. 89, sup. 43 - Florence, early 1470s; written by the scribe of the 'Vite di Vespasiano di Bisticci' and illuminated by Gherardo di Giovanni
5. Pavia, Bibl. Universitaria, Aldini 490 - Italy, 1470-80

relationship between two of these bears closer examination. The ordering of their respective texts is as follows:

	Vatican, BAV, Urb. lat. 1368	Florence, Bibl. Laur., Plut. 89, sup. 43
1. <i>Arati genus</i>	ff. 2r-2v	ff. 3r-4r
2. Excerpts from the <i>scholia Stroziana</i>	ff. 2v-4v	ff. 4r-6r
3. Germanicus, <i>Aratea</i>	ff. 4v-37 [illustrated]	ff. 6v-48v [illustrated]
4. <i>Arati Phaenomenon reliquiae</i>	ff. 37r-39r	ff. 48v-50v
5. <i>Aratea de Sole et Luna</i>	ff. 39r-41 bis r	ff. 50v-54v
6. First excerpt from Pliny 18	ff. 41 bis v-45r	ff. 55r-57v
7. Second excerpt from Pliny 18	ff. 45v-47r	ff. 57v-60v
8. <i>De polis mundi</i>	ff. 47r-47v	fol. 60v
9. Third excerpt from Pliny 18	ff. 47v-54v	ff. 61r-70r
10. Hyginus, Books I-IV	ff. 57r-121v	-
11. Hyginus, Books III and IV	ff. 123r-152r [illustrated]	ff. 72r-108r [illustrated]
12. Martianus Capella, <i>De nupt. Phil. et Merc.</i> , VIII, 844-45	ff. 152r-152v	ff. 108r-117v
13. Hyginus, Books I and II (paraphrase)	ff. 157v-161r	-
14. Martianus Capella, <i>De nupt. Phil. et Merc.</i> , VIII, 316-331	ff. 161r-163v	ff. 117v-121r
15. <i>De polis</i>	ff. 163v-165r	ff. 121r-123v
14. Hyginus, Books I and II (paraphrase)	-	ff. 127-169r

For additional information about this family of fifteenth-century manuscripts, see HAFFNER 1997; OROFINO 2013; BLUME – HAFFNER – METZGER 2016, II, i, 111-21; The Saxl Project (cf. the commentaries on the Hyginus and Germanicus textual and pictorial traditions, and *ad vocem* for the individual manuscripts).

At first sight, the fact that the Laurentian manuscript omits the third rendition of Hyginus's text, which appears on ff. 57r-121v of the Vatican manuscript, might suggest that it was copied from the latter, as repetitive texts tend to get omitted rather than added. For our purposes, though, the most important feature of these two manuscripts is that they each contain illustrated versions of both the Germanicus *Aratea* and Book III of Hyginus, *De astronomia*; and that these sets of illustrations are not identical. In the Vatican manuscript, the Germanicus text is illustrated with figures common to the group of fifteenth-century manuscripts, which share several iconographic features with the aforementioned twelfth-century Germanicus manuscript, Madrid 19, including: Jove riding an eagle, Ophiuchus standing on the back of Scorpio, Auriga in a chariot, Cancer at the feet of the Gemini, Aquarius and Capricorn depicted in the same scene, and a depiction of Austronotus. The Hyginus illustrations accord with other fifteenth-century Italian Hyginus manuscripts, and reproduce several of the idiosyncratic features that characterise these productions, such as Andromeda fleeing, Aries with the triangle of Deltoton on his head, and a horned Eridanus.

In the Laurentian manuscript, a change has taken place. The illustrations accompanying the Germanicus text follow the Vatican version of the Germanicus pictures quite closely. The constellations set within the Hyginus text in the Laurentian manuscripts, however, are not derived from the same fifteenth-century Hyginian models, but exhibit an iconography seen only in Michael Scot manuscripts.⁵⁰ These features include Cepheus depicted as a peasant, Auriga in a cart drawn by two horses and two oxen, Orion with a club in his hand and holding a large shield in front of him and Eridanus reclining by a stream. Not all the images in the Laurentian manuscript follow Michael Scot's illustrations – for example, Cassiopeia does not have blood flowing from her right hand, Andromeda is suspended from flanking trees (but is resolutely female) and Ophiuchus does not stand in the back of the Scorpion – but the appearance of Scot-related images within a Hyginian context raises the question: might this manuscript (or one sufficiently like it) be the context from which Ratdolt drew inspiration for the woodcuts in his edition of Hyginus?

The first task is to establish consensus concerning the date of the Laurentian manuscript, which has recently been dated to both c. 1470 and to post-1482. If the Laurentian manuscript predates 1482, it provides evidence that there was an existing tradition of Hyginus illustrations resembling those that appear in Michael Scot manuscripts that Ratdolt could have used to create his set of woodcuts.⁵¹ If the Laurentian manuscript post-dates 1482, it could still reflect a variant manuscript tradition behind Ratdolt's choice; but

⁵⁰ MCGURK 1966, 26-29 (whose observation that the illustrations of the Hyginus section are identical to the nine images in Florence, BNC, Magl. XI, 1 is correct, save for the depiction of Auriga).

⁵¹ See LEONE 2013, who summarises previous opinions about the date of the manuscript and argues in favour of an earlier date. She cites the attribution of the miniatures to Gherardo di Giovanni (cf. CIARDI DUPRÈ DAL POGGETTO 1976, 75; GARZELLI 1985, I, 95; II, 585) and the script to the scribe of the 'Vite di Vespasiano di Bisticci' (cf. de la MARE 1985, I, 463, 542-43).

a later date also raises the possibility that the Laurentian drawings are, themselves, copied from a printed book.⁵² One additional factor in the resemblance between the Laurentian manuscript and Ratdolt's edition is that the positions of the stars within the manuscript illuminations have been altered to follow the star lists of Hyginus's text. Again, one wonders, did this development take place in Florence or Venice? Does one commiserate with Gherardo da Monte or with Santritter? Personally, I believe that the evidence in support of an earlier dating of the Laurentian manuscript to the early 1470s is more convincing – primarily owing to Albinia de la Mare's attribution of the handwriting in both the Vatican and Laurentian manuscripts to the same scribe, the so-called 'Master of the Vite di Vespasiano di Bisticci'.⁵³ Since both manuscripts were written and illuminated in Florence, and the Vatican manuscript can be securely dated to sometime before 1474,⁵⁴ it seems most likely that the Laurentian manuscript was completed sometime in the early 1470s as well.

If there had been an ancillary iconographic tradition for illustrating the text of Hyginus circulating amongst the most august humanist circles of Naples and Florence during the first half of the fifteenth century, it only solves half a dilemma. One is slightly more free to reinterpret Ratdolt's seemingly incomprehensible choice to adopt and adapt a series of fanciful medieval iconographic hybrids derived from Michael Scot as now indicating that his illustrations may well reflect the conscious decision to copy images from a manuscript tradition that was not only fashionably *au courant* – with sister manuscripts in the collections of Federico da Montefeltro and

⁵² In the text and catalogue entry for the Laurenziana manuscript in BLUME – HAFFNER – METZGER 2016, Haffner reiterates her belief that that it postdates 1482. Her opinion is based largely on stylistic grounds and the resemblance to the woodcuts in Ratdolt's Hyginus, but she also cites the fact that it is not listed in the early Medici inventories. See HAFFNER 1997, 113, n. 291; BLUME – HAFFNER – METZGER 2016, II, i, 117, 619-24 and II, ii, 974.

⁵³ See de la MARE 1985.

⁵⁴ LEONE 2013, 116. The Montefeltro stemma, which appears on fol. 2r of the Vatican manuscript, does not include the depiction of Papal Keys, the right to which was awarded to Federico upon his elevation to Duke of Urbino by Pope Sixtus IV in 1474. As additional support for an earlier date, Leone cites the laurel wreath encircling the Medici stemma on the 'antiporta' and the frontispiece of the Laurentian manuscript as indicating a direct connection with the patronage of Lorenzo de' Medici. The miniatures in the Vatican manuscript have been attributed to Bartolomeo Fonzio by Garzelli (cf. GARZELLI 1985, I, 90-91).

the Medici – but one that came with the highest humanist pedigree, being only two steps from Coluccio Salutati's own autograph manuscript. But pushing the problem from 'commercial' Venice to 'humanist' Florence does not actually solve the problem of why and how these illustrations become attached to the text of Hyginus. Leone's suggestion that the images in the Laurentian manuscript reflect the iconographic tradition associated with the *scholia Stroziana* derived from a southern Italian prototype (of which one also sees similar echoes in Madrid 19) is certainly alluring and raises the question of whether or not one can push the 'authority' of this attachment as far back as the thirteenth-century Sicilian scriptorium of Frederick II.⁵⁵ At this stage, however, rather than succumb to that particular siren's song, it seems timely to return to the issue of the later influence of Ratdolt's illustrations.

It is impossible to know whether or not this sort of 'antique' authority – if either somehow recognised or assumed – would have mattered to Ratdolt or his contemporaries. To modern eyes, the rough and ruralising 'Germanic' style of his woodcuts seems the very antithesis of what one now has to be slightly wary of calling a 'Renaissance aesthetic'. Nevertheless, once these images appeared in print (despite the fact that they are largely non-sensical iconographic hybrids with no astronomical value whatsoever), they became the undisputed model upon which astronomical book illustration relied for the next forty years.⁵⁶

In Ratdolt's second edition of Hyginus, printed in Venice in 1485, the text has been re-set into longer lines and the second poem by Sentini and Santritter's verse have been deleted (perhaps suggesting a falling out between Ratdolt and his 'doctus' advisor). The illustrations record the re-use of the blocks that previously had featured in the 1482 edition, with a few minor changes. In purely commercial terms, one can understand the logic of any printer wanting to re-use existing woodblocks, rather than incur expense in carving a new set. Nevertheless, it does seem slightly curious that, even when Ratdolt leaves Venice to return to Augsburg in 1486, certainly taking his blocks with him,⁵⁷ his images continue to dominate the book trade – not only in Venice, but also in Augsburg and Paris.

Two years after Ratdolt's departure, in 1488, Thomas de Blavis published in Venice an edition of Hyginus, which was illustrated with a set of rather crude reverse copies of the pictures in Ratdolt's 1485 edition.⁵⁸ As

⁵⁵ LEONE 2013, 121-23.

⁵⁶ For fuller descriptions of these books, see APPENDIX I.

⁵⁷ REDGRAVE 1894, 18 (who claims that Santritter had kept some of Ratdolt images when the latter left Venice); HIND 1935, II, 410-12; LANDAU – PARSHALL 1994, 381, n. 15; DE SIMONE 2004, 55.

⁵⁸ The copies were clearly made after the 1485 edition and not the 1482 edition, as Prince d'Essling suggests. Witness the depiction of Scorpio, in which the stars of its face are drawn within the contours of the head. See d'ESSLING 1907, I, i, 273.

such, when they were printed, the figures were reversed. Little is known about de Blavis, apart from a record of his publications, which have been characterised by modern scholars as inferior in quality to most of his contemporaries at both a technical level and in his choice of texts, which had been previously better edited by others.⁵⁹ One can see evidence of this lack of technical skill in a number of instances: owing to clumsy cutting, the lion's eyes have fallen out; Auriga has lost his chin; the snake of Ophiuchus has lost its lower jaw and Centaurus has a double profile along his back [figure 7]. These idiosyncrasies conveniently enable modern scholars to trace the re-use of de Blavis's block through the various editions printed by subsequent publishers. For, despite modern views of his limited skills, the reversed images created by de Blavis have an extraordinary longevity and influence.

In 1488, de Blavis's blocks were re-used to illustrate Germanicus's translation of the *Phaenomena*, contained in the *Scriptores astronomici*, printed by Antonio de Strata.⁶⁰ In attempting this task, the publisher faced the challenge of taking the images from their original positions in the Hyginus text – attached to discrete chapters describing each constellation – and inserting them into the right place between the text of Germanicus's poem and its *scholia*. As part of this process, however, de Strata makes several mistakes. He misidentifies and, therefore, misplaces four of the images and fails to find any spot at all for nine constellations [figure 8]. Judgement by hindsight may be both unreliable and unfair, but this startling inability to recognise the identity of the constellation figures and place them appropriately tends to undermine any hope we might have had that the early publishers of these Classical astro-mythological texts were motivated by a profound desire to uncover and disseminate the scientific wisdom of the ancients.

In 1499, Aldus Manutius published his version of the Germanicus poem.⁶¹ Its illustrations are a combination of re-used blocks from de Blavis's 1488 edition of Hyginus and a new set of pictures. In some cases, the original blocks have been re-cut and, in the process, slightly refined. This may be due to the fact that de Blavis's original blocks had begun to deteriorate. In other cases, new blocks have been cut, which are based on the illustrations in de Blavis's edition itself and not the original blocks (again suggesting damage and loss). As a result, when these images are printed, they appear reversed from the woodcuts in

⁵⁹ See, for example, the assessment by Alfredo Cioni in the *DBI* 1968, vol. X, 491-93.

⁶⁰ For a further discussion, see PONTANI – LUGATO, this volume.

⁶¹ For a detailed examination of this compilation, see the contribution of Filippomaria Pontani and Elisabetta Lugato in this volume, with a full bibliography.



Figure 7. Centaurus with a double backbone from Hyginus, *De Astronomia*, Book III. Venice: Thomas de Blavis, 7 June 1488 (Venezia, Biblioteca Nazionale Marciana, Inc. V. 0736) (Internet culturale, MiBACT)



Figure 8. Orion as 'Perseus' from 'Fragmentum arati phaenomenon per germanicum in latinum conversi cum commento nuper in sicilia repertum'. Venice: Antonio de Strata, 25 October 1488. Munich, Bayerische Staatsbibliothek, Inc. c. a. 561a (<http://inkunabeln.digitalesammlungen.de>)

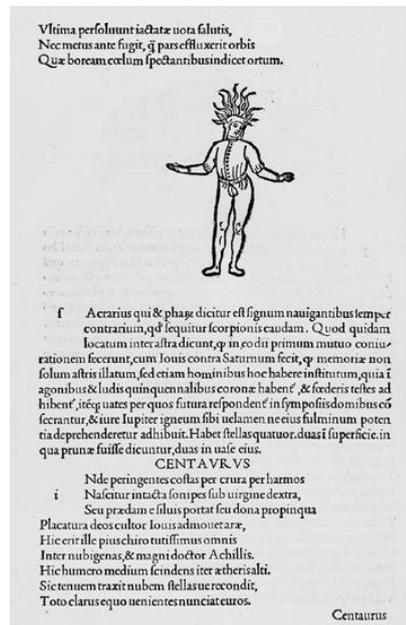


Figure 9. Ara (?) from 'Fragmentum arati phaenomenon per germanicum in latinum conversi cum commento nuper in sicilia reperto'. Venice: Aldo Manuzio, June and [17] October 1499. Munich, Bayerische Staatsbibliothek, 2 Inc. c. a. 3720 (<http://inkunabeln.digitale-sammlungen.de>)

de Blavis's Hyginus edition. Somewhat surprisingly, Manutius copies de Strata's mistakes regarding the identity of three of the constellations and, similarly, he fails to find any space for six of the constellations (Cepheus and Ophiuchus being the lucky ones to find a home). He also introduces an extremely unusual depiction of the constellation of Ara [figure 9].⁶²

In August 1502, Johannes Baptista Sessa published yet another 'new' edition of the Sentini version of Hyginus's poem.⁶³ He, too, relied on the De Blavis woodcuts, but reworked several of them. Sometimes, this is merely a case of copying the original figure, but doing so in a finer and more fluid graphic style. Now and then, he 'Italianises' them by redrawing the figures with more normative, 'Renaissance' proportions [figure 10]. In a few images, he has reduced or deleted the ancillary 'mythological' components (such as Andromeda's landscape). In several instances, Sessa's pictorial changes necessitate repositioning the stars, but none of these changes appears to indicate an attempt to make the illustrations more astronomically accurate. The overall effect, therefore, is that nearly all of Sessa's figures remain fairly closely tied to their 'Ratdoltian' origins despite the stylistic manipulations.

The first significant change in the format of these well-worn images appears in the edition of Hyginus published by Sessa's brother, Melchior, in September 1512.⁶⁴ The text remains Sentini's version and several of the pictures are based on a combination of figures taken from de Blavis and Johannes Baptista Sessa. There is, however, a subtle change in some of the figures in that they are now portrayed from the rear. This modification points to Melchior Sessa's illustrator having used either a celestial globe or a depiction of a celestial globe as an inspiration.⁶⁵ The most relevant model that I have been able to trace is the two illustrations of a celestial globe published in the Venetian edition of Vitruvius's *De architectura* by Ioannis de Tridino (alias 'Tacuino') in 1511 [figures 11 and 12].⁶⁶ Other changes made by Melchior Sessa include the

⁶² For the depiction of Ara, see PONTANI – LUGATO, this volume.

⁶³ CURI NICOLARDI 2010, esp. 88-90.

⁶⁴ d'ESSLING 1907, vol. I, i, 274 (no. 289) is incorrect in his description of these figures having been derived directly from Johannes Baptista Sessa's 1502 Hyginus. I would argue that his view that the 1512 woodcuts are generally inferior in quality to the 1503 ones is equally misleading. See also, ASCARELLI – MENATO 1989, 327; CURI NICOLARDI 1984.

⁶⁵ For the convention of depicting constellations as if seen from behind (the so-called 'Hipparchan rule'), see DEKKER 2013, 34-38.

⁶⁶ *De architectura. M. Vitruvius per Jocundum solito castigatior factus cum figuris et tabula ut jam legi et intelligi possit*, Venice: Ioannis de Tridino alias Tacuino, 1511. The volume was edited by the architect, engineer, scholar and Franciscan friar Fra Giovanni Giocondo (da Verona). For additional information, see CIAPPONI 1984; VITRUVIUS 1997. Several of the constellations in the woodcuts bear an intriguing resemblance to the globe held by the Farnese *Atlas*, an object Fra Giocondo could have seen in Rome in the early 1490s. For additional information on this possibility, see LIPPINCOTT 2016. The major argument against these images being based on the Farnese Globe, however, is the inclusion of the depiction of Equuleus, which does not appear on the Globe. I thank Elly Dekker for pointing out this anomaly.

Perseus. Huius in sinistro cruce & humeris leuissimis est illius reliqua corpe diuidit. Ipse manu dextra arctici circuli tagit dextro pede caput aurigae p̄tere uelut curres uidet. Idē occidit Sagitta r̄io & Capricorni exortu icinat ad caput uersus cū Antere & Tauro recte exoritur. Habet in utroque humero stellā unā. In manu dextra clare lucente unā qua falce tenere dicitur quo telo Gorgonā interfecit. In sinistra alterā q̄ caput Gorgonis tenere exultat. Habet p̄erea in uentre stellā unā. In lumbis alteram in dextro femore unā. Ad genu in tibia unā. In pede unā obscurā. In sinistro femore unā. In genu alterā. In tibia duas. In sinistra manu q̄ Gorgonis caput uocat stellas quatuor: uno ē stellā n̄ser̄ decē & septē. Caput ei⁹ & falx sine siderib⁹ apparēt. Hic Aratus cū diceret inter sidera cyonis menō figuratū: acciperit cōplures eū puluerulētū diceret q̄ minime cōuenit posse iter sidera ē puluerulētū accipere. Q̄ si eēt dignior erat Orion cui idē ascriberet. Primū q̄ assidue ē uenatus & semp̄ i terra fuit. Deniq̄ adhuc iter sidera uenari uidet. Perseus autē qui assidue uolabat nō p̄t puluere h̄ere. Quid igit ē cū uellet aratus eū currētē obscurē significare ius artholoy cōsuetudine ceconis menō dixit: arthol. n. cū uolūt aliq̄e decurrete significare ceconis dicit id. Q̄ d̄ Aratus uoluit demonstrare non ut illi uolūtē assidue puluerulētū dicat. Q̄ d̄ a multis p̄perā ē intellectū.



Figure 10. *Perseus* from Hyginus, *De Astronomia*, Book III. Venice: Giovanni Battista Sessa, 25 August 1502. Munich, Bayerische Staatsbibliothek, 4 A. lat. b. 330 (<http://inkunabeln.digitalesammlungen.de>)

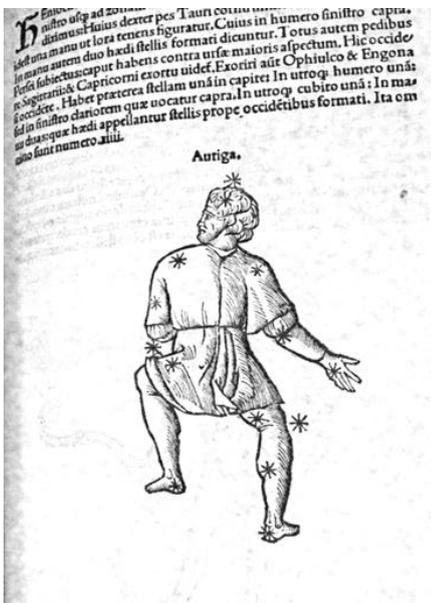


Figure 11. *Auriga* from Hyginus, *De Astronomia*, Book III. Venice: Melchior Sessa and Pietro da Ravenna, 15 September 1512. London, British Library, 1359. F. 41 (London BL, Author's photograph)

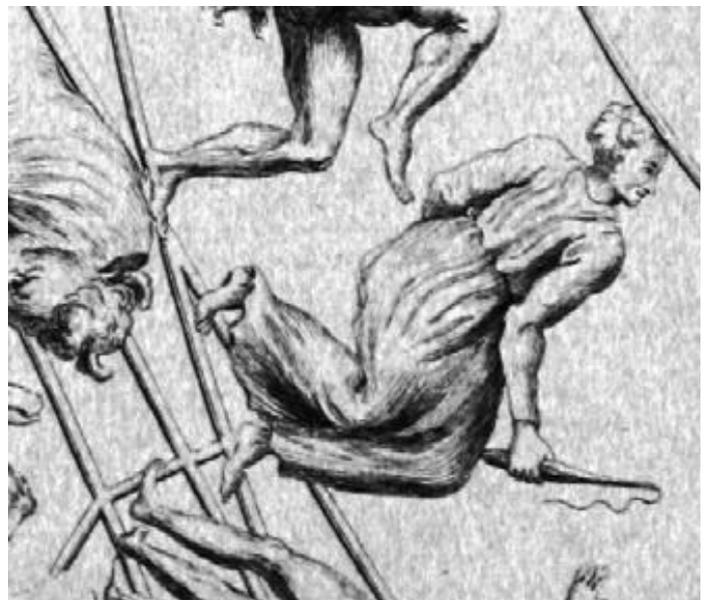


Figure 12. *Auriga* from the planispheric maps derived from the Farnese globe. Marcus Manilius, *Astronomica*. Richard Bentley (ed.) London 1739 (London BL, Author's photograph)

deletion of more of the background scenes and, perhaps most importantly, the constellation of Eridanus has returned to its original celestial form as the segment of a stream. Again, both these developments bring the figures more in line with those found on a celestial globe.

One might think that this development, which seems to promise a gradual reunion of Hyginus's text with the images of the constellations derived from a celestial globe – the supposed starting point for Hyginus's own descriptions of the heavens – ends the story of Ratdolt's legacy, but the story is far from finished. In 1513, Jacobus Paucidrapius reprints the Sentini version of the *De astronomia* in Pavia with illustrations that are free copies of the Ratdolt pictures;⁶⁷ and, in Venice, Melchior Sessa reissues his edition in March 1517 without any changes.⁶⁸

Another path of transmission opens with yet another copy of Sentini's edition of the text being published by Thomas Kees in Paris in May 1512. His illustrations appear to be new copies taken directly from de Blavis's 1488 Hyginus edition (sometimes with embellishments) [figure 13] and Johannes Baptista Sessa's 1502 Hyginus. In this form, the proliferation of Ratdolt-based illustrations explodes, but tracking Kees's version of Ratdolt's illustrations is slightly difficult as the volumes often do not include Kees's name in the colophon as it tended to be the custom with early French printed books that the vendors – and not the printers – were credited as being the 'publishers'. For example, the *Summa Philosophiae* of Paulus Venetus (Paulus Nicolettus) was reprinted eleven times in Paris between 1512 and 1520. Of the six I have been able to examine, four have constellation illustrations using the blocks of Thomas Kees's 1512 Hyginus, but only three mention his name⁶⁹

In addition to this, Thomas Kees used his own blocks from 1512 for the 1514 edition of Tommaso Radini Tedeschi's *Sideralis Abyssus*; and Jean Lambert reused the same illustrations in his two editions of Hyginus (1514 and 1517), though Thomas Kees's name does not appear in the colophon. Lambert's edition is the first publication to provide a new text of the *De astronomia* by the then very young Johannes Lodovicus Vives Valentinus (Juan Luis Vives de Valencia). The Sentini poem still appears at the end of the 1514 volume, followed by a poem by Vives; but in the 1517 version, the Sentini poem has been dropped.

⁶⁷ This volume is often wrongly cited as having been printed in Venice by Ottaviano Scoto, despite the fact that Pavia is clearly listed as the place of publication, Jacob Paucidrapensis de Burgofranco (also known as Giacomo Pocatela, Jacobus Papiensis or Parvi-/Paucidrapis) as the printer, and there is a dedication to the deceased (*quondam*) Ottaviano Scoto, whose heirs and friends helped to pay for the printing.

⁶⁸ CURI NICOLARDI 1984, 51 (who cites only the March edition).

⁶⁹ See APPENDIX I.



Figure 13. *Draco inter arctos* from Hyginus, *De Astronomia*, Book III.
Paris, Thomas Kees, 24 May 1412 [1512].
London British Library, I.A. 41616/2
(London BL, Author's photograph)

As we have seen, the influence of Ratdolt's illustrations was pervasive and long-lived, despite the fact that the pictures did not 'illustrate' the text of Hyginus *per se* and were astronomically nonsensical. Additionally, though, there are two further chapters to this story that demonstrate the influence of Ratdolt's illustrations in another context.

Whereas it is unclear whether the Florentine Hyginus manuscript discussed above is the model for or a copy after Ratdolt's Hyginus, the fifteenth-century Florentine Basinio da Parma manuscript in the Biblioteca Marucelliana definitely appears to be a manuscript in which some of the illustrations have been copied from a printed book.⁷⁰ Two different artists appear to have worked on this manuscript. Six illustrations were

⁷⁰ Florence, Bibl. Marucelliana, C. 251. See McGURK 1966, 29-32; ANGELI 1999, 180; BLUME – HAFNER – METZGER 2016, II, ii, 100 and 698-700 (who mis-identify the source as Ratdolt's 1482 Hyginus).

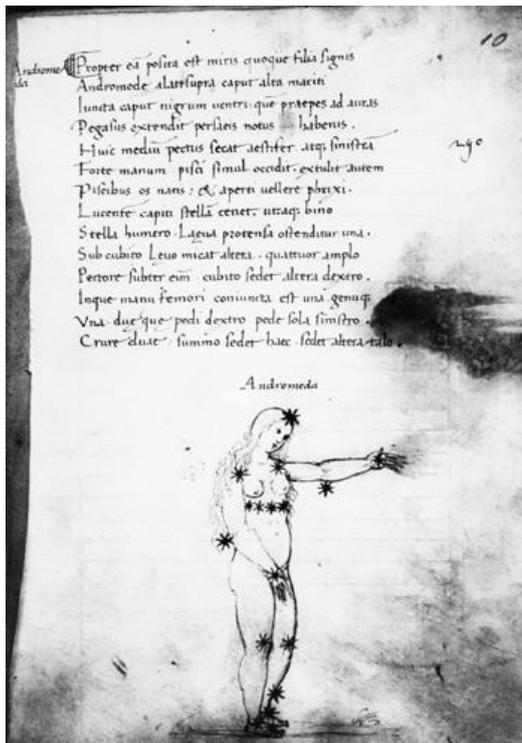


Figure 14. *Andromeda* from Hyginus.
De Astronomia, Book III.
 Florence, Biblioteca Marucelliana, ms. C.CCLI,
 (London, The Warburg Institute, Iconographic
 Database)

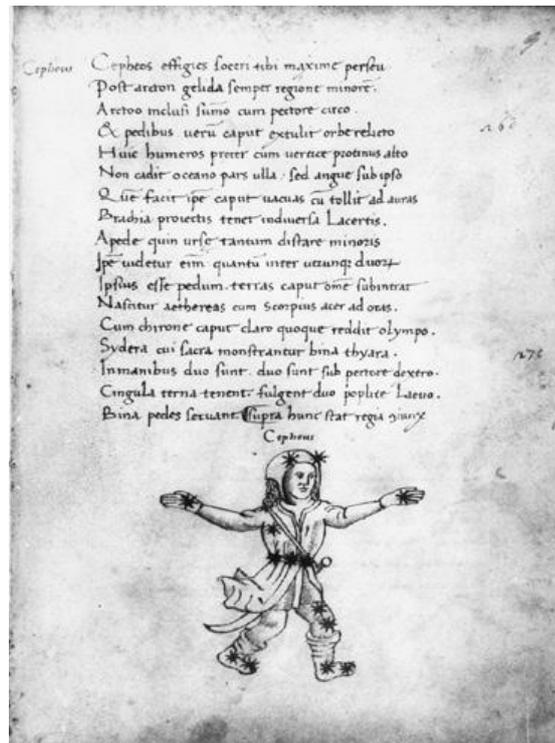


Figure 15. *Cepheus* from Hyginus.
De Astronomia, Book III.
 Florence, Biblioteca Marucelliana, ms. C.CCLI, fol. 9r. fol. 10r.
 (London, The Warburg Institute, Iconographic
 Database)



Figure 16. *Andromeda* from 'Hyginus' (Michael Scot).
 Augsburg: Erhard Ratdolt, 8 August 1491.
 Munich, Bayerische Staatsbibliothek, 4 Inc
 c.a.837 (<http://inkunabeln.digitalesammlungen.de>)

probably added soon after the text of the manuscript had been completed. These figures are finely drawn and fit easily into the Hyginus-based pictorial tradition found in other Basinio manuscripts [figure 14].⁷¹ The remaining illustrations were added to the manuscript after 1513. The second group of drawings is considerably more crude. Stylistically and iconographically, they are exact copies of the rough constellation pictures found in the Hyginus edition printed by Jacobus Paucidrapius de Burgofranco in 1513 [figure 15]. It would seem that one of the owners of the Marucelliana manuscript inherited an incompletely illustrated manuscript and, sometime after 1513, this fault was remedied. But, by this time, the most readily available pictorial source for constellation illustration was the Michael Scot-based illustrations taken from Ratdolt's Hyginus woodcuts.⁷²

The second interesting incident involves Ratdolt himself. As mentioned, Ratdolt left Venice in 1486, returning to Augsburg and taking his constellation blocks with him. We know this because he printed what he claimed to be a German translation of Hyginus's text in Augsburg in 1491, which contains woodcuts made from his 1485 blocks. The title page reads:

Hyginus von den .xij. zaich[en] und xxxvj. pildern des hymels mit yedes stern. Auch die natur v[o]n eygenschafft der menschen so die darundter geborn werden. Und was in eim yeden .xij. zaichen zethun [= for 'zu tun'] oder ze lassen ist so der mond darinn ist. Auch von der eygenschafft der siben planeten.

When one actually consults the text, however, it is immediately clear that this is not a translation of *De astronomia* – as one can most quickly appreciate from the description of the lusty Andromeda [figure 16]. Instead, it is actually a German version of Michael Scot's *Liber introductorius*.⁷³

Ratdolt's German 'Hyginus' raises several new questions about his humanist credentials and, to my mind, seriously challenges the idea that the choice of illustrations for his original 1482 edition of Hyginus reflected a

⁷¹ Hercules, Andromeda, Aries, Gemini, Leo and Pisces appear to be by the first hand.

⁷² One other example of a Hyginus manuscript where the illustrations have been copied from a printed edition occurs in the Austrian or south German manuscript, Vienna, ÖNB, Vindob. 3111, which is dated 1491 and in which the figures are closely based on Ratdolt's 1485 edition of Hyginus. See BLUME – HAFFNER – METZGER 2016, II, ii, 648-51.

⁷³ Admittedly, some modern scholars have noted this anomaly, including – most recently – the authors of BLUME – HAFFNER – METZGER 2016, II, i, 132. Curiously, though, all the library and incunable catalogues I have consulted list this work as the first version of Hyginus's text to have been printed in Germany. None recognises this work as *editio princeps* of the German translation of Michael Scot.

considered use of the most appropriate 'humanist' manuscript, and returns us to Ulrike Bauer's suggestion that he merely lifted the images from some readily available illuminated manuscript -- either from Michael Scot or from a Hyginus manuscript showing signs of contamination from the iconographic tradition of southern Italian Germanicus manuscripts, such as the Laurentian manuscript, Plut. 89, sup. 43. His re-use of the blocks in his Augsburg edition tends to support the former hypothesis. One can imagine that, when Ratdolt returned home to Augsburg, he found a local market that was more amenable to an illustrated edition of a German translation Michael Scot -- for which, luckily, he had the right set of illustrations (albeit with the stars in the wrong places). Nevertheless, one is still left to wonder why he decided to veil this enterprise under the spurious identity of 'Hyginus'.

In conclusion, the benefits of printing as a medium for reducing the costs of text production and increasing the accessibility of information to the general populace have been explored in depth and rightly lauded. The disadvantages of the technical efficiency of the printing press are discussed less often. One of the few fifteenth-century laments, made by the Venetian scribe, Filippo de Strata, focuses on three aspects of the development: first are the morally corrupting forces that printers have introduced to the impressionable youth of Venice through their low-cost publications of Tibullus and Ovid; second is the fact that more reputable scribes were being driven from their homes by poverty, unable to compete against these ignorant and profit-minded foreigners; and third is that when information is too readily available, it leads to a kind of intellectual wantonness -- for 'writing is a maiden with a pen, a harlot in print'.⁷⁴ It is the kind of call to arms one hears today, prompted by a similar step-change in how quickly information (and mis-information) is being disseminated by digital media.

It would seem a mistake to identify speed of delivery as the sole culprit in this instance, however. For, as we have seen, Michael Scot's fantastical renderings of the constellations were very successfully spread across Europe via the very slow medium of the manuscript. Nevertheless, there is something disconcerting about the way in which Ratdolt's decision to use a certain set of illustrations all but calcified the iconography of the heavens for nearly fifty years; and that it has taken scholars over 500 years to begin to untangle the after-effects.

⁷⁴ See Filippo de Strata's 'Polemic against Printing', addressed to Doge Nicolò Marcello in 1473-74 and preserved in Venice, Bibl. Marciana, Ital., class I, 72 (5074), ff. 1v-2r. See GRIER -- LOWRY 1986 (unpaginated). See also the arguments made in *De laude scriptorium manualium* by the German abbot and polymath, Johannes Trithemius (1462-1516), who did not disparage against the process or product of printing itself, but argued that there were greater spiritual benefits for monks (at least) to be gained from the practice of writing-out texts by hand. See BRANN 1981, esp. 144-74.

APPENDIX I:

Astronomical and astrological treatises with constellation illustrations directly influenced by the illustrations in Ratdolt's 1482 edition of the *De Astronomia* of Hyginus.⁷⁵

1. **HYGINUS – Venice : Erhardt Ratdolt, Pridie Idus [10] Octobris 1482.**

[HAIN *9062; GW n0374; ISTC ih00560000; USTC 994236]

Clarissimi Viri Iginij Poeticon Astronomicon Opus utilissimu[m] Foeliciter Incipit. De Mundi [et] sphaerae ac utriusq[ue] partiu[m] declaration[n]e. // Hoc Augustensis ratdolt germanus Erhardus. ... Anno salutis. 1482. Pridie Idus. Octobris. Venetiis.

The text is based on a fifteenth-century north Italian manuscript model (derived from Salutati's manuscript). Book IV is followed by three poems to the reader: one by Jacobus Sentinus Ricinensis (Giacomo Sentini); one by Santini praising Santritter; and one by Johannes Santritter (named as Johannes Lucilius Hebronnensis).

The illustrations resemble those in Michael Scot's *Liber Introductorius*.

2. **HYGINUS – Venice: Erhardt Ratdolt, 22 January 1485**

[HAIN *9063; GW n0375; ISTC ih00561000; USTC 994235]

CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON. OPUS UTILISSIMUM FOELICITER INCIPIT. De Mundi & sphaerę ac utriusq[ue] p[ar]tiu[m] declaratione. // Anno salutifere incarnationis Millesimo quadringentesimo octogesimo quinto mensis Ianuarii die vigesima secunda. Impressum est p[re]sens opusculu[m] per Erhardu[m] Ratdolt de Augusta. Venetiis.

⁷⁵ This text was first compiled as part of my doctoral thesis in 1987. This version contains an updated and, I hope, corrected version. The title-pages, colophons and illustrations for each of these can be found on The Saxl Project (manuscripts and early printed books). As all these printers and publishers regularly re-used their picture blocks in varying formats, this list does not include works in which only diagrams, planetary gods or zodiac signs appear without the fuller range of constellations. Such volumes include Ratdolt's 1482 Venetian edition of Sacrobosco's *Sphaerae mundi* and his 1488 Augsburg edition of Johannes Angelus's *Astrolabium planum*, where 96 new illustrations of the decans (*facies*) and *paranattellonta* of each zodiacal sign feature (see also, the free copy of Ratdolt's volume printed in Venice on 1494 by Johannes Emericus de Spira for Lucantonio Giunta). See also Ratdolt's 1488 and 1495 Augsburg editions of the *Flores Albumasaris*, which has planet gods and zodiac signs and his Albumasaris *Introductorium in astrologiam* (Augsburg 7 Feb 1489), where he introduces a new set of planet-gods alongside his earlier ones. For an overview of these publications, see SCHRAMM 1943, 11-12.

The text remains the same, but has been reset into slightly longer lines. The descriptive poem by Sentini is included at the end of the text, but the second poem by Sentini mentioning Sanritter and Sanritter's own poem have been deleted.

The illustrations and decorated capitals from Ratdolt's 1482 HYGINUS have been reused, with the exception of:

- an additional block of planispheric globe showing the major circles, line of the ecliptic and a line marking the 'Oblique horizon' (*horizon obliquus*). The diagram is labelled: *scemmus sphaeraecina (sic) secundum Hyginii descriptionem*.
- a new image of 'Galaxia' follows the final paragraph of Book II (*Praeterea ostenditur circulus quidam in sideribus ... deformationem dicere instituimus: cf. Viré 1992, 194*)
- a new, reversed image of Scorpio
- Saturn has been rotated 90° anticlockwise.

3. HYGINUS – Venice: Thomas de Blavis, 7 June 1488

[HAIN *9065=9064; GW n0373; ISTC ih00562000; USTC 994234]

CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON. OPUS UTILISSIMUM FOELICITER INCIPIT De mundi & sphærae ac utriusque partium declaratione. // Anno salutifere incarnationis Millesimo quadringentesimo octogesimo octavo mensis Iunii die septima. Impressum est praesens opusculum p[er] Thomam de blavis de alexandria. Venetiis.

The text follows Ratdolt's 1485 HYGINUS edition, including Sentini's poem. de Blavis also copied Ratdolt's page format, initials, the 'scemmus sphaeraecina' and the image of Galaxia after Book II.

The illustrations are copies after 1485 HYGINUS, which are less fine and, in most cases, reversed from the originals. This suggests that the illustrations were traced from the printed images on to new blocks, hence reversing them. Labels for most figures are placed on the vertical borders of each block. There are idiosyncracies in some of the figures arising from defects and breakages in the printing blocks, which make the de Blavis blocks easily identifiable when they are later re-used. These include:

- the lion of Hercules with blackened eyes
- distortion in the mouth of Auriga, where part of the wood has broken
- mis-cut mouth of Serpens
- closed eyes in Eridanus
- closed eyes in Sagittarius
- a double contour line along the back of Centaurus.

4. **AVIENUS, *Opera*; ARATUS, *Phaenomena*; QUINTUS SERENA, *De medicina praecepta saluberrima* – Venice: Antonio de Strata, 25 October 1488**

[HAIN *2224; GW 3131; ISTC ia01532000; USTC 994236]

[descriptive paragraph of the contents of the volume following the introductory letter by Victor Pisanus] Hic codex avienii continet epigram[m]a. eiusde[m] arati phaenomena geographia[m] carmine heroic: & oras maritimas trimetro iambic: germanici quoq[ue]: & marci tullii arati fragmenta: & sereni versus de variis curandis morbis. // [FRAGMENTUM ARATI (Germanicus *Aratea* with the *scholia Stroziana*] Fragmentu[m] arati phaenomenon per germanicum in latinu[m] conversi cum co[m]mento nuper in sicilia repertum. // Hoc opus impressumq[ue] Venetiis arte & ingenio Antonii de strata Cremoneosis. Anno salutis. M.cccclxxxviii. octavo calendas novembres.

de Strata re-uses de Blavis's 1488 HYGINUS blocks. There has been an attempt to rearrange the constellations according to the order in which they are described by Aratus. As a result, a number of mistakes occur in matching illustrations with text. For example:

- the figure of Orion is used to illustrate Hercules and Perseus
- Hercules is used to illustrate Ophiuchus
- Sagittarius is used to illustrate Orion.

In addition to this:

- a new planisphere has been added as the first illustration (*Hic est stellarum ordo ... = scholia Stroziana*, cf. Breysig 1867, 107).
- there is a new depiction of Bootes as an oxen-driver
- the block for Pegasus has been used twice – first, as the front half of the horse emerging from clouds; second, with the clouds and wings cut off. Both appear to illustrate the section on Pegasus
- Triangulum appears twice – first, above the head of Aries; and second, on its own
- there is a new representation of the Pleiades as 7 female figures
- there is a new representation of Ara as a standing nude male wearing a cap with donkey's ears and from whose head flames issue
- the illustrations for Galaxia, Andromeda, Ophiuchus, Sagitta, Scorpio, Capricorn, Cetus, Canis Maior and the five planet-gods (Saturn, Jupiter, Mars, Venus and Mercury) have not been used

5. **'Hyginus', Von den zwölf Zeichen ... – Augsburg : Erhardt Ratdolt, after 8 August 1491**

[HAIN 9067 (as Hyginus); GW n0376 (as pseudo-Hyginus); ISTC ih000563000 (as Hyginus); USTC 745887 (as Hyginus)]

Hyginus von den .xij. zaich[en] und xxxvj. pildern des hymels mit yedes stern. Auch die natur v[o]n eygenschafft der menschen so die darundter geborn werden. Und was in eim yeden .xij. zaichen zethun [= for 'zu tun'] oder ze lassen ist so der mond darinn ist. Auch von der eygenschafft der siben planeten. // Gegen zu augspurg. am achten tag des Merczen jm.lxxxxj.jar. Gedruckt zum Augspurg durch Erhart ratdolt jn dem .lxxxxj jare.

The text is not Hyginus, but taken from a German version of Michael Scot.

The zodiacal and planetary figures use the blocks from Ratdolt's 1485 HYGINUS, with the exception of individual representations of Libra and Scorpio from Ratdolt's 1488 *Astrolabium Planum* (see above, n. 78, above).

The extra-zodiacal constellations have also been taken from Ratdolt's 1488 HYGINUS, with the following changes:

- *Draco inter arctos* has been rotated 90° clockwise.
- there is a new image for Equus secundus as a full, winged horse
- there is a new image for Vultur cadens of a youth (Ganymede) seated on an eagle; the eagle stands on an arrow
- Galaxia appears as Demon meridionalis
- Terebellum and Vexillum have been added.
- a new depiction of the geocentric cosmos with the orbs of the planets has been added (taken from Ratdolt's 1482 Venetian edition of Sacrobosco's *Sphaerae mundi*; see above, n. 78, above).
- small versions of the zodiac signs, also re-used from prior Ratdolt publications, appear between the depictions of Sol and Benus.

6. FRAGMENTUM ARATI from *Scriptores astronomici veteres* – Venice: Aldus Manutius, June and [17] October 1499

[HAIN *14559; GW 9981; ISTC if00191000; USTC 760281]

[table of contents] Arati Phænomena Germanico Cæsare interprete cum commentariis & imaginibus. // ARATI VITA E GRAECO IN LATINUM, ALDO MANUTIO ROMANO INTERPRETE. [A]ratus Athenodoro patre fuit ... // FRAGMENTUM ARATI PHAENOMENON PER GERMANICUM IN LATINUM CONVERSI CUM COMMENTO NUPER IN SICILIA REPERTO. [C]oELUM circuli quinq[ue] distinguitur ... // Venetiis cura, & diligentia Aldi Ro. Mense octob[ris] M.ID. Cui concessum est ab Ill. S.V. ne hos quoq[ue] libros alii cuiquam impune formis excudere liceat.

The illustrations are a combination of reused block from Blavis's 1488 HYGINUS and newly-cut, more delicate copies of the de Blavis illustrations. In some cases, the figures have been reversed. Many of the mistakes in placement and identification that appeared in the 1488 de Strata FRAGMENTUM ARATI have been repeated, such as using the illustration of Orion for Hercules and Perseus, and of Sagittarius for Orion. Differences from the 1488 de Strata edition include:

- *Draco inter arctos*, Bootes, Corona, Triangulum, Pleiades have been re-cut and refined
- the figure of 'Equus dimidius' reuses the Pegasus block, rotated 90° clockwise and only the fore-section is printed
- Pisces have been inverted
- Ophiuchus and Cetus reappear
- the pictures for Galaxia, Andromeda, Sagitta, Scorpio, Capricorn and Canis maior have not been used.

7. HYGINUS – Venice: Johannes Baptista Sessa, 25 August 1502

[BMC 12545; USTC 762104]

[frontispiece] Clarissimi Hyginij Astronomi De Mundi Et Sphere Ac Utriusq[ue] Partium Declaratione Cu[m] Planetis Et Varijs Signis Historiatis. // CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON. OPUS UTILISSIMUM FOELICITER INCIPIT. De mundi & sphæræ ac utriusq[ue] partium declaratione. // Impressum Venetiis Per Ioannem Baptistam Sessa Anno Domini . M. CCCC . II. Die. XXV. Mensis Augusti.

The text is based on the Sentini edition and his poem appears at the end of the volume.

There is a new frontispiece with a bearded man, labelled 'Hyginus', enthroned and holding an astrolabe raised in his left hand and an armillary sphere in his lap with his right hand. He is flanked by two semi-nude female figures. One reads a book and is labelled: Astronomia; the second looks to the heavens and is labelled 'Urania'.

Also, there is the depiction of an armillary sphere held by a hand emerging from the clouds and labelled 'scemma sphericum secundum Higinii descriptionem'. The format has been copied from

Ratdolt's 1482 edition Sacrobosco's *Sphera mundi*, but this version first appears in JB Sessa edition of Sacrobosco printed in Venice on 1 December 1501.

Half the constellation illustrations in this edition appear to be new copies of Ratdolt's 1485/1488 HYGINUS images and, as such, retain the original orientation. In general, they are executed in a finer, more fluid line, with fewer indications of shading and more normative, 'Renaissance' proportions. The rest have also been reworked, but are based on the de Blavis 1488 HYGINUS pictures.

During this process, some of the stars have been repositioned, as well.

- The figures that best retain a Ratdoltian, 'Germanic' feel are: Galaxia, Lyra, Cygnus, Cepheus and Auriga.
- The new figures loosely based on the postures of Ratdolt's figures are Bootes, Andromeda (having lost her clothes and her landscape), Perseus (beardless, without his mantle and more dynamic), Pegasus (with forelegs crossed), Sagittarius, Aquarius, Orion and Centaurus
- Hercules, Cassiopeia, Ophiuchus, Sagitta, Aquila, Delphinus, Aries, Taurus, Leo, Virgo, Scorpio, Canis Maior and Minor, Navis, Lepus, Ara, Hydra/Crater/Corvus and Piscis austrinus have all been refined and reversed
- The planet gods have also been refined, reversed and updated.

8. HYGINUS – Paris: Thomas Kees, 24 May 1412 (1512)

[STC, p. 235; Moreau II, 365; FB 74663; USTC 180671]

[frontispiece] Hyginii historiographi verissimi simul [et] philosophi p[ro]fu[n]dissimi Aureu[m] opus historiasq[ue] ad amussim p[er]tracta[n]s una p[ar]iter cu[m] multis astronomice rationis ambagibus [et] signis poetaru[m] locis prope infinitis exacte calle[n]dis no[n] mediocriter co[n]ducturis in luce[m] editum habes, candidissime lector, q[uod] pauxilla tibi pecu[n]ia [com]p[ar]ari poterit. [OLIVIER SENANT] // Clarissimi viri Hyginii Poeticon Astronomicum. Opus utilissimum ffeliciter incipit. De mundi & sphere ac utriusq[ue] partium declaratione // Impressum Parrhisiis per Thoma[m] Kees Wesaliensem Anno D[omi]ni M.CCCCxij. (sic) Die. xxiiij,]. mensis Maij.

The text is the Sentini edition and is followed by his poem.

The illustrations appear to be a mélange of images copied from de Blavis's 1488 HYGINUS edition (sometimes with embellishments) and Johannes Baptist JB Sessa's 1502 HYGINUS. The allocation is as follows:

- de Blavis 1488-influenced are: *Draco inter arctos* (with the addition of a banderole labelled 'DRACO'), Bootes, Sagitta, Aquila, Pegasus, Orion, Canis Maior, Ara and Navis
- JB Sessa 1502-influenced are: Galaxia, Hercules, Cepheus, Cassiopeia, Andromeda, Perseus (with the addition of a labelled banderole), Auriga, Delphinus, Cetus, Eridanus, Lepus, Centaurus, Hydra/Crater/Corvus and the planet gods

- new formulations are: Ophiuchus, Aries, Taurus, Gemini, Cancer, Leo, Virgo, Scorpio, Libra, Sagittarius, Capricorn, Aquarius, Pisces.

9. HYGINUS – Venice: Melchior Sessa et Petrus de Ravani, 15 September 1512

[BMC 13166A; USTC 836044]

(frontispiece) Clarissimi Hyginii Astronomi De Mundi Et Sphere Ac Utriusq[ue] Partium Declaratione Cu[m] Planetis Et Varijs Signis Historiatis. // CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON. OPUS UTILISSIMUM FOELICITER INCIPIT. De mundi & sphæræ ac utriusq[ue] partium declaratione. // Impressum Venetiis per Melchiorem Sessa Anno Domini. M.CCCC.XII. Die. XV. Mensis Septembris

The text is the Sentini edition, with his poem included at the end.

The format of the volume is based on the Johannes Baptista Sessa HYGINUS 1502 edition in terms of the title page, pagination, characters and numbers. The title page itself has been reworked and ‘tidied’ – so much so that the banderoles are missing their letters. There are a number of new decorated capitals throughout.

The depiction of an armillary sphere held by a hand emerging from the clouds and labelled ‘scemma sphericum secundum Higinii descriptionem’ (as in JB Sessa HYGINUS 1502) has been re-cut, so the sleeve no longer overlaps the bottom frame of the image.

In general, it seems that the press used the occasion of a new edition of Hyginus to create a completely new set of blocks. They are still loosely based on the long-standing Ratdolt – de Blavis – Sessa images, but a subtle change has been introduced in that several of the figures are now portrayed from the rear, suggesting that Melchior Sessa’s illustrator has used a celestial globe as an inspiration. Also, most of the background scenes for the figures have been deleted (such as for Bootes, Hercules, Andromeda and Bootes) – again, bringing the figures more in line with those found on a celestial globe. The figures that are most telling in this regard are:

- Bootes with his left hand extended upwards
- Cepheus seen from the back, carrying two short sticks in his upraised hands
- Cassiopeia seen in her throne from the back
- Andromeda with arms outstretched and fleeing, with her back to the viewer
- Auriga and Hercules without mythological attributes
- Taurus and Gemini have been reformed, with Taurus exhibiting the long horns usually associated with Arabic-based *Sufi latinus* illustrations
- Aquarius and Virgo are shown from the rear

- Sagittarius has lost all his Michael Scot-derived accoutrements, and raises his right foreleg
- Orion is depicted in a lunging posture with his scimitar and shield raised above his head
- Eridanus is depicted as a stream.

10. HYGINUS – Pavia: Jacobus Paucidrapis de Burgofranco, 12 January 1513

[BMC 13899; USTC 836045]

CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON OPUS UTILISSIMUM FOELICITER INCIPIT. De mu[n]di [et] spherę ac utriusq[ue] partiu[m] declaration[n]e. // Habeo lector ca[n]dide[m] aureu[m] Higinij opus: novissime i[n]finitis pene errorib[us] eme[n]datu[m]: maximaq[ue] dilige[n]tia PAPIAE Impressu[m]: arte [et] industria IACOB Paucidrape[n]sis de Burgofra[n]co: Sumptib[us] v[ir]o heredum quondam Nobilis viri d[omi]ni Octaviani Scoti [et] sociorum. Anno D[omi]ni . M.DXIII.Die.XII.Ianuarij.

The text is the Sentini edition, with the customary poem at the end. There is a second poem written to Io. Andreas de Flandria Salutiensis commending the utility of the edition.

The frontispiece is a loose copy of JB Sessa's 'Sphaera mundi', with the addition of a semicircular starry sky at the top.

The illustrations are free copies of the original Ratdolt 1482/85 blocks, simply and somewhat crudely drawn. The only notable changes are that:

- Draco inter arctos has been rotated 90° anticlockwise
- Hercules does not bend his knees
- Scorpio with Libra have been reversed
- Centaurus has lost some of his attributes

11. Paulus Venetus, *Summa philosophia naturalis ...*

The treatise was reprinted at least eleven times in Paris between 1512 and 1520. The editors of the text vary, but Thomas Kees appears to have been the printer for several of these volumes. Of the six I have been able to examine, four have constellation illustrations using the blocks of Thomas Kees HYGINUS 1512:

- a. 14 November 1513 – Thomas Kees for Gilles de Gourmont
[Moreau II, 679; FB 81940]
- b. 14 November 1513 – Thomas Kees for Ponset Le Preux
[Moreau II, 679; FB 81941]
- c. 1514 – Thomas Kees for Gilles Gourmont
[Moreau II, 921; FB 81946]
- d. [1514] – Thomas Kees (?) for Jean Lambert and Olivier Senant
[Moreau II, 919; FB 81944]

12. HYGINUS – Paris, Jean Lambert, 31 March 1514

[STC, p. 235; Moreau II, 881; FB 74663; USTC 144250]

[frontispiece] Hyginii historiographi Verissimi simul et philosophi profundissimi. Aureum opus historias ad amussim pertractans una cum multis astronomice rationis ambagibus. [et] signis poetarum locis prope infinitis. exacte callendis. no[n] mediocriter co[n]ducturis, in lucem editum habes candidissime lector. q[uod] pauxilla a te pecunia comparari poterit. Jehan Lambert Venundantur parhisiis in clause brunello sub signo div [] Claudii sedente.// Clarissimi viri Higinij Poeticon Astronomicum. Opus utilissimu[m]. // Vale Parrhisijs pridie Kal[endas]. aprilis M.CCCCXIII.

The text is a new edition by Johannes Lodovicus Vives Valentinus (Juan Luis Vives de Valencia). The Santini poem still appears at the end of the volume, but is followed by a poem by Vives.

The illustrations are the reused blocks from Thomas Kees's HYGINUS 1512.

On the reverse of the frontispiece, there are two images: a coat of arms and a depiction of nude men and woman in a bathing pond.

13. Radinus Todischus, SIDERALIS ABYSSUS – Paris: Thomas Kees for Hémon LeFèvre, May 1514

[STC, p. 371; Moreau II, 954; FB 84225]

[frontispiece] Sideralis Abyssus. ... Venalis est liber in via Jacobea sub signo Lunae crescentis. Iuxta aede[m] divo benedicto sacra[m]. // Luteciae impressum op[er]a Thomę Kees: impensis vero honestissimi bibliopolę Hedmo[n]di Fabri. Anno ab orbe rede[m]pto Millesimo supra quingentesimum decimu[m]quartum: mense Maio.

The text is by Tommaso Radini Tedeschi of Piacenza (1488-1527), a Dominican Friar and vociferous opponent of Martin Luther.

Flanking the Prohemium, there is an image of the armillary sphere held by a hand, copied from the JB Sessa exemplar.

The illustrations are those used by Thomas Kees in his 1512 HYGINUS edition. The only anomalies are:

- Galaxia is inserted between Cygnus and Cepheus as the ‘constellation’ of Circulus lunonium (= Galaxia)
- A partially printed image of Serpentarius – where the two ends of the Snake have not been registered – has been inserted between Sagittarius and Capricorn alongside the poem entitled ‘Elegia Amicitiaē’. The image is labelled ‘Tarde cito’.

14. HYGINUS – Venice: Melchior Sessa et Petrus de Ravani, 24 March 1517

[BMC 13176; USTC 836046]

[frontispiece] Clarissimi Hyginii Astronomi De mundi Et sphæræ Ac utriusq[ue] Partium Declaratione Cum Planetis Et Variis Signis Historiatis //CLARISSIMI VIRI HYGINII POETICON ASTRONOMICON. OPUS UTILLISIMUM FOELICITER INCIPIT. De mundi & sphæræ as utriusq[ue] declaration. // Impressasq[ue] Venetiis exactissima cura per Melchiorem sessam & Petrum de Ravanis socios Anno d[omi]ni M.ccccc.xvii. Die. 24. Mar.

The text has been reset (witness different lengths of lines) from the Melchior Sessa 1513 HYGINUS edition.

The illustrations use the same blocks as the 1513 edition, but the colophon of the mouse-catching cat has been updated and reversed.

15. HYGINUS – Paris: Pasquier Lambert, 31 August 1517

[STC, p. 235; Moreau II, 1639; FB 74665; USTC 144770]

Hyginii hystoriographi et phylosophi augustissimi libri quattuor... . // Vale Parrhisijs pridie Kal[endas] Septe[m]bris M.D.XVII.

The text is reprint of Jehan Lambert's 1514 edition of HYGINUS.

The illustrations are the reused blocks of Thomas Kees's HYGINUS 1512. The coat of arms and bathing scene have been deleted.

There is an additional image of nude man standing within a circle with the four cardinal directions marked; and the disembodied hand holding the armillary sphere appears on the final page of the volume.

APPENDIX II:

Pictorial differences between the illustrations of Hyginus (Oxford, Bodleian Library, Can. class. lat. 179 and Milan, Bibl. Trivulziana, N 690) and Michael Scot (Munich, BSB, clm 10268), with reference to Ratdolt's 1482 edition of Hyginus

(indicates discrepancies with the Michael Scot image)**

DRACO inter Arctos	Hyginus shows a single grouping of the three constellations; Scot depicts an additional Draco. ** Ratdolt does not add the extra Draco.
BOOTES	Hyginus shows Bootes as a warrior holding a shield in front of him so it covers most of his extended arm, raising a club behind his head and stepping on a small platform or box with his leading foot; Scot depicts him as a farmer with a sickle and a spear. Ratdolt follows Scot.
CORONA BOREALIS	Hyginus has two concentric circles (a wreath); Scot has the same. ** Ratdolt depicts a metal crown. [Corona is depicted as a metal crown in Milan, Bibl. Ambrosiana, I 90 sup., it is also a metal crown in the Hyginus manuscript, Milan, Bibl. Trivulziana, N 690]
HERCULES	In Hyginus, Hercules holds a whole lion by its hind foot in one hand, and holds a club in the other hand; in Scot, he is accompanied by a tree and a snake (representing the Garden of the Hesperides). Ratdolt follows Scot.
LYRA	In Hyginus, Lyra is a two-stepped zither with a curl on the right side; in Scot, it is a lyre with a frame made of a bull's horns. Ratdolt follows Scot.
CEPHEUS	The Hyginian Cepheus is an aristocrat (with a crown or a mitre on this head); Scot's Cepheus is slightly less well-dressed and wears a sword at his hip, with a strap running across his chest. ** Ratdolt's Cepheus is a peasant, walking to the right, with a sword on his hip and a strap across his chest. [The 'peasant' Cepheus appears in Scot manuscripts: Berlin, Staatsbibl., germ. fol. 244 and Vienna, ÖNB, Vindob. lat. 2378.]

- CASSIOPEIA** In Hyginus, she is seated on a bench with her arms extended; in Scot she is seated on a high-backed throne and has blood pouring from her left hand. ** **Ratdolt** follows Scot, with the additional feature of the back of her throne being composed of branches. [The stick throne appears in Scot manuscript: Berlin, Staatsbibl., germ. fol. 244; St Petersburg, Nat. Lib., lat. F. V I.X, no 1; Vienna ÖNB, Vindob. lat. 2352 and Vienna, ÖNB, Vindob. lat. 2378.]
- ANDROMEDA** In Hyginus, Andromeda is a partially nude, walking female figure, who grasps her skirt with one hand and trails the other arm behind her; in the Scot manuscripts, she is hung by her arms from two trees and her skirt is raised to expose male genitalia. **Ratdolt** follows Scot, but omits her skirt. [Andromeda has exposed legs in London, BL, Add. Ms. 41600; Milan, Bibl. Ambrosiana, I 90 sup.; Padua, Bibl. Seminario, cod. 48; St Petersburg, Nat. Lib., lat. F. V I.X, no 1; Vienna ÖNB, Vindob. 2352 and Vienna, ÖNB, Vindob. 2378.]
- PERSEUS** The Hyginus Perseus is seen from the rear, dressed in armour and holds Medusa's severed head in his left hand. The Scot Perseus is nude, with winged feet, and holds a bearded male head in his left hand. ** **Ratdolt** follows Scot, but his shield is slung over his back and he holds a female head in his left hand. [The female head appears in Scot manuscripts: Berlin, Staatsbibl., germ. fol. 244; and there is no shield in Darmstadt, Landesbibl, Ms 266 and Vienna, ÖNB, Vindob. lat. 2378 and Vienna, ÖNB, Vindob. lat. 5442.]
- AURIGA** In the Hyginus manuscripts, Auriga is dressed in rags and has one goat on his shoulder and two smaller goats in his outstretched hand; the other hand holds a long flail shaped like a palm leaf. In the Scot manuscripts, he rides in a wooden cart, drawn by two oxen and two horses and holds a spear vertically in his right hand. **Ratdolt** follows Scot, save that the spear is missing.
- OPHIUCHUS** In Hyginus, he is nude, walking and has the Serpens wrapped around his hips; in the Scot manuscripts, he stands on the back of Scorpio. ** **Ratdolt's** figure faces the viewer and does not stand on Scorpio.

- SAGITTA Hyginus depicts an arrow on its own; Scot has an arrow beneath the feet of Aquila/ Vultur volans, beneath the feet of Vultur cadens and between the feet of Sagittarius. ** **Ratdolt** has an arrow and a bow on its own.
- AQUILA Hyginus depicts an eagle on its own; Scot shows two eagles (Aquila / Vultur volans with an arrow in its claws and Vultur cadens bearing Ganymede). ** **Ratdolt** follows Hyginus. [There is an Aquila without an arrow in Milan, Bibl. Ambrosiana, I 90 sup.]
- DELPHINUS In the Hyginus, Delphinus is placed on his back and has a beaky snout and a pronounced wattle; Scot has him swimming normally. **Ratdolt** follows Scot.
- PEGASUS The Hyginus Pegasus has raised wings and wears a bridle; Scot's is similar but without a bridle. ** **Ratdolt** shows Pegasus emerging from clouds without a bridle.
- TRIANGULUM (see ARIES below) The Scot and **Ratdolt** images show a separate Triangulum.
- ARIES One defining feature amongst almost all the Renaissance Hyginus manuscripts, is the depiction of Aries placed with its head 'intra triangulum'. Scot has a leaping ram without the triangle encircling his head (and sometimes a ram bearing a cross). ** **Ratdolt** has a ram walking to the left, while looking back over his shoulder.
- GEMINI Hyginus shows two nude youths shaking hands; one raises his hand in salutation and the other holds what appears to be a flame in his other hand. Scot depicts the Gemini as two winged youth, holding a curved stick and a lyre. **Ratdolt** follows Scot.
- CANCER The Hyginian Cancer is a round-bodied crab, often with a crescent on his posterior; Scot depicts an ordinary crab. **Ratdolt** follows Scot.
- VIRGO In Hyginus, Virgo is winged and holds a blade of wheat or a palm frond in one hand and raises her other hand in front of her chest. In Scot, Virgo is winged and holds a caduceus and blades of wheat. **Ratdolt** follows Scot.

- LIBRA In Hyginus, Scorpio holds the scales of Libra in its claws. The Scot Libra is a seated man holding a balance. ** **Ratdolt** shows Scorpio holding Libra in its claws.
- SCORPIO In Hyginus, Scorpio holds the scales of Libra in its claws. Scot's Scorpio appears twice: once as a scorpion without the balance (as a zodiac sign), and once beneath the feet of Ophiuchus.
- SAGITTARIUS The Hyginus Sagittarius is a youthful centaur with a drawn bow. In the Scot manuscript, the figure is bearded, has horns and a lion-skin cape fluttering out behind him, with a double-headed arrow between his hooves and a knot in his tail. ** **Ratdolt** follows Scot.
- CAPRICORN Hyginus's Capricorn is a goat with a snaky tail ending in a curl. Michael Scot's Capricorn has a slim tapering tail with no knot** **Ratdolt's** Capricorn stands on one foreleg and has a knot in its tail.
- AQUARIUS Hyginus's Aquarius is a youth holding an upturned urn in one hand. Scot's Aquarius is a standing nude male, with a farmer's hat and pouring water from an urn. ** **Ratdolt's** Aquarius is a youth pouring water into a flat dish at his feet.
- PISCES The Hyginus Pisces have both backs towards the top of the page, and their mouths are connected by a tube or string. Scot's Pisces are placed belly-to—belly and their mouths are connected with a line. **Ratdolt** follows Scot.
- CETUS The Hyginus manuscripts depict Cetus as half dog/half tapering-tailed fish; in the Scot manuscripts, Cetus is a large fish. *** **Ratdolt** follows Scot, but adds a pointed nose, tusks and a nautilus around its eye.
- ERIDANUS Eridanus is a standing nude (female?), with an urn held horizontally on her. In the Scot manuscript, Eridanus is a bearded male figure reclining (swimming) by a stream, with one hand held to his cheek and the other extended behind him. **Ratdolt** follows Scot.
- ORION Hyginus's Orion stands frontally and holds a sword upright in one hand, while resting the thumb of his other hand in his belt. Scot's Orion is dressed in armour and holds a body-length shield, while holding a sword above his head. ** **Ratdolt's** Orion is dressed in armour, his shield has a face on it and he raises a club. [The shield with a face on it appears in Scot manuscripts: Berlin, Staatsbibl., germ. fol. 244. It is also a feature of the image of Mars in Berlin, Staatsbibl., germ. fol. 244; Darmstadt, Hessische Hochschulbibl., Ms 266; Prague, DK, XXVI. A .3; Salzburg, Univ-bibl., M. II. 180; Vatican, BAV, Pal. lat. 1370; Vienna, ÖNB, Vindob. lat. 2352.]

- NAVIS The Navis is a full ship in Hyginus; it is half-a-ship in the Scot manuscripts, with a small tortoise appearing at the point where the hull is cut-off. **Ratdolt** follows Scot.
- CENTAURUS Centaurus in Hyginus is a centaur, holding a dead rabbit in one hand, which is extended in front of him; in the Scot version, he is a centaur and holds a dead animal extended in front of him in his right hand with a flask hanging from the wrist of that hand, and he has a rabbit hanging from a spear that rests on his other shoulder. ** **Ratdolt** follows Scot, except the figure is half-man and half-cow. [The figure has cloven feet in Scot manuscripts: Berlin, Staatsbibl., germ. fol. 244; St. Petersburg, Nat. Lib., lat. F. V I.X, no 1; Vienna ÖNB, Vindob. lat. 2352 and Vienna, ÖNB, Vindob. lat. 2378.]
- ARA The Hyginus Ara is a two-tier, circular altar; the Scot image is a flaming cup surrounded by four demons. **Ratdolt** follows Scot, but has two demons.
- HYDRA, CRATER,
CORVUS Hydra is a two-legged dragon in Hyginus, with Crater and Corvus on his back; in Scot, it is a snake with its head in a tree, with Crater and Corvus on its back. **Ratdolt** follows Scot.
- PISCIS AUSTRINUS The Hyginus Piscis is a large fish; the Scot image has a large fish on its back, with a smaller one resting on the larger one's stomach. ** **Ratdolt** follows Scot, but the image is inverted so the larger fish is upright and the smaller fish is beneath it .

ABBREVIATIONS

BMC = *Catalogue of books printed in the Fifteenth Century, now in the British Museum*. London: British Library, 1908-2007.

DBI = *Dizionario biografico degli Italiani*. Rome: Istituto della Enciclopedia italiana, 1960 - .

FB = PETTEGREE, Andrew; WALSBY, Malcolm. *French Books III & IV*. Books published in France before 1601 in Latin and Languages other than French. Leiden: Brill, 2012.

GW = *Gesamtkatalog der Wiegendrucke*. Leipzig: Hiersmann, 1925 - .

IGI = *Indice generale degli incunaboli delle Biblioteche d'Italia*. Roma: Libreria dello Stato, 1943-1981.

ISTC = British Library, *Incunabula Short Title Catalogue* (<http://www.istc.bl.uk>)

HAIN = HAIN, Ludwig. *Repertorium bibliographicum*. Stuttgart-Paris: Cotta-Renouard, 1826.

MOREAU = MOREAU, Brigitte. *Inventaire chronologique des éditions parisiennes du XVI^e siècle*. Paris: Service des Travaux Historiques de la Ville de Paris, 1972-2004.

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STC = *Short-title Catalogue of Books printed in France and of French Books printed in other countries from 1470-1600 in the British Museum*. London: The British Museum, 1966.

USTC = Universal Short Title Catalogue (<http://www.ustc.ac.uk>)

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