

SHARING OUT LAND: TWO PASSAGES IN THE *CORPUS AGRIMENSORUM ROMANORUM**

Virgil, in his description of the establishment of a new city by Aeneas for those Trojans who wished to remain in Sicily, is thinking of the Roman practice of colonial foundation: 'Meanwhile Aeneas marked out the city with the plough and allocated the houses (by lot)'. We may note the personal role of the founder, the ploughing of the ritual first furrow, the organized grants to the settlers and the equality of treatment implied in the use of lot (*sortiri*).¹ Virgil was writing at the end of the first century B.C. at a time of great activity in land distribution, but the Romans had been founding colonies from the mid fourth century. Each colony involved the creation of an urban area and the settlement of people on the surrounding agricultural land, and so perpetuated the city state, which was central to ancient life and culture. Indeed a colony was a smaller image of Rome itself.² In the early Republic, colonies, either of Latins or of Roman citizens, were established on the periphery of Roman territory, largely for military and strategic reasons. Between 200 and 173 B.C. more than 40,000 may have received plots of land, amounting to about 1,000 square miles of territory.³ Later, the motives for colonial foundations became more complex, being closely connected with increasing economic and political problems. There can have been few more important aspects in the development of colonies than the need to find land for discharged troops. These in the main were rank and file soldiers who would expect equal shares in land allocations.

From the first century B.C. onwards not only was it accepted that colonies could be founded outside Italy, but settlements were also set up on the site of existing *municipia* in Italy, sometimes with the addition of land confiscated from neighbouring communities. Between 41 and 14 B.C. more than 200,000 veterans were allocated land, involving the foundation of about 50 colonies in Italy, and others in the provinces.⁴ This was largely the work of Augustus and will have involved a substantial movement of population, social dislocation, and change in the pattern of landholding. Hyginus 2⁵ summed up the emperor's activity and objectives:

'Similarly, the divine Augustus, when peace had been imposed throughout the world, settled as colonists, either in Italy or in the provinces, the soldiers who had served in the armies of Antony and Lepidus and also the men of his own legions. For some of these he founded new

* I am indebted to Professor Michael Crawford and his London Ancient History Seminar for several helpful discussions on the *Agrimensores*.

¹ Aen 5.755–6, 'Interea Aeneas urbem designat aratro/sortiturque domos' (cf. 7.157).

² Aulus Gellius, *Noctes Atticae* 16.13.9.

³ T. Frank, *An Economic Survey of Ancient Rome* I (Baltimore, 1933; repr. 1959), pp. 122–4; E. T. Salmon, *Roman Colonization under the Republic* (London, 1969), pp. 95–109.

⁴ L. Keppie, *Colonisation and Veteran Settlement in Italy, 47–14 B.C.* (British School at Rome, 1983), pp. 58–86; P. A. Brunt, *Italian Manpower* (Oxford, 1971), pp. 319–44; 473–512; see also Salmon (n. 3), pp. 128–44.

⁵ The standard editions of the texts in the *Corpus Agrimensorum Romanorum* are: F. Blume, K. Lachmann, A. Rudorff, *Die Schriften der römischen Feldmesser* (Berlin, 1848–52, repr. 1962), and C. Thulin, *Corpus Agrimensorum Romanorum*, vol. 1.i (Leipzig, 1913, repr. 1971, hereafter T). The most important authors are Frontinus (late first-early second century A.D., if he is Sextus Julius Frontinus, consul III in A.D. 100), Siculus Flaccus (possibly second century A.D.), Hyginus 1 (c. A.D. 100) and Hyginus 2 (probably distinct from Hyginus 1 and often designated 'Gromaticus' on the basis of the corrupt tradition of the manuscript headings; this author is probably not later than third century A.D.).

cities after enemy settlements had been wiped out; in other cases he settled soldiers in old towns and called them colonists. Moreover, cities which had been founded by kings or dictators and which the civil wars had drained of manpower, he re-founded as colonies and increased their population, and sometimes their territory' (T 142.2–12).

In the imperial period colonies were founded by the emperor, who would usually delegate to an agent the task of organizing the venture.⁶ The land surveyors then advised on the configuration of the settlement; they measured the land and established a series of straight balks or roadways (*limites*), which had to be a certain width and which divided the land into a regular chequerboard pattern of squares or rectangles (*centuriae*), usually containing two hundred *iugera*.⁷ The intersection of the two central and widest *limites*, the *decumanus maximus* (DM) and the *kardo maximus* (KM) marked the centre of the survey. The *centuriae* enclosed all the land that was to be distributed, often including woodland and pasture, and each settler received a certain amount of land in a *centuria*, depending on how large his personal allocation was to be. This system of land division was easy to organize and administer since the surveyor, knowing the total number of settlers and the intended allocation to each, could calculate immediately how many *centuriae* were required. The *centuriae* were marked by stones recording their number and location (i.e. to the right or left of the DM and on the near side of or beyond the KM), and, according to a practice recommended by Augustus, individual allocations were to be demarcated by wooden markers.⁸

But how was the land to be allocated equitably, since although settlers were generally of equal status, the quality of the land in each *centuria* might vary? A method of sortition was employed. This was not in itself unusual since lot was commonly employed in Roman public life in aspects of voting procedure, in selecting men for official duties, and in establishing relative spheres of interest in collegiate magistracies.⁹ The procedure involved the use of a voting urn (*urna* or *sitella*) from which the lots (*sortes*) were taken, or sometimes poured (since it could be filled with water).¹⁰ Sortition had an underlying religious element, in that an arbitrary choice could express the will of the gods,¹¹ and this may have fostered the notion of fairness and equal treatment for all. Certainly the most important aspect of the use of lot in land distribution was careful organization by the government or its agents to ensure equality and fairness, not only to satisfy Roman settlers but also in the demarcation of the territory of communities and publicly owned land.¹² That equality was associated with sortition in the popular imagination is best illustrated by Horace, who

⁶ See *AE* 1975.251 (Vespasian), and cf. L. Keppie, *PBSR* 52 (1984), 98–104; E. M. Smallwood, *Documents illustrating the Principates of Nerva, Trajan and Hadrian* (Cambridge, 1966), no. 313 (Trajan).

⁷ For a summary of the variations in the size of *centuriae*, see O. A. W. Dilke, *The Roman Land Surveyors* (Newton Abbot, 1971), pp. 84–5.

⁸ For a general outline of the work of land surveyors, see Dilke (n. 7); F. T. Hinrichs, *Die Geschichte der gromatischen Institutionen* (Wiesbaden, 1974); O. Behrends, L. Capogrossi Colognesi (eds.), *Die römische Feldmesskunst* (Göttingen, 1992); G. Chouquer, F. Favory, *Les arpenteurs romains: théorie et pratique* (Paris, 1992); C. Moatti, *Archives et partage de la terre dans le monde romain (II^e siècle avant–I^{er} siècle après J.-C.)* (Rome, 1993). See also diagram 1.

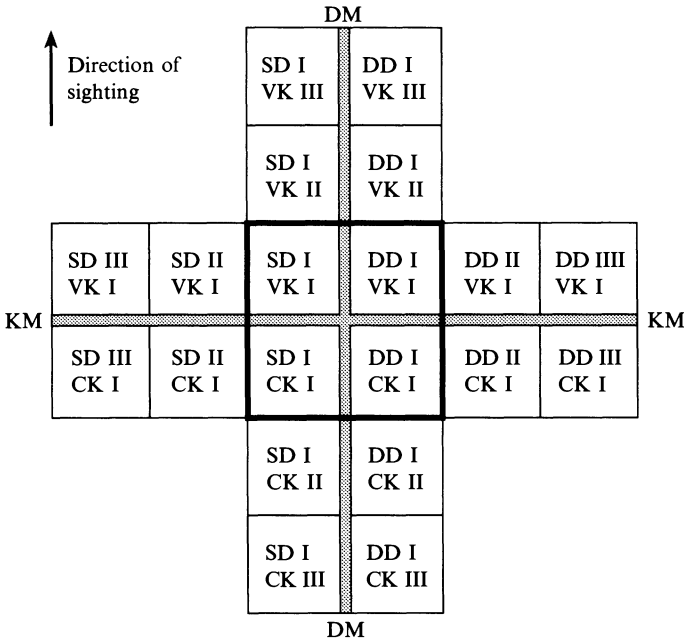
⁹ E. S. Staveley, *Greek and Roman Voting and Elections* (London, 1972), pp. 230–32; for the practice in Greek city states, *ibid.*, pp. 54–7.

¹⁰ See Plautus, *Casina*, 296; 380.

¹¹ Note that at Praeneste and Antium *sortes* were used as a form of divination (Cicero, *De divin.* 2.85; Livy, 22.1.10–12).

¹² Ennius (239–169 B.C.) in the tragedy *Cresphontes* may have in mind Roman practice in land settlements. Referring to a lottery for Messenia, he describes how 'they drew lots among themselves for the city and the land'—H. D. Jocelyn, *The Tragedies of Ennius* (Cambridge, 1967), 58 = J. Vahlen, *Ennianae Poesis Reliquiae*² (Leipzig, 1928), p. 139.

Diagram 1. Layout and designation of *centuriae*.



Notes: (i) Heavy type indicates the four central *centuriae*. (ii) Designation 'left' (SD) or 'right' (DD) of *Decumanus* and 'beyond' (VK) or 'on near side' (CK) of *Kardo* depends on the surveyor's direction of sighting as he began the survey. (iii) DM = *Decumanus Maximus*; KM = *Kardo Maximus*.

in describing how mankind is equally subject to the demands of *Necessitas*, depicts an urn containing every name from which men whatever their social rank are chosen indiscriminately.¹³

The detailed arrangements for sortition were left to the land surveyors and it is an important theme in their writings. It is significant that according to Frontinus some surveyors believed that the basic unit of land division was called a 'lot' or 'allocation' (*sors*).¹⁴ What is most striking is the sophistication of the methods to achieve fairness and this is best illustrated in two passages. Hyginus 1 writes:

Mensura peracta sortes dividi debent, et inscribi nomina per decurias [per homines denos], et in forma secari denum hominum acceptae, ut quot singuli accipere debent [decem] in unum coniungantur; et in sortem inscribi SORS PRIMA [I] D.D.I. ET SECUNDUM ET III ET IIII CITRA CARDINEM ILLUM, quo usque mensura expleri decem hominum debebit, id est in quot centuriis; similiter [h]omnium decuriarum nomina in sortibus inscripta esse, qua parte quae aut quota sors modum habeat, utrum ultra et dextra, utrum sinistra et ultra, aut citra; deinde ex decuriis, antequam sortes tollant, singulorum nomina in pittaciis et in sorticulis. et ideo ipsi sortientur, ut sciant quis primo aut quoto cumque loco exeant. *igitur omnem sortem ponere debent, in qua totius perticae modus adscriptus erit*. haec sortitio ideo necessaria est, nequis queri possit, se ante debuisse sortem tollere et meliorem fortasse potuisse incidere agri modum, aut sit disceptatio, quis ante sortem tollere debeat, cum omnes in aequo sint.¹⁵

¹³ *Carmina* 3.1.14–16.

¹⁴ T 14.3–5.

¹⁵ I here print the text of Thulin's edition, incorporating some minor changes proposed there (T 73.6–24). Words in square brackets were probably glosses. In the following translation I have transposed lines 9–10 (marked *) to line 5 (see p. 543).

'When the survey has been completed the lots (*sortes*) should be apportioned. The names (of the colonists) should be inscribed in tens, and the allocations of every ten men should be carved on the map so that all the land which each (of the ten) ought to receive is joined in one. On each lot should be inscribed, for example, 'First lot, D.D. (to the right of *decumanus*) I or the second (*decumanus*) or III or IV, on the near side of this or that *kardo*', as far as is required to complete the area of land of each group of ten men, that is, the number of *centuriae* in which their land is situated. *Therefore they should place all the lots in the draw, on which will have been written the entire area of the community's territory (i.e. when added together)*. Similarly, the names of all the groups of ten should be inscribed on lots, to see in what location which lot, or which lot in the order (they are drawn), should have its area of land, either beyond (the *kardo*) and to the right (of the *decumanus*), or to the left (of the *decumanus*) and beyond (the *kardo*), or on the near side (of the *kardo*). Then from the groups of ten, before they draw the lots, the names of individuals (should be written) on counters and tickets. Therefore they will make this draw themselves so as to know who comes out first or in whatever order. This drawing of lots is essential in case someone might complain that he ought to have made first draw of the lots and could perhaps have chanced upon a better piece of land, or in case there is a dispute over who should make first draw of the lots since they are all equal'.

Hyginus 1 assumes that land will be distributed to groups of ten; he may have in mind one *centuria* with 20 *iugera* for each settler, although at lines 4–5 he envisages that the plots of ten men might exceed the capacity of a *centuria*, perhaps because officers (such as centurions) settled with soldiers would receive more land.

It seems to me that the sentence 'igitur omnem...erit' (lines 9–10) has been misplaced in the manuscript and should be inserted at line 5 after 'centuriis', because it belongs in sense to the division of lots relating to the land; lines 10–12 ('haec sortitio—sint') should follow straight after '...loco exeant', because both sentences describe the division of lots relating to settlers.¹⁶ At line 9 the phrase 'omnem sortem ... in qua' is singular for plural, and means that when all the lots have been put into the urn, each one inscribed with its designated allocation of land for ten men, the sum of the lots so inscribed should equal the total area of land allocated to the entire community. Hyginus 1 is arguing that the surveyors should check this to ensure fair dealing and that land had not been left out of the distribution either accidentally or dishonestly.

Lines 9–10 ('igitur ...erit') clearly imply a drawing of lots relating to land. Indeed the overall sense of the whole passage requires this, otherwise there is little point in inscribing D.D. I, C.K. I etc. *on lots* (line 3). So, 'antequam sortes tollant' (lines 7–8) will refer both to the drawing of lots containing the land and to the lottery for establishing the groups of ten in an order.

According to Hyginus 1, therefore, sortition worked as follows: (i) sufficient land for ten men was marked off in consolidated form and each block of this was inscribed on a lot, e.g. *sors prima—centuria* D.D.I, C.K.I; this was entered on the map, where details of individual ownership were presumably filled in later after the process had been completed (cf. lines 6–7, where Hyginus seems to imagine what will be the case when sortition is complete). (ii) Settlers were divided into groups of ten and their names were inscribed on lots representing each group; this could have been done arbitrarily or by agreement and there is no sign in Hyginus that lot was used to establish the composition of each group of ten.¹⁷ (iii) Before the drawing of any of these lots, the names of individuals in each group of ten were put on lots and drawn by the settlers themselves, so that within each group an order of priority was established. (iv) The lots containing the blocks of land were drawn, followed by the

¹⁶ Professor Dilke suggested to me that lines 9–10 were possibly a gloss explaining lines 2–5, and that this was then mistakenly incorporated into the text.

¹⁷ As suggested by Moatti (n. 8), p. 28. It is possible that one name was inscribed to represent each group; cf. Hyginus 2 (below, p. 545).

lots containing the groups of ten settlers, and the first group of settlers so chosen received the first block of land drawn and that land was allocated among the members of the group perhaps by granting first choice to the person whose name had come out first in the individual drawing of lots, and so on. There were therefore three separate drawings of lots. At lines 10–12 Hyginus vividly imagines the anxieties of settlers of similar background and status about equal opportunities for the best land; only the careful organization of the procedure at every stage could be demonstrably fair.¹⁸

Hyginus 2 also discusses the use of lottery:

Agro limitato accepturorum comparationem faciemus ad modum acceptarum, quatenus centuria capere possit aestimabimus, et in sortem mittemus. solent enim culti agri ad pretium emeritorum aestimari. si in illa pertica centurias ducenum iugerum fecerimus et accipientibus dabuntur iugera sexagena sena besse, unam centuriam tres [homines] accipere debebunt, in qua illis tres partes aequis frontibus determinabimus. omnium nomina sortibus inscripta in urnam mittemus, et prout exierint primam sortem centuriarum tollere debebunt. eodem exemplo et ceteri. quod si illis convenerit, ut conternati sortiri debeant, qui tres primam centuriarum sortem accipere debeant, conternationum factarum singula sortibus nomina inscribemus. ut si convenerit Lucio Titio Luci filio, Seio Titi filio, Agerio Auli filio, veteranis legionis quintae Alaudae, ex eis unum sorti nomen inscribemus et quoto loco exierit notabimus. si conternationem urna faciet, singulis sortibus singulorum nomina inscribemus, et a primo usque ad tertium qui exierit erit prima conternatio. sic et ceterae. has conternationes sublata sorte quidam tabulas appellaverunt, quoniam codicibus excipiebantur, et a prima cera primam tabulam appellaverunt. peracta deinde conternationum sortitione omnes centurias sortibus per singulas inscribemus et in urnam mittemus: inde quae centuria primum exierit, ad primam conternationem pertinebit. sit forte centuria D.D. XXXV V.K. XLVII: hanc ex prima tabula tres accipere debebunt. quod in aeris libris sic inscribemus: Tabula Prima D.D. XXXV V.K. XLVII L. TERENTIO L. FILIO POL(LIA) IUGERA LXVI½ C. NUMISIO C.F. STE(LLATINA) IUGERA LXVI½, P. TARQUINIO CN. F. TER(ENTINA) IUGERA LXVI½. eodem exemplo et ceteras sortes.¹⁹

‘When the land has been divided up by *limites*, we shall compare the number of people who are to receive land with the area of the allocations, calculate how much each *centuria* can accommodate, and employ sortition. Cultivated lands are usually calculated in terms of the remuneration of discharged soldiers. If in a territory we have made *centuriae* of 200 *iugera* and the recipients are to be allocated 66^{2/3} *iugera*, then three men should receive between them one *centuria*, in which we shall mark out for them three portions with equal frontage. We shall write everyone’s name on lots and place them in an urn, and in whatever order their names come out of the urn so they should make the first draw of the lots containing the *centuriae*, and so on for the rest. But if the recipients have agreed that they should be divided into groups of three and then draw lots, as regards which three men are to receive the first of the lots containing the *centuriae*, we shall write on lots single names when the groups of three have been made. So, if Lucius Titius son of Lucius, Seius son of Titus, and Agerius son of Aulus, veterans of the legion *V Alaudae*, have made such an agreement, we shall write the name of one of these on a lot and note in what order it comes out (of the urn). If lot is used to produce a group of three, we shall write the individual names on individual lots, and the first group of three will comprise the first to the third of the lots which come out of the urn, and so on for the rest. Some people gave the name ‘entries’ (*tabulae*) to these groups of three when the sortition was completed, because they were recorded in ledgers, and from the fresh wax they called it the first entry.²⁰ When the drawing of lots for the groups of three has been completed, we shall write the names of all the *centuriae* individually on lots and place them in an urn. Then the *centuria* that comes out first will belong to the first group of three men; for example, *centuria* to the right of *Decumanus*

¹⁸ The importance of accepting with equanimity whatever the lot produced is illustrated by Agennius Urbicus, who is probably following Frontinus (T 43.23–4). The area (*modus*) of a settler’s original allocation (*accepta*) remained the basis for subsequent adjudication (T 35.8–10).

¹⁹ T 162.12–164.5, with correction of a misprint (XLVI for LXVI) in Thulin’s text at 164.3 (line 20).

²⁰ The *tabula* was a wax-covered wooden tablet which could serve as a public record; cf. Seneca, *Dial.* 10.13.4, where *tabulae* are equated with *codices*.

XXXV beyond *Kardo* XLVII: the three people from the first entry should get this. We shall write this down as follows in the bronze records: First Entry: to the right of *Decumanus* XXXV beyond *Kardo* XLVII.

To Lucius Terentius son of Lucius, of the tribe Pol(lia), 66^{2/3} iugera;
to Gaius Numisius son of Gaius, of the tribe Ste(latina), 66^{2/3} iugera;
to Publius Tarquinius son of Gnaeus, of the tribe Ter(entina), 66^{2/3} iugera.

We shall record the remaining lots in the same way' (T 162.12–164.5).

Hyginus 2 begins by describing the most simple method of sortition; lots were drawn from an urn containing the names of all the settlers, and the man whose name emerged first made first draw of the lots containing the allocations of land. Hyginus then explains a more complicated system involving the division of the settlers into groups of three, with each man receiving one third of a *centuria* of 200 iugera. This worked as follows: if three men agreed to accept any of the allocations in a *centuria*, a group was formed by consent and one name was written on a lot to represent all three and these lots were drawn; then the lots containing the *centuriae* were drawn and the first group of three got the first *centuria* to come out of the urn, and so on. But if there was no prior agreement within the intended groups of three that it was immaterial which allocation a man received, individual names were written on lots and the first three names out of the urn made up, in that order, the first group, the second three names the second group etc. Then the man whose name had emerged first in the first group got the initial choice of the allocations in the first *centuria* drawn, and so on. Finally, the surveyors personally conducted the settlers to their allocations (T 167.12).

This method of sortition is similar to that described by Hyginus 1, in respect of the use of lot to establish the order within fixed groups of settlers, whose number is determined by the amount of land to be distributed to each recipient, and the drawing of lots containing all the available land in the *centuriae*. However, in all the procedures described by Hyginus 2, lots are drawn only twice, whereas the method outlined by Hyginus 1 seems to require the use of lot on three occasions.²¹

In conclusion, it seems that in established surveying writing, much of which probably went back to the records and notes of practising surveyors, the same basic method of sortition was being recommended. The lengthy descriptions in our authors suggest that land was commonly apportioned by group lottery and that this was an important aspect of surveyors' work. The motive for this overly complicated system must be found in a desire to be patently fair to all, especially where the settlers, such as veteran soldiers, were of equal status.²² This was all the more important if Hyginus

²¹ Hyginus 1's method of sortition for groups of ten seems more complicated, or is perhaps less clearly explained. Sortition takes place on three occasions—first for the land, second to establish an order for the groups of ten, third to establish an order within the groups of ten, whereas in Hyginus 2's system the second and third stages are achieved simultaneously. Moatti (n. 8), pp. 28–9 thinks that the sortition described by Hyginus 2 at lines 12–13 was merely to establish groups of three where there was no agreement on their composition. The difficulty is that there is then no mention in the text of any lottery to establish an order within each group of three. Moatti mistakenly cites T162.19–163.1 (5–8), which in fact refers only to sortition for individual settlers where no division into groups of three is contemplated. There is nothing in the texts to support the view that there were *only* two methods for distributing land to groups of settlers, either in threes or tens (cf. Moatti (n. 8), p. 27).

²² T 73.24; 141.7–8—'they were settled along with their standards, eagle, centurions, and tribunes, and land was allocated in proportion to the rank they had held'. Hyginus 2 is here referring to the period of the late republic when entire legions were settled. Cf. T 144.13–16 (the principle of equal access to the forum for all colonists). Siculus Flaccus also mentions equal distributions to soldiers (T 119.9), though he recognizes that there were many exceptions (120.12–23).

2 was right in thinking that Augustus' legislation provided for the distribution of *cultivable* as well as cultivated land to soldiers, since the former might include wood and pasture (T 166.10–19). Some soldiers were to complain in the mutiny of A.D. 14 that veterans too often received bare hillsides and marshy swamps as their allocations.²³

Great care was taken to record all the results of the drawing of lots. It is clear from Hyginus 2 (line 11—'notabimus') that the surveyor kept a temporary written record of the order in which the lots emerged. At the completion of the lottery each man's allocation was entered on a bronze map of the settlement presumably for public display, and additional details were registered in the official records, also usually in bronze, all of which were to be kept in the colony with the founder's signature appended. Copies of this material, also signed by the founder, were stored in the imperial record office in Rome.²⁴ Hyginus 2 expected emperors to consult these archives (T 165.4–6), and he (or his source) may well have had access to official records since the second group of three settlers whom he names from the legion *V Alaudae* includes the proper filiation and tribe name of the soldiers, perhaps indicating a genuine example.²⁵

Surveyors were the independent arbitrators of a lottery whose operation required not only considerable skills of organization and management of people, but also the full co-operation of all the settlers and a notable degree of literacy and conceptual awareness, in either writing or recognizing names and designations of *centuriae* and personal allocations on lots and official records, or in understanding how the system was intended to benefit them. And the evidence that surveyors provide is invaluable precisely because they were so closely involved in a professional capacity in events central to Roman life: the extension of land ownership, the movement of people, and the establishment of new settlements. Ovid's comments on the legendary age of iron surely reflect a contemporary world where man was trying to establish order and divide land equitably: 'The meticulous surveyor marked out with a long *limes* the ground which had previously belonged to everyone, just like sunlight and air'.²⁶

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²³ Tac. *Ann.* 1.17. This presumably came about through the incompetence or dishonesty of officials, or a lack of funds for the purchase of suitable land if none were available through conquest.

²⁴ See Moatti (n. 8), pp. 63–78.

²⁵ Keppie (n. 4), p. 94 suggests that Hyginus was referring to Augusta Emerita (Mérida) founded in 25 B.C. by Augustus' legate P. Carisius.

²⁶ *Met.* 1.135–6 'communemque prius ceu lumina solis et auras/cautus humum longo signavit limite mensor'.