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Colonial landscapes : demography, settlement organization and impact of colonies founded by Rome (4th-2nd centuries BC)

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Chapter 3.

DIVIDED LANDSCAPES?

1. Introduction

In the previous chapter it was pointed out that survey archaeologists have not detected the densely settled colonial territories implied by the text-based demographic estimates. As a potential explanation of this discrepancy, I pointed out the possibility that the conceptual framework which sees colonial territories as regularly settled peasant landscapes might have biased the interpretation of the archaeological record of these landscapes. If the *idée fixe* that colonial territories were inhabited by people in isolated farmsteads located at regular distances from each other is set aside, it is possible to recognize other patterns of settlement which reduce the gap between population estimates which are based on the literary sources and the results from archaeological field surveys. However, this conclusion is not tenable unless the evidence on which the conventional model of colonial territorial organization is based is examined and an attempt is made to assess if the model is a valid touchstone by which the archaeological data can be tested.

No doubt, the assumption that colonial landscapes were settled regularly by mono-nuclear farmsteads is rooted in the reports about the distribution of equally sized allotments to Roman colonists. The existence of *agri diuisi et adsignati* is firmly attested to in late-Republican and Imperial times, and in the *Corpus Agrimensorum Romanorum* it is possible to find detailed descriptions of how these landscapes were created.²⁷⁷ Although comparable information is lacking for the mid-Republican period, two important pieces of evidence are often used to corroborate its existence in this period: 1) references in the sources which state that land was distributed in equal parts; 2) archaeological traces of land division programmes. These data are the theme of this chapter.

The discussion will commence with the evidence from the literary sources. Reports about the handing out of equally sized allotments to colonists have contributed strongly to the view that Roman Republican colonial territories were more or less egalitarian landscapes which differed markedly from the situation in the homeland of the colonists where the lower classes suffered severely from aristocratic exploitation and where social mobility was virtually impossible. Surprisingly, only a few of these literary references to allotment sizes actually indicate the existence of autarchic peasant landscapes. Only those allotments handed out to settlers in the Latin colonies which were founded after the Second Punic War and to the participants in a few viri-tane colonization programmes would

²⁷⁷ See Campbell 2000, 278-316; Chouquer and Favory 2001, 169-175.

have been substantial enough to sustain a colonial family (even though in the latter case the allotments were at the absolute required minimum). Judging from the allotment sizes recorded for the period *before* the Second Punic War and those distributed to colonists of citizen colonies, the area of land colonists were assigned was too small to support a family. If the reports are genuine, this must imply those colonists had additional sources of income. Conventionally, it is supposed that either these reports are corrupt or that colonists had access to public lands to supplement their income. From this point of view, colonies can still be considered more or less egalitarian peasant communities. In Sections 2 and 3, I shall discuss these theories and delve more deeply into what extent the literary evidence justifies the idea that colonial landscapes were (semi-)egalitarian peasant communities.

In the second part of this chapter, the traces of land division systems which have been identified in former colonial landscapes will be reviewed. Detailed study of aerial photographs in the area around most colonies has revealed stripes at regular intervals in the landscape. These are generally interpreted as evidence of land division. Since the existence of equally divided landscapes in the pre-Punic War period cannot be inferred from either survey archaeology or from the literary evidence, their supposed existence depends heavily on this data-set. The problem with these traces is that, since land division systems were created at various periods of Roman history, they are notoriously difficult to date. From the Gracchan period onwards there are detailed descriptions in the *Corpus Agrimensorum Romanorum* about where, when, and how land was divided; in contrast, evidence for the pre-Gracchan period is sparse and vague. In this chapter, the arguments which have been used to demonstrate that this practice began in the period before the Second Punic War will be investigated and analysed.

Table 13: Land distribution and allotment size according to the literary tradition

Year B.C.	Place	Type	Nr. recipients	Size of allotments in iugera	Reference	Size of Ager divisus et adsignatus	Density of allotments per km.2
Regal	-	Viridane	<i>each citizen</i>	2	E.g. Varro RR 1.10.2		200
504	River Anio	Viridane	5,000 Sabine families	2 (<i>plethra</i>)	Plutarch <i>Publ.</i> 21		
418	Labici	Colony	1,500 <i>coloni ab urbe</i>	2	Livy IV,47	7.5 km.2	200
395	Volscan frontier	Colony	3,000 Roman citizens	3 7/12	Livy V, 24	27 km.2	112
393	Veii	Viridane	each plebeian	7	Livy V, 30	-	57
389	Veii	Viridane	-	4 or 28 <i>plethra</i>	Diod XIV, 102, 4	-	286 or 41
385	Satricum	Colony	2,000 Roman citizens	2.5	Livy VI,15	12.5 km.2	160
383	Ager Pomptinus	Viridane	plebeians	-	Livy VI, 21	-	-
339	Ager Latinus	Viridane	plebeians	2+ ¾	Livy VIII,11	-	145
339	Ager Falernus	Viridane	plebeians	3	Livy VIII,11	-	113
329	Anxur	Maritime colony	300	2	Livy VIII,21	1.5 km.2	200
290	Sabinum	Viridane	-	7	e.g. Val Max IV, 3,5; Columella 1 <i>praef</i> 14	-	57
232	Ager Gallicus and Picenum	Viridane	Roman citizens	-	e.g. Polyb 2.21	-	-
201	Samnum and Apulia	Viridane	veterans	2 for each year of service	Livy XXXI,4 and 49	-	-
193	Copia	Latin colony	3,000 (ped.) 300 (equi.)	20 (ped.); 40 (eq.)	Livy XXXV,9	180 km.2	20 (ped.) 10 (eq.)
192	Vibo Valentia	Latin colony	3,700 (ped.) 300 (eq.)	15 (ped.); 30 (eq.)	Livy XXXV,40	161 km.2	27 (ped.) 13 (eq.)
189	Bononia	Latin colony	3,000	50 (ped.) 70 (eq.)	Livy XXXVII,57	390 km.2	8 (ped.) 6 (eq.)
184	Potentia	Roman colony	-	6	Livy XXXIX,44	30 km.2	67
184	Pisaurum	Roman colony	-	6	Livy XXXIX,44	30 km.2	67
183	Mutina	Roman colony	2,000	5	Livy XXXIX,55	25 km.2	80
183	Parma	Roman colony	2,000	8	Livy XXXIX,55	40 km.2	50
183	Saturnia	Roman colony	-	10	Livy XXXIX,55	50 km.2	40
181	Aquileia	Latin colony	3,000+	50 (ped.); 100 (cent); 140 (eq.)	Livy XL,33	375+ km.2	8 (ped.) 4 (cent.) 3 (eq.)
181	Graviscæ	Roman colony	-	5	Livy XL,29	25 km.2	80
177	Luna	Roman colony	2000	51.5 or 6.5	Livy XLI,13	258 km.2	8
173	Ager Gallicus	Viridane	Roman citizens and allies	10; 3 for allies	Livy XLII,4	-	40 113 (al)

2. Problems with the early references to distribution of small allotments

*Two iugera form a heredium, from the fact that this amount was said to have been first allotted to each citizen by Romulus, as the amount which could be transmitted by will.*²⁷⁸

In the literary tradition, several references can be found to the allocation of small plots of land to Roman citizens (see Table 13). As the passage in Varro shows, this tradition, at least from the late Republican period and thereafter, was believed to have begun with Romulus himself. In the narratives of Livy and Dionysius, several such land distribution programmes are actually recorded. In the early Republican period at least twenty-five different proposals were made to divide recently conquered land among the plebs; most failed in the face of the opposition raised by the patricians who preferred to keep the land under public ownership, which meant that *de facto* they could exploit it.²⁷⁹ Despite their objections, some proposals do seem to have been successful; the most famous of which was the division of *Ager Veientanus* for which Livy records that each plebeian, not only the head of family but children too, received 7 *iugera* of land. Others are: the *Ager Pomptinus*; the *Ager Latinus* (2 *iugera*) supplemented with $\frac{3}{4}$ *iugerum* in the territory of Privernum; the *Ager Falernus* (3 *iugera*). Similar small allotments are also reported to have been distributed to colonists: Labici (2 *iugera*), an unnamed colony on the Volscian frontier ($3\frac{7}{12}$ *iugera*) and Satricum (2.5 *iugera*).²⁸⁰

Most ancient historians and archaeologists consider the historicity of these early allocations dubious. Their first objection is that the whole socio-political context in which these land distribution programmes are placed by Livy and Dionysius, namely the struggles between the orders and the issue of land distributions to the poor, is highly reminiscent of the situation in the Gracchan period.²⁸¹ For example, when describing the land distribution carried out in the territory of Veii, Livy states that land was given not only to heads of families but to all children too; this in the hope that men might be willing to bring up children. This assertion is very like the rhetoric used to legitimize the Gracchan land reforms, and might have been anachronistic.²⁸²

Another problem is the size of the holdings distributed. The *heredium* of two *iugera* as the basic unit of virginate distribution, allegedly established by Romulus, seems particularly suspicious and it has been argued that it might well be a pseudo-historical reconstruction on the basis of the fact that

²⁷⁸ Varro *Rust.* 1.10.2. See also Pliny *NH* 18.7.

²⁷⁹ See Cornell 1995, 270 and Hinrichs 1974, 9 for an overview.

²⁸⁰ See Table 13 for references.

²⁸¹ Eg. Càssola 1988.

²⁸² Especially App. *BCiv* 7-11. See, however, Patterson 2006, 195-198, for the view that, although Livy made use of Gracchan analogies, this does not imply that the narratives are fictitious anticipations of Gracchan proposals. Especially the absence in these stories about land division of the central theme of the Gracchan reforms, namely the introduction or maintenance of 500 *iugera* as an upper limit for holdings of *ager publicus*, in his view, seriously undermines this sceptical position. Moreover, the fact that the plans for land divisions coincide with periods of Roman military success and territorial expansion give these agrarian proposals a plausible historical context. For counter-arguments see Smith 2006, 239-240.

one *centuria* consisted of 100 plots of 2 *iugera*.²⁸³ The nub of the problem is that there is a general consensus that the crops which could be grown on such small plots could not have kept a peasant family alive.²⁸⁴ Nevertheless, the fact they are considered too small to sustain a family does not imply they are fictitious. Although 2 *iugera* is often given as a basic unit of allotment (for example, Labici, Ager Latinus, Anxur) which could indeed be explained as an anachronistic reconstruction, this line of argument does not explain the three-quarters of a *iugerum* distributed in the *Ager Privernus*, the 2.5 in Satricum and especially the 3 7/12 *iugera* distributed amongst the colonists sent to the Volscian frontier. Interestingly, 3 7/12 *iugera* (= 0.904 hectare) corresponds almost exactly to 12 *uorsus* (= 0.907 hectare), which suggests that Livy or his source translated original allotment sizes which were measured in the ancient Italic measurement unit of the *uorsus* into *iugera* (see also below for a more detailed discussion of the use of the *uorsus* in ancient land division schemes). If correct, this is an argument in favour of the reliability of these references to allotment size.

If these references to the small size of the allotments distributed do contain a grain of historical truth, how can they be explained? The issue is closely related to the Roman socio-economic organization in this period. Roughly, three different views have been defended in the modern scholarly debate. According to an old tradition, Roman society in this period was basically still a tribal one, in which the bulk of the land was the property of the *gentes* and was worked collectively by their clients.²⁸⁵ In this scenario, the small size of the allotments distributed is explicable as a first, and very limited, step towards the privatization of land and consequentially the emancipation of the lower classes; the small size guaranteed that Roman farmers continued to be dependent on the *gens*.

The existence of so-called *ager gentilicius* which was worked collectively in the mid-Republican period has been strongly questioned and most scholars think this system was abolished in the Early Republic (if it existed at all).²⁸⁶ Among scholars of Roman agrarian history, there is now a strong consensus that during the Republic, at the latest after the promulgation of the *lex Licinia* of 367, Rome was a society of independent smallholders who had enough private land to feed their families. This view is based mainly on legal evidence (especially the Twelve Tables), which suggests that private property was known in this period. In contrast, there is very little in these sources to support a model of collective, tribal-based ownership.²⁸⁷

²⁸³ E.g. Gabba 1984, 20. But see Gabba 1985, 266 for the possibility that the reference in Livy to 2 *iugera* plots of land distributed among the colonists in Anxur is genuine. Salmon 1969, 22 accepts that 2 *iugera* was the basic unit of land distribution in Roman territory.

²⁸⁴ Generally, between 5 and 10 *iugera* is considered the minimum needed to sustain a family. On this see, for example, Salmon 1969, 72 n. 110, Galsterer 1976, 47 with further references. The famous, but controversial speeches of Sextius and Licinius (Livy 6.36) support this view. They clearly stated that the small size of the plebeian holdings (2 *iugera*) was not enough to live on and would eventually incur debts.

²⁸⁵ For good recent discussions of this view see Smith 2006, 236-250 (with further references).

²⁸⁶ Roselaar 2010, 20-31, for a detailed critical discussion of the phenomenon (with further references). See, however, Terrenato 2007, who argues that clan structures, especially in the rural domain, remained important throughout the whole Middle Republic. He challenges the orthodox paradigm which sees a radical socio-political transformation in the Early Republic from *Gemeinschaft* (communal) to *Gesellschaft* (individual).

²⁸⁷ See Roselaar 2010, 20-31.

In fact, the small allotments distributed to colonists sit rather uneasily with this understanding of the Roman economy. In the framework of the argument which explains the rise of the peasant economy, colonization and land distribution play a crucial role: they were what made it possible for the lower classes to begin a life free of aristocratic control. However, the fact that the holdings distributed were too small to sustain a family raises questions about the truly independent existence of the recipients and challenges the model of the autarchic soldier-farmer. The most commonly accepted solution to this problem is found in the public lands. In contrast to what proponents of the 'gentile' economy advocate, this land might have been exploited individually, through the instrument of *occupatio*.²⁸⁸ The reason distributed plots (private property) were kept small was to stop colonists qualifying for membership of a higher censorial class which would have upset the arrangement of the Centuriate Assembly at Rome.²⁸⁹

This interpretation of Roman socio-economics, the use of the *ager publicus* in particular, is not without problems. According to an obscure passage in Cassius Hemina, plebeians could not occupy public lands.²⁹⁰ Moreover, the literary tradition makes it very clear that the purpose of agrarian laws was to change this custom of patrician control of conquered lands. Although it could be argued that these passages are corrupt or that they only describe an anomalous situation which is not necessarily true for all *ager publicus*, it remains difficult to explain why plebeians displayed such an urgent desire for land division programmes, if they could occupy common lands as easily as the patricians. Even if there was no official restriction on the exploitation of public lands by plebeians, it is clear that in reality plebeians had a very weak position and were often not able to exploit these lands successfully. For example, Livy (4.51.5-6) reports on the confiscated territory of the small community of Bola which the Senate did not want to divide among the plebeians in 416. This was perceived as a grave injustice because the unoccupied territory (*agrum vacuum*) would soon become like all the rest, the booty of a few. This passage suggests that occupation of public land was regulated according to a principle of the survival of the fittest; the fittest, of course, were those who wielded economic and socio-political power.²⁹¹

Recently, a third scenario has been proposed which also questions the independent citizen farmer versus gentile collective dichotomy. In a recent article, De Ligt has postulated that some form

²⁸⁸ E.g. Cornell 1995, 269; Roselaar 2010, 20-31. Other solutions are to dismiss the recorded size of holdings as corrupt (discussed above) or, as Rathbone 2008, 307 n. 9, has most recently suggested that recipients, in his view veterans, received the recorded amount of land as booty in addition to their existing farms. This practice is known from later times. Scipio gave all his veterans 2 *iugera* for each year of service (Livy 31.4 and 31.49). However, there is little evidence in the sources which suggests that veterans were the principal beneficiaries of land distribution programmes in this early period. The sources clearly connect land division with social unrest in the city.

²⁸⁹ Salmon 1969, 72.

²⁹⁰ Cass. Hem. F17P *ap. Non.* P. 217L. *quicumque propter plebitatem agro publico eiecti sunt* (All those who were evicted from public land because of their plebeian status). Cassius Hemina probably wrote his text before the Gracchan Crisis. Livy also strongly suggests that plebeians had problems in obtaining access to public lands. See Smith 2006, 240-250 for arguments against the view that plebeians could occupy public land. Another argument against the use of common lands by farmers to supplement their meagre income is raised by Rathbone 2003. His argument is that there was not much undivided arable land left which could be exploited by these farmers. Against this position see Roselaar 2008, 574-583.

²⁹¹ Recent archaeological discoveries, especially in what is known as the Auditorium villa, strongly support the view that the Roman rural landscape was dominated by members of the elite (Terrenato 2001; Carandini, et al. 2007).

of tenancy already existed in the early and mid-Republican periods.²⁹² On the basis of indications in the Twelve Tables, he argues that, contrary to the conventional opinion, a legal framework for tenancy had already existed from the fifth century at least. This in combination with ‘the fact tenancy of one kind or another has been important in virtually all pre-industrial societies makes it at least highly probable that tenants were widespread long before the final decades of the second century.’ The argument is attractive since it offers an elegant explanation for the distribution of small allotments; one which does not conflict with the suggestion made in the sources that the lower classes were not able to exploit the public grounds successfully. Therefore it does not necessitate a controversial model of communal ownership and exploitation of land by private *gentes*.²⁹³

Small allotments must have been an attractive proposition to Roman tenants since they provided an opportunity to build a house; a place of their own which was free from aristocratic control and potential exploitation.²⁹⁴ The small allotments gave them limited control over themselves and their fate, but still ensured that they remained dependent on large landowners and other employers to supplement their meagre revenues. Such a system guaranteed the elite access to a pool of temporary labour, which allowed them to keep the permanent (slave) labour force of their estates small.²⁹⁵ In fact, the proposed scenario offers an attractive intermediate phase between the full dependency of the *nexi* and the total independency of the autarchic soldier-citizen. In the course of time, some farmers are likely to have acquired more land through marriage and inheritance, possibly even in additional land distribution programmes, which helped to diminish their dependency on the landed gentry. Others, especially younger sons, had little or no landed property and were fully dependent on the elite estates for their income. Naturally, they fought for new division programmes which would improve their socio-economic position.

The model of partial dependency runs into difficulty when applied to colonial distributions. Besides its egalitarian quality, the essence of a colony is often thought to have been the self-sufficient character of the farms of the colonists. The theory that the members of the colonial community were dependent on Roman landed aristocrats does not tally with such an idea. However, there is good reason to question the supposed autarchic nature of the colonies for which the handing out of these small allotments is reported.

The theory that early Roman colonies were independent new communities is based on two arguments: their location in alien territory far from Rome and the idea that colonization before the Latin War was a co-operative enterprise of the Latin League which, as a mixed community of Roman

²⁹² De Ligt 2000.

²⁹³ See Rosenstein 2004, 181-182 for an argument against De Ligt’s thesis. For a response see De Ligt 2007.

²⁹⁴ In the antiquarian writings it is stated that the *heredium* was passed on to holders’ heirs and could not be alienated (Cf. Plin. *NH* 19.19.50). If true, this apparent restriction on selling or other form of change of ownership guaranteed the holder protection against total dependence on aristocrats (such as was the case with the *nexi*); the land, and thereby also its owner, was permanently protected against aristocratic control. In the context of the social reforms which tried to abolish the debt-bondage system (*lex Poetelia Papiria*), such a provision makes good sense.

²⁹⁵ On the problems with maintaining large permanent slave workforces see: Garnsey 1980; Skydsgaard 1980; Rathbone 1981; Jongman 2003.

and Latin settlers, symbolized the bond between the various members of the League and formed a new independent community which was tied to the Latin cause through membership of the Latin League. In reality, the colonies for which the small allotments are recorded are located close to Rome, and are unlikely to have been foundations of the Latin League. Livy, for example, never suggests that these colonies were founded by the Latin League. In fact, he makes it very clear that he believes the colonies to be Roman foundations.²⁹⁶ Cornell, who accepts the Livian tradition in this regard, states it is even questionable whether these settlements became truly self-governing communities.²⁹⁷ Land bordering the *Ager Romanus* 'may have been annexed and assigned *uiritim* to Roman citizens who were not formed into a new community but remained citizens and were administered directly from Rome'.²⁹⁸ As an example of such a procedure he points out the colony sent to Labici which was located close to Rome and was founded to forestall agrarian agitation.²⁹⁹ Other examples of colonies located close to Rome which were founded in response to controversies about land in Rome are Satricum and that founded near the Volscian frontier (the only other two instances in which small allotment size is reported).³⁰⁰ On the grounds of the evidence, there is little reason to suspect a very different socio-economic system at work in these colonial areas from the one which has been proposed for the viritane areas.

In short, the references in the sources to the distribution of small allotments in colonial and viritane land division programmes cannot simply be discarded as late Republican historiographic inventions. Leaving aside the fact that their different and peculiar size is difficult to explain in this way, they make sense in the socio-economic context of the period in which Roman farmers fought for emancipation. The problem of whether or not Roman society was still basically a tribal one is difficult to resolve with the evidence currently available. Nevertheless, it does seem clear that, despite the social reforms, Roman society continued to be dominated by elites on whom the lower classes continued to depend in varying degrees, either as tenants or as clients. Therefore, the small allotments given to Roman citizens who settled on newly conquered land are best considered an important, but still very limited step towards the true emancipation of the plebs. The *coloniae civium Romanorum* were no exception; the small allotments fit perfectly into this picture of a society dominated by an elite group whose members reluctantly, indeed only after serious danger of social unrest, relinquished a small piece of their absolute power.

²⁹⁶ Cf. discussion in Section 2.4. Livy often uses the term *coloniae Romanae* for these colonies; and refers to the settlers as *cives Romani* (see Salmon 1969, 171 n. 53 for references).

²⁹⁷ Cornell 1995, 302. See also Oakley 1997, 341-344 on the subject. This is, for example, also illustrated by the fact that in the *triumviri* are all Roman magistrates.

²⁹⁸ Cornell 1995, 302.

²⁹⁹ Livy 4.47.

³⁰⁰ Livy 6.16; 5.24.

3. Explaining the gap: land distribution between the Latin War and Dentatus

Between the Latin War and the conquests of Dentatus in the early third century, remarkably few references to the size of distributed allotments, either viritane or colonial exist, even though this is the period in which most colonies were founded. In fact, only one reference has been transmitted: the 2 *iugera* distributed to the 300 colonists in the maritime colony of Terracina.³⁰¹ The size is similar to that of the preceding period and it could therefore be assumed that a similar socio- economic system was at work. What is particularly surprising is that no information at all about Latin colonies has been transmitted, although there is plenty of information about the number of settlers.

The conventional view is that Latin colonists received larger allotments than the colonists sent to Roman colonies and those who participated in viritane land distribution programmes. This conclusion is based on the situation after the Second Punic War for which there is a marked difference in the size of allotments handed out in Roman colonies and those in Latin ones; the latter was generally three times as large (see Table 13). Likewise, it is assumed that a differentiation was made between allotments distributed to *equites* and those to *pedites*, with the former receiving allotments twice as large. Since after the Second Punic War, an obvious increase in the size of allotments distributed over time (from 15 to 50 *iugera*) can be observed, it is suggested that allotments distributed in the pre-Hannibalic period were smaller than those distributed later, but larger than those distributed before the Latin War; therefore between 7 and 15 *iugera*.³⁰² This reconstruction of Latin colonial rural organization is based on the conviction that the model for Latin colonization was established immediately after the Latin War, and did not alter much in the 150 years it functioned.³⁰³ However, as I shall argue below, there are good reasons for suspecting that such a static view is incorrect and that the practice of Latin colonization did change substantially during this period. In the light of a possible change in Latin colonial practice, the absence of references to the size of the allotments distributed to Latin colonists in late fourth/ early third century colonies assumes greater importance.

A first fragile clue can be found in the lemma of Festus (276L) which explains the term *priscae coloniae Latinae*. In this category, conventional understanding recognizes the old Latin colonies founded before the Latin War,³⁰⁴ but the passage is not at all clear about which group of old Latin colonies is intended, and consequently it is possible that Festus, or the source he used, was referring to another moment of institutional change.³⁰⁵ The only clue provided by the text is that they were called *priscae* to distinguish them from the newer foundations which were established by the

³⁰¹ Livy 8.21.

³⁰² For such reasoning Carandini, et al. 2002, 122-123.

³⁰³ E.g. Gargola 1995, 51.

³⁰⁴ Salmon 1953, 94-97.

³⁰⁵ Wiegel 1983, 194-195. Also Bispham 2006, 132 n. 61. As I have discussed in the introduction to this book, he sees (with Crawford 1995) an important moment of colonial institutional change at the beginning of the second century. In his view the passage could just as well refer to the Latin colonies founded before the second century.

populus.³⁰⁶ According to the traditional interpretation of the text, this should be understood to refer to the Latin colonies established by the *populus Romanus* as opposed to those founded by the Latin League.³⁰⁷ However, the text only gives *populus* and therefore it seems more plausible that it refers to a change in the policy regarding the body which decreed the founding of colonies. From this perspective, the ‘new’ colonies were those which were established by the people rather than by the Senate.³⁰⁸ In fact, the only recorded instances of Latin colonies whose foundation was prescribed by a plebiscite date to the early second century.³⁰⁹ In 194, the *tribunus plebis*, Q. Aelius Tubero, issued a plebiscite by order of the Senate (*tribunus plebis ex senatus consulto tulit ad plebem, plebesque scivit*) for the foundation of two Latin colonies: one in Bruttian territory (Vibo Valentia) and the other in the territory of Thurii (Copia).³¹⁰ Interestingly, these two Latin colonies are the first for which information is provided about the sizes of the allotments distributed. Before and after that time, the only body reported to have decreed the foundation of Latin colonies was the Senate.³¹¹ However, earlier references exist for plebiscites ordering the foundation of *coloniae civium Romanorum* and viritane land division schemes. The earliest dates to the third century.³¹²

That something might have changed in Roman colonial policies is further supported by the well-known change in policy about the size and location of citizen colonies, which increased from 300 to 2,000 settlers after 184 and were no longer situated only on the coast.³¹³ This change is often explained as the result of serious recruitment problems for Latin colonies after the Second Punic War.³¹⁴ The heavy casualties suffered during the war resulted in less pressure on land and hence less motivation for migration to distant and potentially dangerous lands. It is also assumed that Roman citizenship was cherished more greatly in this period, since being a Roman meant having better access to the enormous riches acquired by imperial success of Rome. In order to guarantee enough Roman settlers would migrate to colonies near the frontiers of Roman Italy, Rome changed its colonial policy and allowed some inland colonial communities to retain their Roman citizenship (the so-called citizen colonies of the agrarian type) or very large allotments were granted to tempt Latin colonists.

³⁰⁶ *Priscae Latinae coloniae appellatae sunt, ut distinguerent a novis, quae postea a populo dabantur.*

³⁰⁷ This interpretation is made less plausible by the doubts which have been raised against the presumed co-operative colonization scheme of the Latin League, discussed previously.

³⁰⁸ Cf. Wiegels 1983, 195.

³⁰⁹ See Laffi 1988 for a good overview and discussion of the relevant passages.

³¹⁰ Livy 34.53.

³¹¹ Laffi 1988. See Gargola 1995, 53 who accepts the view that the sequence of senatorial decree and plebiscite was standard practice.

³¹² The relevant examples are the viritane distribution scheme (232) of Flaminius (Cic. *Inv. rhet.* II. 52) and the foundation of the five citizen colonies (of the maritime type) in 197 (Livy 32.29). In 296, the first plebiscite in a colonial context is recorded (Livy 10.21). However, the law decreed who were to be the triumviri, not the foundation of the colony proper. Laffi states that these reports (and that regarding the two Latin colonies), might be (post) Gracchan corruptions. Nonetheless, the fact that they post-date the Lex Hortensia lends them at least some credibility. Wiegels 1983, who accepts these reports, postulates that the change in policy must have taken place in the late fourth century (just before 311). This theory is based on circumstantial evidence, namely the fact that in 313 for the first time the consul elected the *triumviri* instead of the Senate (Livy 9.28) and that in 311 the tribal assembly was given the power to elect military tribunes and *duumviri navales* (9.30).

³¹³ See Salmon 1969, 95-109.

³¹⁴ Salmon 1969, 100, 103. See also Mouritsen 2008, 478-480.

There is reason to believe that in earlier times some attempts were also made to make Latin colonization more attractive. After the conquest of Sabinum and the defeat of Pyrrhus by Dentatus, Rome acquired an enormous amount of territory which was used for virgane distributions in various phases (first by Dentatus and later by Flaminius). This availability of land within the *Ager Romanus* might have made Latin colonization (and the consequent loss of Roman citizenship) less attractive and this situation might have prompted Rome to change its colonial policies.³¹⁵ A possible clue to this assumption comes from an obscure passage in Cicero *Pro Caecina* 102, recalling some special rights twelve colonies, including Ariminum, held.³¹⁶ Although the precise meaning of the passage is debated, the general conviction is that the twelve colonies mentioned had a juridical status different from that of other Latin colonies which at least regulated that they had the right to inherit property from Roman citizens, just as the members of Roman communities.³¹⁷ If Salmon is correct in identifying the twelve colonies with the last twelve colonies of the Latin type, beginning with Ariminum, the institutional change can be dated in 268, not much later than the probable date of the large-scale virgane land division programmes of Dentatus.³¹⁸

Although radical institutional change in the third or early second centuries is still debatable (as none of the arguments is conclusive), there is still a good possibility that the remarkable change in the reporting of Latin colonial allotment sizes in the early second century might reflect a genuine change in Roman colonial practice. The argument that Livy, or the source he used, was not interested in this kind of information or simply forgot to mention it, then becomes less convincing, especially since Livy in all other cases (earlier and later) where the number of colonists is specified he also provides the size of the allotments distributed.

³¹⁵ The literary traditions report several plebeian secessions, probably related to land problems in the same period. On this see Forni 1953.

³¹⁶ *Nam ad hanc quidem causam nihil hoc pertinuisse primum ex eo intellegi potest quod vos <ea> de re iudicare non debetis; deinde quod Sulla ipse ita tulit de civitate ut non sustulerit horum nexa atque hereditates. Lubet enim eodem iure esse quo fuerint Ariminenses; quos quis ignorat duodecim coloniarum fuisse et a civibus Romanis hereditates capere potuisse?* ‘The law {of Sulla} decrees that they are to have the same rights as the people of Ariminum, which, as everybody knows, was one of the Twelve Colonies and had the right to inherit under the wills of Roman citizens.’

³¹⁷ E.g. Salmon 1969, 92-94. In an earlier article Salmon 1936, 58-61 had argued instead that Ariminum was the last in the group of twelve colonies which remained loyal to Rome in 209. For the theory that the last twelve Latin colonies had an inferior status to those founded previously see Mommsen *St. R.* iii, 623 ff. See for a discussion of this passage also Sherwin-White 1973², 102-104; Bispham 2006, 89 and 134 n. 87 for references. Recently Antonelli 2006 has argued that the twelve colonies refer to Sullan foundations. This thesis has some attractive aspects (especially that it is chronologically closer to the time of Cicero). However, the foundation of a colony in Ariminum by Sulla is not certain and it remains unclear why the people of Ariminum in 82, hence after the passing of the *leges Julia* and *Plautia-Papiria*, required special rights which allowed them *a civibus Romanis hereditates capere*. See also the *Commentationum Epigraphicum Volumen*, 233f for the view that the twelve colonies mentioned refer to the twelve colonies founded by Drusus Livius in 122 (Plut. *C. Gracch.* 9). Usually the foundation of a late Republican colony at Ariminum is attributed to either Augustus or Antony, thus after Cicero’s speech (e.g. Keppie 1983, 15, 20, 67).

³¹⁸ Salmon 1969, 92-94. Salmon argues that the scanty evidence points towards some sort of reformulation of Latin rights which made them closer to those of Roman citizens, especially regarding inheritance rights. The reason behind this change should perhaps be sought in attempts to make Latin colonization more attractive; it softened the negative aspects of losing Roman citizenship. Another possibility mentioned by Salmon is that Latin status was defined more as that of the *cives sine suffragio*; a status which never seems to have been granted again after 268.

The theory which argues that there was a change in the way Rome regulated Latin colonization raises the question of how Latin colonization was organized before that time.³¹⁹ To find an answer to this question, it is necessary to go back to the early colonial practices discussed in the previous section. There it was argued that the distribution of small-sized holdings on Roman territory is best understood as a very limited protective measure which guaranteed that simple farmers had some land of their own, but did not make them totally independent. The small allotments also ensured that enough land remained open for patrician exploitation and thereby avoided disturbing the socio-economic balance in Rome.

In the case of colonists who went to non-Roman territory other considerations are likely to have been more important. Why should Rome have regulated the exploitation of these lands? Given the remote location of these colonies, direct control from Rome was difficult. It is hard to believe that Rome had a firm grip on these conquered territories. It is far more likely that colonization was a means to ensure some sort of durable control of these areas. Colonists, possibly under the guidance of the *triumviri*, were probably personally responsible for the exploitation and defence of the newly conquered fields.

In situations where enough land was available for cultivation, there would have been little reason to have set a fixed size for colonial holdings. Foxhall has convincingly demonstrated that a farmer without additional labour or large financial resources would be able to cultivate a relatively small area of no larger than 15 to 20 *iugera*.³²⁰ Only individuals capable of mobilizing large workforces would have been able to exploit larger holdings. It is dubious if enough of these people participated in the colonial enterprise from the beginning to make it necessary to take protective measures in the form of establishing maximum allotment sizes. Colonization without state-organized land division projects would therefore have resulted in an agricultural landscape in which most farmers had holdings of roughly the same size. However, these holdings would not necessarily have been placed alongside each other in a geometrical grid. This sort of organizational principle fits much better into archaeological record which suggests that colonial farmers adapted to the natural properties

³¹⁹ The very little literary information available is vague about early Latin colonial organization. One possible clue is Polybius' list of available manpower. It records the available manpower of the *Latini* and distinguishes between *pedites* and *equites*. The analogy with the situation after the Second Punic War when the sources clearly record that a distinction was made in the size of allotments handed out to *pedites* and *equites*. However, the similarity in terminology might be misleading. In Polybius' list the manpower of the allies available is also divided into the same two categories, even though it is clear that very different socio-economic realities hide behind them. In this context it is notable that the ratio between *pedites* and *equites* among the Latins in Polybius' list is very different from that of the later post-Hannibalic colonies (resp. 1:16 and 1:10; that of the Etruscans falls in between the two). The fact that the Polybius' figure of the men capable of bearing arms is in the same order of size as the number of colonists who migrated to these colonies (cf. Chapter 2) suggests most colonists succeeded in achieving a level of income or social position which allowed them to qualify for service. Since it is not clear what amount of land served as a threshold for military service in this period this does not allow much headway in clearing up what their actual socio-economic position was and if they were indeed the independent soldier-farmers most models want them to be. It is even possible to argue that the lower number of Latins in Polybius' list compared to the information in Livy reflects the fact that not all colonists succeeded in acquiring enough land and property to qualify.

³²⁰ Foxhall 2003.

of the landscape.³²¹ In fact, such a system closely resembles the so-called *ager occupatorius*, described by Sicculus Flaccus in a much later period:³²²

‘Land described as ‘occupied’, which some call *arcifinalis*, {these ought to be called *arcifinales*} is land to which a victorious people has given the name by occupying it. For after wars had been fought, the victorious people confiscated all lands from which they had expelled the conquered, and generally gave the name territory to themselves, with the intention that there should be a right of jurisdiction within their confines. Then, whatever land a man occupied through his skills in cultivation, he called *arcifinalis* from the action of keeping off {arcere} neighbours. There is no bronze record, no maps of these lands which could provide any officially recognized proof for landholders, since each of them acquired a quantity of land not by virtue of any survey, but simply whatever he cultivated or occupied with the intention of cultivating. Some did indeed make private maps of their holdings {...} However, these lands are demarcated by boundary stones, and trees which have been marked {...}.

To conclude, on the basis of the literary information in so far as any exists, it cannot be convincingly demonstrated that Rome decided how large Latin colonial allotments had to be, let alone that they created neatly organized, egalitarian landscapes. Therefore the possibility that colonial landscapes in this period were more like those Sicculus Flaccus describes for the *ager occupatorius*: relatively unorganized landscapes in which every farmer marked the area he could or hoped to cultivate with stones or carved trees, should be considered. On Roman territory, Rome felt the need to restrict the amount of land which could be acquired this way, probably to avoid disrupting the existing socio-economic order. In Latin colonies, such problems were non-existent and no formal limits on the size of holdings needed to be established by the Senate. For some reason, this changed in the course of the third or early second century. A tentative suggestion is that this might have been connected to either the different socio-juridical status of Latin colonists in this period, a desire on the part of Rome to control the amount of land which was being cultivated by Latin colonists,³²³ or to an attempt to give colonists a firmer title on their land.

³²¹ Cf. Chapter 4.

³²² ed. Campbell 2000, 105.

³²³ If the theory of Salmon that the *duodecim coloniae* mentioned by Cicero refer to the last twelve Latin colonies founded by Rome is accepted, a reason for commencing (after 268) to regulate the amount of land Latins received could be that this land could now be inherited by Roman citizens and hence affect the socio-economic balance at Rome.

4. The evidence of division lines

The image of colonial territories as geometrically divided landscapes, in which holdings were separated from each other by an impressive network of division lines is based mainly on the descriptions and drawings contained in the *Corpus Agrimensorum Romanorum*. These treatises state that the standard unit of Roman land division was the *centuria*, a square area with sides of 2,400 feet long (20 *actus*). It enclosed an area of 200 *iugera* which corresponds to 100 *heredia*, the basic unit of Roman land distribution. The fact that some allocations of land in 2 *iugera* plots are recorded especially in early Roman history (cf. previous section) might be interpreted to indicate that the practice of centuriation originated in that period. This impression is supported by the writings of the Roman land surveyors which claim that land division in square blocks was a very ancient practice which originated in the religious context of Etruscan augural rituals.³²⁴ On closer inspection, it transpires that the literary tradition is not very convincing. The theory of the Etruscan origin, for example, is very dubious and is widely regarded as a historiographical invention of the late Republican period.³²⁵ The same is probably true of its supposed introduction into Rome during the Regal Period. Now detailed study of aerial photographs has indeed revealed traces of possible land division systems in areas where the sources say land was distributed in early Roman history. However, owing to serious dating problems, this vast amount of new evidence has not yet resulted in a consensus about the origin and development of Roman land division techniques.

4.1. A rough outline of the debate

One of the first synthetic studies of archaic Roman land division lines recognized on aerial photographs and cadastral maps is Castagnoli's article '*I più antichi esempi conservati di divisioni agrarie romane*'.³²⁶ On the basis of the evidence available at the time, Castagnoli concluded that two different systems of land division were used in the early history of Roman expansion. In his view the beautifully preserved centuriation grid observed in the territory of Terracina, founded as a maritime colony in 329, demonstrates that, in agreement with Varro's claim, land division into 200 *iugera* blocks was a very ancient practice. However, a different system has been recognized in territories of Latin colonies, which has been characterized as a system of parallel lines only.³²⁷ Evidence for the antiquity of this particular technique is found in the fact that the Greeks already used such a system of division in the Archaic period: the most famous example known from Italy is Metapontum.³²⁸

Castagnoli thought that the simultaneous existence of two different systems of land division might be connected to the differences in status between Latin colonists and those settlers who were

³²⁴ Frontinus C 8. 23-29, Hyginus 2 C 134. 1-14.

³²⁵ E.g. Hinrichs 1974, 50-52, Chouquer and Favory 2001, 164-169 with further references.

³²⁶ Castagnoli 1953/ 1955.

³²⁷ The early examples discussed are: Cales, Luceria, Alba Fucens and Cosa (discussed in detail in the next sections).

³²⁸ Carter 2006, 95-96 with further references.

sent out to maritime colonies and areas of viridane settlement. The latter retained their Roman citizenship and the size of their allotments influenced their position in the socio-political organization of Rome. Allotments were therefore kept small, often only 2 *iugera* (see above). In his view, land division in *centuriae* is the most practical for such an allocation and also reflected the militarist egalitarian character of these settlements. The situation in Latin colonies was different. The size of their allotments did not affect Roman politics, and from later examples it is known that the size of allotments distributed differed from colony to colony. In fact even within a colony distinctions were made between various social classes. These differences logically also affected the intervals between division lines and hence explain the recorded variety.

This elegant model has been amended by Hinrichs, who has refuted the existence of centuriation in this early period.³²⁹ Basing himself mainly on a detailed study of the writings of the *agrimensores*, he argued that a specific form of land division called *per strigas et scamna* was predominant in all landscapes which had been divided in early Roman history.³³⁰ This technique, he states, divides landscapes into strips, rather than blocks, which are called *strigae* when orientated lengthwise and *scamna* when orientated breadthwise.³³¹ Contrary to what Castagnoli had claimed, this specific form of land division was not limited to Latin colonies, but also characterized territories of viridane settlement. In the cases of Reate and Venafrum, Hinrichs argues that traces of such land division systems can still be recognized on cadastral maps of the territories. His theory is that this rather unsophisticated method of division originated in the pre-Roman period, but was improved considerably by the Romans, who gradually made it more regular. The process of refinement ended after the Second Punic War with the establishment of the orthogonal 20x20 *actus* grid, which remained the standard for Roman land division from that time onwards.³³²

In a paper in the 1980s, Castagnoli responded by presenting new evidence for early land division into rectangular units recognized in the Pontine plain and in the territory of Cures Sabini, which are both dated to the late fourth and early third century.³³³ Interestingly, these orthogonal grids are not based on a 20x20 *actus* module, but on 10 x10 *actus* (the technical term is *laterculus*), which Castagnoli claims must be considered the original module of Roman land division. He also countered Hinrichs' thesis that the breaking up of strips of land divided *viridim* is still recognizable on cadastral maps of Reate and Venafrum, by pointing to eighteenth-century maps on which the putative division lines are missing. This seriously challenges the supposedly Roman origin of these lines.³³⁴

³²⁹ Hinrichs 1974, 49-58.

³³⁰ View based on Frontin. esp. C 1. 5-12.

³³¹ This specific form of non-orthogonal division could be used to subdivide *centuriae*, or rectangles delimited by *limites*, in which case they are called *strigatio/scamnatio* in *centuriatio*, or could be used to subdivide a territory which was divided by parallel lines only, often called *limitatio*, only of *decumani*.

³³² Hinrichs 1974, 56-57.

³³³ Castagnoli 1984.

³³⁴ Castagnoli 1984. Castagnoli also refutes Hinrichs' claim that the antiquity of these lines is corroborated by the presence of ancient walls by arguing that these are clearly modern structures.

Nevertheless, Hinrichs' theory soon found new support in a monumental study by Chouquer, Clavel-Lévêque, Favory and Vallat, entitled *Structures Agraires en Italie Centro-Méridionale* which investigated all aerial photographs and cadastral maps of Campania and Latium for traces of Roman land division systems.³³⁵ This team of French scholars identified more than twenty systems of *strigatio/ scamnatio* of which the majority is connected with viridic land division programmes of the late fourth and early third centuries. They also presented a possible solution to the complex case of Terracina. They argued that the centuriation grid in this area was created during a late Republican *renormatio* (new division of a territory which had been divided earlier)³³⁶ of an earlier system which consisted of parallel lines only. In their view, the older system has the same orientation as the later orthogonal grid and is therefore difficult to recognize (cf. below).

This mass of new evidence did not end the debate. The Italian School responded forcefully, its principal tactic was the questioning of the methodology used by the French scholars. A prominent representative of this critical approach is Lorenzo Quilici. In his recent overview of all the evidence for early land division in Italy, the findings of Chouquer, Clavel-Lévêque, Favory and Vallat are not included because their applied methodology is dismissed as absolutely inadequate and consequently their results as unconvincing.³³⁷ The main problems are the scale of the maps they used for their research, often 1:150.000 or 1: 250.000, which is considered too rough and too imprecise, and the fact that they did not investigate the more recent agrarian history of the area, which leaves the possibility that the lines recognized are in fact modern constructions. Finally, the uncritical use of the *corpus agrimensores*, which is considered a very problematic source, is considered to undermine the credibility of their historical interpretations and connected dating of recognized grids.

In his work on the writings of Roman Land surveyors, Campbell has also expressed doubts about the reconstruction and above all the dating of division lines of Chouquer, Clavel-Lévêque, Favory and Vallat. After expressing some more general reservations concerning the weak evidential base of some of the reconstructed grids, he also questions the validity of the assumption that *strigae* and *scamna* are indeed, as Hinrichs had suggested, consistently older than centuriation. He argues that the writings of the land surveyors allow a different reading which sees this system not as primitive, but as an alternative to centuriation. In rough, mountainous terrain especially, this technique is more practical. Campbell also draws attention to a passage in Hyginus who states that different usages of land dictate different methods of measurement, including division in *scamna* and *strigae*.³³⁸ Unlike the Italian School, however, Campbell seems to suggest that this co-existence is not specific to the early phase of Roman expansion and land division, but continued into the Late Republic and Early Empire.

³³⁵ Chouquer, et al. 1987.

³³⁶ For the term see *Lib.Col.* C 182, 2.

³³⁷ Quilici 1994; see also Gabba 1989; Cancellieri 1997, 78 n. 15.

³³⁸ C 160, 23- 162, 24.

In this view, recognized land division in strips can no longer be considered an early form of land division, but can also be attributed to later periods in Roman history.³³⁹

The recent critiques of *Structures Agraires* have concentrated especially on more general methodological problems to do with the reconstruction and dating of systems of land division.³⁴⁰ However, these potential methodological flaws do not justify a complete rejection of all the data collected.³⁴¹ As will be argued below, problems with the dating of Roman land division grids are not limited to the grids recognized by the French scholars, but are also found in the evidence put forward by those advocating an early origin of orthogonal land division. In what follows, the evidence of Roman land division lines will be reviewed on a more detailed and case specific level in attempt to arrive at a better understanding of their function and probable chronology. First, the supposed examples of early centuriation, dating to the late fourth century, will be reviewed. This will be followed by a discussion of the evidence for non-orthogonal division.

4.2. Land division in the Pontine marshes: the earliest example of centuriation?

The view that centuriation originated in the late fourth century at the latest (cf. above) is based on the recognition of two orthogonal land division grids in the Pontine Plain, which correspond in terms of their location with probable areas of Roman land distribution in the fourth century recorded in the sources. The first and most famous has been recognized in the territory of the maritime colony of Terracina. It is located to the north-west of the colonial town centre, in a small plain between Monte Leano, Monte S. Stefano and Monte Giusto, and is orientated on the via Appia which is its *decumanus maximus*. The recognized 20x20 *actus* grid is perfectly compatible with the 2 *iugera* allotments each colonist received in 338 as stated in Livy.³⁴² The compatibility between the distributed allotment size and the land division system recognized is seen as a strong argument in favour of their contemporaneity.

³³⁹ Campbell 1996, 86 and Campbell 2000, lx-lxi.

³⁴⁰ See also Campbell 1996, 85.

³⁴¹ See for example Schubert 1996 who accepts the conclusions of Chouquer, et al. 1987.

³⁴² Livy 8.21. The centuriation was already recognized and dated to the 4th century in the late-nineteenth-century (e.g. De la Blanchère 1884). See especially Cancellieri 1990, 70-71 and Schubert 1996, 44-46 for good recent overviews of the history of its discovery and study.

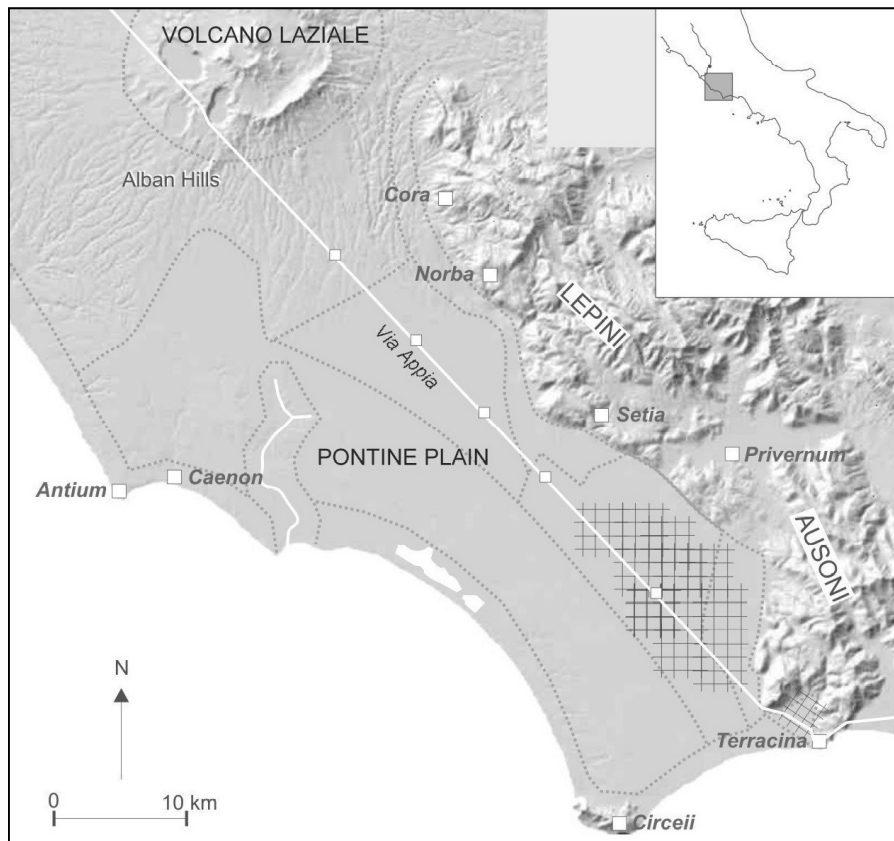


Fig. 9: Location of the land division grids of Terracina and the Pontine Plain (from Attema and De Haas 2005, 98).

Contesting this interpretation, Hinrichs has argued that the identification of this recognized grid with the original division of land at the time of the foundation of the colony is incorrect.³⁴³ His most important objection is the fact that the number of *centuriae* recognized far exceeds the required number. On the aerial photographs, 7 *centuriae* of 20 *actus* have been identified and several more half ones.³⁴⁴ This is more than three times as much divided land as was necessary for the original 300 colonists who were sent to the area (3 *centuriae* was sufficient to provide 300 colonists with 2 *iugera* of land).³⁴⁵ Hinrichs also points out that, according to the *agrimensores*, most maritime colonies were not provided with a system of division lines and in all cases for which a description of a land division does exist these date clearly to the triumviral period or later.³⁴⁶ In fact, Hyginus (2) records a system of

³⁴³ Hinrichs 1974, 55-56.

³⁴⁴ According to Chouquer and Favory 2001, 167, 13 partial blocks of centuriation have been identified.

³⁴⁵ Chouquer, et al. 1987, 106-108, recognized a system of *strigae* in the area which preceded the centuriation. The area of these *strigae* is smaller than that of the *centuriae* and is therefore compatible with the 300 plots of 2 *iugera* (cf. below). This two-phase solution is generally rejected (e.g. Cancellieri 1990).

³⁴⁶ See Hinrichs 1974, 52-53. Of particular interest are the cases of Sena Gallica, Potentia and Sipontum which, according to the *Liber Coloniarum*, were divided into *centuriae* in the late Republican period. For Sena Gallica: C 176, 20; C. 198, 12-13; Potentia: C 176, 20; C 196, 30; Sipontum: C 163, 27; C 202, 9. This impression is strengthened by the fact that in the territories of the other contemporary maritime colonies, no centuriation has been recognized which can convincingly be connected with the foundation of the colony. In the territories of Minturnae and Sinuessa a very extensive 20x20 *actus* grid is recognized but this can be convincingly dated to the late Republican period (Chouquer, et al. 1987, 169-181).

limites in the territory of Terracina; the general context of this passage appears to be the settlement of veterans after the Civil War of the late 40s.³⁴⁷

Hinrichs' late date for the Terracina grid is rejected by the Italian School. Its members argue that the existence of a triumviral colony in Terracina is improbable³⁴⁸ and, more importantly, that its supposedly early date is corroborated by the identification of a second centuriation in the Pontine Plain which can also be dated to the late fourth century.³⁴⁹

The centuriation in question has been recognized just a few kilometres to the west of the Terracina and extends alongside both sides of the via Appia between the 45th and 57th milestone.³⁵⁰ The grid is based on a 10 x 10 *actus* module and is crossed by the via Appia at an angle of 45°. Cancellieri claims that the via Appia is a *terminus ante quem* for the centuriation because, if the grid post-dated the construction of the road, it would have used the via Appia as the central axis of the system. From a practical point of view, since the area was effectively a swamp it needed structural drainage engineering works such as canalization before construction could take place. She thinks that the land division programme was what solved this problem, since the *limites* were often in fact channels. Hence, the creation of a centuriation grid served a double goal: it delineated holdings and at the same time dewatered the area and made it suitable for road construction. Since conventional understanding is that the via Appia was constructed on the initiative of Appius Claudius Caecus in 312 BC,³⁵¹ the centuriation grid must be older than that date. Cancellieri argues a likely date is suggested by the creation of the *tribus Oufentina* in 318, which took its name from the Ufens River which flows just through the northern part of the centuriated area.

Cancellieri's arguments are persuasive, but are less solidly based than is often assumed. The first contention is that the connection with the creation of the *tribus Oufentina* is not without problems. There is actually little reason to suppose that the creation of a tribe was normally followed by a land division programme. Usually, it was the other way around.³⁵² Actually, in the case of the Oufentina tribe, a land distribution which pre-dates its creation by some decades is recorded. Festus states that the Oufentina tribe was founded on land which had belonged to Privernum. Livy says that this land

³⁴⁷ Hinrichs 1974, 56. Also Campbell 2000, 389 n. 18. For the passage in Hyginus 2: C 142, 26-30. See also *Lib. Col.* C 186, 19 which states that the territory was left unsurveyed. Additional support for the view that the centuriation is from the late Republican period is provided by Chouquer, et al. 1987, 105-109 who point out several tiles which have been found in the territory bearing stamps mentioning names of colonists, among whom a certain Cn. Domitius Calvinus, consul of 40 BC and friend of Antony.

³⁴⁸ E.g. Cancellieri 1990, 71.

³⁴⁹ Countering the argument that the system is three times larger than necessary, it has been pointed out that this is not exceptional. The most famous example is Copia, for which Livy reports that more land was available than was distributed among the arriving colonists. It is also possible and has been suggested that the system was extended later when the population of the territory expanded. On Terracina see also Longo 1985.

³⁵⁰ The centuriation in the agro Pontino was already noted in the eighteenth century, but has only recently been studied and published in more detail by Cancellieri (Cancellieri 1990 with further references); and Cancellieri 1985.

³⁵¹ E.g. Livy 9. 29.

³⁵² Cf. Roselaar 2010, 54-58.

was confiscated and allotted to colonists by Rome in 340.³⁵³ However, the $\frac{3}{4}$ *iugera* plots reported do not fit neatly into the reconstructed 50 *iugera* blocks (66.666 plots per block).³⁵⁴

Another complicating factor is the dating of the course of the *via Appia* which crosses the area. The late fourth century date of the construction of *via Appia* has been challenged, most forcefully by Pekáry who has argued that construction began only in the second century.³⁵⁵ Although nowadays his radically revisionist position has little support and it is generally accepted that Appius Claudius gave the order to build the road through the Pontine Marshes, some uncertainties remain.³⁵⁶ One problem is the precise trajectory followed by the early road. It has been argued that the road did not follow the same course through the Pontine Plain from the beginning, but initially ran along higher ground farther to the north through the foothills of the Lepine Mountains.³⁵⁷ Since no archaeological excavations have been carried out which would allow the earliest strata of the section of the *via Appia* which crosses the marshes to be dated, the discussion about its original course has to depend on circumstantial evidence.³⁵⁸ The main argument used against the alternative hill route is a milestone of uncertain provenance mentioning two *aediles*, P. Claudius and C. Furius, which is generally dated around the middle of the third century.³⁵⁹ The inscription on the stone states that it was placed at the 53rd and 10th mile. The 53 miles indubitably refer to the distance from Rome, the 10 miles mentioned is less clear, but was most probably measured from Forum Appii.³⁶⁰ The fact that these distances correspond fairly well with the modern place Mesa (ancient *ad Medias*), where the stone was kept until 1926 and which lies on the direct route between Forum Appii and Terracina, strongly suggests that the road crossed the Pontine Plain at the time the milestone was placed.

What this theory fails to explain is why the stone was placed there several decades after the supposed construction of the road. Coarelli argues that the placing of the milestone was connected with the construction of a canal (the so-called *decennovius*) which flanked the *via Appia* and which is

³⁵³ Festus 212L. See also Taylor 1960, 55-56. For the confiscation and allotment of Privernate territory see Livy 8.1.3; cf 8.11.13. For the expulsion of senators in 329 see Livy 8.20.9.

³⁵⁴ Even if the passage in Livy is amended to $2\frac{3}{4}$ *iugera* the holdings would not fit comfortably in the grid.

³⁵⁵ Pekáry 1968, 37-46.

³⁵⁶ See Humm 1996 for a strong case in favour of a late fourth century date for the *via Appia*.

³⁵⁷ The so-called *via pedemontana*. Archaeological remains of this road have been found (Brandizzi Vittucci 1968). The road connected the colonies Cora, Norba and Setia.

³⁵⁸ According to Cancellieri 1990, 63, there is no archaeological evidence for an early date of the *via Appia* in this specific tract. For a good study on the building techniques used in the construction of the *Via Appia* see Quilici 1990. Recently, an intensive survey of a stretch of the *Via Appia* that runs through the marshes has been conducted (De Haas 2008). This study demonstrated convincingly that the area was densely populated, especially alongside the *via Appia* proper, from at least the third century onwards, but some evidence for earlier habitation dating back to the Archaic period has also been found. These findings seem to counter Pekáry's thesis that construction of this stretch of the *via Appia* began in the second century. The data, however, could be reconciled with the construction date in the third century, contemporaneous with the milestone (see below).

³⁵⁹ CIL I², 21. Cf. Coarelli 1988, 37-38. See, however, Pekáry 1968, 43-44 who dates the stone to 189 since a P. Claudius Pulcher was *aedile* in that year (Livy 38.35). An A. C. Furius is also known from this period. He was *quaestor* of Consul Scipio in 190. Pekáry ingeniously connects this date to another reference in Livy (38.28) to road-building activities in 189, which he suggests was the real construction of the *via Appia* as it is known today. Coarelli 1988 rejects the proposed date of the milestone on the basis of paleographical and morphological arguments.

³⁶⁰ According to Coarelli, the 10 miles refer to the miles passed from the *decennovius*, the canal connecting Tripontum with Terracina. See, however, Cancellieri 1990, 64-65 and Humm 1996, 724-731 for convincing arguments against this view and in favour of Forum Appii.

commemorated by Horace (*Sat. I.5 v. 1-26*). Humm is not convinced by this theory. He believes it would have been almost impossible to build a road in such a marshy area without the construction of such a drainage canal and he argues that the channel must have been dug by Appius Claudius at the same time as the road was built.³⁶¹ This scenario still fails to explain on what occasion the milestone was erected. What was the work these *aediles* undertook? The answer remains obscure but the creation of a quicker route from Forum Appii to Terracina through the marshes is a possible candidate. Depending on whether Coarelli's or Pekary's dating of the milestone is chosen, the construction would have to be dated to either 250 or 189 respectively.

Apart from difficulties about the absolute date, the argument about the relative chronology of the road and the grid is rather thorny. The fact that the grid is not orientated on the via Appia does not necessarily imply an earlier date. There are plenty examples of land division systems post-dating the construction of the main road and with a very different orientation. A good example is the centuriation of the Ager Campanus, datable to the late Republican period, which is not orientated on the via Appia.³⁶² If besides the demarcation of holdings centuriation, as Cancellieri herself admits, had an important hydrological purpose (namely to drain the marsh to make it suitable for agriculture and road-building), the logical conclusion has to be that the orientation of the grid of channels was determined by hydrologic considerations and was largely unaffected by the Roman road network, which followed a very different rationale (namely, the quickest route from A to B). The creation of a canal flanking the via Appia (discussed above) sets even more questions by the *terminus ante quem* argument. As Humm has argued, the canal (and the earth from it which could be used to raise and found the road) would have helped to overcome the hydrological problems of the area. Consequently, it is doubtful whether the road was dependent on additional drainage works (such as centuriation) as Cancellieri claims. A counter-argument might posit that the road facilitated the arduous agricultural work which was necessary to make the Pontine Plain suitable to agriculture. It is interesting that the epitomizer of Livy mentions that in 160 the Pontine Marshes were drained by Consul Cornelius Cethegus, who had been assigned the task of converting them into arable land.³⁶³ Therefore, apparently the Pontine Marshes had not been drained successfully at an earlier date.

Adding to the interest in this discussion is Chouquer's recent discovery of two other 10x10 *actus* grids in the area. The first is located on a plateau to the north-west of Setia, covering an area of circa 5,000 *iugera* (12.5 sq. km); the other in the immediate surroundings of the town of Privernum (5,600 *iugera*). The presence of four similar grids of 10x10 *actus* so close to each other casts serious doubt on their supposedly independent creation and suggests they were part of a larger land division project involving several areas in the southern part of the Pontine Plain. In his discussion of the Setia

³⁶¹ Humm 1996, 728-731. Humm also argues that in the Souda, a medieval text, Appius Claudius is described as having built the road and a channel as well. The text is very late and ambiguous, since the waterworks could also refer to the *aqua Appia*, the aqueduct built by Appius.

³⁶² See Chouquer, et al. 1987, 199-206.

³⁶³ Livy. *Per.* 46.

grid, Chouquer conjectures that it might be *ager quaestorius*.³⁶⁴ This hypothesis is based on the morphology of the grid. Siculus Flaccus says that allotments of 50 *iugera* were the norm for land which was sold by *quaestores*.³⁶⁵ The only specific case recorded in the *Corpus Agrimensorum* is Cures Sabini, which is dated to around the middle of the third century, where a 10 x10 *actus* grid has indeed been identified.³⁶⁶ However, in the case of the Pontino it is difficult to see (especially if it is assumed that the various grids recognized are contemporaneous) on what occasion the selling of such vast tracts of land could have occurred. Moreover, as is discussed below, allotments of 50 *iugera* were not used exclusively in the context of *agri quaestorii*.

A different date and motivation have been suggested by Chouquer for the Privernate grid. In this case, he proposes connecting the centuriation with the foundation of a colony in Privernum; possibly established by Cornelius Cethegus who is said to have drained the Pontine Marshes in 160 (cf. above). A large land reclamation programme and subsequent colonization by Cethegus is an attractive candidate, since the large scale of the operation also explains the presence of the other 10x10 *actus* grids, which could have been part of the same large-scale operation, in the area. However, the foundation of a colony in Privernum by Cethegus is debated and it has been argued that the town only became colony in the first century, in the immediate aftermath of the Social War.³⁶⁷ In fact, support for the view that the land division dates to this later period is found in a passage in Frontinus who reports that the typical size of *centuriae* established by triumvirs in Italy was fifty *iugera*.³⁶⁸ The presence of several 10x10 *actus* grids in the southern Pontine Plain could therefore also be explained as the outcome of the settlement of veterans in this area after the Social War. Corroborating evidence for such an explanation is provided by the *Liber Coloniarius* which records several triumviral colonization programmes for the area.³⁶⁹

Without proper excavation, the construction date of the centuriation grids in the Pontino cannot be firmly established and remains open for discussion. Nevertheless, none of the centuriations which has been discovered in the area can be conclusively dated to the late fourth century and therefore does not prove an early development of this practice. There are plenty of other events with which the 10x10 *actus* grids recognized in the agro Pontino can plausibly be connected and a post-Hannibalic date can easily be defended.

³⁶⁴ Chouquer, et al. 1987, 103.

³⁶⁵ C.119.29-121.19. Roselaar 2010, 121-127.

³⁶⁶ Cf. below.

³⁶⁷ Cancellieri 1974. Also Chouquer, et al. 1987, 104 n. 54 (with further references) for a discussion of the problematic passage in the *Lib. Col. C* 184.28-30: "Privernum, a town, encircled with a wall, a colony. Soldiers founded it without colonists. A right of way 30 feet wide is due to the people. The cultivated section of its land was allocated partly in *iugera*; the rest remained strips, or unsurveyed".

³⁶⁸ Frontinus C 11, 32. See also Hyginus 2 C. 137.35. A possible second century date could be argued on the parallel with a 10x10 *actus* grid recognized around Forum Populi and between the via Aemilia and the via Popilia. The town and the road were probably constructed in 132, which suggests that the land division grid is contemporaneous, or a bit later (Chouquer 1981, 862).

³⁶⁹ For Privernum: *Lib. Col. C* 184.28-30: "Privernum, a town, encircled with a wall, a colony. Soldiers founded it without colonists. A right of way 30 feet wide is due to the people. The cultivated section of its land was allocated partly in *iugera*; the rest remained strips, or unsurveyed." For Terracina see above.

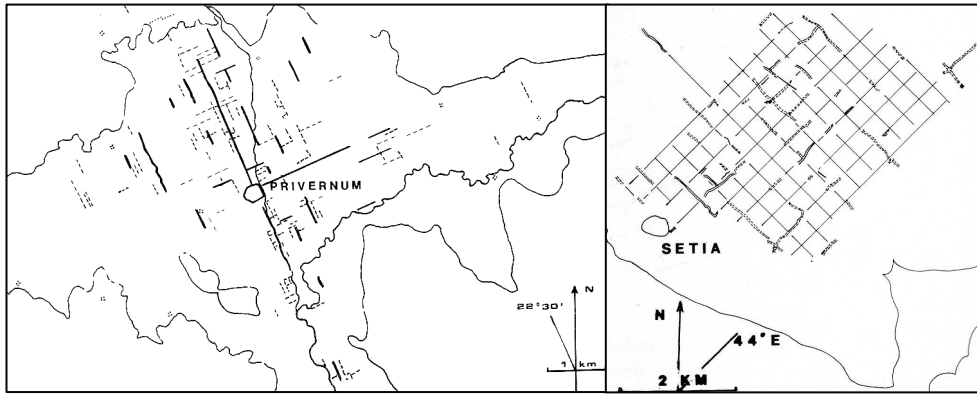


Fig. 10: 10x10 *actus* grids around Privernum and Setia (from Chouquer 1987, 100 and 103).

4.3. Parallel division lines in early virgane territories

In the previous section, I have argued that the evidence for the existence of orthogonal land division grids (whether *centuriae* or *laterculii*) in the fourth century is very fragile. This section investigates the theory, advocated most cogently by Hinrichs and subsequently by the authors of *Structures Agraires*, that early colonial landscapes were divided by parallel lines only; a practice which was replaced by orthogonal land division programmes after the conquest of the Po Valley. If this evolutionary scheme could be proved to be correct, it would provide a clear *terminus ante quem* for the dating of these systems consisting of parallel lines only and permit their connection to early colonial practices. However, as noted above, Campbell's study of the texts of the *Corpus Agrimensorum* has shown that land division on the principle of *strigae* and *scamna* was also practised in later times, especially in more mountainous areas. This observation strongly challenges the idea that the morphology of a grid can be used as a dating criterion. The upshot is that other arguments have to be used for establishing the precise date of these grids. Below I shall discuss these recognized systems of parallel division lines and investigate how likely an early colonial date for them is. I shall begin with the land division systems which have been recognized in virgane territories. Those recognized in colonial territories will be discussed separately in the next section.

Pomptina

The oldest traces of land division systems on Roman colonial territory have been recognized in the Pontine area and are dated to the middle of the fourth century in connection with creation of the *tribus Pomptina*.³⁷⁰ Taylor says that the tribe was located near the settlement of Ulubrae.³⁷¹ Around the probable location of this ancient settlement, Chouquer, Clavel-Lévêque, Favory and Vallat have recognized various dividing lines which seem to be spaced at 8 *actus* intervals and cover an area of c.

³⁷⁰ In the territory of Veii, the first large area to have been divided and distributed to Roman citizens and philo-Roman natives, no traces of land division systems have been recognized. Of course, it is possible that all traces have disappeared or that they have not been recognized, but it is generally assumed in this period Rome did not use any sophisticated, durable system of land division. The *Lib. Col.* C 172, 11 -40; C 175,15-17, records an allocation of land to soldiers as prescribed by a *lex Julia*, and later division by various emperors, using *limites intersecivi*.

³⁷¹ Taylor 1960, 50.

3,000 *iugera* (7.5 sq. km.).³⁷² On the basis of the morphology of the grid (that is, a system of parallel lines only), they date it to the mid-fourth century, which would provide a chronological fit with the creation of the Pomptina tribe. This is not plain sailing. One problem is that the *Liber Coloniarum* records a triumviral allocation and a subsequent intervention in Ulubrae by Drusus Caesar.³⁷³ No traces of this land division programme have been recognized. This disparity opens up the possibility that the traces recognized belong to this early Imperial land division programme, especially if Campbell's position that later allocations need not necessarily have been accompanied by centuriation is accepted.

Poblilia

Another round of land confiscation and distribution can be assumed to have taken place around 358, with the creation of the Poblilia tribe. Taylor places this tribe in the northern part of Hernician territory, in the upper Sacco Valley, which was confiscated after the Hernician-Roman war of 362.³⁷⁴ The survey by Chouquer, Clavel-Lévêque, Favory and Vallat has revealed several systems of division lines in Hernician territory. An extensive grid of parallel lines running north-south, covering 19,000 *iugera* (47.5 sq. km.), has been identified in the area between the ancient towns of Aletrium, Frusino and Verulae.³⁷⁵ Their orientation is identical to that of the course of the Cosa River. The *limites* are spaced irregularly, but the French team say that a distance of 12, 24 or 36 *actus* can often be measured. Part of this grid had already been recognized by Hinrichs, who dated it to the pre-Roman period on the account of its irregular character.³⁷⁶ Rejecting this early dating, Chouquer, Clavel-Lévêque, Favory and Vallat connect it with Roman conquest and with the colonization of the area in the fourth century. The morphology of the grid is similar to that of Ferentinum and Alba Fucens (cf. below), which might suggest they share a similar chronology and are of Roman origin.

From a historical point of view, a Roman land division programme in this area in the late fourth century is problematic. At the time of its foundation, the Poblilia tribe is usually placed to the north of Anagnina and it is commonly agreed that the Hernician towns retained their independence after the war.³⁷⁷ Verulae and Aletrium were probably not incorporated until after the Social War.³⁷⁸ A

³⁷² Chouquer, et al. 1987, 99-100.

³⁷³ *Lib. Col.* C 186, 26-27: "Ulubrae, a town, which had been founded by the triumvirs; later, it was the object of an incursion by Drusus Caesar. Its land was allocated by name (to individuals). A right of way is not due to the people."

³⁷⁴ Taylor 1960, 50-54. The details of the annexation of this land are rather complex and poorly understood. There are no clear references in the sources which state unequivocally that land was actually confiscated and distributed after this war. However, more than a century earlier confiscation of land is documented. Livy says in 486 the Hernici lost two-thirds of their territory after their defeat in war with Rome. Cassius proposed distributing this land among Romans and Latins (Livy 2.41). However, Dionysius has a very different account of the event, which states that the Hernici did not lose any land, but were made allies and were included by Cassius in his scheme to distribute land occupied by the rich (Dio. Hal. 8.77). In general, Dionysius' version is regarded as the most reliable. It is argued that Livy confused two things (e.g. the Agrarian Law and the Hernician Treaty). E.g. De Sanctis 1960, 8-9; also Cornell 1995, 271, who agrees with De Sanctis on the mixed version argument, but is less sceptical about the possibility that some elements of the *rogatio Cassia agraria* are historical.

³⁷⁵ Chouquer, et al. 1987, 120; See also Schubert 1996, 48-49.

³⁷⁶ Hinrichs 1974, 40.

³⁷⁷ For the location of the Poblilia see Taylor 1960. Cornell 1995, 324 who argues that Rome needed to sign a treaty with the Hernicians since new Gallic raids threatened Rome.

Hernician origin, as proposed by Hinrichs, therefore seems more plausible.³⁷⁹ On the other hand, a later date cannot be excluded. Land distribution to veteran soldiers is recorded in Frusino and Verulae.³⁸⁰ On the basis of the fact that the traces recognized are not depicted on cadastral maps of the eighteenth century, Castagnoli has even argued that the division lines detected by Hinrichs are modern.³⁸¹

A second grid of parallel lines has been recognized around the Hernician town of Ferentinum. Its orientation corresponds to that of the *via Latina*; the *limites* are spaced at irregular distances and they are orientated perpendicular to the main river in the area. The grid recognized covers an area of 8,000 *iugera* (20 sq. km.) and is located in the lowest part of the Ferentinum territory (below 300 m.). Ferentinum was loyal to Rome during the revolt of 306, which the French team claims implies that the territory must have been divided before that time, probably sometime after the Latin War, when the *via Latina* was built.³⁸² However, as in the case of the Hernician cities discussed above, the settlement of colonists and the consequent reorganization of the land in this area is not recorded in the sources and remains conjectural. Certainly, two dedications made at Ferentinum in the Imperial period suggest the arrival of new settlers, possibly veterans.³⁸³

Finally, to the west of Anagnia, the capital of the Hernician League,³⁸⁴ a number of *limites* have been recognized. These are orientated in a south-west and north-east direction and are spaced at irregular intervals. Smaller intersecting lines have also been identified at irregular distances which delimit rectangles of various size, which according to the reconstruction of Chouquer, Clavel-Lévêque, Favory and Vallat were measured in *actus* or $1/2$ *actus*. The total area covers 14,000 *iugera* (35 sq. km.).³⁸⁵ Roman intervention and land distribution in the late fourth century are plausible. The Poblilia tribe is usually located in this area and sometime after the rebellion of 306 the whole town was enrolled in it. Nevertheless, the unsystematic nature of the grid, which divides the landscapes into parcels of unequal size and often cannot be expressed in rounded *iugera*, compounded by the fact that the lines are positioned perpendicular to the relief, weakens the supposed connection with early Roman land distribution to colonists; especially since similar systems recognized in Alatrium and

³⁷⁸ Alatrium and Verulae did not take part in the Hernician revolt of 306 (Livy 9.42) and, as a reward, could remain independent communities until the Social War. Frusino, a Volscian town, did revolt and was punished by the loss of one-third of its territory (Livy 10.1), which Diodorus says was distributed to Roman citizens (Diod. 20.80).

³⁷⁹ Also Campbell 2000, 427, n. 155 for a possible Hernician origin. He also questions the evidential basis of this grid (Campbell 2000 414, n. 91). Its orientation is identical to that of the River Cosa which traverses the area.

³⁸⁰ Although it is probable that they used the existing Gracchan *limites* (recognized by Chouquer as a 13x13 *actus* grid), a new territorial organization cannot be excluded. For Alatrium: C 178, 34-35: "Aletrium, a colony encircled with a wall. The people founded it. A right of way is not due to the people. Its land was allocated by centuriae and strigae." Frusino: C 182, 20-21: "Frusino, a town. Encircled with a wall. A right of way is not due to the people. Its land was allocated to veteran soldiers." That Frusino was colony in the Imperial period is also attested to epigraphically (CIL X, 5662). Verulae: C 186, 34 188, 1: "Verulae, a town encircled with a wall, Its land was allocated by name (to individuals), by means of Gracchan *limites*; it was granted to colonists by the emperor Nerva."

³⁸¹ Castagnoli 1984, 244. The morphological argument, that it is similar to the grids of Alba Fucens and Ferentinum (below), is unconvincing, since these grids have been dated on the basis of the same morphological criteria.

³⁸² Chouquer, et al. 1987, 118.

³⁸³ CIL X, 5825; 5828. Campbell 2000, 419 n. 118 *Lib. Col.* C 182, 25-26: "Ferentinum, a town encircled with a wall. A right of way is not due to the people. Its land was allocated proportionally by continuous *limites*, in *iugera* and in strips."

³⁸⁴ See Livy 9.42 on its focal position in the Hernician society.

³⁸⁵ Chouquer, et al. 1987, 114.

Verulae cannot be convincingly connected to early Roman colonization (cf. above). Moreover, an early Imperial division into *strigae* in this area is recorded in the *Liber Coloniarum*.³⁸⁶

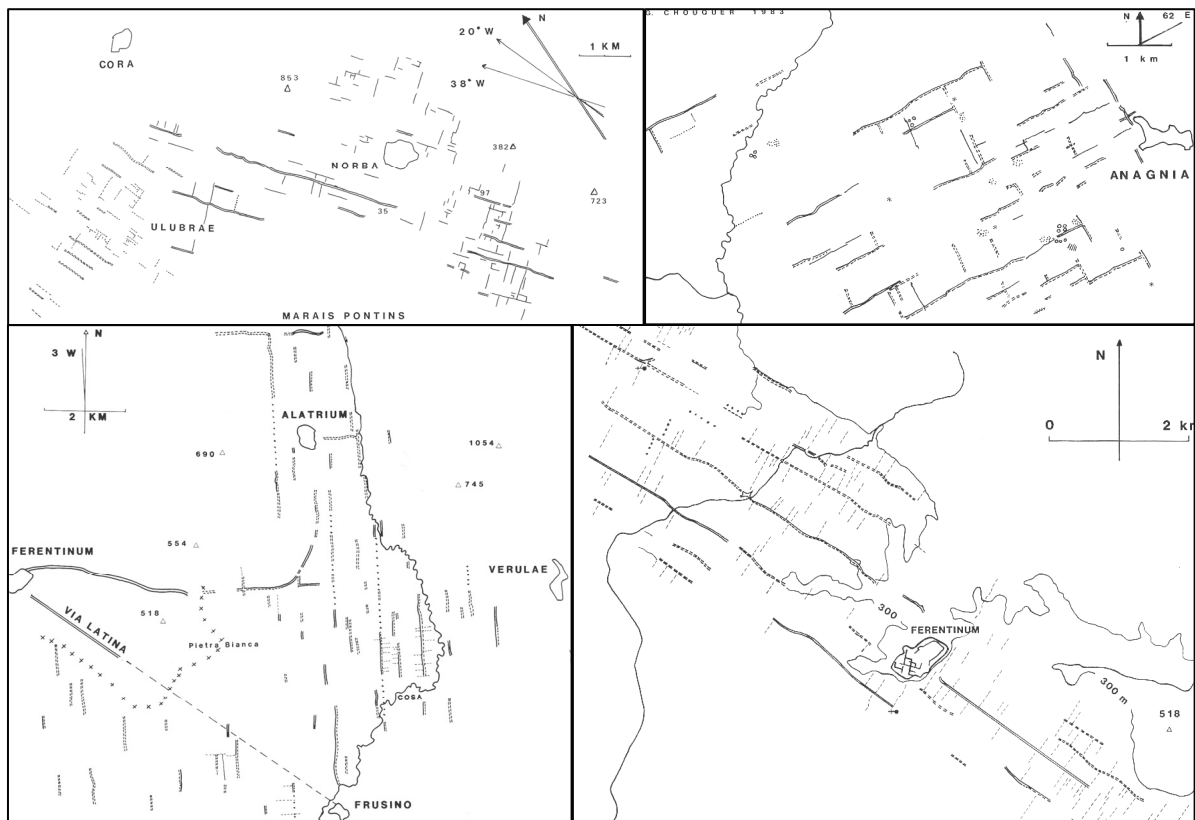


Fig. 11: Land division systems recognized by Chouquer in the territories of the *tribus* Pomptina and Poblilia (from Chouquer 1987, 99, 114-120).

Scaptia and Maecia

The next large confiscation of land occurred after the Latin War. Land was distributed in the Ager Latinus, at Privernum and in the Ager Faliscus. Livy's statement that 2 *iugera* of land were distributed in Latium in 338 is difficult to localize more precisely. A possible clue is the creation of two new tribes in 332: the *Scaptia* and the *Maecia*; the first probably located in the territory of Velitrae; the second in that of Lanuvium.³⁸⁷ Livy states that both tribes were created for new citizens, but the fact that he also claims colonists were sent to the land of Velitrean noblemen who had been expelled, suggests settlers of Roman origin were also included.³⁸⁸ No division into strips around these towns has been recognized by the French team. Only around Velitrae did they identify a centuration based on a

³⁸⁶ C 180, 5-6. "Anagnia a colony encircled with a wall. The people founded it on the orders of Drusus Caesar. A right of way is not due to the people. Its land was allocated to veterans in *strigae*." Hinrich's thesis says that this can be explained by the fact that late Republican veteran settlement re-used existing division grids. See Campbell 2000, 415 n. 94: for a critical remark on the recognized *strigatio*.

³⁸⁷ Taylor 1960, 54.

³⁸⁸ For the inclusion of new citizens see Livy 8. 17. On the expulsion of elites: Livy 8.14. See also Cornell 1989a, 362.

15 x15 *actus* module. However, on account of the morphology of the cadastre and a reference in the *Liber Coloniarum*, this grid is dated to the Augustan period.³⁸⁹

Privernum

In the territory of Privernum, besides the 10x10 *actus* grid discussed above, Chouquer, Clavel-Lévêque, Favory and Vallat have identified eight parallel division lines, located at 13 *actus* from each other. The grid is located immediately around the ancient urban centre and terminates at the point where the terrain begins to rise (altitude curves of 100 m.). It is orientated perpendicular to the River Amaseno and covers an area of 8,800 *iugera* (c. 22 sq. km.). The French team postulates that the most likely interpretation is the grid was laid out immediately following the capture of the town in 340 and was subsequently divided into 339 in allotments of $\frac{3}{4}$ *iugera*.³⁹⁰ The problem is that Privernum was enrolled as a *civitas sine suffragio* in 338, which implies that part of the Privernate territory was not enrolled in the Oufentina tribe.³⁹¹ The *tribus* is generally located in the Pontine Plain, near the River Ufens, which makes the connection between the recorded land division and the recognized grid problematic.³⁹² In later times, the territory of Privernum was allocated to veterans.³⁹³ A study of the terrain carried out by Cancellieri could not verify the actual existence of these division lines.³⁹⁴

Ager Falernus

In the Ager Falernus, home of the Falerna tribe, Johannowsky recognized three *decumani*, located immediately to the east of the Rio Fontanelle, with a distance between them of circa 4,000m. This distance does not correspond to any known unit of ancient measurement. Perpendicular to these axes a large number of *kardines* were identified. These were separated by a distance of 147.5 m. corresponding to 500 Roman feet. Johannowsky argues that the delimited units (4000x147.5m) are

³⁸⁹ Chouquer, et al. 1987, 98. *Lib. Col. C* 186, 24-25: "Velitrae, a town, which had been settled under a lex Sempronia. Later, Claudius Caesar ordered its land, which had been assessed by means of Augustean *limites*, to be allocated to soldiers." *Lib. Col. C* 184, 4-6: "Lanuvium, encircled with a wall, a colony founded by the divine Julius. Its land was allocated in part to veteran soldiers by means of Augustan *limites* and in part belonged to the Vestal Virgins according to a lex Augustiana. But afterwards, the emperor Hadrian ordered the land to be allocated to his own colonists."

³⁹⁰ Chouquer, et al. 1987, 105. Livy 8.1, for the conquest of the town and loss of 2/3 of its territory. On the division of the territory see Livy. 8.20.

³⁹¹ In nearby Fundi, also enrolled as a *civitas sine suffragio*, Chouquer has also recognized traces of *limites*, which he connects to Roman intervention in the area. East of Fundi, 13 parallel lines, 8 *actus* distant from each other, located perpendicular to the via Appia, have been recognized. According Chouquer, et al. 1987, 109, the system was created sometime at the end of the fourth century, either in connection with the revolt or with the construction of the via Appia in 312. *Lib. Col. C* 182, 29-30: "Fundi, a town encircled with a wall. A right of way is not due to the people. By orders of Augustus, the cultivated part of its land was allocated to veteran soldiers. The rest (of its land) was in his jurisdiction and reverted to public control." See Campbell 2000, 420 n. 120 for a critical remark on the grid recognized and the observation that the lines need not indicate Roman confiscation and settlement.

³⁹² Cancellieri 1990.

³⁹³ *Lib. Col. C* 184.28-30: "Privernum, a town, encircled with a wall, a colony. Soldiers founded it without colonists. A right of way 30 feet wide is due to the people. The cultivated section of its land was allocated partly in *iugera*; the rest remained strips, or unsurveyed."

³⁹⁴ Cancellieri 1997, 78 n. 15.

compatible with the recorded 3 *iugera* distributed to the settlers of this area: seventy-eight plots of 3 *iugera* can be fitted into each unit.³⁹⁵

The 500 Roman feet measured between the *kardines* is a rather strange interval (the Romans usually used the *actus* (120 feet)). In this decimal system it is possible to recognize the use of the *plethron/vorsus*; in which case the interval corresponds to 5 *plethra*.³⁹⁶ As a matter of fact, Heurgon has already pointed out the fact that the recorded 3 *iugera* (0.756 ha) corresponds exactly to 10 square *vorsus* (0.7556 ha) and he suggests that the Campanians might have been involved in the construction of this grid.³⁹⁷

A very different reconstruction of the grid has been proposed by Vallat, who says that the *kardines* are spaced at intervals of 14 *actus* (c. 497m.).³⁹⁸ He argues that the perpendicular intersecting east-west *limites* are spaced at a distance of 112 *actus* apart (3976m.) and most probably other intersecting *limites* existed between them at intervals of 14 *actus*. This allows the construction of a 14x14 *actus* centuriation. In total the reconstructed grid covers an area of circa 15,680 *iugera*, (c. 39 sq. km.). Vallat initially claimed that the north-south lines were laid out first, probably in 340 when the area was divided *viritim* according to Livy. The crossing *limites* would have been created at the end of the fourth century in connection with the founding of the *tribus Faleria* (318) and the construction of the via Appia (312).³⁹⁹ However, in *Structures Agraires* it is argued that the *decumani* were created first and the via Appia, constructed only several decades later, replaced an older road as the main axis of the land division system. The argument is based mainly on the idea that land division systems based on *decumani* are typical of the late fourth century. Principally on the basis of their morphology, the north south lines are connected with a Gracchan or Sullan *renormatio*.⁴⁰⁰ The view that the intersecting lines are of later date has little evidence to support it and is based above all on the expectation that a system of parallel lines was introduced during the late fourth century land division.

Some support for an early rural reorganization is provided by the results of a physiographic soil survey of the area which was carried out by the University of Amsterdam.⁴⁰¹ This survey revealed

³⁹⁵ As additional proof of the existence of an ancient division system in this area, Johannowsky points out a *cippus* found in località Marchesa to the east of Ciamprisco mentioning four persons (R. Vedo{?}/ V. Autrodius. C.f., S Racectius S.f., S. Teditius S.f.), who are said to have placed the *cippus* (*statuendos locaverunt*). On the basis of the palaeographic criteria, the *cippus* is dated to the early third or late fourth century. According to Johannowsky, these men are best understood to be the *quattuorviri agris dandis*; the magistrates who divided the area into *viritane* settlers in 340. However, the dating of the *cippus* is controversial and it has been argued that the stone dates to the second half of the second century. See Chouquer, et al. 1987, 184-185 n. 332 for discussion and further references. Furthermore, the magistrates mentioned in the inscription are not otherwise known; colonial commissioners as a rule were highly placed individuals, mostly consuls and praetors.

³⁹⁶ See below for a discussion of these measurement units.

³⁹⁷ Heurgon 1970, 259.

³⁹⁸ Vallat 1980, Vallat 1983, 227 and Chouquer, et al. 1987, 181-190.

³⁹⁹ Vallat 1983, 227. Verification of this supposed late fourth century date has been provided by surface reconnaissance which resulted in the identification of various Republican sites, often in the near vicinity of the main axis of the grid. Generally, the meagre seven sites are only dated to the Republican period and make it no more than plausible that the main axes of the system (that is, the via Appia) and the parallel road commencing from Forum Popili were in use in the Republican period.

⁴⁰⁰ On the basis of Chouquer's evolutionary scheme, the recorded centuriation cannot date from the late fourth century, a view which in this case is strengthened by the fact that the 3 *iugera* recorded which Livy says were allotted do not fit neatly into the 14x14 *actus* blocks (32.67 allotments per sq. km.).

⁴⁰¹ Sevink 1985.

that the area in question was originally very marshy and was intentionally allowed to silt up, probably by means of the construction of a system of channels which forced the re-deposition of alluvial soils from the higher areas to the north-east (the process is called colmatage). Arthur noticed that the area of centuriation corresponds very well with the areas of colmatage mapped by Sevink, which suggest the existence of a relationship between the two.⁴⁰² In the nearby Pontine Plain, similar evidence of colmatage is dated to the fourth century on the basis of the sites from this period which are located on these drained lands. It has been suggested that the colmatage of the Ager Falernus dates to the same period and should be connected with Campanian, or more probably with Roman intervention in the area.⁴⁰³ However, even if it is accepted that one of these landscapes was reclaimed in the fourth century, it still cannot be said with any certainty that all colmatage processes were coeval.⁴⁰⁴

4.4. Parallel division lines in the territories of maritime and Latin colonies

As was said in Section 4, the genesis of Roman centuriation has often been connected with the foundation of the first maritime colonies in the late fourth century. The military character of these settlements, which is clearly reflected in the orthogonal lay-out of these *castrum*-like settlements, was supposed to have been mirrored in rural territory in the form of a ridged orthogonal land division system (*centuriatio*). As I have demonstrated, this theory raises some important problems and, in fact, there is no convincing evidence to support the claim. This section investigates the theory advocated most strongly by Chouquer that maritime colonies, just as other colonial landscapes of the late fourth century, were divided according to the more primitive, non-orthogonal land division system.

Terracina

In Section 5, I have argued that the supposed early date of the orthogonal land division grid near Terracina is unconvincing, since a good case can be made for a later date of construction. A possible solution has been offered by Chouquer, Clavel-Lévêque, Favory and Vallat, who have argued that the centuration grid of Terracina was preceded by a system of north-south parallel lines; a method they regard as typical of the early period of Roman land division.⁴⁰⁵ The hypothesis is based mainly on the fact that in a restricted part of the centuriated area (c. 600 *iugera*), internal division lines, the majority with a north-south direction which often form 2 *iugera* allotments, have been identified. This

⁴⁰² Arthur 1991, 35.

⁴⁰³ Arthur argues that the delay between the conquest of the area and the actual creation of the Falerna tribe could be explained as the time necessary to drain the area and make it suitable to settlement. Taylor 1960, 56, who follows Livy, the delay was the result of the dissatisfaction of the plebs with the division of land.

⁴⁰⁴ The few sites which have been recognized in the area dating to the Republican period attest that the area was suitable to settlement sometime during the Republican period (Vallat 1983). No earlier material has been found during the reconnaissance of the area. The fact that pre-Roman pottery in this area is difficult to recognize and is poorly understood (especially at the time of the survey) makes it dangerous to conclude that the marshy area was first settled in Roman Republican times. The date of origin of Forum Popili is debated. A Popilius consul of either 316 or of 132 is connected with the foundation of the settlement. In this last view (advocated by Johannowsky), Forum Claudii was named after Ap. Claudius Pulcher, consul of 143 and triumvir in the land distribution scheme of 133. If this is a correct interpretation, it is possible that he was responsible for (further) drainage of the area.

⁴⁰⁵ Chouquer, et al. 1987, 106-108.

reconstruction has been rejected by Italian scholars.⁴⁰⁶ Since these lines have the same orientation as the *kardines* of the supposedly triumviral centuriation and of the modern division of the landscape, it is impossible to establish whether they belong to an earlier division grid.

Minturnae and Sinuessa

In the territory of Minturnae evidence for land division has been recognized in a series of *limites* which are located on both sides of the via Appia (which crosses them at a right angles), running for several kilometres to the west from the colonial town centre.⁴⁰⁷ In total 3,000 *iugera* are covered this way. In some places, the division lines seem to be spaced at a regular distance of 4 *actus*; perpendicular lines have also been recognized at a distance of 8 *actus*. This allows the reconstruction of a rectangular grid of 4x8 *actus*. According to *Structures Agraires*, the grid can plausibly be connected with the foundation of the colony in 296. The size of the grid, which covers 5 times as much space as was needed for the 300 colonists is the fly in the ointment.

To the north of the town of Sinuessa, Pagano recognized three east-west division lines spaced at intervals of 14 *actus* (497m), which are little less than one kilometre long and delimited to the east by the via Appia which meets the division lines at an angle of almost 90 degrees.⁴⁰⁸ Excavations carried out at the southernmost division line in 1937 revealed part of a Roman road. A similar interval of 14 *actus* has been recorded in the Ager Falernus and has been dated in the late fourth century (cf. above). Pagano believes that this morphological argument taken in conjunction with the small extension of the grid (little more than 800 *iugera*) makes it most likely that the grid dates to the foundation of the maritime colony in 296.

According to *Structures Agraires*, the division lines in this area are spaced at a distance of 480 m., a measurement corresponding to 16 *uorsus*. Moreover, perpendicular lines spaced at the same distance have been recognized, producing an orthogonal grid of 16 x 16 *uorsus* covering an area of circa 4.6 sq. km..⁴⁰⁹ Frontinus says the *uorsus* was used as a unit of measurement by the Oscans, the Umbrians and the Greeks.⁴¹⁰ The main difference between the *actus* and the *uorsus* is that the latter consists of 100 instead of 120 *pedes*. The issue is somewhat confused because the measure used in the grids discussed was not the Oscan foot (c. 27.5 cm) but one similar to the Roman equivalent (c. 29.57 cm.). An explanation for this peculiar unit of measurement can be found in the Greek world: 480 metres corresponded to 16 *plethra* (the Attic foot is similar to the Roman one, but instead of the Roman *actus*, which consisted of 120 *pedes*, the Greeks (like the Oscans) used a unit of 100 feet).⁴¹¹

⁴⁰⁶ Cancellieri 1990.

⁴⁰⁷ Chouquer, et al. 1987, 169-176.

⁴⁰⁸ Pagano 1981.

⁴⁰⁹ Chouquer, et al. 1987, 171 (fig. 52).

⁴¹⁰ See Front. *de limitibus*, (C. 10, 16- 19) on the 100 foot unit used by the Greeks, Umbrians and Oscans. Frontinus seems to suggest that the *uorsus* is older than the 120 foot unit used in the *actus*. See also La Regina 1999, 5-9.

⁴¹¹ To avoid confusion I will use *plethron* for 100 foot systems that are based on a foot length of c. 29.5 cm, and *uorsus* for 100 foot systems that are based on a foot length of c. 27.5 cm.

As a matter of fact, around the Greek town of Metapontum, a *strigatio* with intervals of 8 *plethra*, which is dated to the Archaic period, has been identified.⁴¹²

A similar grid has been recognized farther to the north-east, covering the whole plain between Sinuessa and Suessa Aurunca to the north of Monte Massico.⁴¹³ This grid of c. 40 sq. km. seems to be based on an 8x8 *plethron* module. Finally, farther to the south-east, near the so-called *vicus Sarclanus*, another grid based on *plethron* has been identified, which apparently used a 5x25 *plethron* module.⁴¹⁴ Of course, the use of the *plethron* as the main unit of measurement questions its supposedly Roman origin. Possible candidates for the creators of this grid are the Auruncians or possibly even the inhabitants of the mysterious, and probably legendary, Greek settlement of Sinope.

⁴¹² Carter 2006, 95-96 with further references. The *strigatio* with intervals of c. 240 m. has been identified on the south side of the territory. In other areas the module seems to have been based on a 210 m spacing. See also Schubert 1996, 31-34.

⁴¹³ Chouquer, et al. 1987, 169-170 (fig. 50).

⁴¹⁴ Chouquer, et al. 1987, 181 (fig. 55). In Johannowsky's reconstruction of the division lines of the Ager Falernus, the *kardines* were also located at a distance corresponding to 5 *vorsus* (cf. above).

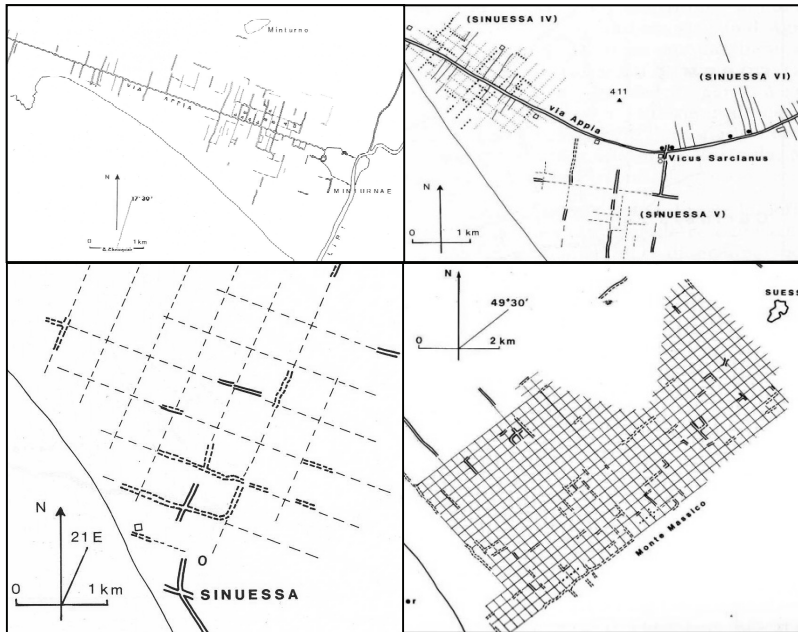


Fig. 12: Land division systems recognized by Chouquer in the territories of the maritime colonies Minturnae and Sinuessa (from Chouquer 1987, 170, 172, 181).

Cales, Luceria and Paestum

The *plethron* rather than the *actus* also seems to have been the dominant unit of measurement used in the oldest Latin colonial territories. In Cales, division lines are spaced at intervals of 480 metres, which corresponds best with a grid of 16 *plethra*.⁴¹⁵ Similarly, in Luceria *limites* have been recognized which are spaced at intervals of 16 *plethra*, intersected by crossing lines every 32 *plethron*.⁴¹⁶ The case of Interamna Lirenas is less clear, since the distance between the *limites* is irregular. The French team lead by Chouquer argues that often a distance of circa 13 *iugera* (c. 461 m) can be measured.⁴¹⁷ However, the distance is often greater than that which makes it possible that a 16 *plethron* module was used.

⁴¹⁵ Castagnoli 1953/ 1955, 3. See, however, Chouquer, et al. 1987, 192 who claim that the lines are c. 470 m apart, which approaches 13 *actus*. Finally, La Regina 1999, 9, who argues that the 467 m distance measured between the *limites* corresponds to a 17 *uorsus* grid with Oscan foot.

⁴¹⁶ See Volpe 1990, 209-213 for a good description of the *limites*. However, just as scholars before him, he reconstructs a 13.38 x 26.76 *actus* grid. Pelgrom 2008, 362-363, arguing that this corresponds to a 16x32 *uorsus* grid.

⁴¹⁷ Chouquer, et al. 1987, 124. A recent survey of the epigraphic evidence of the area has revealed that the identified strigatio covers large parts of the territory of Aquinum. If correct, this would make the hypothesis that this land division program belonged to the early colonial period implausible. Either the territorial boundaries changed drastically in later times (held improbable by the Solin) or the identified *limitatio* does not belong to the colony proper (Solin 1993, 124-5). See also next section for an argument against the view that the grid of Interamna was connected with land division at the time of the foundation of the colony.

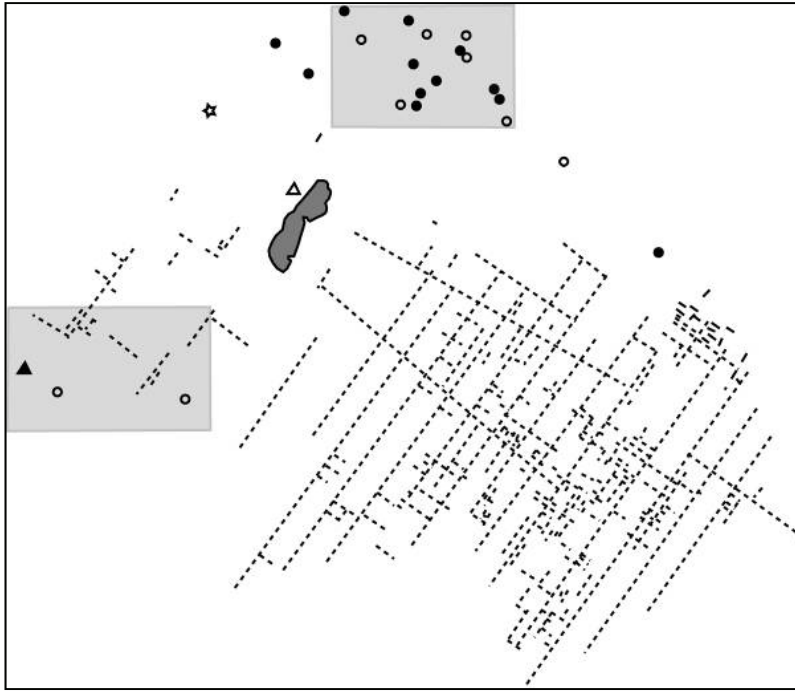


Fig. 13: Land division systems in the territory of Cales (adapted from Chouquer et al. , 192). Grey rectangles: Survey areas of Compatangelo 1985. Black dots: sites dating to the early colonial period; open dots: Republican sites without evidence for early colonial occupation; triangles: necropoleis.

A non-Roman measurement unit might also have been used in the territories of Paestum and Luceria. The *limitatio* of Luceria consists of a series of lines which are spaced irregularly. The southern part as described above is spaced at intervals of 16 *plethra*, but the distance between the six most northern *limites* is larger, c. 550 m. This is usually interpreted to correspond to 15.5 *actus*,⁴¹⁸ but this distance corresponds exactly to 2,000 Oscan feet (27.5m) or 20 *uorsus*.⁴¹⁹ Likewise, as Crawford has recently pointed out that, rather than being a distance measured in *actus*, the distance of c. 275 metres measured between the division lines recognized in the territory of Paestum, is best understood as corresponding to 1,000 Oscan feet or 10 *uorsus*.⁴²⁰

⁴¹⁸ See Volpe 1990, 209-213 for a good description of the *limites*. The two central *limites* are spaced irregularly.

⁴¹⁹ Pelgrom 2008, 364-365.

⁴²⁰ Crawford 2006, 65. For the identified lines see Gasparri 1989 and Gasparri 1990.

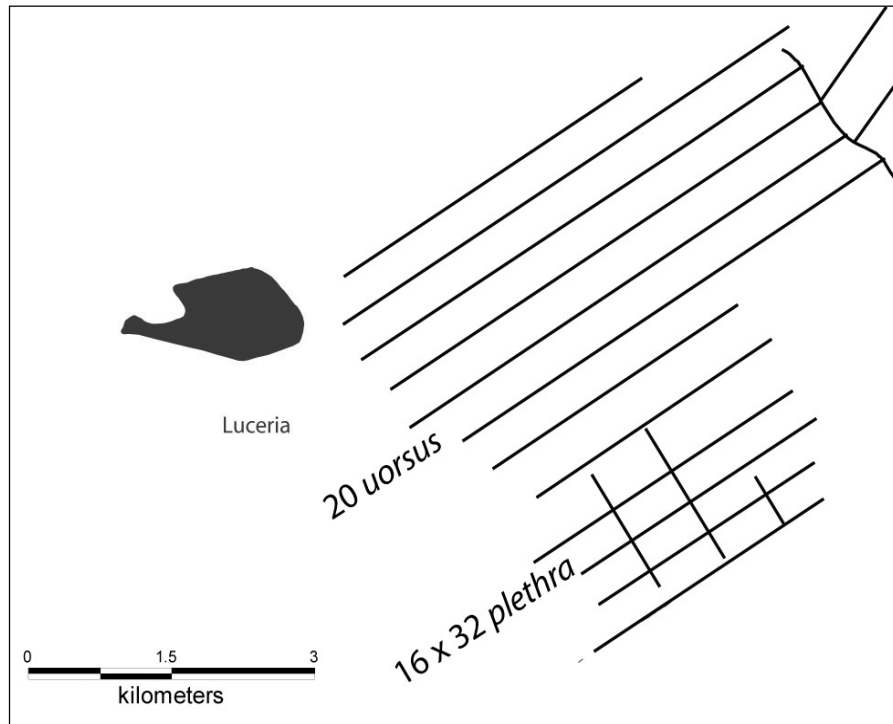


Fig. 14: Land division systems in the territory of Luceria

Alba Fucens and Norba

Parallel division lines spaced at a distance measured in *actus* have been recognized in only two Latin colonial territories of the fourth century: Alba Fucens and Norba. The *limites* of Alba are spaced at a distance of 12 *actus* and cover an area of circa 35,000 *iugera* (87.5 sq. km.). This system is usually dated to the foundation of the colony, mainly on the basis of its morphology.⁴²¹ However, Campbell argues that there are no clear reasons for dating this system to the foundation of Alba.⁴²² A passage in the *Liber Colonialium II* describes a land division by *limites intersecivi* carried out in the Imperial period.⁴²³ One problem is that, according to the *Liber colonialium*, the *limites* were spaced at 1,250 feet or less; this corresponds to an interval of 10.4 *actus*. This is less than the 12 *actus* separating the division lines which have been recognized. This discrepancy is not easily to explain, unless of course it is assumed that the passage in the *Liber* is corrupt. However, the fact this strange unit of measurement of 1,250 feet corresponds to 500 *gradus* (a *gradus* is 2.5 feet) makes the passage at least plausible. The only remaining question is why no trace of this latter division has survived in the modern landscape.

An interval of 12 *actus* also seems to have separated the division lines recognized in the territory of Norba which almost reaches the city of Cora (7000 *iugera*/ 17.5 sq. km.). Between the central axes, *limites intersecivi* which form *scamna*, have been identified. Chouquer, Clavel-Lévêque,

⁴²¹ See Liberatore 2001, 186-7 for a recent discussion and references.

⁴²² Campbell 2000, 429 n.196.

⁴²³ C 192.11-17.

Favory and Vallat argue it is unlikely that the grid dates to the period of its first foundation in 492.⁴²⁴ The morphology of the grid is similar to that of Alba Fucens, which might suggest they are contemporaneous.⁴²⁵ However, apart from the morphological argument, there is no additional evidence to support this dating.

4.5. First conclusions: land division systems in the fourth century

My review of land division systems recognized in colonial territories of the fourth century demonstrates that none of the traces recognized can be firmly dated to the early colonial period. Especially if Campbell's point that *strigae* and *scamna* were not necessarily created in the pre-Punic War period is accepted, plausible alternatives are possible in most cases. More fundamentally, the validity of the assumption that all recognized systems must be connected with Roman colonial land division programmes is open to question. Since on closer inspection the lines discovered often turn out to have been channels/drainage ditches or roads (or a combination of both), it is generally acknowledged that they improved the logistics and more importantly the hydrological situation of the area; therefore they boosted the quality of the agricultural landscape considerably. Hence, it is possible to question whether the presumed functional sequence (i.e. first demarcation and only then reclamation) is correct. This issue is also relevant to the dating of these lines because, if their prime function was indeed connected with water management and the reclamation of land, they are no longer necessarily linked to land distribution to colonists.

Almost without exception, the orientation of the 'division lines' is clearly determined by geomorphologic and hydrological considerations. They either follow the natural relief of the landscape and watercourses or are placed exactly perpendicular to them. The first alignment obviously helps to dewater the area quickly; the second (less frequent) orientation can be explained as a way to counter erosion. Furthermore, most systems are located in low-lying terrain; often even in areas known to have been marshes before the great land reclamation programme of Mussolini. It is obvious that these areas had to cope with disruption by water, at least seasonally. Clear cases are the traces recognized in the Pontine Plain, a notoriously wet, marshy area infested with malaria mosquitoes. Moreover, the geomorphologic research carried out in the Ager Falernus demonstrates that, before the process of colmatage commenced, the area was effectively a swamp (cf. above). The *limites* near Paestum are

⁴²⁴ Chouquer, et al. 1987, 99.

⁴²⁵ In general, evidence of ancient division lines around *coloniae priscae* is absent. Besides that in Norba, the only exception has been recognized by Hinrichs 1974, 40 in the territory of Nepes. The grid is characterized as a series of parallel stone walls, sometimes next to a road, between which minor stone field boundaries systems which divide the land into *scamna* of irregular size, are located. Hinrichs says the stone walls are comparable to those found nearby ancient Etruscan roads and, moreover, the technique closely resembles that used to construct the walls of Nepes. Therefore, Hinrichs believes them to be indicative of a very ancient land division system; possibly even pre-Roman. Castagnoli 1984, however, argues that the stone walls and connected land division are clearly modern constructions.

located in a very wet area, which was abandoned after the Roman period until major drainage schemes of the 1930s and 1950s again made the area suitable to agriculture.⁴²⁶

Hence, the evidence strongly supports the supposed hydrological function of these systems. Of course, this does not exclude the possibility that they are connected with Roman land distribution programmes. A combination of both functions (demarcation and reclamation) is certainly possible and has often been suggested. At the time of colonization, the land was made suitable to agriculture after which it was distributed to colonists. However, the evidence places question marks alongside this scenario; the grids measured in *uorsus* or *plethron* especially are not easily explained as Roman interventions. Even those possibly measured in *actus* need not always be Roman or colonial. On the basis of historical considerations, the evidence in the Hernician territory, for example, is difficult to explain as a Roman intervention. It is more probably that it reflects a local initiative. The supposedly early systems which are based on the *actus* are all located in Latial or Sabine/Aequian territory; for all we know, the original inhabitants of these areas might have used the *actus* as their unit of measurement, which makes it impossible to determine if the system was more likely of Roman or of indigenous origin. What is also striking is that all systems located in areas of Greek influence are not spaced in *actus* (Fig. 15). The differences in the unit of measurement used are, I believe, a strong argument against the view that these land divisions were constructed by Roman engineers.⁴²⁷ The grid of Luceria is a good illustration. The lines with an identical orientation are spaced at different intervals and different units of measurement were used. This strongly suggests that they were not created simultaneously as part of a single project, but developed more gradually.

⁴²⁶ On Paestum as a malaria-infested marshy area see Strabo 5.4.13. Many examples can be added: in Antiquity the mouth of the River Liris was a notoriously marshy area (in 88 Gaius Marius is said to have hidden from Sulla in the marshes of Minturnae (Livy *Per.* 77. 6)).

⁴²⁷ The fact that many systems of parallel division lines have been identified in landscapes which during the Mid Republican period were almost certainly not located in Roman territory strengthens this view. The examples are numerous. Around the town of Aquinum in an area of circa 10,000 *iugera* (25 sq. km.) a series of parallel lines 10 *actus* distant from each other have been recognized. The lines have the same orientation as the *kardo* of the town itself. (Chouquer, et al. 1987, 125) The town remained independent until the Social War, so it is difficult to connect the grid with Roman intervention. The supposed Roman colonial origin of the grid recognized by Chouquer to the west of Interamna Lirenas has also recently been questioned. A recent survey of the epigraphic evidence from the area has revealed that the *strigatio* identified covers large parts of the territory of Aquinum. If correct, this would make the hypothesis that this land division programme belonged to the early colonial period implausible. Either the territorial boundaries changed drastically in later times (considered improbable by Solin) or the *limitatio* identified does not belong to the colony proper (Solin 1993, 370, esp. n.16). To the north of the Samnite town Bovianum, a possible *scammatio* has been recognized (Chouquer, et al. 1987, 147-149). A recurrent unit measures 13 *actus* on the short side and 24 on the long side. 6000 *iugera* (15 sq. km.) of land is divided in this way.

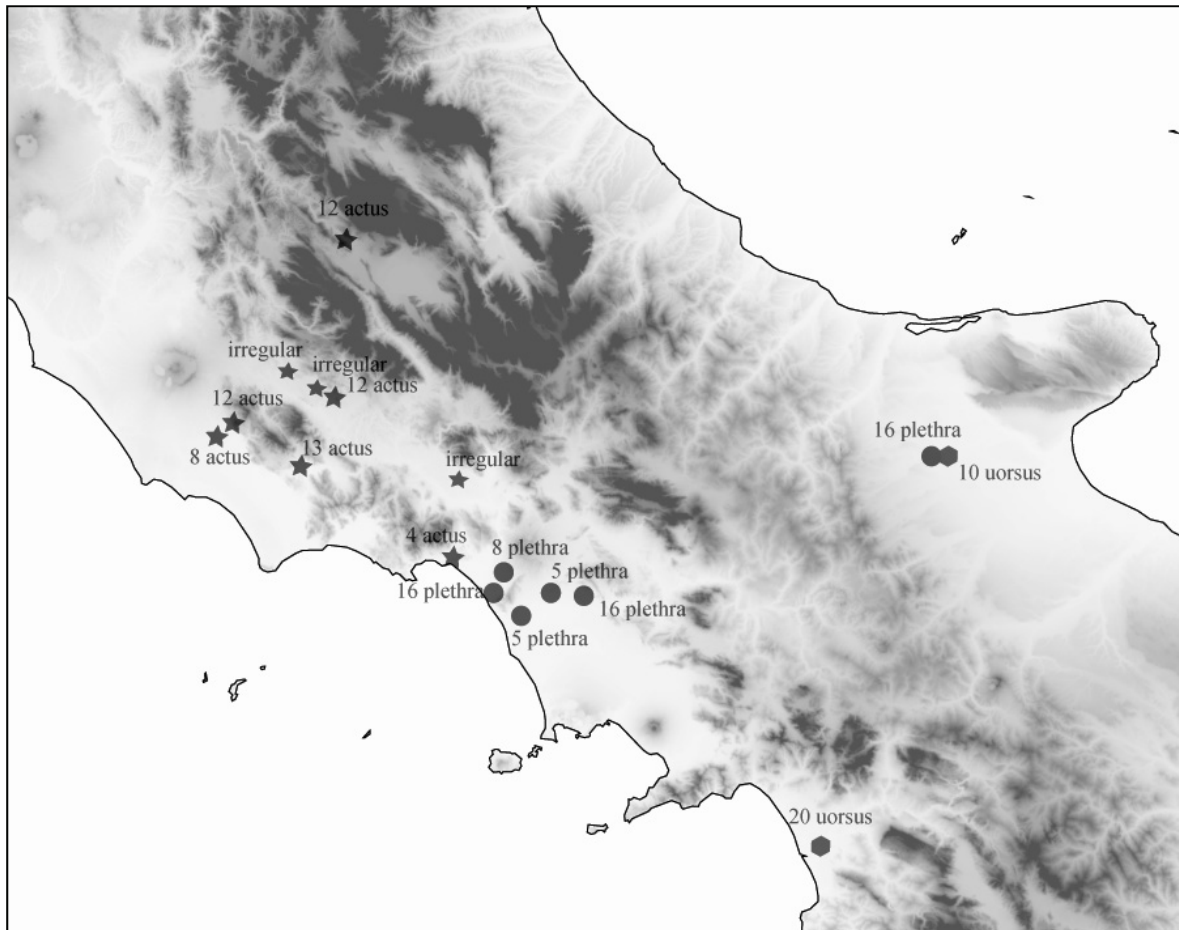


Fig. 15: Location of land division systems mentioned in the text.

The supposedly primary delimitation function of early ‘division lines’ has also been brought into question by a study of Moatti, who correctly observes that in order for a land division system to be effective, it needed to be guided and managed by an administrative system which would have kept records.⁴²⁸ Moatti argues that Rome did not have such a system before the second century. The absence of references to *formae* in the literary sources is especially significant. The *forma* was a graphic representation of the confiscated landscape on which the location of the various holdings was recorded. The *forma* (usually in bronze) was designed as a definitive document which could not be altered. For this reason, the names of proprietors were not added on the map, a system of reference codes being used instead. On different lists, it was therefore possible to record that Plot x (on the *forma*) belonged to person y. The map and lists had to be kept in an archive in a secure place (*tabularium*).⁴²⁹ Not only is there no evidence that such maps and lists were drawn up in the late fourth and early third century, the *Corpus Agrimensorum* explicitly states that a *forma* did not exist for various territories known to have been colonized in early times and needed to be made (for example, Graviscae, Antium, Sinuessa).

⁴²⁸ Moatti 1993, 79-98.

⁴²⁹ The first archaeological evidence for *tabularia* in Latin colonies also dates to the second century. In Cosa and Paestum adjustments were made to the Curia in this period in order to make place for storage rooms for archives. The remarkable fact is that no such place existed before that time (See Moatti 1993, 75 with references).

If Moatti is right that Rome did not possess a sophisticated apparatus for the administration of land before the second century, this also strongly questions the existence of rigid division systems in that period. Why would colonial *triumviri* have gone to the trouble of dividing the landscape rigidly into equal blocks if they did not record who received which plot? It makes more sense to connect the genesis of centuriation or other forms of land division with the development of an elaborate system of property administration.

4.6. Orthogonal grids in colonial landscapes of the third century

For the period after the conquest of the Po Valley, literary evidence of the existence of colonial landscapes which were divided in a regular fashion is convincing. The sources begin to report the division of land into equally sized allotments, the drawing up of *formae* and the existence of land surveyors.⁴³⁰ Therefore, the question which remains to be answered is if this change dates to the post-Hannibalic period or had begun earlier in the third century, for which very little literary information survives (the so-called ‘third century gap’). Some scholars believe there is good evidence which points towards an earlier adoption of this practice. The evidence will be reviewed below.

Cures Sabini

The most convincing example of an orthogonal land division system which was created in the third century is located in the territory of Cures Sabini. Around this old Sabine city, an extensive orthogonal grid has been identified which is based on a 10x10 *actus* module which enclosed 50 *iugera* of land (the technical term is *laterculus*).⁴³¹ On the basis of a careful study of the *Corpus Agrimensorum*, Muzzioli has argued that the most plausible date of construction of this grid is soon after the conquest of the area in 290. Her most important argument is a passage in the *Liber Coloniarum* II (C. 192. 19-27) which provides a good *terminus ante quem*. It states that the land was put up for sale by the *quaestores* and was enclosed in squares of 50 *iugera*, and that Caesar also ordered it to be measured out in *centuriae* and *limites*. Hyginus and Siculus Flaccus say that the *ager quaestorius* was land taken from the enemy (*ex hoste captos*) which was sold to the Roman people in units of 50 *iugera*.⁴³² The statement that captured land was sold does not necessarily imply it was put up for sale immediately after its capture, but the fact Livy (28.46) reports the selling of land in Campania by *quaestores* in 205

⁴³⁰ For the allotments see Table 13, on the *formae* see discussion above. The existence of surveyors (*finitores*) in the early second century is attested to in the prologue of *Poenulus* by Plautus 49-50 “Its site, its limits, its boundaries I’ll now lay down; for which purpose have I been appointed surveyor.” See also Pol. 3.40 and Livy 21. 25 on the *triumviri* of Placentia and Cremona, who had come to mark out the allotments (*qui ad agrum uenerant adsignandum*) and subsequently fled to Mutina. There is a enormous amount of literature on the different centuriation systems which have been recognized in the Po Valley and are dated to the early second century (e.g. Chevallier 1983; Schmiedt 1989. See for a recent synthesis, Guandalini 2001, with references).

⁴³¹ Muzzioli 1975; Muzzioli 1980; Muzzioli 1985.

⁴³² Hyginus C 82.23; Siculus Flaccus C 104.1.

In fact, in the literary tradition recounting the career of Dentatus there is an anecdote which might be connected to sales of land in plots of 50 *iugera*. Several sources describe how Dentatus refused to accept an allotment of 50 *iugera* which was granted to him by the Senate as he felt a citizen who was not satisfied with an allotment of the size which was given to the rest of the Roman citizenry (7 *iugera*) was a danger to the commonwealth.⁴³⁴ Although these reports resemble moralistic tales whose main purpose was to illustrate how virtuous the illustrious men of the Roman past were, there might be an element of truth in them. The detailed study by Forni reveals that Dentatus was the leader of a popular movement in Rome who, at the time of the great plebeian secessions (which apparently ended with the *Lex Hortensia*), propagated large-scale distributions of land to all citizens.⁴³⁵ This was opposed by conservative aristocrats who wanted to protect their traditional right of exploitation of conquered lands. As a compromise solution, it was decided that some of the territory would be sold (which in practice meant the propertied class could exploit it) and another part was distributed to the poor.⁴³⁶

Although the selling of land might indeed have been an arrangement which favoured the propertied class, it differed notably from the earlier system of dealing with conquered land, because acquisition through purchase, unlike *occupatio*, gave the possessor a secure title to land. It makes sense that the land which was to be sold to individuals was parcelled out in a durable manner which necessitated the construction of a land division system. Some support for this view is offered by a passage in Siculus Flaccus (C. 103, 34-104, 4) which reads as follows:

As the Romans became the masters of all nations, they divided up *{partiti sunt}* land captured from the enemy among the victorious people. But they sold other land, for example, the land of the Sabines, which is called ‘quaestorian’; by establishing *limites* they divided it up *{eum limitibus actis diuiserunt}*, enclosing fifty *iugera* in parcels measuring ten *actus square*, and in this way sold it off through the agency of the quaestors of the Roman people. Afterwards, as larger areas captured from the enemy gradually became available, they divided up and allocated some of the land *{alios agros diuiserunt adsignauerunt}*

Although it would certainly be wrong to draw any far-reaching conclusion from this late text, it is still striking that Flaccus connects the practice of establishing *limites* with the selling of land, something which apparently had not been practised in earlier dealings with conquered land. Moreover, the suggestion is made that the practice was continued afterwards; lands were no longer only divided

⁴³⁴ Val. Max. 4.3.5; Vir. Ill. 33; Pliny (E) *NH* 18.18; Frontin. *Str.* 4.3.12.

⁴³⁵ Forni 1953.

⁴³⁶ Also Muzzioli 1975.

(*partiti*), but also allocated (*diuiserunt adsignauerunt*). Flaccus says this happened when large areas were captured. A likely candidate for such treatment is the annexation of the Po Valley in the late third and early second centuries. In fact, Hinrichs argues that the genesis of the practice of dividing land into *centuriae* of 20x20 *actus* is connected with the acquisition and reclamation of this vast territory.⁴³⁷ However, some scholars believe that colonies which were founded in the middle of the third century were also the subject of a large-scale land division programme.

Suggested early examples of colonial land division schemes in centuriae

Chouquer states that the oldest recognized examples of centuriation are not located in the Po Valley, but are situated in the territory of Ariminum.⁴³⁸ In the immediate surroundings of this town several 20 *actus* centuriation grids with different orientations, dated in the mid-Republican period, have been recognized. The most famous one is located to the west of Ariminum, around Caesena, and is generally dated in the late second/early first century.⁴³⁹ Chouquer has also recognized two previously unknown grids in the territory, both of which he dates to the third century. The first is located to the south-west of Ariminum and has the same orientation as the street grid of the town.⁴⁴⁰ According to Chouquer, the congruence between the orientation of urban street grid and that discovered in the countryside supports the view that the grid was constructed simultaneously with, or soon after, the foundation of the colony. An additional argument which supports this theory is that the grid is not orientated on the main road of the area: the *via Flaminia* which was constructed in the late third century. Chouquer argues this provides a plausible *terminus ante quem* as he believes it would have made most sense to orientate the grid on the consular road if it had existed at the time of the construction of the land division system.

A second centuration of 20x20 *actus* has been recognized between the Rivers Rubicon and Conca. This grid covers most of the putative territory of Ariminum (600 *centuriae* are reconstructed, c. 300 sq. km.). It has the same orientation as the *via Flaminia* which Chouquer suggests was constructed with it, or soon afterwards. The *via Aemilia*, which was constructed in 187, is considered an *terminus ante quem* on the basis of the fact that it has a different orientation.⁴⁴¹ Therefore Chouquer postulates the grid is best connected with the land division programme in the *Ager Gallicus* and *Picenus* which was promulgated by the *lex Flaminia* of 232.

Recently, Bottazzi has expressed some doubts about the dating of these grids. He believes that the orientation of the main axes of the centuriation system, considered the oldest, are not determined

⁴³⁷ Hinrichs 1974, 56-57.

⁴³⁸ Chouquer 1981. A 20x20 *iugera* grid has also been identified in the territory of Saticula (founded in 313) and dated by Johannowsky to the early colonial period (Johannowsky 1998). However, there are no concrete arguments for dating this grid in the late fourth century. According to Chouquer, et al. 1987, 156-159, the grid must be connected with a Sullan or triumviral veteran settlement.

⁴³⁹ Chouquer 1981. For description of the grid see page 846-850. For dating page 862. In total circa 200 *centuriae* could be reconstructed (c. 100 sq. km.).

⁴⁴⁰ But see Giorgetti 1980, 89-124 for a different interpretation and proposed orientation of the urban street grid.

⁴⁴¹ Cf. Bottazzi 1995, 350.

by the street grid of the town, but are based on the geomorphologic conditions.⁴⁴² As he notes, the transversal lines correspond to modern secondary roads, whose orientation has clearly been determined by the relief of the area; they are constructed parallel to the coast, following the contour lines.⁴⁴³ Moreover, the east-west lines have the same orientation as the River Marecchia. Therefore, it is possible that the land division lines and the street grid are accidentally orientated in the same way; independently of each other following the contour lines of the landscape. Bottazzi argues that it is more likely that the second centuriation grid dates to the period of the foundation of the colony. He postulates that when it reached the coastal area of Ariminum, the via Flaminia probably followed the course of an already existing road; one which was created soon after the foundation of the colony and which was used as the main axis for the land division programme.

The dating of the land division systems by both Chouquer and Bottazzi depends entirely on the theory that the congruency or divergence in the orientation of streets and land division systems are valid dating criteria. Such an argument is very shaky since there is no good reason for excluding the possibility that roads were used in later times as the main axis for the creation of new land division grids.⁴⁴⁴ Since Ariminum was re-colonized in the triumviral period, at a time in which land division in *centuriae* was *en vogue*, this possibility must be taken seriously.⁴⁴⁵ Neighbouring towns such as Pisaurum, Fanum Fortunae and Sena Gallicum have centuriations which are orientated on the coast line and major roads; these are generally dated to the late Republican/ early Imperial periods.⁴⁴⁶

Another instructive example is provided by the centuriation grids which have been identified in the twin colony to Ariminum, Beneventum.⁴⁴⁷ Here, Chouquer identified a 20x20 *actus* grid covering an area of 6,000 *iugera* (identical in size to the second grid of Ariminum). Surprisingly, Chouquer does not date this system to the early colonial period but connects its construction with a recorded settlement programme of L. Munatius Plancus after the Battle of Philippi.⁴⁴⁸ This assumption is based on a passage in the *Liber Coloniarum* which records the settlement of veterans here under a triumviral *lex*.⁴⁴⁹

Besides the 20x20 *actus* grid, Chouquer has also reconstructed the presence of yet another land division system with a different orientation (possibly orientated on the River Calore), which was based on a 16x25 *actus* (= 200 *iugera*) module; a unit which is recorded in the *Liber Coloniarum* and

⁴⁴² Bottazzi 1995, 340.

⁴⁴³ Bottazzi 1995, 333.

⁴⁴⁴ For example, Chouquer 1981, 862, dates a centuriation recognized to the north-west of the Marecchia, between the Flaminia and the Popilia, to the time of the construction of the via Popilia in the late second century. However, the grid is not orientated on the Popilia, but has the same orientation as the Flaminia.

⁴⁴⁵ Keppie 1983, 63.

⁴⁴⁶ For an overview of the location of these grids see Sisani 2007 452, tav. 6.

⁴⁴⁷ Chouquer, et al. 1987, 159-164.

⁴⁴⁸ Chouquer, et al. 1987, 164.

⁴⁴⁹ C 180. 15-16. "Beneventum, the colonia Concordia, encircled with a wall. Nero Claudius Caesar founded it. A right of way is not due to the people. Its land was allocated to veteran soldiers under a triumviral *lex*."

in Siculus Flaccus for the territory of Beneventum.⁴⁵⁰ This grid has been dated to the early imperial period on the basis of the passage in the *Liber Coloniarius* which records the foundation of a colony called Concordia in the territory by Nero Claudius Caesar. Chouquer thinks that this was very probably Tiberius (and not the illustrious emperor Nero Claudius Caesar Augustus Germanicus) who was charged with the realization of the large-scale land division programme of Augustus in Samnium and some other districts of central-southern Italy.⁴⁵¹

However, in a review of Chouquer's work, Patterson argues that it is unlikely that the late Republican grid was replaced so soon after its creation.⁴⁵² He remarks that the reference in the *Liber Coloniarius* also mentions a centuriation based on the 16 x 25 *actus* module in the territory of Vibo Valentia (a Latin colony of 193).⁴⁵³ This suggests that the grid at Beneventum also dates to its original foundation. Contradicting this, Livy says the territory of Vibo Valentia was allocated in lots of 15 *iugera* (the size recorded for *pedites*, the *equites* received allotments twice as large). Allotments of this size cannot be fitted into the recorded 200 *iugera* land division (13.333 plot per *centuria*). Moreover, besides Beneventum and Vibo, the *Liber* also records a similar grid for Velia.⁴⁵⁴ It is difficult to see on what occasion in the mid-Republican period this town, which remained an ally until the Social War, could have been colonized. As Chouquer suggests, the morphological similarities indeed point to a later large-scale settlement programme executed in Samnium, Lucania and Bruttium, possibly by Tiberius.⁴⁵⁵

⁴⁵⁰ C. 164, 20-21. Siculus Flaccus C 126, 15-17: "In the territory of Beneventum there are 25 *actus* along the *decumani*, and 16 along the *kardines*. Nevertheless, 200 *iugera* are enclosed by this type of measurement, but square *centuriae* are not thereby produced."

⁴⁵¹ Chouquer, et al. 1987, 163.

⁴⁵² Patterson 1991; also Campbell 2000, 404 n. 8; Torelli 2002, 74-77.

⁴⁵³ C 164, 16-17.

⁴⁵⁴ C 164, 9.

⁴⁵⁵ Also in the territory of Brundisium, traces of a 20x20 *actus* grid have been recognized. These are best visible in the area to the south-east of the colonial town centre between the Masserie Villanova and Cefalo, where a total of 16 *centuriae* have been recognized (slightly more than 8 sq. km.). Since large centuriated areas (in the classic 20x20 *actus* module) which are dated to the Gracchan period and later have been recognized in Salento and northern Apulia, the possibility that the system is of a later date cannot be excluded (Aprosio 2008, 97-10 with further references). Other traces of land division have also been recognized in the area immediately surrounding the colonial town centre. However, it is uncertain what the module was and to when it must be dated (Aprosio 2008, 92-101).

16 actus grids

In the territories of several colonial territories founded after the Pyrrhic War, land division systems have been recognized which are based on a 16 *actus* module and are dated to the early colonial period. The most famous example is that of the Latin colony Cosa. A particularly well-preserved *decumanus maximus* has been recognized in the Valle d'Oro. This road began at the 'Porta Romana' of Cosa but had a different orientation than the urban street grid.⁴⁵⁶ Other *decumani* have been recognized at a distance of 16 *actus* from the main axis.⁴⁵⁷ The *kardines* are less clear. The course of the via Aurelia between Cosa and the Albegna River is positioned perpendicular to the *decumani*, which suggests it was the *kardo maximus*. Some traces of other *kardines* which are placed at intervals of 32 *actus* from each other have been recognized. On this basis, a rectangular grid of 16 x 32 *actus* has been reconstructed.

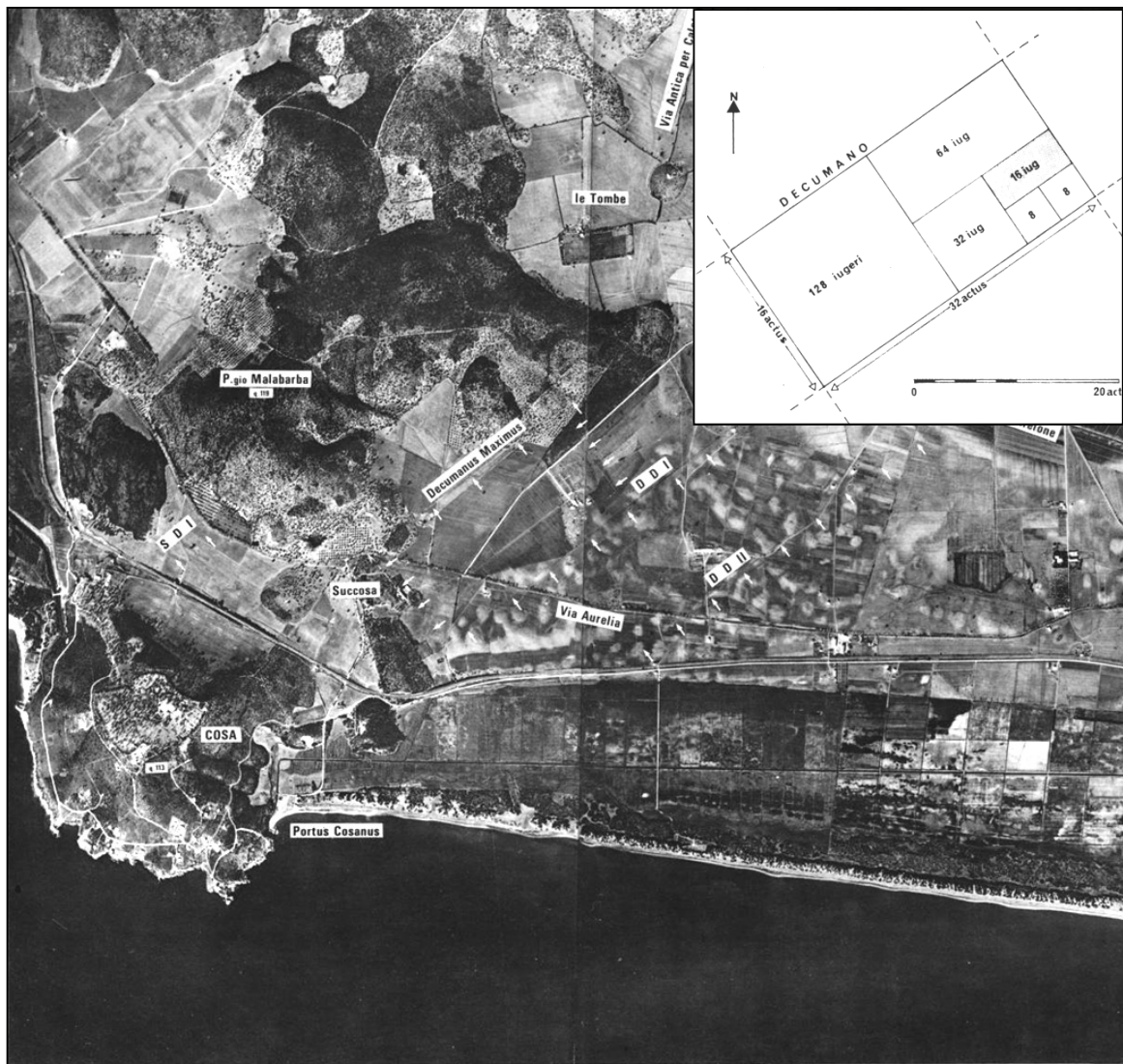


Fig. 17: Land division lines in the territory of Cosa (from Schmiedt 1989).

⁴⁵⁶ Castagnoli 1956. For a recent synthesis see Carandini, et al. 2002, 121-123 (with references).

⁴⁵⁷ Traces of these division lines have been identified in the field as dry stone walls (Carandini, et al. 2002, 121-123).

A second land division system based on a 16 *actus* interval has been recognized in the territory of the Latin colony of Spoletium (241). In this case, the *kardines* are also spaced at intervals of 16 *actus*, thereby forming an orthogonal grid of 16 x 16 *actus*. It is located to the north of the town, on both sides of the via Flaminia, which it crosses at an angle of circa 45 degrees.⁴⁵⁸

Both grids have been dated to the period of the foundation of the colonies in 273 and 241 respectively. For Spoletium, evidence for its early construction is found in the fact that the grid is not orientated on the Flaminia which was built in 220, but is intersected by it. In the case of Cosa, the main argument is that, in the neighbouring colony of Saturnia (founded 183), a centuriation with the same orientation has been recognized and dated in the second century. However, this grid was based on the classic 20x20 *actus* module. The argument is that, if the centuration of Cosa was of a later period (for example in the early second century when it was re-colonized), it would have been divided in the same manner as Saturnia.⁴⁵⁹ These arguments are not conclusive. As said above, the orientation on major roads (or lack of it) is a very weak dating argument.⁴⁶⁰ The orientation of the *decumani* of both land division systems corresponds closely to that of the major water courses in the area and it seems that hydrological considerations were a major factor in determining the orientation of the grids.⁴⁶¹ The fact that different modules were used in Saturnia and Cosa is not decisive either. The use of a different module (20 *actus*) can be explained as the result of the different size of allotments which were distributed.

Moreover, according to Chouquer's study, 16x16 *actus* grids are typical of late Republican land division programmes (the examples are numerous, for example, Gabii, Formiae, Acerrae, Atella, Venafrum,⁴⁶² Bovianum,⁴⁶³ Aesernia,⁴⁶⁴ Nola, Capua, Formiae and Neapolis).⁴⁶⁵ Interestingly, there is evidence that the land of Spoletium was distributed in that period. Florus says that the land of Spoletium was sold up by Sulla as a punitive measure.⁴⁶⁶ No direct evidence is recorded for a late Republican land division programme in Cosa. However, evidence for triumviral veteran settlement has

⁴⁵⁸ Sisani 2007, 93 with further references.

⁴⁵⁹ Carandini, et al. 2002, 122.

⁴⁶⁰ In the case of Cosa, the via Aurelia has the same orientation as the *decumani*, and in fact is supposed to have been its *kardo maximus* (Carandini, et al. 2002, 122). However, the via Aurelia was constructed in 252 at the earliest, two decades after the foundation of the colony and, in order for the early colonial date of the land division grid to be valid, must be considered to have conveniently made use of an existing pathway, which also functioned as the *kardo maximus* in the tract which crossed Cosan territory (Carandini, et al. 2002, 106, 132). Other possible dates of construction are 242 and 200. Also of interest is that the street grid of Cosa has a very different orientation than that of the centuriation.

⁴⁶¹ Sisani 2007, 93 n. 43.

⁴⁶² An Augustan colony there is clearly attested to by epigraphy Chouquer, et al. 1987, 141 n. 180 and 181 for references.

⁴⁶³ The foundation of a colony in the Late Republic/ Early Principate is attested to. It is unclear if it was founded by Caesar or Augustus. On the basis of the recurrence of 16x16 *iugera* grids in Augustan land division systems Chouquer, et al. 1987, 145-147 (with references) opts for the latter.

⁴⁶⁴ The *Liber Coloniarum* records the existence of Augustan *limites* in the territory (C. 182, 18-19). According *Lib. Col.* II C. 200, 15-16, Nero (the future emperor Tiberius) founded the colony. (On this Chouquer, et al. 1987, 142-144).

⁴⁶⁵ For 16x16 *actus* as typical of Augustan land division see Chouquer, et al. 1987, 253.

⁴⁶⁶ Florus 2.9.27. In fact, the *Lib. Col.* C 176 10-15 mentions that the territory of Spoletium was occupied in *iugera* according to the normal legal process in operation at Interamna Nahars and at Interamna Praetuttiorum. In nearby Hispellum a division into *iugera* which was allocated under a *lex Iulia* is also reported, (*Lib. Col.* C. 174, 24-26), See Campbell 2000, 410 n. 49 for further references.

been found in the nearby colony of Heba.⁴⁶⁷ This, in conjunction with the archaeological evidence for a re-foundation of the town in the Augustan period, after a phase of depopulation in the Late Republic, possibly as the result of pirate attacks, opens up the possibility that land was also divided in this period.⁴⁶⁸

5. Conclusion

The analysis of the literary evidence and the traces of land division programmes which have been recognized on topographical maps and aerial photographs reveal that there is little reason to assume that Roman colonial territories before the Pyrrhic War were orderly divided landscapes, settled only by autarchic peasants. The literary sources only begin to report the distribution of equally sized allotments large enough to support a family after the Second Punic War, and even then only in the case of Latin colonies. Moreover, the literary sources seem to suggest that Rome did not develop an elaborate system of land division and property administration before that time.

There is evidence that the practice of dividing territories using intersecting *limites* forming orthogonal grids commenced sometime in the course of the third century. The development of this practice might be linked to the introduction of a new policy of selling allotments of conquered land by the *quaestores*, which seems to have happened first in the territory of Cures Sabini in the third century. Not much later, the practice was also used in regular colonial land division programmes. Whether this happened before the annexation of the Po Valley cannot be established with any certainty. Those orthogonal grids which have been recognized in the territories of colonies of the mid-third century are not securely dated to the early colonial period and, without further archaeological research, it will remain uncertain whether these systems were created at the same time as the foundation of the first Roman colony, or in later periods.

⁴⁶⁷ For Heba see Fentress 1991, 149-151; Keppie 1984, 254-255, and Carandini, et al. 2002, 181-182.

⁴⁶⁸ Fentress 2003, 32-34 (with references). Moreover, the town was probably garrisoned against Sextus Pompey in 40.