

Counting Romans

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Abstract: This article focuses on the debate about the size of the population of Roman Italy. I point at logical inconsistencies related to the dominant view that the Republican census tallies are meant to report all adult males. I argue instead that the figures stemming from the Republican census may represent adult men *sui iuris* and suggest that those of the Augustan censuses include all citizens *sui iuris* regardless of age and sex. This implies a population size under Augustus which falls between those suggested by ‘high counters’ and ‘low counters’. Since the share of free citizens enumerated as *sui iuris* was further affected by various historical phenomena a range of intermediate scenarios or ‘middle counts’ is perceivable. However, such factors as affect the multiplier all pull in the same downward direction. Therefore, it is likely that the number of people inhabiting Roman Italy in Augustan times was closer to that suggested by the ‘low count’ than to that implied by the ‘high count’.

Counting Romans*

1. Introduction

What was the size of the population of Roman Italy? The enigmatic character of much of the information in the ancient sources prevents a satisfactory answer to this fairly basic question. The solutions put forward by modern scholars are extremely divergent. The estimates of those presenting a ‘high count’ and those favouring a ‘low count’ are of an entirely different order of magnitude, which has significant implications for our understanding of many related aspects of Roman economy and society.

A factor of approximately three divides the ‘low count’ from the ‘high count’ interpretation of our main source, the Roman census figures.¹ This is the logical consequence of the consensus that the Republican census tallies represented, or aimed at representing, all adult male citizens on the one hand, and very divergent understandings of the Augustan figures on the other: ‘high counters’ think that the Augustan figures were a continuation of this practice (i.e. they count all adult males),² while the preference of the ‘low counters’ is to interpret the steep increase in the Augustan figures as indicating a significant change in the way the census results were recorded.³ Contrary to his predecessors, Augustus is thought to have started to include women and children in addition to adult males. As it stands, the debate amongst ancient historians is locked into an either/or dichotomy between these opposing interpretations. It is perhaps fair to say that the ‘low count’ tends to be favoured over the ‘high count’ by most scholars. Traditionally, ‘low counters’ have perceived the last two centuries BC as a period of demographic stagnation or decline in the free citizen population of Roman Italy. However, a tendency to view the political and social developments of this period as best explained against a background of population increase rather than stagnation or decline, has recently emerged. Luuk de Ligt has sought to reconcile the notion of demographic growth with that of a low population total: a reinterpretation of the Polybian figures for the number of allies combined with a lower alternative estimate for the number of inhabitants of Gallia Cisalpina allows the Republican census figures to represent growth of the free Roman population.⁴ Taken together, we are now faced with two competing scenarios of population size, and moreover three – or perhaps rather four – developmental trends: rapid growth, moderate growth, decline and/or stagnation.

2. Aims and arrangement

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¹ There is little point in listing the sequence of figures here: one may find them in Brunt (1971/1987², 13-14), Nicolet (1976b, 69), or Toynbee (1965, 438-40 [including the Claudian figures]). For a visual presentation of the figures see Scheidel in this volume.

² Frank (1924); Wiseman (1969); Lo Cascio in several publications (esp. 1994, 1999a, 1999b, 2001); Kron (2005). Morley (2001) explores the potential of the ‘high count’ in an attempt to open up debate.

³ This view is set out most elaborately by Beloch (1886, 370-8) and Brunt (1971/1987², 113-20).

⁴ De Ligt (2004, esp. 731-7) based on his inaugural lecture (2003, in Dutch).

This paper will not repeat the extensive analysis of the implications of these competing scenarios of absolute and relative population size for our understanding of Roman and premodern history as presented by Walter Scheidel elsewhere in this volume. Instead there are two aims.

First, in sections 3-5 I shall examine the assumptions underlying current interpretations of the Polybian army figures and the Republican census tallies in order to answer two important questions: can we consider the former as independent evidence corroborating the ‘low count’ interpretation of the census figures? And did the census figures in fact represent, or aim to represent, all adult male citizens? I shall argue that in assuming that they did, we accept a number of logical inconsistencies.

Second, in sections 6-10, I explore the possibility of an alternative reading that allows one to adopt an intermediate position between the current scenarios of small and large populations. The possibility of such a ‘middle count’ is opened up by interpreting the Republican census figures as representing adult male citizens *sui iuris*, and the Augustan ones as representing all citizens *sui iuris* (regardless of whether they are men, women, or children). Because the share of the *sui iuris* in the total population – in contrast to that of adult men – is not determined purely by the prevalent demographic regime, there are many more factors which affect the relationship between the number recorded in the census and the actual population. They include migration, territorial expansion, ‘overcounting’, nuclearization of households, the inclusion of freedmen with a different demographic profile, and changes in the proportion of women who were not *in potestate*. In other words, the multiplier becomes much more flexible in this scenario.

In the remaining sections I shall briefly address the implications of each of these factors for the size of the citizen population in Italy under Augustus in an attempt to encourage incorporation of these topics into the population debate.

3. Manpower in Polybius: a new scenario?

In the debate on the population of Roman Italy, Polybius’ account of the events in 225 BC has attracted much attention as it provides us with our only numerical evidence for the size of the non-Roman population of Italy. There may be compelling arguments for serious skepticism towards the figures Polybius gives us,⁵ which could lead one to reject his account as unreliable. But even for those who wish to accept the tallies as broadly representative of a genuine historical situation problems of interpretation remain. His rather vague description in 2.24.10 has often been interpreted as referring to ‘men able to bear arms’.⁶ But there is no consensus as to which Romans and allies would have been considered able to fight, and the interpretations suggested lead to diverging conclusions on the size and development of the population of Roman Italy. Brunt suggested that the figures where they refer to allies count *iuniores* only, whereas the figure given for Roman men would include all males.⁷ De Ligt has argued that, rather, we should take both of these categories, allied and Roman, as consisting of *all* free adult males.⁸ This view has

⁵ For comments on the suspiciously smooth ratios involved see Scheidel (2004, 3-4) and (2006, 209). Henige (1998, esp. ch. 1 and 15) provides many an example that shows how figures in the context of military conflict are highly susceptible to manipulation and often little more than propaganda.

⁶ cf. e.g. Brunt (1971/1987², 44f.) and the translation given in the Loeb edition (1921).

⁷ Brunt (1971/1987², 52-3 with table V), following Beloch (1886, 363-4). Baronowski (1993, 188) shares his view.

⁸ De Ligt (2003, 8), (2004, 732-7).

the advantage of allowing moderate population growth within the margins of the ‘low count’: since it suggests that the number of allies who were later enfranchised and included in the census was lower than formerly thought, one may adhere to the ‘low count’ without having to accept a scenario of an overall stagnation or even decline of free Roman citizens between 225 BC and 28 BC.⁹ In the context of the ongoing debate over population development in Roman Italy during the Late Republic, such a moderate growth scenario at least fits the surviving census tallies for this period which, if taken at face value, suggest a gradual demographic expansion of the citizenry. Equally importantly, it detaches the phenomenon of natural population growth from the historical implications of the ‘high count’ interpretation. As it is precisely the need to jump from one end of the population scale to the other that sits uneasily with the notion of population growth, the thesis that the allied figures should be giving us all adult males removes two improbabilities which many would like to discard: that of population decline, and that of an extremely large population residing in the Italian heartland. But, obviously, such a convenient outcome cannot in itself prove the validity of the interpretation on which this scenario of moderate growth is based.

4. Wanted: men for war. The allied forces in 225 BC

In actual fact, it seems rather troublesome to maintain that the allied figures mentioned by Polybius should each refer to all the free adult males of a specific ethnic group of inhabitants of the Italian peninsula regardless of age. Brunt – and others, notably Lo Cascio¹⁰ – may have a case when they claim that the figures for the allied forces excluded *seniores*. Polybius tells us when bringing up his catalogue at 2.24.10 that these are the numbers of soldiers ‘the registers brought up’.¹¹ Clearly, he builds on his preceding account in 2.23.9, where he had explained who were to be found on the registers and why. The returned lists that he describes a little later as consisting of ‘those able to bear arms’ (2.25.16)¹² had been asked for by the Romans once they had learned that the Galatians were on their way. Fearing for their freedom, or lives, ‘καθόλου δὲ τοῖς ὑποτεταγμένοις ἀναφέρειν ἐπέταξαν ἀπογραφὰς τῶν ἐν ταῖς ἡλικίας, σπουδάζοντες εἰδέναι τὸ σύμπαν πλῆθος τῆς ὑπαρχούσης αὐτοῖς δυνάμεως’ – ‘they ordered all those who were subdued to bring up registers of those who were ‘*en tais helikiais*’, as they were eager to know what the total of their forces amounted to’.

What evidence then do we have for the hypothesis that by ‘*hoi en tais helikiais*’ (= ‘men able to bear arms’) Polybius means all adult men of the allied communities? To my knowledge the only passage in which we find the phrase ‘men able to bear arms’ in connection with census registration of allied forces pleads against such inference. It tells us that Caesar during his campaign received a register of the Helvetii, written in Greek on *tabulae* that were found in their encampment. In it, those able to bear arms were

⁹ Note that De Ligt’s scenario of moderate growth is based on the combined effects of a lower total number of allies and Romans (2.5 instead of 3 million) and a lower population for Gallia Cisalpina (900,000 instead of 1.4 million). Rejection of only one of these recalculations would therefore lead to a scenario of stagnation (about 4 million free people both in 225 BC and in 28 BC) rather than decline.

¹⁰ Lo Cascio (1999a, 168).

¹¹ ‘καταγραφαι δ’ ανηρέχθησαν (Λατίνων μεν ὀκτακισμύριοι πεζοί...etc.): ‘the registers brought up (of Latins, 80.000 footsoldiers ... etc.).

¹² P1b. 2.25.16: ‘σύμπαν πλῆθος τῶν δυναμένων ὅπλα βαστάζειν αὐτῶν τε Ῥωμαίων καὶ τῶν συμμάχων πεζῶν’.

registered separately from children, old men (*senes*) and women, as Caesar tells us: *quibus in tabulis nominatim ratio confecta erat, qui numerus domo exisset eorum, qui arma ferre possent, et item separatim pueri, senes, mulieresque*.¹³ I should suggest this is indicative of what we might expect the phrase ‘those able to bear arms’ to mean in a Roman context. If Caesar is describing a historical event, the passage tells us that the Romans considered a group excluding the older men as ‘those able to bear arms’ in translating the Greek documents that they had obtained. If registration of the Helvetii, in Greek letters and on heavy tablets was rather ‘a peculiar scenario’ of which ‘virtually nothing makes much sense’,¹⁴ perhaps the most economical interpretation of this passage would be that Caesar is projecting a Roman process familiar to him.

More importantly though, the actual Greek terminology used by Polybius, ‘en helikiai’, occurs in a military context in some other instances which help to establish its meaning. From these parallels, mainly in Dionysius, three notions emerge:

a) in a military context being ‘in the age’ means ‘being in the military age’.¹⁵

b) those ‘having the military age’ form a group distinguishable from those under and those above the military age: ‘τοὺς ἔχοντας τὴν στρατεύσιμον ἡλικίαν ἀπὸ τῶν πρεσβυτέρων’.¹⁶

c) the watershed between those of military age and those above it is explicitly set at age 46 by Dionysius 4.16.3: ‘here also he (i.e. Servius Tullius) distinguished between those who were over forty-five years old and those who were of military age’.¹⁷ This is logically implied also by the combination of two other passages in Polybius’ own work, 6.19.2-3 and 6.19.5, which form part of his description of the Roman military system. Here, Polybius says first that soldiers must serve before reaching age 46; next he tells us that those *en tais helikiiais*, being the ones liable for service, must present themselves for recruitment. Polybius’ concept of men ‘in the (military) age’ clearly does not include all men. Even though the men over 45 are ascribed a task as ‘wall defenders’ by Dionysius, the definition of ‘τῶν ἐχόντων τὴν στρατεύσιμον ἡλικίαν’ excludes the entire group of men over age 45. That standing on a wall to guard a city makes them soldiers by our definition – or even by the Roman one¹⁸ – is irrelevant to the question what Polybius

¹³ Caes. *Gal.* 1.29.

¹⁴ So Henige (1998, 217), who puts forward a dazzling series of questions challenging the logic of this story in particular, as well as that of other stories on numbers.

¹⁵ e.g. Plb. 16.36.3; DH 3.65.4; 4.15.6; 5.75.4; 11.63.2; Thuc. 8.75; cf. also Lo Cascio (1999a, 168).

¹⁶ DH 5.75.4. Brunt interprets this passage as showing that men of all ages are to be included in the definition ‘able to bear arms’. However, his conclusion is incorrect because he fails to make a distinction between the notions ‘hoi en tais helikiiais’ and ‘hoi en hebe’. We are told that ‘ἑπτακοσίοις πλείους εὐρέθησαν οἱ ἐν ἡβῇ Ῥωμαῖοι πεντεκαίδεκα μυριάδων. μετὰ τοῦτο διακρίνας τοὺς ἔχοντας τὴν στρατεύσιμον ἡλικίαν ἀπὸ τῶν πρεσβυτέρων’ (‘the Romans who had arrived at the age of manhood were found to number 150,700. After that he separated those who were of military age from the older men’). Clearly, we should interpret this passage as telling us that the group of ‘hoi en hebe’, numbering 150,700 men, consisted of two subgroups: those ‘having the military age’ and those older than that. As such, rather than providing evidence for it, it pleads against the idea that Polybius refers to adult males of *all* ages when he refers to ‘hoi en tais helikiiais’. Cf. Plb. 1.73.1, where those ‘in the age’ form only part of the citizens: ‘καθόπλιζον δὲ τοὺς ἐν ταῖς ἡλικίαις τῶν πολιτῶν’.

¹⁷ ‘διελὼν δὲ καὶ τούτων τοὺς ὑπὲρ τετραράκοντα καὶ πέντε ἔτη γεγονότας ἀπὸ τῶν ἐχόντων τὴν στρατεύσιμον ἡλικίαν, δέκα μὲν ἐποίησε λόχους νεωτέρων, οὓς ἔδει προπολεμεῖν τῆς πόλεως, δέκα δὲ πρεσβυτέρων, οἷς ἀπέδωκε τειχοφυλακεῖν.’

¹⁸ Cf. DH 5.45.3. In the war against the Sabines the defence of the city of Rome is left to servants and those above military age: τοὺς ὑπὲρ τὴν στρατεύσιμον ἡλικίαν γεγονότας.

would mean by *hoi en tais helikiiais*: even while doing so, these elderly men (the *presbuteroi*) are not considered by Polybius to be ‘in the military age’. Therefore in my view the ‘translation’ of ‘οἱ ἐν ταῖς ἡλικίαις’ as ‘those able to bear arms’ can be thought of more precisely as ‘men of military age’ i.e. excluding *seniores*.¹⁹

5. A citizen a soldier, a soldier a citizen? The figures from 234 and 225 BC

If Polybius’ figures for the allied forces do not include all men, but only men of a certain age, what about his figure for the Romans? As is well known, the Polybian figure for Roman manpower in 225 BC is close to the census figure reported for 234 BC: Polybius records 273,000 Romans for 225 BC, while the census figure for 234 BC gives 270,713. This is a neat fit. It is clear that however one wishes to interpret either figure, an explanation for the similarity of the other is required because of their numerical closeness and the short time span of only nine years between them. But all conceivable scenarios that reconcile these matters necessitate the introduction of subsidiary hypotheses that are ultimately arbitrary in nature.

One way of accounting for the similarity between the figures is to interpret them both as giving us the number of *iuniores*. As the figures for the allies most likely represent the *iuniores*, the hypothesis that the tally for the Romans in Polybius did the same is elegantly simple. It would be the most straightforward assumption to make specifically because the number of ‘Romans and Campanians’ is included in the sequence of figures denoting the allies, and is not presented in a distinguished manner. Both Mommsen and Lo Cascio have interpreted the figure this way.²⁰ However, the difficulty with upholding the view that the census figures likewise represent *iuniores* only is that for ‘high counters’ the corollary of this is an extremely large population under Augustus, since the figure of 4 million would need to be multiplied by an even larger factor than if it represented all adult males. If Augustus continued to register only men aged 17-46, his figures should be multiplied by a factor of 4.6 instead of 3.18 in order to get to the total population size.²¹ The population would in this scenario rise to 18,689,800, without considering the effects of assumptions made about the numbers of slaves, foreigners, and citizens overseas, the net balance of which would drive the total of inhabitants of Roman Italy under Augustus up even further.²² The only alternative to this population scenario would be to add in the subsidiary hypothesis that Augustus did not take a conservative stance, but in fact changed the reporting basis for the census from *iuniores* to all adult men. Under this assumption the ‘high count’ would result in 12,920,340 Romans (again exclusive of the net balance produced by adding slaves and foreigners and subtracting citizens living outside Italy proper).

For ‘low counters’ the assumption that the Republican census tallies counted only the *iuniores* entails an even larger decline of the free population during the last two centuries of the Republic than in Brunt’s scenario. For if the Republican census tallies counted

¹⁹ This is in contrast to the concept *en hebe*, which seems to refer to adult men (above age 17) in a general way, and occurs in the context of census reports. See e.g. DH 9.25.1 and above, n.15.

²⁰ Mommsen (1887³, 411 and n.1) and Lo Cascio (1999a, 168).

²¹ See table 1 below. One can derive from columns 1 and 2 that the share of men <17 is 37.06%. Thus an ‘all adult male’ assumption would imply that 62.94% of the male population was registered. This creates a multiplier of $200/62.94 = 3.18$. If *iuniores* (17-46) only are registered, the census presents 43.51% of the male population, and the multiplier rises to $200/43.51=4.6$. Cf. also n.27.

²² For analysis of the problems associated with such a high population, see Scheidel in this volume.

only part of the adult male citizens, the initial total population must have been larger than assumed, while the estimate of the population under Augustus would remain unchanged. Moreover, as I shall argue in greater detail below, the Roman census had multiple aims, including keeping track of people liable for tax and registering men with voting rights – and these were groups wider than just *iuniores*. Nor would a census register that included only *iuniores* suffice as a recruitment list.²³ More importantly, as the census formula states that *capita civium* were counted, it is difficult to see how these would, without any further qualification, exclude the *seniores*, while they were plainly *cives* with *capita*. Therefore it seems difficult to maintain the thesis that both the Polybian figure and the census figure for 234 BC represent *iuniores* aged 17-46.

As an alternative the stance that both figures must include *all* men has gained much support. This method, reconciling the two tallies and explaining their similarity in a straightforward manner, forces one to assume that Polybius made the distinction between those ‘in’ and those ‘over’ the military age in a state of confusion when he defined the latter category as consisting of men aged 45+, or else that he failed to clarify that ‘*hoi en tais helikiais*’ meant something else for Romans than it did for allies. Both assumptions seem unlikely. An additional difficulty created by this interpretation is that one would need to assume also that when Polybius speaks of ‘men able to bear arms’, he considers all men as capable of doing so. It is true that *seniores* or older men in general were sometimes called up for service. References to the phenomenon are found in several authors – among them those quoted earlier from Dionysius, and Livy 42.33.4.²⁴ But imminent danger does not turn all adult men into ‘men able to bear arms’. Military manpower cannot have been equal to the overall number of adult men with sufficient resources living in Italy. Given the difference between life expectancy and healthy life expectancy (HALE), it must be taken into account that a substantial number of Roman men were physically unfit to serve. With rising age their numbers will have increased. And physical disability certainly was not limited to elderly males. Disease-ridden as the ancient world was, many suffered either from (infectious) diseases or their lasting consequences. As the average individual by estimation spent up to one-sixth of his life in a state of disability or ill health, the number of men permanently unfit for service due to disease was far from insignificant.²⁵ Hansen’s recent – and in his words ‘conservative’ – estimate holds that we are talking in the order of 20% of all citizens for the age group between 20 and 49 years.²⁶ Among the elderly the percentage will undoubtedly have been higher.

If we are to think that the Polybian figures for military potential are lists of *all* adult free males, these lists would provide an overestimate of Rome’s own capacity.²⁷ I should prefer to assume that the Roman generals in 225 BC wished to have accurate information

²³ cf. below, section 8a.

²⁴ e.g. DH 4.16.3 and 4.45.3, where elderly men guard the city walls. Note that in 4.45.3 they are defined as ‘*τοὺς ὑπὲρ τὴν στρατεύσιμον ἡλικίαν γεγονότας*’, those beyond the military age. Livy 42.33.4 concerns the context of the Third Macedonian War, when the consuls proclaimed that *nec ulli qui non maior annis quinquaginta esset vacationem militiae esse*.

²⁵ On HALE, cf. e.g. Scheidel (2007a, 41).

²⁶ Hansen (2006, 5-6, 86) and, more elaborately, Hansen (1985, 16-21). Cf. also Beloch (1922² 3.1, 268), where he notes that army figures cannot equate population figures since not all men are ‘*waffenfähig*’, and (1922² 3.2, 403), where he adds 25% to account for men unfit for service or unable to serve.

²⁷ cf. Schulz (1937, 181): ‘*sinnlos*’ from a military perspective to include all men in the counts.

on the number of men (both Romans and allies) able to fight in defence of their country. Some have inferred from the fact that the actual recruitment took place by means of a selection procedure (the *dilectus*) that we should conceive of the phrase *qui arma ferre possent* as expressing a purely theoretical capability. Only when the actual *dilectus* took place and the generals chose their new legionaries would incapable men be separated. But this is unconvincing. It would surely have been highly inefficient to have all adult men show up at that point, and there is no reason why they should have done so. Disabled men permanently incapable of serving and men exempted because they had already fulfilled their service obligations, or were too old, too poor, or indispensable for society²⁸ could already have been sifted out at an earlier stage, when they had to appear before the censors. It seems to me that when a list of ‘men able to serve’ was created on the basis of the census declarations to be used for military recruitment purposes, it would already have been evident that some men would not be able to serve in any circumstances, or should not be called upon for service. Asking these people to show up for a *dilectus* would have been pointless, and would have added an unnecessary extra administrative and organizational burden. Limited to the assessment of cases that were not self-evident, the actual procedure of the *dilectus* could without wasting further time serve to decide which of *ei qui possent* in fact *possunt*. From a military perspective, the only manpower that counts is manpower that one may reasonably expect to be capable and available to serve. For this reason it is highly unlikely that the lists of ‘men able to serve’ in Polybius’ account represent all adult free males.²⁹

I wish to propose the possibility of a different scenario. Current interpretations presuppose that the Polybian figure for military manpower and the census figure must represent the same population sample, because of their numeric similarity. My objection to this view is that although two figures of the same order of magnitude may denote a single entity, they may equally well represent different ones. First of all, the figures we have stem from divergent contexts: that of a population registration, and that of a military crisis. It may well be that these required or targeted different sections of the same base population that happened to be similar in size. Of course, if one wants to hold that both figures denote *all* adult males, this argument does not work. But at any rate it is clear that censuses miss part of their target population whatever it might consist of, which implies that claims of ‘totality’ are always more apparent than real. Any population count needs to reckon with a margin of under-registration, which stands in negative correlation to the level of bureaucratic sophistication. Therefore it is far from impossible that the two figures both present us with part of the adult male population, but each with different parts. I suggest that the Polybian figures might be *iuniores*, and the 234 BC figure adult males *sui iuris*. As only this section of the adult male population was liable for taxation – adult men *alieni iuris* could not own property – and were responsible for declaring their dependants, who did not need to appear for the censors themselves, the census figures might record this subsection of the population.³⁰

²⁸ Cf. Hansen (1985, 17-18) on exemptions for administrative and constitutional reasons among Athenian citizens.

²⁹ Or, for that matter, all *iuniores*, as Lo Cascio holds, for it is surely a misconception to think that physical fitness for combat depended solely on age (cf. above): Lo Cascio (1999a, 168).

³⁰ I argue for this interpretation in further detail below, notably in section 6.

How well does such a hypothesis work in reconciling the figures of 234 BC and 225 BC? Following life tables in order to establish the share of men in the age group of the *iuniores* (i.e. 17 through 45), the multiplier comes out at 4.6, and the total population in 225 BC should therefore be 1,245,280.³¹ To estimate the share of adult males *sui iuris*, I assume that men became *sui iuris* upon the death of their fathers. Based on the kinship simulation by Saller, 50% of the total male population should consist of adult men *sui iuris* (cf. table 1 below).³² Therefore the multiplier needed in order to reach a total population figure is 4. If the census figure for 234 BC presents us with adult men *sui iuris*, this implies a citizen population of 1,082,852. The discrepancy between the implied population sizes is 163,000, or a 15% increase from 234 BC to 225 BC. This is obviously too large to be the result of natural increase. Even if some of the difference could be accounted for in this manner, a discrepancy of at least some 12% would remain.

Table 1: Livy's census figure for 234 BC (270,713 males registered)

Age	Males (%)	% with living father	Prop. Registered by household head	Prop. registered as <i>sui iuris</i> (?)	% of entire male population registered
0-16	37.06				
17-19	5.67	54	0.54	0.46	2.61
20-24	8.81	45	0.45	0.55	4.85
25-29	8.1	34	0.34	0.66	5.35
30-34	7.36	23	0.23	0.77	5.67
35-39	6.62	13	0.13	0.87	5.76
40-44	5.91	7	0.07	0.93	5.49
45-49	5.22	3		0.97	5.06
50-54	4.52	1		0.99	4.47
55+	10.73	0		1.00	10.73
<i>Total:</i>	100				50
<i>Multiplier:</i>	200/50 = 4				
<i>Total Roman population</i> ³³ :	270,713*4 = 1,082,852				

A subsidiary hypothesis is required to explain why the census figure would have missed out an additional one-eighth or so – or perhaps even more³⁴ – as compared to Polybius' figure. Several candidates might be in the running – perhaps the census figure is an

³¹ Coale and Demeny (1983²) West level 3 females, $r = 0$. Men aged 17 through 45 form 43.51% of the adult male population (as can be derived from columns and 1 and 2 in table 1 below). The multiplier required to calculate the total population should therefore be $200/43.51 = 4.6$.

³² Saller (1994, 52 table 3.1.e). Both Saller's simulation and my internal distribution of age groups are based on the mortality schedule as provided by Coale and Demeny (1983²) West level 3 (0% growth).

³³ Note that adult males entirely missed by the census are not accounted for.

³⁴ That is, depending on the strength one wishes to attribute to the argument set out above that it is unlikely that all men of a certain age group were considered fit for service, the actual figure for the total Roman population implied by the number of *iuniores* listed should rise. With it, the discrepancy with the total population figure implied by the census figure should rise too, and thus also the divergence that needs to be explained.

underestimate because it deliberately excluded the very poor (containing only those *sui iuris* who were *assidui*, i.e. capable of payment), or because of a rate of under-registration that considerably exceeded that for the soldiers. In my view the most plausible or at least most promising explanation would be that it was not the census that missed comparatively more people, but that it was Polybius who overstated his military manpower figures. As stated above, figures that stem from a context of war are particularly sensitive to manipulation. We need not point to Polybius as the cause of misrepresentation; it may well have been his sources in which the data were already skewed.

As Erdkamp has recently suggested, Polybius' portrayal of the situation in 225 BC as one of severe imminent danger may well be the result of an exaggeration created by his sources in order to justify the Romans' passive stance towards Carthage in these years.³⁵ If Polybius' account is indeed affected by what in our days would probably be labeled propaganda, it is not unthinkable that our figures might be inflated by one-eighth or so. An inflated number of soldiers would fit the mechanisms of causality Polybius explains history and especially the dominance of Rome with. For, as set out in his preface, he considers the victory of the Romans to be the result of a '*striking and grand (...) spectacle*', and wishes to make clear to his readers '*that they had quite adequate grounds for conceiving the ambition of a world-empire and adequate means for achieving their purpose*', and '*by what counsel and trusting to what power and resources the Romans embarked on that enterprise which has made them lords over land and sea in our part of the world*'.³⁶ At the same time he appears to connect the misfortune of the Greeks with their pretentiousness, avarice, and lack of morals – which are also the 'cause of evil' for their decline in population.³⁷ It does not seem unrealistic to hold that if Rome's success was ascribed partly to its manpower, the soldier statistics might have been massaged a bit.

Even if the discrepancy between the two figures might sit slightly uneasily, this interpretation seems as least as plausible as the two stated above. The mismatch between the figures is not of such an order of magnitude that it cannot be explained in a reasonably convincing manner. More importantly, it is the only scenario that allows us to retain the most straightforward interpretation of the Polybian figures – i.e. that these all represent *iuniores* – without having to choose between either an improbably high population or a scenario of extremely rapid population decline. To my mind, a still more significant advantage of this hypothesis is that the assumption that the Republican census figures present us with adult men *sui iuris* provides a more convincing explanation for some hitherto unexplained expressions used to describe the census figures (cf. section 6 below). It also leads to a population size for the Augustan era that falls between the current 'low' and 'high counts' and therefore does not suffer from some of the difficulties associated with them.

6. The Roman demographer's enigma: who are *censa sunt capita civium*?

³⁵ Erdkamp (forthcoming).

³⁶ Plb. 1.2 and 1.3 (transl. Loeb).

³⁷ Plb. 36.17.7. Throughout history one can find examples of a perceived causal relationship between population size and the strength of the state: see Stangeland (1966) for numerous references, among others to Livy 1.9; Pliny *Ep.* 7; Thomas Aquinas *de Regimine Principum*, 4.9; several mercantilists; and Henry IV of England and Lord Bacon's statement that 'a kingdom's greatness consists essentially in population and breed of men, strong and able to bear arms'.

Although modern scholarship has brought forward the various rival interpretations listed above, the appearance of Brunt's *Italian Manpower* was followed by a broad consensus that the census figures represent all adult males – until the 'high count' interpretation was put forward by Lo Cascio. Other views on the census figures and the interpretation of the phrase *censa sunt capita civium*³⁸ that introduces most of them were eclipsed. The dominant 'adult males' theory rests on the view that *cives* are males, and that *caput* should be interpreted literally as 'head'. As one might expect all citizens to have a head, so the census figures should include all men. However, some inconsistencies are involved in this reading of the phrase.

First of all, Romans did not define only men as citizens. In the legal works of both Cicero and Gaius the term *civis* is used to denote Roman women as well, e.g. in the context of mixed marriages, punishments, enfranchisement, and lawsuits.³⁹ As for the use of the term in the context of the census, we cannot attach much literal significance to the sporadic addition of the male noun *Romanorum* to *civium*. If this were a pregnant use to indicate that of all citizens the census counted the male ones only, it is difficult to see how the *civium Romanorum* in the three Augustan census figures could include women and children as well. Moreover, women as well as men could be subject to the phenomenon of *capitis deminutio*, a reduction of legal status imposed upon citizens as a punishment.⁴⁰ A legalistic interpretation of *caput* as the 'possessor of a legal personality' therefore does not either imply automatically that the *capita civium censa* should be men only. It seems to me that the definitions of both *civis* and *caput* are too broad to be thought automatically to designate only adult males. In actual fact, since Augustus uses exactly the same phrase, *censa sunt capita civium Romanorum*, anyone who wishes to read this as referring to the entire free population will need to hold that the words *capita civium* do not naturally imply only adult males.⁴¹ Still, for quantitative reasons it is beyond doubt that women (and children) were not included in the Republican census figures which we possess.

Though scholarly attention has focused on the nouns *capita civium*, there is no compelling reason not to focus instead on the verbal element, *censa sunt*. If it is the process of *censere* or census taking to which attention is drawn, this could suggest that the figures refer to the *sui iuris*, since they alone by their declaration before the censors are full participators in the census taking. Thus *censere* in the formula might be used here to refer to the registration of those persons who made declarations, as John Rich has observed. Such a hypothetical distinction between declarants and people registered finds corroboration in Livy 43.14.8, where he speaks about soldiers who were on furlough from Macedonia.⁴² In this passage Livy distinguishes *censi*, who had to declare themselves, from those *in patris aut avi potestate*, whose names had to be given to the

³⁸ In modern scholarly literature one often finds *censa sunt capita civium tot*. The *tot* should not be mistaken for 'all' or 'complete' (*totus*); rather it substitutes the actual numbers (or the variable 'x'), as in 'so and so many'. Note, more importantly, that the word does not appear at all in the clauses accompanying the census figures in the ancient sources; it is but a modern convention.

³⁹ Gaius *Inst.* 1.29 (twice); 1.30; 1.32; 1.33; 1.68; 1.71; 1.74; 1.77; 1.78; 1.80; 1.84; 1.88; 1.90. Cicero *de Orat.* 1.183.

⁴⁰ Gaius *Inst.* 1.160: *maxima est capitis deminutio cum aliquis simul et civitatem et libertatem amittit.*

⁴¹ As held by Brunt (1971/1987², 22).

⁴² Rich (unpublished 1978) with reference to Livy 43.14.8. Cf. also Pieri (1968, 52-8), where he draws attention to the act of census taking and analyses the etymology and possible definitions of *census*.

censors (*eorum nomina ad se ederentur*). Soldiers *alieni iuris* are not considered *censi* here, which seems to signify that those who did not declare themselves would not fall under the definition of *capita civium censa*, even though their names were known to the censors.

Concerning the interpretation of *censa sunt capita civium* one may also wonder whether the word *caput* should be an indicator of rank (as in ‘*caput mundi*’) since in a literal interpretation the word adds nothing to the definition *censa sunt civium*.⁴³ If read in this manner, *caput* could refer to a ‘heading’ in the sense of an entry in the registers.⁴⁴

More importantly, there are two Latin clauses that have received little interest but constitute a major challenge to those who wish to maintain the idea that the *capita censa* represent adult males only, and to my mind strongly support the argument that the Republican figures represent only adult male declarants. Added to the ordinary formula of *censa sunt civium capita*, one of these clauses tells us that widows and orphans are excluded from the census total (*praeter <pupillos> pupillas et uiduas*).⁴⁵ The other may be taken to state either that orphans (of both sex) were excluded, or that orphans and widows were excluded: in ‘*praeter orbos orbasque*’ the *orbae* might be orphaned girls or widowed women.⁴⁶

Comments on the presence of these clauses have been limited to the suggestion that they show us that there was a separate list of widows and orphans. Though I do not doubt that this may well have been the case, this explanation seems unsatisfactory. For if the census totals traditionally represented all adult males, and these only, then why would Livy and his epitomator be inclined to point their readers to the fact that a certain group of women and children was not included? Surely, if the census figures represented only adult males, it should have been self-evident to their readers that members of the other sex were not amongst them. One might argue that Livy and his epitomator found it necessary to avoid confusion because census figures contemporary to their readers did include women and children. But as reference is made to widows and orphans *only*, this explanation does not work.

In my view these remarks can but signify that misunderstandings may have arisen because the census totals were based upon household registration and represented the *sui iuris* declarants, which may have led the reader to suppose that they also included those who were left without a *pater familias* or husband and were therefore *sui iuris*. That the phrase was added in order to clarify that only the adult men amongst them were meant seems to be the most logical explanation for the use of these clauses. Suggestive as they are, these remarks constitute major evidence since they form part of the very scanty qualitative evidence and are directly attached to the numerical evidence in an explanatory clause. One might even say that the fact that the epitomators of both Livy’s third and his fifty-ninth book chose to include these phrases in their brief summaries indicates that they considered them to be of prime importance. Therefore, while these phrases would not make sense if the census figures represented all adult males, they strongly favour the

⁴³ A *sui iuris* interpretation, however, does not require such a reading.

⁴⁴ cf. Goffart (1974, 43).

⁴⁵ Livy *Per.* 59.7 (131 BC). <*Pupillos*> add. Mommsen.

⁴⁶ Livy 3.3.9 (465 BC): *praeter orbos orbasque*; the same phrasing appears in the *Periochae* of book 3. The point may be illustrated by the fact that the Loeb translator chooses ‘besides orphans and widows’ for 3.3.9 but ‘besides male and female wards’ for the *Periochae*. Cf. *OLD*; TLL vol. 9.2 ‘orbus’ A 1 b and A 2 b.

idea that the Republican census tallies presented men who were *sui iuris*. The latter stance was in fact taken by Zumpt, Hildebrand, and Mommsen (who later changed this view for his ‘*iuniores* only’ interpretation), and again by Bourne.⁴⁷ Rich is the most recent to have canvassed this view in an unpublished paper (1978; referred to in Rich 1983).⁴⁸

7. Other definitions of the census population in the ancient sources

The remarks suggesting that only adult men *sui iuris* are included in the census figures are not the only ones added to the standard formula. In contrast to the very much neglected phrase on the exclusion of widows and wards, much attention has been paid to the one other census figure which is enriched with some additional information – our first census figure, stemming from the reign of King Servius Tullius in the sixth century BC. In his report of the figure of 80,000 *civium censa*⁴⁹ Livy relied on his late-third-century BC source Fabius Pictor. The latter, so says Livy, had added to this figure that *eorum qui arma ferre possent eum numerum fuisse* – i.e. that it denoted the number of those able to bear arms. From this it has been inferred that the Roman manpower figures presented by Polybius denote all men. But again this view is vulnerable to the objection that not every man was able to fight. Secondly, it seems questionable to assume that this comment on the sixth-century BC figure proves that both the later census figures and the Polybian figures – whether they be those of the allies or those for the Romans and Campanians – are to be understood in a similar way. Apart from the general objection that the intimate connection between census taking and recruitment does not in itself prove that the figures produced by each have the same basis there is a huge chronological leap which must be taken into account.

Servius Tullius’ census figure is very early, and more than three centuries separate it from Polybius’ account of army strength in 225 BC. It must be noted that the accounts of this early period lack a fixed census formula, and a variety of descriptions is used. In fact, when one compares the two figures Dionysius gives for 498 BC and 493 BC it is difficult to avoid the conclusion that we are presented with two different census populations. In 498 BC he finds ‘ἑπτακοσίοις πλείους εὐρέθησαν οἱ ἐν ἡβῆ Ῥωμαῖοι πεντεκαίδεκα μυριάδων’ or 150,700 adult Romans.⁵⁰ Only five years later the number has dropped steeply to 110,000 ‘τιμησάμενοι’.⁵¹ In 474 BC Dionysius records that the number of 103,000 ‘ἦσαν οἱ τιμησάμενοι πολῖται σφῶς τε αὐτοὺς καὶ χρήματα καὶ τοὺς ἐν ἡβῆ παῖδας’, that is the citizens who had registered themselves, their possessions, and their adult children.⁵² In this case, as opposed to the first figure, the number given by Dionysius denotes those who made the declarations and excludes adult

⁴⁷ Zumpt (1841, 19-20 [but only those of them who are *assidui*]); Hildebrand (1866, 86-8); Mommsen (1874, 371 [the first edition of his *Römischen Staatsrecht*]) and (1887³, 408); Nissen (1902, 116-18 [only from Augustus onwards]) and Bourne (1952a and 1952b).

⁴⁸ Rich (1983, 294 n.34), where he remarks that ‘the view deserves more attention than it has so far received’.

⁴⁹ Livy 1.44.2: *milia octoginta eo lustro lustro civium censa dicuntur* (NB not *capita civium censa*).

⁵⁰ DH 5.75.3.

⁵¹ DH 6.96.4.

⁵² DH 9.36.3.

men *alieni iuris*. As such it shows that a single definition cannot be imposed upon the early Republican figures.⁵³

One may resort to different explanations for the inconsistency that is evident when all sources on the sixth and fifth centuries BC are taken together. Though after the Second Punic War the census figures are introduced by a single definition that has only minor variations in word order and the figures for the later Republic themselves show a consistent pattern, it is still very likely that different lists or enumerations of various population sections circulated, each created to meet one of the various needs which the registration of people was intended to fulfil.⁵⁴ If they did likewise during the early period, Dionysius' contradictory descriptions and figures for the censuses could simply stem from different data in circulation, each reflecting the content of different (sub)lists of people registered.

Although I have assumed for the sake of argument that Dionysius' remarks are accurate and that he knew what he was talking about, a more cynical reader may hold that actually he did not. In fact it has often been argued that the figures for this early period, and indeed all census figures until the mid third century BC should be discarded as inauthentic.⁵⁵ The addition of the remark on Fabius Pictor by Livy can be read as testimony to his awareness of the unreliability or lack of clarity surrounding these remote figures. He must either have had in mind an alternative view; suspected that others might interpret them differently if he did not add an explanation; or found disagreement in his sources as to what this early figure should have meant. Scheidel now argues that in Livy's view the early regal census must have been dissimilar from that in his own era, and that he brings up Fabius Pictor as an *auctor antiquissimus* in order to explain this and to convince his reader that this must have been the case.⁵⁶ Livy's preferred scenario may well have been quite different from what the census figure represented, or what others thought it did.

There is simply no way of knowing whether the sources on the early censuses reflect (an)other shift(s) in census methodology, different sublists, ignorance, or invention. Whatever the cause of the inconsistencies, it is clear that the figures fluctuate far too much to reflect any genuine population development; that they referred to a remote past for which the sources were as hard for historians to build on then as they are now; and that the explanations of what they presented provided by ancient authors are inconsistent. This surely does not make a strong case for using Livy's description of the earliest census as reflecting those *qui arma ferre possent* as the basis for interpreting all the figures for the later Republic.

8. Serve, pay, and vote: the aims of registration

That the aim of the effort to register the Roman population was threefold is agreed upon universally. Recruitment for the army, the recognition of voting rights, and the collection of taxes all depended upon being registered as a Roman citizen at the census, which was

⁵³ For the early period, no public records are known; whatever records there were must have been preserved by transmission through family archives of censors, the authenticity of which must be doubted. Brunt (1971/1987², 26-7).

⁵⁴ See below, section 8.

⁵⁵ cf. Brunt (1971/1987², 26f.).

⁵⁶ Scheidel (forthcoming 2).

for much of the period under consideration held about every five years. This was clearly a major operation for the Roman state - a process for which censors were elected as magistrates. Of the actual organizational process and the processing of the information collected we know but little.⁵⁷ So, given the consensus on the multifold purpose of the census registration, it is all the more remarkable how easily ancient historians seem to have accepted Brunt's statement that it would be 'incomprehensible that the Roman state should attach any importance to figures irrelevant to military strength', and therefore that the census figures represent all adult males.⁵⁸

8.a Recruitment

As I have pointed out above, this view in fact suffers from the major logical inconsistency that a list including all adult males could not be used directly for military purposes. A list of all adult males would include males too old to be eligible for service, as well as those physically unfit. Moreover, over a period between two censuses new seventeen year olds would have to be added to the lists.⁵⁹ For recruitment purposes making a single list including all males would fail to suffice all the more over the years that elapsed between two censuses. If census lists comprised adult males only, then how are we to envisage that those lists would have served to assess military strength? Such a list would have given the Roman officers responsible for the levy no way to assess how large their pool of new young recruits was. One of their main target groups, those having just turned seventeen, would by definition have been out of reach. Clearly, there needed to be frequent derivation from a list that comprised juveniles who would come of age before the next census.⁶⁰ Besides, the oldest age group, which was released from liability to active military service, as well as the permanently unfit, should logically have been removed from a list used to manage recruitment⁶¹ but not from a list that was designed for taxation or voting purposes.

8.b Fiscal aims

Facilitation of the assessment and collection of *tributum* was one of the main reasons for registration of assets in the census, for (allegedly since Servius Tullius) military taxes rose with increasing possessions. Land, property on land, and moveable assets (including slaves) as well as cash could be taxed. The use of the term 'tax' is somewhat misleading since payment of *tributum* was not a permanent imposition established by law but decided by senatorial decree according to circumstantial needs, and could be repaid when the State treasury was in surplus. Income and assets were not taxed at a fixed percentage; instead an estimate was made of the number of soldiers and amount of material needed, in order to determine how much money Roman citizens needed to pay.⁶² A proportion of the adult males, however, were *alieni iuris*, and because they could not own property they owed no *tributum*. For this simple reason, a list of all adult males would neither have

⁵⁷ For what we do know see also Northwood in this volume.

⁵⁸ Note that on the basis of the same argument Gabba (1952, 172) earlier concluded that the census figures must have included *assidui* only: others could not adequately serve in the military.

⁵⁹ cf. Mommsen (1887³, 407).

⁶⁰ Gellius 10.28.1 holds (based on Tubero's *History*) that the Roman state kept track of boys under seventeen precisely to be able to recruit them once they turned seventeen.

⁶¹ cf. Suolahti (1963, 45).

⁶² DH 4.19.

served the state's financial census purposes. In addition to those *alieni iuris*, the poorest *sui iuris* were also exempted from *tributum*.

We can infer from the two recorded instances when women contributed to the war effort by means of financial contributions that women were not subjected to *tributum* in the Republic. The first instance shows that they contributed during the Second Punic War, but that their contributions were voluntary.⁶³ Much later the triumvirs wanted to subject 1,400 of the richest women to *tributum*.⁶⁴ In response, a speech was made by Hortensia, who claimed that the charges put forward were outrageous. She contrasted the voluntary character of the contributions of women during the Second Punic War with the obligatory charges put forward now, and held that women had never before been taxed for war, had nothing to do with it, and had no share in its honours. Therefore women should not be liable to pay *tributum*. The triumvirs were sensitive to her arguments and most women were discharged from the taxation.⁶⁵ Appian's formulation in an earlier section on the triumviral period also shows the extraordinary character of their liability: he states that 'they (i.e. the triumvirs) levied heavy contributions (...), finally even from women'.⁶⁶ We do hear of a different tax imposed upon widows and orphans, the *aes equestre et hordiarium*. It was meant to provide for the horses of the *equites* as well the horses' fodder.⁶⁷ Much about this tax is obscure – since references to it concern early periods, we are not even sure whether it was still paid during later times.⁶⁸ In so far as this tax remained in use, registration of the assets of widows and orphans would be necessary. But at any rate, the *aes equestre et hordiarium* did not lead to the inclusion of widows and orphans in the census figures.

After the massive influx of wealth following the defeat of Macedon in 167 BC, *tributum* was no longer imposed upon those with Roman citizenship rights in Italy. But managing the state treasury proved to be problematic. Taxation for military purposes was reinitiated in 43 BC, allegedly by the Senate, as there was need of much money for the war.⁶⁹ As an emergency measure during civil war,⁷⁰ the Roman administration temporarily fell back upon the traditional levy of *tributum* the assessment of which had until 167 BC constituted a major aim of the census. Roman citizens outside Italy, on the other hand, continued to be subject to *tributum* just like their provincial non-Roman counterparts were, except when they were citizens of a colony; of a city which had been granted immunity; or when they had been granted individual *immunitas*.⁷¹ For this reason their registration in provincial censuses was required.⁷²

Notwithstanding the fact that Roman citizens in Italy proper were freed from liability to pay *tributum* for the maintenance of the army under ordinary circumstances

⁶³ Livy 24.18.13-15.

⁶⁴ App. *BC* 4.32-3.

⁶⁵ So Mommsen (1886, 236-7), who considers this case the only exception to their exemption.

⁶⁶ App. *BC* 4.5.

⁶⁷ Livy 7.41.8 (341 BC), Plut. *Cam.* 2 (376 BC) and Festus 183L.

⁶⁸ Mommsen (1887³, 257).

⁶⁹ DC 46.31.3: 'ἐπειδὴ τε πολλῶν χρημάτων ἐς τὸν πόλεμον ἐδέοντο'.

⁷⁰ cf. Nicolet (1976a, 88f.).

⁷¹ In the form of *tributum soli* (land-tax) or *tributum capitis* (poll tax). See e.g. Neesen (1980, 151f.), who points to regional diversity. Rathbone (2001, 107f.) argues that Roman citizens were not required to register for the provincial census in Egypt, and were exempted from poll tax. However, this did not free them from their obligation to hand in a declaration: Bagnall and Frier (1994, 12).

⁷² cf. Brunt (1990, 329f.) and Neesen (1980) on taxation of Roman citizens in the provinces.

during the late Republic, registration of assets still had a function. Men still needed to be registered in census classes in order to be allocated to a voting century, and this process depended upon registration of assets.⁷³ Moreover, as referred to above, military *tributum* was not the only tax imposed upon the Romans. It is unclear to what extent the payment of *vectigalia* for the use of state land (*ager publicus*) was actually enforced.⁷⁴ But an indirect tax of 5% on the manumission of slaves, the *vicesima libertatis*, remained in use from the fourth century BC till the third century AD.⁷⁵ Owners had to register their slaves in the census.⁷⁶ Fiscal motives – i.e. the securing of the state’s income – thus required registration of the assets of the sections of the population which were targeted by the various taxation measures: users of *ager publicus* and owners of slaves (theoretically anyone *sui iuris*), men *sui iuris*, widows, orphans, and, in the exceptional case recorded for the triumvirate, rich women made liable to the payment of military *tributum*.

The control of outward cash flows was a source of concern as well. During the late Republic military expenses fell in proportion to the amounts spent on populist measures, which started to absorb larger and larger shares of the state’s income. Once distributions became a central feature of Roman politics, it came to bear heavily on the state’s budget. In Rome census registration helped to control expenditure on the grain dole under Caesar. In order to facilitate this process household heads including orphans were to be registered, according to the *Tabula Heracleensis*.⁷⁷ The list of declarants publicized as non-eligible to which the *Tabula* refers must by implication have contained both men *sui iuris* and orphans who owned property, regardless of sex. The prescriptions on the grain dole, however, must relate only to Rome as only the city’s proletariat was to benefit from corn distributed by the state.⁷⁸ That in Rome the registration of both groups of *sui iuris* citizens coincided with their display on a single list set up in several locations does not establish what happened in a different context – that of a general census of Roman citizens. What happened to that during Caesar’s dictatorship we simply do not know. The best we can tell as far as registration for taxation during the preceding Republican period is concerned is that women and children who were liable to taxation were not included in the census figures. Vice versa, if the census figures recorded men liable for taxation, it would not make sense to suppose that all adult men were included.

8.c Registering the electorate

The third purpose of the census, the distribution of voting rights, targeted yet another part of the population since in this case it was not those of a certain age and/or with a certain amount of possessions who counted, but, in principle, all adult male citizens. Therefore,

⁷³ Though, as Nicolet (1991a, 128) suggests, voluntary recruitment increasingly diminished the need to update lists of those available for military service.

⁷⁴ For a skeptical view cf. Roselaar (forthcoming), *contra* Nicolet (2000, 75).

⁷⁵ On *vectigalia*, which could also consist of other revenues from the exploitation of public resources, such as the mines and the manumission tax (*vicesima libertatis*), cf. Nicolet (2000, 76). See also Neesen (1980).

⁷⁶ Cic. *Leg.* 3.7: the *familia* needed to be registered for the census, i.e. including slaves. Livy 39.44.3 informs us that all slaves that had been sold for 10,000 asses or more since the *lustrum* previous to 184 BC – i.e. the *lustrum* of the census of 189 BC - would be given an *aestimatio* (*aestimarentur*) or value 10 times as high as their actual value (*quanti essent*) and their owners taxed for that notional value at a rate of 3%. Cf. Brunt (1971/1987², 15).

⁷⁷ *Tabula Heracleensis* §2. Text, translation, and commentary in Crawford (1996, 355-91).

⁷⁸ Nicolet (1991a, 130).

if a list of all adult males were to have any direct purpose, it should be in the context of registration for voting purposes. For those in the higher census classes such registration was important. The distribution of voting rights in the *comitia centuriata* was dependent upon property; the richer citizens, notably those of the first class, were allocated a proportionally much larger number of centuries, and thereby a greater share in the vote.⁷⁹ This established a voting hierarchy that ensured the predominance of the elite in the assembly which elected the most influential political functionaries: consuls, praetors, and censors. Whether or not those of lower status needed to be listed as voters depends on the view one takes of the importance of the *comitia tributa*, in which no property qualification was observed. Though some have considered this assembly as a ‘democratic’ element which counterbalanced the power of the aristocracy, several recent analyses emphasize that the political agency of the Roman plebs should not be overestimated.⁸⁰ Firstly, it is doubtful to what extent Polybius’ description of the Roman political system as a ‘mixed’ constitution⁸¹ and various Ciceronian speeches and letters which reveal a concern with the opinion of the plebs reflect a historical reality. Discrepancy between ideology and practice may well be the case.

This equally holds where the application of voting rights is concerned.⁸² How many of the Roman *plebs* might we expect to have been present at meetings of the popular assembly? The system of direct participation (instead of indirect representation) and the fact that these meetings were centralized in Rome certainly did not enhance participation rates. Situated far away from many voters, involvement in politics took much time and effort, and many citizens must have judged that the losses of participation were not in proportion to its gains.⁸³ The space available to voters was rather limited. The Comitium in the forum, where informal *contiones* and –until 145 BC– legislative assemblies were held, was rather limited in size and allowed for the presence of perhaps a maximum of 3,600 people for voting and 5,000 for a *contio*;⁸⁴ the Augustan Saepta on the Campus Martius (used for the *comitia centuriata* and, during the Late Republic, the tribal assembly) could accommodate considerably more people, but the figure of 70,000 suggested by Taylor is now held to be an overestimate.⁸⁵ Even in a ‘low count’ scenario these numbers imply a dramatically low participation rate among voters.⁸⁶ A massive

⁷⁹ e.g. North (2006, 262); Taylor (1966, 5).

⁸⁰ North (2006, 273f.) and Jehne (2006, 14-25) provide a further guide to the issues of citizen participation in Roman politics and the notion of ‘democratic’ elements. The discussion hinges to a large extent upon the role of the elite; its grip upon the political sphere; intra-elite competition; and the openness of the elite to newcomers. Cf. also Mouritsen (2001, ch. 1) and Turchin (forthcoming, ch. 6, 12f.).

⁸¹ Mouritsen (2001, 5f.) on Polybius 6.11.

⁸² The issue is addressed e.g. in Millar (1998, 211f.), who characterizes actual voting as the product of chance, circumstance, or organization by interested groups that determined which persons – always a tiny minority – would in fact be present at the Forum to perform the function of “representing” the whole *populus Romanus*.

⁸³ But cf. MacMullen (1980, 457) for an alternative explanation of low voter turnout.

⁸⁴ Mouritsen (2001, 19 and 25).

⁸⁵ Taylor (1966, 53f.). MacMullen (1980, 454) suggests there was room for 55,000, but conjectures that voting totals never surpassed 40,000 (aisles provided maximum capacity in order to accommodate the largest voting centuries, but the average century was smaller than that). Mouritsen (2001, 30) estimates 30,000.

⁸⁶ On theoretical maximum rates of voter participation among the Roman citizenry see Scheidel (2006, 218-9 fig. 4 and 5, and 212-20).

turnout of voters was not to be expected from the Roman citizenry, and nor was it aimed at by the leading political elite of which the censors were part. In Rome nothing was done to encourage the participation of a representative body of citizens in politics – be it through reimbursement of attendance, as happened in Athens, or by the establishment of a representative system.

All this raises questions concerning the value attached to meticulous registration for voting purposes. *If* there was a procedure of formal identification of voters beforehand,⁸⁷ this would not necessarily have required a separate list of all voters since the initial original declarations would contain all information necessary to settle the matter, but it could have helped to smooth such a process. A separate list of all voters could thus serve as a roster of the electorate, where one might expect citizens to have been organized by voting century. This again would have required frequent updating as membership of the *iuniores* and *seniores* could change between elections, and so the organization in centuries was not very stable. Such a ballot list would seem a case of high effort and little gain from a practical point of view; but this does not disprove its existence *per se*. Listing the total number of voters is yet a different matter for which I do not see a purpose in the context of the voting system. It would have been useful if one wanted to distribute voters equally among several centuries within one class, since for this a quota should be established in order to determine what number of voters each century should contain. Such a procedure, used in contemporary electoral systems of proportional representation, requires knowing the total number of voters first. But Roman sources state explicitly that men were distributed over centuries according to their membership of a *tribus*, and therefore the size of the centuries could vary dramatically both between and within census classes, and even men registered in one of the 70 centuries of the first class did not necessarily enjoy voting rights equal to their fellows.⁸⁸ The electoral system therefore shows no interest in totaling numbers of voters. Although not necessary for practical reasons, an ideological purpose remains a possibility – one might argue that showing how the Republic shared voting rights between all free men would be in line with the demand that representatives of every single tribe should participate in a vote for it to be valid.⁸⁹

Two conclusions emerge from this brief analysis of the purposes of the census and its ‘target populations’. Indisputably, there must have been several lists derived from the census. No total figure could fulfil the threefold main purpose of the census for the obvious reason that these diverse functions did not coincide.⁹⁰ Moreover, of the target groups for each of those aims – fiscal, military, and electoral – only one consisted of all adult men: that of the voters. At best, this conclusion undermines Brunt’s statement that the census tallies should represent all adult males because the military aim was the sole

⁸⁷ This is a much debated issue – cf. Nicolet (1976c, 708-10 [positive on identification procedure]; Viriouvét (1996, 883f.) and Mouritsen (2001, 29), both negative. Evidence is scanty; controversy rests mainly on divergent interpretations of Varro *R.* 3.5.18 and Plu. *Mar.* 5.3-5.

⁸⁸ Inequality of voting weights within each class was not solely the result of unequal sizes of centuries due to different numbers of citizens in each tribe, but also because the much smaller group of *seniores* over age 46 voted in the same number of centuries as their younger counterparts.

⁸⁹ Mouritsen (2001, 24) with reference to Cic. *Sest.* 109 and the *Tabula Hebana* (AD 19) 33-4, to be found in Oliver and Palmer (1954, 229 [text] and 243-4 [commentary]).

⁹⁰ Cf. Suolahti (1963, 43-4).

one that would have mattered to the Roman state. If one wishes to maintain that the sum totals given as *capita censa* are both directly linked to one of these three registration purposes and that they are to be all adult males, we should conceive them as tallies based on the electoral roster rather on a list of those available for military service.

9. The practice of census taking

We cannot tell what happened in a censor's office – or for that matter, whether the offices were always manned by the censors; whether it would always be offices one would appear at;⁹¹ and from when exactly the registration procedure was decentralized. What we do know is that when a census was held in Roman Italy, persons who were *sui iuris* had to show up for registration by representatives of the authorities. Three ancient authors – Dionysius, Cicero, and Gellius – as well as the inscription known as the *Tabula Heracleensis* refer to a *professio*, an official declaration that needed to be made for the census.⁹²

A *pater familias* had to state under oath his civic status, the names and ages of his wife and children as well as his property – the latter including slaves.⁹³ However, it was not just fathers who were in their own right who had to appear before the censors – adult men without wives and/or descendants were equally liable to show up according to the *formula censoria*, the censorial law – that is, when they were *sui iuris*. By the same token, widows and orphans who did not belong to someone else's household also needed to be registered since they too could own property. It was those who were not in their own *potestas*, but *alieni iuris*, who were registered not by themselves but by their household head, as they fell under the authority of the latter.⁹⁴ This included adult men whose fathers (or grandfathers) were still alive and who had not been released from their power by means of a procedure of emancipation.⁹⁵ Property registered could, apart from slaves, include land in Italy, farming tools, clothing and jewelry, and presumably – for our sources are patchy – anything else that was valuable.⁹⁶ The censors were in office for

⁹¹ In Roman Egypt this was not the case. Whereas metropoleis had permanent offices open for census registration, declarations from small communities are dated within a brief period, suggesting instead that the censors went to the village and called everyone to appear, or perhaps went knocking on people's doors – we can only speculate here. Bagnall and Frier (1994, 17-8).

⁹² DH 4.15.6; Cic. *Leg.* 3.3.7; Gellius 4.20.3; *Tabula Heracleensis* l. 145-8. Cf. Bourne (1952a, 132).

⁹³ Bourne (1952a, 132). For the inclusion of a daughter in the *professio* of a Roman citizen in Egypt (presumably for the Claudian census) see Rathbone (2001).

⁹⁴ Suolahti (1963, 34-5).

⁹⁵ The term *duicensus* though, found in Festus 58L and explained therein as *dicebatur cum altero, id est cum filio census*, might suggest that adult sons needed to join in. Enigmatic as both the term and its concurrent definition are, we cannot tell whether it refers to one of the census lists, or to the procedure. Perhaps it has something to do with financial privileges for men with sons, cf. App. *BC* 1.9, who holds that the Gracchan land laws allowed 250 *iugera* for each child in addition to the maximum of 500 *iugera* per person, though his claim may be doubted: Roselaar [forthcoming]). Moreover, if – as is commonly held – the practice of emancipation of adult sons before the death of their father and/or marriage grew more widespread over time (cf. below, section 11c), it may be that it refers to cases in which a father had emancipated a son who still lived in the household. Presumably, they were to appear together. All Festus allows us to conclude is that sons were registered by the censor in connection with their fathers. DH 9.36.3 seems to plead against their inclusion in the figures (on this passage see above).

⁹⁶ See Brunt (1971/1987², 15) for further references.

eighteen months and seem to have registered the population in ‘sections’.⁹⁷ There are some sources that speak of punishment arising from failure to make a declaration before the censors,⁹⁸ but scholars disagree as to whether sentences were imposed during the early Republic only or continued into later times and formed an incentive to register.⁹⁹ Whether there was a grace period such as in Egypt, where one could register until three years after the closure of the census without repercussions,¹⁰⁰ is unclear. Moreover, although scholarly discussion revolves around the question of continuity vs. discontinuity of evasion of punishments over time, in actual fact we do not know whether these laws were ever carried out. This is the main problem we face given that the preventive effects of laws are usually enhanced significantly when they are actually enforced. Therefore it is as difficult for the late Republic as it is for the early Republic to establish whether such laws acted as a strong disincentive to non-registration.

With regard to the problems of interpretation surrounding the population figures, how the censors archived or recorded the oral information given to them by the declarants is obviously what would be most interesting to know; but this is precisely what our sources keep silent about. Logic requires that the censors, or some other officials, must have composed several lists, as stated above. What we know about Roman Egypt is that here derivatives were made from a basic census list. Like in Roman Italy, those *sui iuris* were liable for registration of both themselves and their dependents. Apart from the house-by-house registration and the lists of minors, scribes needed to draw up person-by-person copies of population lists; summaries of those; lists of ‘*katoikoi*’ and of those excluded from the tax estimate.¹⁰¹

One of the reasons for creating derivatives from the main list was to keep track of those under the age of fourteen.¹⁰² These children were on the record as members of their father’s household, on his declaration, but even so the effort was made so that each year the cohort amongst them who had reached the age of fourteen and thus became liable for taxation could be added to yet another list of tax payers.¹⁰³ Lists were updated annually on the basis of documents such as notices of births and deaths received in the interim.¹⁰⁴ The main list, from which these subsidiary lists were all derived, consisted of the gathered household declarations, the ‘κατ’ οἰκίαν ἀπογραφαί’. They were glued together into composite rolls in which sheets were numbered sequentially, and as such formed the basic source of authoritative information. Grouped according to village or

⁹⁷ Cic. *Archias* 11: *primis Iulio et Crasso nullam populi partem esse censam* – ‘in the first year under Julius and Crassus no census of any section of the population was held’ (i.e. in 89 BC). Cf. also Livy 29.37.5 for separate registration of *equites*, apparently postdating the *lustrum* of 204 BC.

⁹⁸ Livy 1.44.1: *censu perfecto, quem maturaverat metu legis de incensae latae cum vinculorum minis mortisque*. Cf. DH 5.75.3 on the reign of Servius Tullius. DH 4.15.6: ‘καὶ μέχρι πολλοῦ διέμεινε παρὰ Ῥωμαίοις οὗτος ὁ νόμος’. App. *BC* 4.32 (43 BC). Gaius *Inst.* 1.160.

⁹⁹ e.g. Parkin (2003, 184); Brunt (1971/1987², 33-4). Suolahti (1963, 38). Cf. also Mommsen (1887³, 367-8) on the punishment of evaders.

¹⁰⁰ Bagnall and Frier (1994, 16-7) and Hombert and Préaux (1952, 77-9); there is a papyrus *P. Lond.* 261 which refers to delays of one, two, and three years (idem, 138-9) – but only one.

¹⁰¹ This is stated in *P. Mich.* XI 603 (131/133 AD), a papyrus that seems to be a collective employment contract for a group of nine scribes and gives an account of the tasks they needed to perform.

¹⁰² An elaborate description of the census procedure and census records in Egypt is provided by Bagnall and Frier (1994, ch.1) on the basis of the earlier work of Hombert and Préaux (1952).

¹⁰³ As can be derived from papyri such as *P. London* 257-259, lists of men liable to poll tax (94 AD).

¹⁰⁴ Parkin (2003, 142f.).

toparchy, the so-called τóμοι originating from different locations were sometimes linked to each other.¹⁰⁵

Extrapolation from Egypt to Italy may obviously prove to be a dangerous expedition into marshy fields. The numbering and gluing together of the household declarations is suggestive of the method the censors employed to organize their administration in Roman Egypt, but does not necessarily tell us anything about Roman Italy. Still, it is difficult to imagine how Roman censors at the moment of registration could have created three different lists simultaneously. It seems more plausible to assume that they simply noted down whatever information they needed on a file stamped as belonging to a certain declarant. How one would get from there to a total of *censa sunt capita civium* remains a matter of speculation. What is clear though is that were our census totals to reflect all adult males, it would have been necessary to create a new derivative file that split up the declarations of families, since adult males who were not *sui iuris* were headed under the entry of their fathers or *pater familias* by whom they had been declared. One may hold then that the figures presented to us are the sum totals of such derivative voting rolls – for other than that they cannot have been if we interpret them as representing all adult men. But it is at least equally plausible that the figures given as *capita censa* are simply totals of the number of census declarers, i.e. adult men *sui iuris*, who had appeared for the census to declare themselves and those in their power.

10. Inclusion of widows and orphans: implications for population size theory

Mere registration of widows and orphans did not constitute a break with the past: they had been registered during the Republican period as well – as were, for that matter, other ‘dependents’.¹⁰⁶ The phrasing ‘exclusive of orphans and widows’ added to two of the Republican census figures strongly suggests that at a certain point they started to be included in the summarizing figures – otherwise this remark simply does not make sense, as I have set out above. What led Beloch to argue that under Augustus all citizens of whatever age and sex must have been included in the total were precisely the remarks on widows and orphans. He took it that the addition only of widows and orphans would have served no purpose, and that their inclusion must have meant that in actual fact all other women and children were included in the total as well.¹⁰⁷ Many ‘low counters’, most notably Brunt, have subsequently reckoned with a shift in the part of the population counted (not in those registered) under Augustus, when figures jump to 4,063,000 citizens registered for 28 BC; 4,233,000 in 8 BC; and 4,937,000 in AD 14 respectively.¹⁰⁸

¹⁰⁵ Bagnall and Frier (1994, 19 and 27f.). *P. Bruxelles* inv. E. 7616, studied by Hombert and Préaux (1952), consists of eighteen household declarations, carefully cut, glued together, and numbered. From this, it can be seen that each household declaration was made on a separate sheet and given an individual number. The Brussels papyrus roll contains declarations from two villages, Thérèsis and Thelbonton Siphtha in the Nomos of Prosopite. As each of them contains its own numbering system, this roll is a later composition and the actual census must have been administered village by village. The households from Thérèsis had their declarations made approximately one month before those living in Thelbonton Siphtha. Cf. Parkin (2003, 142f.).

¹⁰⁶ e.g. de Ligt (forthcoming, 12).

¹⁰⁷ Beloch (1886, 376).

¹⁰⁸ *Res Gestae* 8; preserved on inscriptions found in Ancyra, Antiochia (Pisidia), and Apollonia (Pisidia). For 28 BC the Latin text is considered authoritative; the Greek ‘transcript’ records 4,630,000: Riccobono (1945). The *Fasti Ostienses* give 4,100,900 for AD 14. But cf. Seston (1954) and Nicolet (2000, 189-96),

The simple reason for assuming such a change is that it seems the most logical way of accounting for the discrepancy between the previous Republican figures and the Augustan ones. But the fact that our meager extant documentation does not seem to provide any further indications of such an alteration does not make life easier for those wishing to explain it, and has led others – ‘high counters’ – to suppose that we must assume not change but continuity in the basis of recording under Augustus.

The alternative stance that widows and orphans alone started to be included has been defended by Bourne, but he related their inclusion to the pre-Augustan period. He thought it most probable that orphans and widows had been included throughout the Republican period already, except for the two times their exclusion is explicitly stated.¹⁰⁹ This, however, is unconvincing. First of all, when he pointed to the fact that the census figures immediately following these two cases show unaccountably large increases and argued that this supports his view, he clearly failed to realize that his interpretation in fact forces him to explain why the *preceding* figures are so low.¹¹⁰ Moreover, he underestimated the effects of the demographic regime on population distribution when thinking that it must be ‘highly improbable (...) that one-fifth of the citizens *sui iuris* in the second century BC should be widows and wards’.¹¹¹ On the same grounds, Beloch rejected Nissen’s thesis that *sui iuris* widows and wards were included in the census figures from Augustus onwards. He found that these could not have been many, so that ‘in der Hauptsache also der *civium capita* des kaiserlichen census für Nissen identisch (sind) mit den erwachsenen Bürgern männlichen Geschlechtes’.¹¹² The share of the non-adult male *sui iuris* population was likewise misjudged by Mazzarino when he argued that the difference between the Augustan figure of 4,100,900 reported in the *Fasti Ostienses* and that of 4,937,000 in the *Res Gestae* showed that the former excluded widows and wards, whereas the latter included them – as did in fact, according to Mazzarino, the two other figures for 28 BC and 8 BC in the *Res Gestae*.¹¹³

So how many women and children *sui iuris* are there likely to have been? We must reckon both with overall life expectancy and the Roman marriage pattern. It does not need to be demonstrated here that the former was low, and mortality high. In as far as we can tell on the basis of source material that is far from ideal, Roman marriages were between younger women and older men – the size of the age gap may be disputed, but there is little doubt that there was one.¹¹⁴ Fathers were likely to die first, meaning that wives and children were left behind. That *patria potestas* was often broken quite early due to these demographic conditions and patterns, is now widely accepted.¹¹⁵ Saller’s micro-simulation of the Roman family gives us an idea of the share of women and

who both consider the figure inauthentic on the basis of their paleographic analyses of the epigraphic text. Cf. also Lo Cascio (1994, 29 n.38).

¹⁰⁹ Bourne (1952a, 134-5).

¹¹⁰ Bourne (1952a, 134).

¹¹¹ Bourne (1952b, 181).

¹¹² Nissen (1902, 116-18) and Beloch (1903, 481).

¹¹³ Mazzarino (1962², 35-6 n.1). I am grateful to Elio Lo Cascio for this reference.

¹¹⁴ Though exact details are lacking, on the basis of commemorative shift patterns on inscriptions the age at first marriage (AAFM) for women is usually placed at between age 15 and 20; and that for men around age 30: Saller (1987, 29-30). Lelis, Percy, and Verstraete (2003) propose a revision of the dominant view. However, the sudden and steep increase in commemorative shift inscriptions for males strongly pleads for placing male AAFM near age 30: see Scheidel (2007b).

¹¹⁵ Saller (1987).

children who were not under someone's control via *patria potestas* or marriage. On the basis of the marriage pattern assumed, a little over 11% of all women were not yet married, but had already lost both their fathers and grandfathers (see table 2).

Lacking information on remarriage, it is more difficult to gauge what percentage of married women who had lost their husbands or got divorced did not find themselves a new husband and thus retained their *sui iuris* status. However, evidence from Egyptian census records and medieval Italian registers suggests that their numbers were considerable. This is in keeping with historical evidence for the early modern period and modern observations that women tend to remarry less than men for a number of reasons related to both opportunity and desire.¹¹⁶ Saller's assumption that remarriage of widows and divorcees should be set at 100% is then surely an overestimation.¹¹⁷ A minimum of around 13% may be expected when judging from comparative evidence.¹¹⁸ Other data - the ancient Egyptian included - suggest even higher numbers.¹¹⁹ Besides widows and orphaned girls the third new group consisted of boys who became *sui iuris* through the premature deaths of their *pater familias*. They formed *c.*5.9% of the total number of males (see table 2). Together the widows and wards thus form a group only two-fifths smaller in size than the group of adult men *sui iuris*, which made up 50% of the male

¹¹⁶ cf. on the difference between men and women and the various factors affecting them e.g. Grigg (1977, 194f.); Schofield (1981, 213); Leridon (1981); Knodel (1988, 77 and 170); Buckle, Gallop, and Rodd (1996); McCants (1999, 451 [eighteenth century Amsterdam]).

¹¹⁷ Saller (1994, 46). In basing his assumption on the Augustan marriage legislation that imposed fines upon those who had not remarried after one or two years, he fails to recognize the usual discrepancy between prescript and practice.

¹¹⁸ Herlihy and Klapisch-Zuber (1978, 659 Appendix V table 1, and 663 table 2). In the Florentine *catasto* of 1427, of all women 17.5% were widows; this figure is somewhat higher than that for the Tuscan region altogether, which is 13.6%. The discrepancy is due to the age difference between husbands and wives, which was largest in Florence, and smaller both in the countryside and in smaller cities (207 table 24).

¹¹⁹ cf. Bagnall and Frier (1994, 113).

Table 2 Orphans and widows*

a) Women unmarried and (grand)fatherless

Age group	% Fatherless(f)	proportion of (f) grandfatherless	% (grand)fatherless	proportion unmarried	group size as share of female population	group size registered as sui iuris (share of female population)
0-4	6.5	0.645	4.2	1	12.74	0.53
5-9	18.5	0.765	14.15	1	10.53	1.49
10-14	31	0.86	26.66	1	10	2.67
15-19	44.5	0.925	41.16	0.7	9.46	2.72
20-24	57	0.965	55.01	0.25	8.81	1.21
25-29	69	0.985	67.97	0.05	8.1	2.75
% of females unmarried and (grand)fatherless:						11.37

b) Boys (grand)fatherless

Age group	% Fatherless(f)	proportion of (f) grandfatherless	% (grand)fatherless	group size as share of male population	group size registered as sui iuris (share of male population)
0-4	6	0.62	3.72	12.74	0.47
5-9	18	0.75	13.5	10.53	1.42
10-14	31	0.85	26.35	10	2.63
15-16	40	0.92	36.8	3.78	1.39
% of males (grand)fatherless:					5.91

*Age group distribution: Coale and Demeny (1983) West Level 3 females, $r=0$. Proportions (grand)fatherless derived from Saller (1994), p. 48 (females) and p. 52 (males).

population.¹²⁰ Clearly, the idea that the number of widows and wards could not account for even one-fifth of the *sui iuris* population is a severe underestimation of the combined effects of the Roman mortality regime and marriage system.

If Augustus included both widows and wards as well as adult males *sui iuris* in his population figures, they made up about 40% of the entire free citizen population. That is, whilst adult men *sui iuris* and boys without fathers together formed 56% of all males (the rest of them consisting of boys and men in the *potestas* of (grand)fathers), c.24% of females of all ages were *sui iuris* (11% not yet married but without living (grand)fathers, plus c.13% widowed). This averages to 40% *sui iuris* in the total population.

Thus, in order to calculate the entire population of Roman citizens, we need a multiplier of about 2.5 (100/40). Using this multiplier, the 28 BC figure suggests a population of around 10 million free citizens. Reckoning with Brunt's estimate that in 28 BC about 1.2 million of all citizens (or c.375,000 adult male citizens) lived overseas,¹²¹ while about 1.5 million slaves and aliens need to be added to the Italian population, this would put the total population of Italy at about 10.3 million for that year. By AD 14, when 4,937,000 million citizens are recorded, the total would have risen close to 12 million, if we reckon again with Brunt, that by now close to 2 million people overseas had been accorded citizenship.¹²² Were Frank's estimate to be taken as more plausible, the number of citizens overseas would be about 50% higher, which would create estimates for Italy of 9.5 million in 28 BC and nearly 11 million in AD 14.¹²³

Needless to say, these estimates can serve only as a very rough indication of the quantitative effects of the hypothesis that Augustus included widows and wards in his figures, as they are affected by assumptions about the number of slaves and aliens in Italy as well as about the number of citizens overseas which may well be incorrect.

More important though is the observation that if the *sui iuris* registered formed a larger share of the population than the 40% on which this population estimate is based, the multiplier for the Augustan figures should be lowered to below 2.5. Accordingly, the estimated figure for the population size of Roman Italy would be lowered further. I believe that the 9.5 to 11 million figure is indeed bound to be an overestimation, as there are several factors that could have contributed to an increase in the share of the citizens that were *sui iuris*, or may have led us to overestimate the multiplier for other reasons. In the following section, I shall give brief attention to each of these.

11. A population category on the rise: the *sui iuris*

There are some further candidates to designate as causes of a false impression of increase in the census totals. Not resulting from natural growth, these factors simply added people into the category of citizens *sui iuris* counted, either by changing their status or by mistake. These matters are of relevance because they affect the multiplier one should use in order to calculate a total population figure for Roman Italy: if we think that because of

¹²⁰ 50%: derived from Saller (1994, 52) and Coale and Demeny's level 3 population distribution, growth rate 0% (cf. table 1). Widows and wards: $11.37 + 13_{(\text{min. \%})} + 5.91 = 30.28$.

¹²¹ Brunt (1971/1987², 265 [1.2 million in 28 BC, or 375,000 adult men]), derived from Beloch (1886, 377), who gives 350 to 400,000 adult men for 28 BC. Note, however, that Beloch (1899, 615) seems to estimate the total number of overseas citizens at between 1.75 and 2 million already in 28 BC.

¹²² Brunt (1971/1987², 265 [1.87 million]).

¹²³ Frank (1924, 339 [about 1 million adult male citizens by AD 14]).

these factors the *share* of the total free population registered as *sui iuris* was on the rise over time, real population will have fallen even further short of apparent growth.

11.a Overcount

Overcount, i.e. accidentally registering people twice, is a well-known problem in modern censuses, where it may actually exceed undercount.¹²⁴ For our purposes, its importance lies rather in its correlation with migration. Over-registration is particularly high among temporary migrants. Due to insecurity about whether the ones left behind have or have not registered them, miscommunication, fear of the negative consequences of failing to register, or simply due to lack of awareness, many among this group are registered both by their families and by themselves, or even by their temporary ‘household heads’ (e.g. landlords). Effort is needed to filter out these double counts even when modern data systems are available; without them doublets are likely to go unnoticed.¹²⁵ If, as Paul Erdkamp has argued, migrants to Rome were mainly young adult males who were temporary residents,¹²⁶ they may well have been registered twice: once in their city of origin, and once in Rome. That in reality they may have appeared only once in the census totals (being registered only as a family *member* in their city of origin) is irrelevant: the point is that with the growth of Rome an increasing number of people must have migrated, and therefore the scale of the phenomenon must have increased. As the growth of Rome was concentrated in the first century, so must the worsening of the phenomenon: an increasing number of young adult males hitherto not counted as *sui iuris* will now have been included in the census totals. So, while undercount by the census surely remained a factor of greater importance for the Roman census, double counts became a counterforce of increasing importance over time.

11.b Emancipation of (grand)children

The number of people *sui iuris* was partly dependent upon the extent of emancipation of (grand)children by their (grand)fathers. We do not have sufficiently detailed information to enable us to pin down whether or when this practice became a major factor. Some have suggested that it became important during the last phase of the Republic; and the *Institutiones* imply that it occurred frequently during the Principate.¹²⁷ It has been suggested that the origin of the practice is to be attributed to colonization.¹²⁸ How geographical separation complicates the exercise of legal authority over a child is not too difficult to imagine, and if this indeed lay behind the emergence of the phenomenon,

¹²⁴ Thanks are due to Heili Pals, Stanford University, who pointed out to me the problem of over-registration. In 2002 (after two years of evaluating the 2000 census) the American Census Bureau reported an estimated net census overcount of 0.5%, with about 5 million people missed, but 6 million counted twice. Cf. Sunshine Hillygus, Nie, Prewitt, and Pals (2006, 70 and 132 n.4).

¹²⁵ The *Tabula Heracleensis* from the Caesarian period gives an interesting insight into the possible prevalence of this phenomenon in Roman Italy when it states that ‘it is not the intent of this law to require a person who has residence in several municipalities, colonies, or prefectures and who is entered in the census in Rome to be registered by this law in the census of the aforesaid communities as well’ (§29). Whether this advice was followed is, of course, another matter.

¹²⁶ Erdkamp (forthcoming).

¹²⁷ Gaius *Inst.* 1.16.18 [ed. Spruit (1993)] cf. Lokin (1999, 71); Leonhard (1905); Costa (1901, 320).

¹²⁸ Leonhard (1905, 2478); Bourne (1952, 182).

increased migration caused by the rapid growth of Rome during the Late Republic may well have encouraged the spread of ‘premature’ release from *patria potestas*.¹²⁹

11.c *Sui iuris* women in a *sine manu* marriage

As Mommsen already remarked, with the rise of the marriage *sine manu* married women must have started to be entered independently in the census records.¹³⁰ Since this new type of marriage no longer placed women under the legal power of their husbands upon marriage, the juridical status of women who entered this type of marriage would change from *alieni iuris* into *sui iuris* upon the death of their fathers or upon *emancipatio* prior to that. Over time, their transition from the juridical category of the *alieni iuris* to that of the *sui iuris* must have increasingly followed the same pattern as that of men. Although a marriage *sine manu* seems to have been possible since the time of the Twelve Tables, this status was transitory rather than permanent: only during the first year of a *usus*-marriage did women not fall under the *potestas* of their husbands. During the early Republic there were therefore virtually no married women who were *sui iuris*. Conditions changed most probably only towards the end of the second century BC. From then on, marriages *sine manu* became more widespread. By the time of Augustus, so it is commonly assumed, ‘*manus*-marriage’ had mostly disappeared.¹³¹

Theoretically, women in a marriage who were *sui iuris* should belong to the same category as the orphans and widows mentioned as excluded from the census figures of 465 BC and 131/130 BC. Those *sine manu* married women whose fathers had died could fall under the category of *orbae* - like widows did in the phrase ‘*orbi et orbae*’, as we have seen above.¹³² They are, however, not explicitly described as a group excluded from the figures. In this, they resemble enfranchised female slaves, *ante pubertatem* enfranchised male slaves or sons, emancipated unmarried women, women in a *manu* marriage who got divorced and those who had fallen under the *potestas* of a *pater familias* who had suffered from *capitis deminutio* and were not adult males.¹³³ None of them are actually described as being excluded from the figures; all of them were also *sui iuris*, but not adult males and in need of tutelage. We are simply uncertain as to what happened to them in the context of the Republican census figures. All we can infer from our contextual evidence on the purposes of the census taking is that unless they had to pay taxes, their inclusion would not serve any goal. As far as *sui iuris* women in a *sine manu* marriage are concerned, there is little reason to assume that they were taxed more heavily than orphans and widows: there is no evidence and their juridical status was similar. Since it is most reasonable to assume, as I have argued above, that the latter were excluded from the census figures during the Republic, but included under Augustus there would be a certain logic in assuming that women *sui iuris* in a *sine manu* marriage followed the same pattern.

If one should choose to follow this hypothesis, the impact on the multiplier would be substantial since the implication would be that the Augustan census totals included most adult women. The percentage of women registered in the censuses of 28 BC, AD 6

¹²⁹ I owe this suggestion to Luuk de Lig.

¹³⁰ Mommsen (1887³, 365 n.2).

¹³¹ Evans Grubbs (2002, 21); Gardner (1998, 209-10); Treggiari (1991, 30-4); Looper-Friedman (1987).

¹³² p. 11, n. 46.

¹³³ Sachers (1943, 1498).

and AD 14 would in fact have been nearly equal to that of men given that by that time marriages *in manu* were uncommon, and the *sui iuris* status of women was established in similar manner as that of men. Adaptation of the assumptions followed in the calculation in order to account for only this factor could make the multiplier fall from 2.5 to a minimum of 1.75.¹³⁴ It follows that this suggests a population of Roman Italy in the order of 7.5 million in 28 BC rising to 8.1 million or so in AD 14 (following Brunt's estimate on the number of overseas citizens).

11.d Freedmen: a demographically anomalous subpopulation

The multiplier commonly used is inflated also due to the inclusion of enfranchised slaves who had received Roman citizenship. They form a group included in the census figures for which the usual multiplier works particularly badly. Because most women seem to have been freed only after their period of prime fecundity,¹³⁵ and their children born previous to that remained slaves, enfranchised slaves are rather unlikely to have produced many free children. So by multiplying their group by a factor equal to that of ordinary Roman nuclear families, we create ghost citizens, attributing to freedmen free children they did not have. How large a number is difficult to tell, but if the number of freedmen was even loosely related to the number of slaves, we can be sure that from the Second Punic War onwards they were on the rise. Thus the number of extra citizens added in error on account of the multiplier will also grow over time.

11.e Citizens outside Italy: registration and emigration

The Roman census was by origin a census of citizens living in Italy. With territorial expansion, citizenship spread. For the debate on the size of the Roman population this is a phenomenon of major importance, as it raises the question of how many of the citizens recorded lived in Italy itself.

Emigration entailed the disappearance of people from Italy as a geographical entity. But what about their census registration? It is generally thought that overseas citizens were registered fairly unsystematically.¹³⁶ Two arguments have been raised: the Roman state was not sufficiently developed to keep track of citizens further afield, and there was little interest in Italy to register Romans living somewhere far away.

To my mind, the latter suggestion entails a denial of the political concept of Empire. If Roman citizens left Roman Italy, they formed part of a flow of outward migration only from the perspective of a modern nation-state. For a Roman citizen as well as the Roman state this was still internal migration, and therefore it seems more likely that our figures for *cives Romani* at least *by intention* include Roman citizens regardless of their geographical residence.

The argument that such a task - the registration of citizens living at a far distance from Rome - was beyond the capability of the Roman state seems undermined both by the notion that census registration in Italy must have involved more complex administrative processes than previously thought, and by the growing body of evidence

¹³⁴ I assume here that *manus* marriages are completely absent. Thus the percentage of all women (of all ages) *sui iuris* can be derived directly from Saller's calculations (cf. above). It amounts to 57%, i.e. equal to the share of the male population *sui iuris*. Therefore the multiplier should be $100/57 = 1.75$ instead of $100/40 = 2.5$.

¹³⁵ cf. Scheidel (1997) on the enfranchisement of female slaves in Egypt, and Scheidel (2005, 72-3; 75).

¹³⁶ cf. Brunt (1971/1987², 115).

that all kinds of lists were also created in the provinces.¹³⁷ All in all, it seems difficult to hold that Rome was a society that was simply too underdeveloped to be capable of organizing such procedures. The number of citizens overseas that Brunt presumed to be registered is therefore likely to be on the low side, which again pleads for adjusting further downward the Italian population figure as implied by the ‘middle count’.

12. Measure and man: Augustus and the census shift

There has been much speculation as to whether and why Augustus would or would not have changed the recording basis of the census figures. It is invoked by our opaque evidence. Supposedly, we have in fact no independent evidence at all that can help to explain what the mere figures tell us: that something was going on in the Augustan era. In the discussion above I have argued that Augustus started to include widows and orphans in his figures. That their inclusion should be connected with his censuses simply seems the most logical hypothesis: this is when the jump in our figures occurs, and the statements added to the census figures suggest that widows and orphans were included at a certain point, but not during the Republic.

But it seems that we can push the argument further than that. We have only two Republican figures for which Livy explicitly adds the clarification that they did not include orphans and/or widows: one in Book 3 and its *Periocha*, and the other in the *Periocha* of Book 59. Clearly Livy is trying to prevent confusion, but why did he do so on these two occasions, and why only then? The phrases are added to the figures for the censuses dated to 465 BC and 131/130 BC respectively,¹³⁸ but this does not bring us any further as there seems to be no historical ground for Livy to link his comments to these specific years. As Walter Scheidel observes, however, the chronology of Livy’s composition of the *Ab Urbe Condita* may suggest that he composed Book 3 not long after the results of the census of 28 BC had become known, and Book 59 shortly after the Augustan census of 8 BC had been completed.¹³⁹ Thus a fairly straightforward explanation for Livy’s exegesis of the census figures in these books results from the hypothesis that Augustus started to include widows and orphans in his census counts. If the reported census totals indeed changed in character in Livy’s days, he simply wished to emphasize the different nature of the earlier censuses he was writing on at the point when the Augustan census results had just been published. If contemporary events motivated him to introduce explanatory phrases, it is perfectly understandable why he did so only in these two instances.¹⁴⁰

Why Augustus would have decided to go over to this new practice is a question of a different kind, and difficult to answer. His shift in focus has been connected with his preference for family-oriented values and an interest in and concern for the entire family rather than just adult males. However, if his change in focus was indeed a conscious attempt to stress that for Augustus it was not just adult males who counted but rather

¹³⁷ See Brunt (1990, 345f.) for a list of inscriptional evidence for provincial censuses. Nicolet (1991a, 133-9); Christol (2006, 31f.). The *Fasti Ostienses* show that Augustus knew the assets of citizens in Cyrene: Nicolet (1991b), reprinted in Nicolet (2000, esp. 194 [cf. below]). Note also *CIL* 10.680, an inscription for T. Clodius Proculus who was sent to the province of Lusitania to take the census there in the age of Augustus and one of the sources of evidence for provincial censuses quoted in Le Teuff (unpublished 2007).

¹³⁸ Livy 3.3.9 and *Periochae* 59.7.

¹³⁹ Scheidel (forthcoming 2).

¹⁴⁰ Scheidel (forthcoming 2).

families, he let slip some excellent opportunities to emphasize this ideological shift. In the *Res Gestae* no connection between the census and his policy of propagating family life is made. The proclamation of a population figure that, when taken at face value, suggests a rise in population rather than a decline could hardly serve to express the ‘concern about the population problem’ (i.e. a decline) that Brunt argues lay behind an Augustan reform in the reporting of census figures. Nor can one hold that there were no concerns about population size, marriage, and childbearing earlier on, when the census totals did not include the entire population.¹⁴¹ In that sense, Augustus’ new and ‘purely demographic interest’ was not so new.¹⁴²

It could be that the notion that all Roman citizens were to be included in a population figure was an ‘offshoot’ of Augustus’ general ‘obsession with symbolic (and actual) control over people and territory’, which is reflected in the creation of a world map (by Agrippa) and an upsurge in agrimensoral activity.¹⁴³ But why should he have used the specific figures we have in order to attract attention to his share in the establishment of Empire, and to propagate his symbolic or actual control over people and territory? For the population figures of Augustus are figures which denote Roman citizens, to a large extent those residing in the heartland of Italy: or the kernel of Romanhood. This is not quite an ‘inventory of the world’, and surely not a figure that symbolizes his subjugation of it. If numbering people was now about showing or symbolizing control, one would rather expect the inscriptions displaying the achievements and events of Augustan rule to give a (real or symbolic) figure that reflected the immensity of Empire, not something in the order of four million.

It would obviously make for a stronger case if we could instead attribute an alteration in the practice of recording census figures to changes in the practical goals of the census. This is not unproblematic either. The inclusion of all women and children cannot be linked to any of the threefold goals of registration analyzed above: just as was the case before, they still were not given voting rights or expected to fight. An extension to include more types of citizens is therefore difficult to account for from the perspective of the census’ military and voting aims. In actual fact, over time the importance of both diminished as the army professionalized and the vote first came to be shared among a significantly larger number of people (with the extension of citizenship), and then lost all meaning as substantive decision-making passed to the emperor and the Senate.

There remains the purpose of securing the state’s finances. But the one change in this realm connected with the Augustan era that could be relevant, the introduction of the *vicesima hereditatum*, postdates the changes in the census recordings. Moreover, when Augustus permanently installed this new tax of 5% on inheritances in 6 AD, it came with a *lex Iulia vicesimaria*, which arranged that all testaments should be opened under auspices and archived thereafter.¹⁴⁴ The amounts of tax due by individuals could thus already be established on the basis of these records, and its imposition therefore did not require census registration of groups that were previously not targeted for financial aims.

However, I would like to note in passing that although this tax was not permanently imposed until 6 AD, Augustus - then still Octavian - had already made an

¹⁴¹ e.g. Brunt (1971/1987², 114).

¹⁴² *ibidem*.

¹⁴³ As suggested by de Ligt (forthcoming, 14).

¹⁴⁴ Wesener (1958), p. 2475.

attempt to reform the state's taxation system in order to secure its liability in 40 BC by the imposition of an inheritance tax. The accounts of Appian and Cassius Dio which explicitly describe his determination to reinstate the inheritance tax after its initial failure as well as the scheming he resorted to in order to achieve his goal¹⁴⁵, and the edict of the *Fasti Ostiensis* of 7/6 BC which shows how Augustus counted people of all ages who owned property¹⁴⁶ all testify to his ongoing attempt to secure the state's finances through taxation reforms. As late as AD 14, he still contemplated a change from inheritance tax to land tax (*tributum*) for all Roman citizens.¹⁴⁷ Taking into consideration that it was not quite clearly established from the outset who would precisely form the target population for new taxation nor how its levy would be secured, it would not be too awkward to hypothesize that the inclusion of all possessors, i.e. of all people *sui iuris*, from the census of 28 BC could still be connected with the taxation purposes of the census.

13. Concluding remarks

Rejection of the 'high count' as an extreme hypothesis cannot by itself lead us to the size of the population inhabiting Roman Italy. I should agree with others in thinking that the 'high count' in its present form creates more difficulties for our understanding of Roman history than does the 'low count'. Even so, we have to pay equal attention to the problems associated with the so-called 'low count'. To my mind, the logical inconsistencies involved in thinking that the Republican census figures represent all adult males, which I have outlined above, force us to reconsider the – often implicit – acceptance of this dominant interpretation. In my view our enigmatic sources allow an alternative reading that was briefly suggested in earlier literature, but received little attention overall: the *sui iuris* hypothesis.

This interpretation enables us to argue for a diversity of 'middle counts' for the Augustan period, for the multiplier required to get from census totals to population totals becomes more flexible in this scenario. Given the extent and nature of the ancient evidence, the numerical implications of the hypothesis that Augustus no longer included only adult males *sui iuris* but also widows and wards seem the only ones that can

¹⁴⁵ App. *BC* 5.67f.; 5.130 and DC 55.25.4-5 and 56.28.4-6. His request to the Senate to investigate all other possible sources of revenue first is regarded as mere lip service by DC 55.24.4-5, where he stresses that Augustus already had his own plans. Cf. also Günther (2005) on Octavian's claim that his legislation went back to an idea stated in Julius Caesar's memoirs.

¹⁴⁶ Nicolet (1991b), reprinted in Nicolet (2000, esp. 194). Text to be found in *SEG* 9, no. 8, 1.4-6: 'ἐπειδὴ τοὺς πάντας εὐρισκῶ Ῥωμαίους ἐν τῇ περὶ Κυρήνην ἐπαρχίῃαι πέντε καὶ δέκα καὶ διακοσίους ἐκ πάσης ἡ<λ>ικίας δισχειλίων καὶ πεντακοσίων δυναρίων ἢ μείζω τίμησιν ἔχοντας'. Nicolet recently drew attention to the phrase, and read the expression 'of all ages' as a firm indication that Augustus included all citizens in his census totals. He suggests that knowledge of the total number of citizens might have become important because of the *vicesima hereditatium*, a new tax of 5% on inheritances. However, I should suggest that it shows that his interest was in those of his citizens, whatever their age, who had financial assets. For since Augustus speaks of people who possess a certain specific amount of money, he cannot refer to people *alieni iuris*: these could not have any money in their own right. Rather, the 'people of all ages' he speaks of must be those *sui iuris* – a group denoted both by their unlimited age range and their ownership status. Christol (2006, 36) holds that 'la *vicesima hereditatium*, instituée par Auguste, réinsère fortement les citoyens romains dans la trame du *census*' but does not address the problem of the interpretation of the *capita civium* recorded on the census lists.

¹⁴⁷ DC 56.28.4-6.

reasonably be gauged. Such an interpretation of the Augustan census figures would limit the size of the free Roman population of Italy to somewhere around 10 million.

The introduction of widows and wards is, I believe, likely not to be the only factor that may explain the apparent steep rise between the Republican and the Augustan figures. Therefore the actual number of inhabitants of Italy was probably considerably lower than 10 million. The credibility of each of the hypotheses outlined above – that the multiplier for freedmen must be much reduced; that the census was perhaps more prone to over-registration than it had been before; that migrants to or in Rome or elsewhere in Italy who had not (or had to a lesser extent) been registered earlier as *sui iuris* were now in the records; that the number of overseas citizens was perhaps larger than Brunt assumed; and that married women might be *sui iuris* rather than *in potestate* will determine to what extent the multiplier should be lowered for the Augustan censuses.

Consequently, there is no population number to give. A range of potential combinations may lead to one of several possible lower or higher ‘middle counts’. Quantification is essential if we are to judge what the (combined) effects of these factors would imply for our view on the size of the ‘real’ total population of Roman Italy. But given the nature of our evidence, I am reluctant to undertake attempts to quantify any of these other potential factors: I cannot see a way to further narrow the range of possibilities by tightening up the lower and upper limits of a ‘middle count’. What is clear though is that all of the factors mentioned would push in the same direction, enlarging the share of the population registered under Augustus. Therefore, even if we cannot give a specific figure for the size of the Roman population under Augustus, we can go beyond complete agnosticism: the actual number of Roman citizens in a ‘middle count’ would be closer to the current ‘low’ than the current ‘high’ count.

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