

# THE TRANSFORMATION OF ITALY, 225–28 B.C.

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For a study of social and economic questions an assessment of population is indispensable. It must make a difference to our picture of the agrarian troubles that vexed the late Republic, whether we take Italy to have been densely or thinly settled.<sup>1</sup>

Although debate continues on the causes, chronology, and extent of the 'second-century crisis' in Italy, a consensus has developed on its main symptom: the free peasantry, numbers already depleted by the burdens of military service, was displaced from the land by imported slaves and so continued to decline, a development which contributed significantly to the troubles of the succeeding century.<sup>2</sup> Underpinning this consensus is widespread acceptance of what might be called the 'Beloch-Brunt' model of the demographic history of Italy in this period.<sup>3</sup> This model suggests that between the late third century (Polybius' account of the numbers of Romans and Italians under arms in 225 B.C. permits an estimate of the total population) and the late first century (Augustus' first census of Roman citizens in 28 B.C., the first truly reliable one since the enfranchisement of the Italians) the free population had declined from about four and a half million people to about four million. Since there is evidence that Rome and other Italian cities were expanding during this period, at least in part through migration from the countryside, the decline in the free rural population was even more dramatic: from over four million people to less than three.<sup>4</sup> As Hopkins puts it: 'It is an enormous figure; it must hide colossal human misery; it may not be accurate, but it gives a sense of scale which is missing from our sources.'<sup>5</sup> This underlines Brunt's comments about the importance of a demographic perspective on the history of the late Republic. If our only evidence for the second-century crisis was Plutarch's account of the speeches of Tiberius Gracchus, we might be unaware or even sceptical of the true magnitude of Italy's problems; it is the 'hard' evidence of population decline that brings home to us the seriousness of the situation.

This account of the decline of the free Italian population is so widely accepted by historians that it may come as a surprise to realize how poorly it is founded in the evidence.<sup>6</sup> The figure for the census of 28 B.C. is recorded in Augustus' *Res Gestae* as 4,063,000 (the figure for 8 B.C. is 4,233,000, and for A.D. 14, 4,937,000). The Republican census had counted adult male citizens; assuming that males over seventeen comprised roughly 30 per cent of the population, the census figure implies a total of about 13.5 million citizens, of whom it has been estimated that about 1.25 million were living

<sup>1</sup> P. A. Brunt, *Italian Manpower 225 B.C.–A.D. 14* (1971), 3.

<sup>2</sup> Standard works on the crisis include A. J. Toynbee, *Hannibal's Legacy: the Hannibalic War's Effects on Roman Life. Volume II: Rome and her Neighbours after Hannibal's Exit* (1965); K. Hopkins, *Conquerors and Slaves: Sociological Studies in Roman History I* (1978), 1–98; D. W. Rathbone, 'The development of agriculture in the Ager Cosanus during the Roman Republic: problems of evidence and interpretation', *JRS* 71 (1981), 10–23; A. Giardina and A. Schiavone (eds), *Società romana e produzione schiavistica* (1981); P. W. de Neeve, *Peasants in Peril: Location and Economy in Italy in the Second Century B.C.* (1984); A. Carandini, *Schiavi in Italia: gli strumenti pensanti dei Romani fra tarda Repubblica e medio Impero* (1988).

<sup>3</sup> Brunt, *op. cit.* (n. 1), 44–60, 113–20 (cf. the review by K. Hopkins in *JRS* 62 (1972), 192–3); K. J. Beloch, *Die Bevölkerung der griechisch-römischen Welt* (1886), 388–443.

<sup>4</sup> Hopkins, *op. cit.* (n. 2), 68–9; his figures for population change are for the most part derived from those offered by Brunt.

<sup>5</sup> Hopkins, *op. cit.* (n. 2), 67.

<sup>6</sup> An alternative view was put forward by Tenney Frank in 'Roman census statistics from 225 to 28 B.C.', *Classical Philology* 19 (1924), 329–41, and by R. P. Duncan-Jones in his article on 'Population (Roman World)' in the *Oxford Classical Dictionary* (2nd edn, 1970), 863. The new edition of the  *OCD* (1996), 1223, summarizes both sides of the argument without wholeheartedly endorsing either. Beloch's interpretation is discussed at length by E. Lo Cascio in 'The size of the Roman population: Beloch and the meaning of the Augustan census figures', *JRS* 84 (1994), 23–40, and 'La dinamica della popolazione in Italia da Augusto al III secolo', in *L'Italie d'Auguste à Dioclétien: actes du colloque international* (= *CEFR* 198) (1994), 91–125; the rest of this paragraph is heavily indebted to his analysis.

outside Italy.<sup>7</sup> This scarcely constitutes evidence for population decline in Italy; on the contrary, it shows a remarkable expansion over the previous two centuries. However, both Beloch and Brunt argued that such a figure was impossibly high. It could not be reconciled with the census of 70–69 B.C., which had counted only 910,000 citizen males; this census did not include the population of Transpadana, enfranchized in 49 B.C., but that seemed scarcely sufficient to account for the extraordinary leap in numbers between 69 and 28 B.C. implied by the Augustan figure. Moreover, the pattern of census returns from the late second century suggested that the citizen population had more or less stabilized.<sup>8</sup> Historians faced a dilemma: the alternatives were either to reject the Republican figures altogether, a course which Brunt described as ‘a counsel of despair’, or somehow to reinterpret the Augustan figures.<sup>9</sup>

The *Res Gestae* refers simply to a census of *civium Romanorum*, without specifying precisely who was included in the totals. Beloch and Brunt offered the hypothesis that the character of the census had changed under Augustus, no longer having a military function but rather being concerned with the state of the population as a whole (which might be linked to the emperor’s well-known concern over levels of marriage and fertility): therefore all citizens were now included, women and at least some children as well as adult males. The sole piece of evidence that either could offer in support of this theory was the belief of the Elder Pliny that the earliest Roman censuses had counted all citizens, not just adults; perhaps, they suggested, he was projecting the practice of his own day onto the past.<sup>10</sup> Nevertheless, it was certainly true that a total citizen population at the time of Augustus of just over four million was much easier to reconcile with the Republican census figures. Moreover, the decline in the free Italian population implied by this interpretation fitted neatly with the complaints of the sources about the crisis of the Italian peasantry and problems with recruitment to the army.<sup>11</sup> However, as remarked above, the Beloch-Brunt reconstruction of the development of the population was soon being offered as confirmation of the reality of the second-century crisis: the circularity of the reasoning is clear.

As Lo Cascio notes, there simply is no evidence for the inclusion of women and children in the Augustan census, whereas the character of the Republican census is well attested.<sup>12</sup> Moreover, there are reasons for supposing that the census of 70–69 B.C. must have been seriously defective, in which case the disparity with the Augustan census becomes less significant. The newly enfranchized inhabitants of Italy had to register in Rome in 70/69, whereas in later censuses they could register in their home towns; meanwhile, certain politicians had a vested interest in keeping the numbers of registered citizens low.<sup>13</sup> The fact that earlier censuses show that the citizen population had stabilized tells us nothing about the non-citizen population of Italy, subject to some but by no means all of the pressures which were brought to bear on the people of Rome. It is certainly more economical to assume that the census of 28 B.C., like all earlier censuses, counted adult males only, and so to conclude that the citizen population of Italy at the time of Augustus was about 11.5 million.

There are no firm and undisputed grounds for deciding between these two interpretations. We cannot be sure, therefore, whether the population of Augustan Italy

<sup>7</sup> The figure for the proportion of adult males in the population is given as 31 per cent by Brunt (op. cit. (n. 1), 52–3), drawing on comparative evidence from early twentieth-century Italy, and as 30 per cent by Hopkins (op. cit. (n. 2), 69), drawing on UN Model Life Tables. In the absence of reliable evidence on the demographic structures of Roman Italy, it can only be an estimate. Its most obvious flaw is the assumption of a sex ratio of 100; if there were more men than women (which seems to be the case for the ancient world through most of the Roman period: T. G. Parkin, *Demography and Roman Society* (1992), 98–105), the proportion of adult males would be slightly higher (perhaps 33–34 per cent) and the total population lower (just under 12 million); if, as Brunt in fact argues, the ravages of war had primarily

affected the male population, the percentage figure will be lower and the total population correspondingly higher. At least 375,000 adult male citizens in the provinces: Brunt, op. cit. (n. 1), 262–3.

<sup>8</sup> Brunt, op. cit. (n. 1), 91–9 on the censuses of 86/5 B.C. and 70/69 B.C., and 70–83 on the second-century census figures.

<sup>9</sup> Brunt, op. cit. (n. 1), 83.

<sup>10</sup> Pliny, *NH* 33.16; Beloch, op. cit. (n. 3), 342.

<sup>11</sup> Brunt, op. cit. (n. 1), 76–7, 106–12.

<sup>12</sup> op. cit. (n. 6, ‘The size of the Roman population’), 31.

<sup>13</sup> On the defective nature of the census in 70 B.C., see T. P. Wiseman, ‘The census in the first century B.C.’, *JRS* 59 (1969), 59–75, esp. 71.

was 5–6 million or 12–14 million; and yet it is clear that this would make an enormous difference to our view of the history of the late Republic. The only way to decide between the two possibilities is to evaluate their plausibility with respect to economic and demographic considerations and with respect to everything else we know about Italy in this period. We know how well the Beloch-Brunt account fits with other evidence (not least Roman authors' own interpretations of this period) to produce a persuasive story of decadence, decline, and rural crisis.<sup>14</sup> It remains to be seen whether an alternative account of the transformation of Italy could prove equally compatible with the evidence, and whether an alternative narrative could be equally convincing. The aim of this article is to sketch some of the components of such an alternative history, taking the higher population figure as its starting-point.<sup>15</sup>

### I. DEMOGRAPHY

Between 225 and 28 B.C., the free population of Italy rose from 4.5 million to about 12 million; in addition, over a million Italians had emigrated from the peninsula by the time of the Augustan census. This represents an average rate of increase ( $r$ ) of a little less than 5 per thousand per annum. Of course, the actual process of expansion was far more complex than this. Populations do not grow steadily or consistently over time; mortality and fertility rates can fluctuate quite dramatically, within certain broad limits, resulting in periods of slower or faster growth, or even brief periods of decline. The figures for the Roman census between 225 and 90 B.C., for example, show that the citizen population declined significantly between 218 and 204/3; it then began to increase once more, returning to its previous size by the time of the census of 174/3 and continuing to expand thereafter, though comparatively slowly and apparently with a slight fallback in the 140s and 130s.<sup>16</sup> These figures reflect the rate of enfranchisement as well as the fortunes of the freeborn population, and there is certainly no reason to assume that the rest of the population of Italy followed the same pattern. Nevertheless, we might expect to find a similar period of stagnation in the early years of the second century as a result of war casualties and the depredations of Hannibal, in which case the expansion of the Italian population took place over 150 rather than 200 years, a rate of increase of about 6.5 per thousand per annum.<sup>17</sup>

It is also misleading to assume, as we have done so far, that the population was completely homogeneous as far as mortality and fertility rates were concerned. Most obviously, we might expect some differences in mortality and fertility between rich and poor. On the one hand, the wealthier classes in society enjoyed better nutrition and improved access to (albeit rudimentary) medical assistance; on the other hand, their concern to maintain the family estates intact gave them an obvious motive to practise family limitation (something which may explain the apparent crisis of reproduction among the upper classes by the time of Augustus).<sup>18</sup> Since the numbers of the rich were a tiny proportion of the total population, we can safely ignore them when calculating the

<sup>14</sup> One might relate this to the arguments of Hayden White about the importance of narrative structures in forming and conditioning historical understanding: see 'Interpretation in history' and 'The historical text as literary artefact', in *Topics of Discourse* (1978), discussed at length in K. Jenkins, *On 'What is History?'* (1995) and more briefly in N. Morley, *Writing Ancient History* (1999), 100–11. The traditional account of the late Republic is an archetypal tragic narrative, and this may in part account for its appeal to both Roman and modern historians.

<sup>15</sup> 'If Frank's estimate [of the Augustan population] were by some means to be proven, the history of this period would have to be entirely rewritten': N. Morley, *Metropolis and Hinterland: the City of Rome and the Italian Economy* (1996), 48. Perhaps through sheer

terror at such a prospect, the author then hurriedly opted for the Beloch-Brunt interpretation.

<sup>16</sup> Figures taken from Brunt, *op. cit.* (n. 1), 61–83.

<sup>17</sup> On the likely effects of military service on the population, see Rathbone, *op. cit.* (n. 2).

<sup>18</sup> On nutrition, P. Garnsey, *Food and Society in Classical Antiquity* (1999), 43–61 and 113–27. On Roman medicine, R. Jackson, *Doctors and Diseases in the Roman Empire* (1988) and J. Scarborough, *Roman Medicine* (1969); more generally, J. Longrigg, 'Medicine in the classical world', in I. Loudon (ed.), *Western Medicine: an Illustrated History* (1997), 25–39. Family limitation: K. Hopkins, *Death and Renewal: Sociological Studies in Roman History II* (1983) and W. V. Harris, 'Child-exposure in the Roman Empire', *JRS* 84 (1994), 1–22.

approximate rate of growth. We do, however, need to take account of differences in mortality and fertility between urban and rural dwellers: the effects of 'urban natural decrease', an excess of deaths over births which meant that all pre-industrial cities relied on migration simply to maintain their numbers, let alone to expand.<sup>19</sup> In other words, the rate of increase of the Italian population must have been sufficiently high not only to support its expansion but also to fill the deficit created by the cities' consumption of bodies.

On this basis we can construct a simple model of the growth of the Italian population, assuming for the moment that its sex ratio was stable and that key variables (the overall rate of increase, the rate of urban natural decrease, and the rate of migration from countryside to town) remained constant over the century and a half from 175 to 28 B.C. During this period the total population rose from 4.5 to 12 million, and the free urban population rose from 400,000 to 1.5–1.6 million.<sup>20</sup> Taking the rate of urban natural decrease as 1 per cent p.a., and the migration rate as 0.25 per cent p.a., an overall rate of growth of 0.8 per cent p.a. gives a total population of 11.75 million and an urban population of 1.57 million, which are very close to our target figures.<sup>21</sup> Of course these figures are approximate, but they must be of the right order of magnitude. If, for the sake of argument, we double the rate of natural decrease (making it higher than it ever was in seventeenth-century London, for example), the total rate of increase has to rise only to just over 0.9 per cent p.a. (with a migration rate of 0.35 per cent) to compensate.

A rate of increase of 8 per thousand per annum is certainly high, but it is by no means impossible or unprecedented in historical populations.<sup>22</sup> A range of comparative examples can be cited. In nineteenth-century Greece the rate of increase averaged 2 per cent per year, that is, 20 per thousand; in the United States between 1800 and 1860 it never dropped below 2 per cent.<sup>23</sup> Admittedly in both these cases the population was expanding into a thinly-populated territory, but the examples clearly demonstrate that pre-modern populations are biologically capable of such high rates of increase if sufficient resources are available to support them. More realistically, we find rates of 0.8 per cent p.a. in Holland in the period 1514–1622; 1.2 per cent in Ireland, 1780–1841; 1.0 per cent in England and Wales, 1750–1851; 0.7 per cent in France, 1450–1560; and 0.79 per cent in Sicily and Sardinia in the same period.<sup>24</sup> We might also note that a rate of growth of up to 0.5 per cent has been estimated for Egypt under Roman rule, by which date it was already a very densely settled region.<sup>25</sup>

Italy in the middle Republic was much less densely settled than Egypt; there was plenty of room for expansion, especially in the North and in the aftermath of the Hannibalic War, which doubtless left many farms without a master. The situation is perhaps comparable to the period following the catastrophic mortality caused by the Black Death in Europe: the availability of land and shortage of labour enabled the survivors to expand their holdings and to marry earlier (moreover, a higher proportion of men could now afford to marry), resulting in a dramatic expansion of the

<sup>19</sup> Urban natural decrease in Rome is discussed by Morley, *op. cit.* (n. 15), 39–46. However, the theory that this makes it impossible to believe in the higher figure for the Italian population (49–50) is undermined by the curious assumption that migration to Rome would have taken place at a constant rate of 7,000 people per year. One might for the sake of argument assume that the migration rate was proportional to the size of the city (rising as the city expanded), or that it was proportional to the total population of Italy (the assumption used in this model), but a constant rate is scarcely credible.

<sup>20</sup> The figures for the urban population are taken from Hopkins, *op. cit.* (n. 2), 68–9 and Morley, *op. cit.* (n. 15), 181–3 (estimate based on cities with over 5,000 people; categories i–iv in Table 1 on p. 182); see also R. P. Duncan-Jones, *The Economy of the Roman Empire: Quantitative Studies* (2nd edn, 1982), 266–77.

<sup>21</sup> The rate for urban natural decrease is taken from Morley, *op. cit.* (n. 15), 43–4, drawing on comparative evidence from E. A. Wrigley, 'A simple model of London's importance in changing English society and economy', *Past & Present* 37 (1967), 46. I then experimented with different rates of growth and migration until I obtained figures in the right general area.

<sup>22</sup> *contra* Morley, *op. cit.* (n. 15), 50, where it is suggested that a rate of only 6 per thousand is too high to be credible.

<sup>23</sup> Cited by R. Sallares, *The Ecology of the Ancient Greek World* (1991), 75, 86.

<sup>24</sup> All taken from D. B. Grigg, *Population Growth and Agrarian Change: an Historical Perspective* (1980), 2, 54–9.

<sup>25</sup> R. S. Bagnall and B. W. Frier, *The Demography of Roman Egypt* (1994), 81–90; they suggest (87) that the most likely figure is about 0.2 per cent p.a.

population.<sup>26</sup> In Roman Italy this would have been aided by the comparative peace and stability that reigned through the second century, the gradual reduction in the demands on Italian manpower for military service, and the influx of additional resources as a result of overseas victories.<sup>27</sup> Other factors of which we are entirely ignorant may also have played a part; populations of pathogens go through cycles, which affect the incidence of disease in the human population (for example, bubonic plague ceased to be a major problem in Europe long before medical science was capable of understanding its causes or developing an effective remedy) and hence levels of mortality.<sup>28</sup> In general, however, historical experience suggests that population expansion tends to be governed by increases in fertility (as people decide that there are sufficient resources available for them to expand their families) rather than decreases in mortality.<sup>29</sup>

The relationship between population and resources in Roman Italy is discussed in the next section. First, we should consider briefly some of the implications of these figures for the history of the family in Roman Italy. A growth rate of 8 per thousand per annum implies a GRR (Gross Reproduction Rate) of about 3; that is to say, on average each woman who lived through her reproductive years would have borne three daughters, or six children altogether (note that this is six live births, not necessarily six children surviving to adulthood).<sup>30</sup> The ancient evidence for reproductivity is poor and ambiguous, and most scholars have been content to derive an estimate for the GRR from other information or assumptions about ancient populations.<sup>31</sup> The Italian evidence fits with census data from Roman Egypt which suggests that mothers bore on average six or seven children, a figure which has been regarded with justifiable scepticism in the past as it takes no account of childless couples.<sup>32</sup> This estimate of the GRR in Italy also sheds an interesting light on the provisions of the Augustan marriage legislation, which have been explored by historical demographers. One plausible interpretation of the legislation suggests that applicants were required to have three *living* children if they lived in Rome, four if they lived in Italy, and five if they were from the provinces or were freedmen.<sup>33</sup> Assuming a population with a life expectancy at birth of twenty-five years, this implies a GRR of 2.5–3 for those in Rome. Of course this figure is an ideal, set at a level which the legislator hoped would be sufficient to enable the upper classes to reproduce their numbers; but the Italian evidence suggests that it was not wholly divorced from reality. It seems possible that the standard for the ideal upper-class family was set by comparison with the families of the mass of the population in the countryside, who were successfully maintaining and increasing their numbers.

The fact that the Roman élite was apparently failing to reproduce itself is certainly no evidence for the fertility levels of the majority of Italians. As Sallares noted for Greece, the rich are always the first to limit their families; they lack the motives which the poor have for having large numbers of children, and it is also in their interests to try to prevent their property from being divided amongst too many heirs.<sup>34</sup> For the mass of the population, on the other hand, children are desirable because they bring in extra income once they are old enough to work, as well as supporting their parents in their old age and performing the necessary funeral rites. Comparative evidence also suggests that

<sup>26</sup> R. S. Gottfried, *The Black Death* (1985), 133–40; J. Bolton, 'The world upside down', in W. M. Ormrod and P. G. Lindley (eds), *The Black Death in England* (1996), 17–78; D. Herlihy, *The Black Death and the Transformation of the West* (1997), 39–57.

<sup>27</sup> On numbers under arms, see Brunt, *op. cit.* (n. 1), 416–512. It is clear that an extraordinarily high proportion of citizen males continued to be conscripted throughout the late Republic (cf. Hopkins, *op. cit.* (n. 2), 31–5), but the burden on the allies, though still heavy in absolute terms, became proportionately less significant as the population expanded.

<sup>28</sup> Sallares, *op. cit.* (n. 23), 65–6 and 221–4 on population cycles, 266–70 on bubonic plague (arguing that the ancient Greeks benefited from living in a period of inactivity on the part of the plague organism); C. Wills, *Plagues: their Origins, History and Future* (1996), 53–102.

<sup>29</sup> Sallares, *op. cit.* (n. 23), 224: 'The ultimate regulatory factor is not disease but the food supply.' See generally 129–60 on natural fertility and family limitation in ancient Greece.

<sup>30</sup> On GRR, see Parkin, *op. cit.* (n. 7), 86–8 and 160. <sup>31</sup> e.g. R. Saller, *Patriarchy, Property and Death in the Roman Family* (1994), 42, who simply determines the GRR necessary to maintain a stationary population at  $e_0 = 25$ .

<sup>32</sup> Parkin, *op. cit.* (n. 7), 113.

<sup>33</sup> Parkin, *op. cit.* (n. 7), 115–19; Brunt, *op. cit.* (n. 1), 558–66; A. Wallace-Hadrill, 'Family and inheritance in the Augustan marriage laws', *PCPhS* 27 (1981), 58–80.

<sup>34</sup> Sallares, *op. cit.* (n. 23), 135. Cf. Saller, *op. cit.* (n. 31), 155–224, generally on succession and inheritance in the Roman family.

having many children could be a source of social status, and was expected to bring happiness to the family.<sup>35</sup> The population figures imply that the level of child-exposure in Italy as a whole must have been fairly low (at least as a proportion of the total number of births, if not in absolute terms).<sup>36</sup>

It is worth noting also that Saller constructed his model of the Roman family life-cycle on the basis of a stationary population; a population which is expanding steadily has a very different age structure, with the young making up a larger proportion of the total, and a lower average age.<sup>37</sup> At the very least, these new figures for the growth of the Italian population suggest that some modification of this and other such models is required. However, some scholars would take the argument further, arguing that we should completely rethink our assumptions about the demographic structures of the ancient world. Both Sallares and Lo Cascio reject the generally accepted figure for the expectation of life at birth ( $e_0$ ) of ancient populations of about twenty-five years, and hence the use of the relevant Coale-Demeney model life tables, on the grounds that the levels of population growth in the periods which they are studying (Dark Age Greece and Roman Italy respectively) are incompatible with such a high level of mortality.<sup>38</sup> They propose instead a figure for  $e_0$  in the middle thirties, offering a range of comparative evidence from other pre-transitional populations to support this possibility. It is difficult to think of any reason why infant mortality in the Roman period should have been significantly lower than it was in other pre-industrial societies.<sup>39</sup> Nevertheless, the Italian experience does suggest that there is considerable room for debate over which models of demographic structures are most appropriate for ancient populations.<sup>40</sup>

## II. RESOURCES

The fact that late Republican and Augustan Italy could support a much larger population than has generally been supposed has obvious implications for the question of the productivity of land and labour. Since Roman agriculture remained wholly pre-industrial, non-mechanized and without artificial fertilisers, the consensus among ancient historians has been that yields and productivity must have been relatively low (though there is disagreement about precisely how low, compared with, for example, the 'early medieval agricultural revolution' or the early modern period).<sup>41</sup> Discussions of this subject have always been hindered by a lack of evidence; our knowledge of the population of Italy enables us to construct a rough model of the relationship between population and resources in the peninsula, which should allow us to draw some preliminary conclusions about agricultural productivity.

<sup>35</sup> Sallares, *op. cit.* (n. 23), 140-4, citing W. K. A. Agyei, *Fertility and Family Planning in the Third World* (1988) on New Guinea.

<sup>36</sup> cf. Harris, *op. cit.* (n. 18), 17-18, who makes the important point (18, n. 162) that exposure might have increased fertility, or at any rate not diminished it, by curtailing lactation.

<sup>37</sup> Saller, *op. cit.* (n. 31), 42. He observes (n. 70) that the assumption of a rate of growth of 0.3 per cent p.a. would affect, for example, the figures for the proportions having living kin by no more than 2-3 per cent.

<sup>38</sup> Sallares, *op. cit.* (n. 23), 113-14; Lo Cascio, *op. cit.* (n. 6, 'La dinamica'), 118 and 123-4.

<sup>39</sup> Parkin, *op. cit.* (n. 7), 84; K. Hopkins, 'On the

probable age structure of the Roman population', *Population Studies* 20 (1966-7), 245-64; K. M. Weiss, *Demographic Models for Anthropology* (= *American Antiquity* 38.3.3) (1973), 48-51.

<sup>40</sup> Sallares, *op. cit.* (n. 23), 112-14, puts forward other objections to the use of the Coale-Demeney life tables; cf. Parkin, *op. cit.* (n. 7), 82-4.

<sup>41</sup> See the general discussions in P. Garnsey and R. Saller, *The Roman Empire: Economy, Society and Culture* (1987), esp. 77-82; H. W. Pleket, 'Agriculture in the Roman Empire in comparative perspective', in H. Sancisi-Weerdenburg *et al.*, *De Agricultura: in memoriam Pieter Willem de Neeve* (1993), 317-42; and Morley, *op. cit.* (n. 15), 115-21.

As a first step, let us consider how many people Italy would have been able to support if the net yields of cereal cultivation were more or less in line with those estimated for ancient agriculture as a whole:<sup>42</sup>

- (i) Total cultivated area: 40 per cent of the total area of Italy (250,000 km<sup>2</sup>): 100,000 km<sup>2</sup>.
- (ii) Area under cereals: 75 per cent of cultivated area: 75,000 km<sup>2</sup> (7.5 million hectares).
- (iii) Net yields (total yield less seed): wheat 400 kg/ha, barley 750 kg/ha.
- (iv) Fallow: assumed initially for the sake of argument that biennial fallow was practised throughout Italy.<sup>43</sup>
- (v) Consumption: 200 kg of cereals per person per year.
- (vi) Population: 12 million free and 2–3 million slaves; less the population of the city of Rome, which could rely on imports from other parts of the Empire for the bulk of its needs: 13–14 million total.<sup>44</sup>

If wheat was the only cereal grown in Italy, a population of 7.5 million could have been supported.<sup>45</sup> As has been pointed out before, this makes the Italy of Beloch and Brunt seem decidedly underpopulated.<sup>46</sup> On the other hand, the figure is considerably lower than the population of Augustan Italy assumed in this model, and so it would appear at first sight that Italian agriculture must have been capable of producing higher yields than historians have generally assumed. However, it is highly improbable that wheat, a high-prestige but often unreliable crop, was the only cereal grown in the peninsula. As Garnsey has pointed out in his discussion of the carrying capacity of Attica, barley is less nutritious but far more reliable than wheat, and so is grown extensively as an insurance crop or even as the main staple.<sup>47</sup> If barley constituted 50 per cent of the cereals grown, Italy could support a population of about 10.8 million; if it constituted 75 per cent, a population of about 12.4 million.<sup>48</sup> This is very close to our target of 13 million. Only a slight increase in the total area under cereals (under 5 per cent; 7.85 million hectares would be required), or a slight increase in the proportion of barley grown (to just over 80 per cent), or suppression of biennial fallow in just a small area of Italy would have enabled the peninsula to support a population of up to 14 million. Alternatively, we would have to make only a slight adjustment to the figures for net yields or for consumption to reach the target.

In other words, there is nothing especially remarkable about the size of the Italian population as far as the carrying capacity of the land is concerned, except in comparison to the numbers supported in earlier centuries. Far from offering a dramatic challenge to our assumptions about the performance of Roman agriculture, these new conclusions about Italian demography are entirely compatible with the old picture of biennial fallow and relatively modest yields. Literary evidence, almost entirely from the writings of the agronomists, does suggest that at least some richer landowners in Italy adopted new

<sup>42</sup> The figures for arable land are taken from W. Jongman, 'Het Romeins imperialisme en de verstedelijking van Italië', *Leidschrift* 7.1 (1990), 52–3; see also *The Economy and Society of Pompeii* (1988), 67. The figures for yields and consumption are taken from P. Garnsey, *Famine and Food Supply in the Graeco-Roman World* (1988), 95–6, 102–4; the estimated yields are at the lower end of the scale of possibilities he cites for Attica, while the figure for consumption is on the generous side. On evidence for yields in Roman Italy, cf. M. S. Spurr, *Arable Cultivation in Roman Italy* (1986), 82–8.

<sup>43</sup> The extent to which fallow was suppressed in Roman Italy is a subject of some contention; see esp. Spurr, *op. cit.* (n. 42), 118–22.

<sup>44</sup> The figure of about 2–3 million slaves is, of course, taken from historians who argue for the lower population estimate for Italy — Beloch, *op. cit.* (n. 3), 418; Brunt, *op. cit.* (n. 1), 124; Hopkins, *op. cit.* (n. 2), 8 n. 14 — but for additional 'supply-side' reasons why the slave population cannot have been excessively

large see W. Scheidel, 'Quantifying the sources of slaves in the early Roman Empire', *JRS* 87 (1997), 156–99.

<sup>45</sup> Total yield p.a.: 3,750,000 ha (n.b. biennial fallow) x 400 kg/ha = 1,500 million kg.

<sup>46</sup> Morley, *op. cit.* (n. 15), 49.

<sup>47</sup> *contra* Morley, *op. cit.* (n. 15), where it is suggested that only wheat was grown, hence that the figure of 7.5 million represents the carrying capacity of Italy. See Garnsey, *op. cit.* (n. 42), 102–4, on the importance of barley in Attica; he suggests (51) that barley was much less popular in Italy, except as animal feed or famine food, but the evidence for this seems to be drawn entirely from the works of the agronomists, writing for an élite audience. See Spurr, *op. cit.* (n. 42), 13–15 and 89–102, on the range of cereals (millet as well as barley) grown in Roman Italy.

<sup>48</sup> (i) 1,875,000 ha x 400 kg/ha + 1,875,000 ha x 750 kg/ha = 2,156.25 million kg.

(ii) 937,500 ha x 400 kg/ha + 2,812,500 ha x 750 kg/ha = 2,484.375 million kg.

techniques allowing the suppression of fallow.<sup>49</sup> These were undoubtedly exceptional cases; few small farmers could afford to maintain a single ox, let alone more extensive herds, and so they will have had only limited supplies of manure at their disposal.<sup>50</sup> The expansion of the Italian population was thus in no way dependent on a dramatic increase in the productivity of the land compared with other pre-industrial economies. It is possible that in the third century B.C. the land was being under-exploited, so that population pressure over the next two centuries did persuade farmers to cultivate their holdings more intensively; almost certainly the cultivated area of Italy at that time was much smaller than the 100,000 km<sup>2</sup> assumed above, so that the obvious response to a rising population (and, presumably, rising prices) was to bring new land into cultivation. This process is revealed by the archaeological surveys which have been carried out in different parts of Italy; from the second and especially the first century we can see new territory being opened up, not only in previously under-exploited regions like the Po Valley but even in the densely-settled vicinity of Rome.<sup>51</sup>

There are grounds for arguing that there was a slight rise in the productivity of labour during this period, since there was an increase in the proportion of the Italian population who lived in towns and hence (presumably) was dependent on others to produce its food. In 225 B.C., roughly 8 per cent of the population lived in towns and cities; in 28 B.C., the figure was approximately 14 per cent.<sup>52</sup> Of these, consumers in the city of Rome could rely to a great extent on supplies from outside Italy; excluding Rome from the calculation, therefore, we find that just over 10 per cent of the population of Augustan Italy lived in urban centres and obtained their food through the market or through systems of redistribution.<sup>53</sup> To put it another way, in the third century there were roughly 11.5 farming households supporting every non-producing family; in Augustan Italy (still excluding Rome) the figure was nine to one. This implies a marginal increase in productivity per household, which might be accounted for in two ways. On the one hand, farmers may have been persuaded by rising prices or compelled by rising rents (both of which might be expected in a time of population increase and hence increasing demand for land and food) to cultivate their land more intensively. On the other hand, they may have been persuaded or compelled merely to sell a greater proportion of their surplus production, rather than storing it, without actually increasing the size of that surplus (thereby increasing their vulnerability to food crisis).<sup>54</sup>

There is evidence from the vicinity of Rome for intensification of production and specialization for the market, but in general we have so little evidence for peasant agriculture in Italy that it is impossible to decide whether a strategy of intensification was widely adopted.<sup>55</sup> We are equally uncertain about the effects of the introduction of the slave-run villa from the second century B.C.: some historians have argued that slave labour could be more productive than free (since slaves could be coerced, and since

<sup>49</sup> Spurr, *op. cit.* (n. 42), 117–22; K. D. White, *Roman Farming* (1970), 110–45.

<sup>50</sup> W. Jongman, 'Adding it up', in C. R. Whittaker (ed.), *Pastoral Economies in Classical Antiquity* (1988), 210–12.

<sup>51</sup> See for example G. Barker, J. Lloyd and D. Webber, 'A classical landscape in Molise', *PBSR* 46 (1978), 35–51, and the papers collected in G. Barker and J. Lloyd (eds), *Roman Landscapes: Archaeological Survey in the Mediterranean Region* (1991), especially that by P. L. dall'Aglia and G. Marchetti on the Piacenza region. On the Roman *suburbium*, see T. W. Potter, *The Changing Landscape of South Etruria* (1979), 93–137.

<sup>52</sup> Incidentally, although these figures for urbanization are far less dramatic than those which would apply if the population of Italy was only 5–6 million (well over 25 per cent, if not as much as 40 per cent: see Morley, *op. cit.* (n. 15), 182–3), they still compare favourably with many areas of early modern Europe. See J. de Vries, *European Urbanization 1500–1800* (1984) and G. Rozman, *Urban Networks in Russia, 1750–1800, and Premodern Periodization* (1976).

<sup>53</sup> On the relative importance of the market and other distribution systems in urban supplies, see e.g. C. R. Whittaker, 'Late Roman trade and traders', in P. Garnsey, K. Hopkins and C. R. Whittaker (eds), *Trade in the Ancient Economy* (1983), 163–80; K. Hopkins, 'Models, ships and staples', in P. Garnsey and C. R. Whittaker (eds), *Trade and Famine in Classical Antiquity* (1983), 84–109; Garnsey and Saller, *op. cit.* (n. 41), 83–103.

<sup>54</sup> On the importance of storage as a response to risk and uncertainty, see Garnsey, *op. cit.* (n. 42), 53–5.

<sup>55</sup> On intensive horticulture in the Roman *suburbium*, see Morley, *op. cit.* (n. 15), 86–90. On peasant agriculture in Italy, see J. M. Frayn, *Subsistence Farming in Roman Italy* (1979) and J. K. Evans, 'Plebs rustica: the peasantry of classical Italy', *AJAH* 5 (1980), 9–47 and 134–73. Specifically on the question of peasant involvement in the market, see L. de Ligt, 'Demand, supply, distribution: the Roman peasantry between town and countryside', *MBAH* 9.2 (1990), 24–56 and 10.1 (1991), 33–77, and 'The nundinae of L. Bellicus Sollers', in Sancisi-Weerdenburg *et al.*, *op. cit.* (n. 41), 238–62.



within the villa considerable organization and specialization of labour was possible), but there is scarcely a consensus on this subject. Regardless of the level of its productivity, however, it is certainly true that the villa could produce a much larger marketable surplus than a group of peasant farms of comparable size.<sup>56</sup>

The spread of the market-oriented, slave-run villa through Central Italy can hardly have been a response to a labour *shortage*, as has been proposed by some adherents of the Beloch-Brunt view of the population. The numbers of free Italians rose steadily throughout the second and first centuries, and since this must have led to increased pressure on the land many of them were surely eager for full- or part-time work.<sup>57</sup> It is undoubtedly surprising that the Roman élite did not take advantage of this situation, preferring to invest in slaves (who, except in the immediate aftermath of a conquest, were hardly cheap) rather than employ free labourers, except on a casual basis at harvest-time. Perhaps slaves were considered more productive, or more easily controlled; certainly their ownership conferred status. We should also take account of élite hostility to the market and market transactions in all their manifestations, and suspicion of those not bound to them through traditional ties of dependence.<sup>58</sup> The agronomists do not discuss the problem: slavery is taken entirely for granted as the best way to cultivate an estate, except in the case of more distant farms where tenants might be preferred.

At any rate, as Hopkins has observed, the slave villas both made possible and profited enormously from the process of urbanization; not only by making an important contribution to urban supplies but also, indirectly, by encouraging the flow of migrants to the cities.<sup>59</sup> Peasants are often at a significant disadvantage during periods of high population growth; rents rise because land is scarce, wages fall, and, since they generally have to sell their produce immediately rather than being able to store it, they often lose out in the market to larger concerns with more extensive storage facilities.<sup>60</sup> In a year of a good or average harvest this might not present too much of a problem, but overall it meant that peasant households were closer to the margin of subsistence, especially if, as suggested above, they were compelled or persuaded to sell a greater proportion of their surplus produce. They were thus more likely to fall into serious crisis, amassing debts and having to sell their land as a result (and we may suspect that richer landowners would be all too eager to increase their holdings by taking advantage of their neighbours' predicament).<sup>61</sup> As discussed in the next section, the complaints of the ancient sources about the troubles of the Italian peasantry are entirely compatible with a situation in which the population was rising significantly.

The final question to be considered under the heading of resources is that of *over*-population; was the population of Augustan Italy near the limit of, or even exceeding, the carrying capacity of the peninsula?<sup>62</sup> An increase in migration during the late Republic, to the army and to overseas colonies as well as to the cities, might be taken as evidence of a growing shortage of resources, as might the increasingly bitter political conflicts over land distribution. On the other hand, our model of population and resources suggests that there was some spare capacity in Italian agriculture at the time of Augustus, and, most importantly, there is the fact that the population continued to expand into the first century A.D. Although it is difficult to know how many of the 20-odd million citizens counted in A.D. 48 (by this date the figure certainly included

<sup>56</sup> Productivity of slavery: Rathbone, *op. cit.* (n. 2); A. Carandini, 'Quando la dimora dello strumento è l'uomo', in Carandini, *op. cit.* (n. 2), 287-326; Morley, *op. cit.* (n. 15), 122-9.

<sup>57</sup> Motives for adopting slavery: Hopkins, *op. cit.* (n. 2), 99-132; M. I. Finley, *Ancient Slavery and Modern Ideology* (1980), 67-92; G. E. M. de Ste Croix, *The Class Struggle in the Ancient Greek World* (1981), 133-74; Rathbone, *op. cit.* (n. 2). On non-slave labour generally, see P. Garnsey (ed.), *Non-Slave Labour in the Greco-Roman World* (1980), esp. P. Garnsey, 'Non-slave labour in the Roman world', 34-47.

<sup>58</sup> On élite hostility to the market, see the brief but stimulating discussion in T. N. Habinek, *The Politics of Latin Literature: Writing, Identity, and Empire in Ancient Rome* (1998), 103-21.

<sup>59</sup> *op. cit.* (n. 2), esp. 12 (fig. 1.1).

<sup>60</sup> de Neeve, *op. cit.* (n. 2), 31-4. Cf. Grigg, *op. cit.* (n. 24), 64-82.

<sup>61</sup> e.g. Sallust, *Bj* 41.2; Appian, *BC* 1.7-8.

<sup>62</sup> On the problem of defining and identifying 'overpopulation', see Grigg, *op. cit.* (n. 24), 11-28.

men, women, and children) lived in Italy, given the rash of emigration and enfranchisements under Augustus and his successors, the population of the peninsula may have reached 16 or 17 million.<sup>63</sup>

It is difficult to see how such a population could have been sustained without the widespread suppression of fallow, in about one third of all cereal-producing land.<sup>64</sup> This might seem perfectly sustainable, until we take into account the fact that few peasants had access to large quantities of animal manure; without regular dressings of fertiliser, the soil will quickly be exhausted by continual cropping. Evidence is limited, but there are indications of some sort of agrarian crisis in Italy in the late first century A.D.: the decline of at least some villas, Domitian's edict against the planting of vineyards, and Trajan's alimentary scheme.<sup>65</sup> Domitian's measure was, as Tchernia has argued, inspired by the usual imperial preoccupation with the grain supply of the capital — a concern which was surely exacerbated, if not occasioned, by the growth of the Italian population and the implications of this for Rome's supplies.<sup>66</sup> It seems that Italy had at last reached the limits of its carrying capacity, and that the traditional responses to population pressure — migration, intensification, and bringing more land into cultivation — were no longer effective. Indeed, the roots of the crisis may have lain precisely in the measures used in earlier centuries: bringing new land into cultivation had reduced the space available for grazing and hence reduced the supply of manure still further, while intensification of cultivation without adequate supplies of fertiliser depleted vital nutrients in the soil. For all Columella's attempts to defend Italian agriculture against its detractors, and to argue that greater attention to farming and improved techniques would solve all its problems, those who argued that Italian soil was becoming exhausted may have had a better grasp of the situation.<sup>67</sup> Not every region of Italy was equally affected — the worst hit were those which had been most closely involved in supplying Rome and other major markets — but it spelled the end of the massive population expansion of the previous three centuries.

### III. LAND AND POLITICS

It is a measure of the achievement of Augustus and his successors in unifying and pacifying Italy that this crisis of overpopulation did not apparently lead to any major unrest; Italy under the Principate, it has been said, 'has no history'.<sup>68</sup> Quite the opposite was true of the last two centuries of the Republic. The history of the political conflicts of this period is well known, as is the important part played in them by disputes over the management and distribution of public land. However, we now have a better understanding of the background to these conflicts, the enormous pressure brought to bear on limited resources as a result of the expansion of the population. It must be said that it is difficult to see how advocates of the Beloch-Brunt population model can explain the bitterness of the late Republican agrarian disputes; surely there would have been

<sup>63</sup> Lo Cascio, *op. cit.* (n. 6, 'La dinamica'), 116.

<sup>64</sup> 2.5 million hectares cropped annually, 5 million on biennial fallow; 20 per cent wheat, 80 per cent barley:

1,000,000 ha x 400 kg/ha + 4,000,000 ha x 750 kg/ha = 3,400 million kg.

At 200 kg per head p.a., this would support a total population of 17 million, not including the City of Rome.

<sup>65</sup> See e.g. M. I. Rostovtzeff, *The Social and Economic History of the Roman Empire* (1957), 192–206; A. Carandini, 'L'economia italiana fra tarda repubblica e medio impero considerata dal punto di vista di una merce: il vino', in *Amphores romaines et histoire économique: dix ans de recherche* (= *CEFR* 114)

(1989), 505–21; cf. J. R. Patterson, 'Crisis: what crisis? Rural change and urban development in imperial Apennine Italy', *PBSR* 55 (1987), 115–46.

<sup>66</sup> A. Tchernia, *Le Vin de l'Italie romaine* (1986), 221–33 on Domitian's edict. Italy continued to supply grain to Rome even after Africa and Egypt were added to the Empire: Spurr, *op. cit.* (n. 42), 133–46; Morley, *op. cit.* (n. 15), 114.

<sup>67</sup> Columella 1 *preface* 1–3; e.g. 1 *pr.* 2: 'For it is not permissible (*fas*) to suppose that Nature, endowed with perennial fertility by the creator of the universe, is affected with barrenness as though with some disease.'

<sup>68</sup> F. Millar, 'Italy and the Roman Empire: Augustus to Constantine', *Phoenix* 40 (1986), 295.

more than enough land to go round, even with the arrival of several million slaves.<sup>69</sup> Accounts of the last centuries of the Republic are far more intelligible when one is aware of the degree of competition for land, both from peasants seeking to support themselves and from wealthier landowners seeking to profit from the expanding urban market. *Ager publicus* was for many poorer farmers their sole hope of augmenting their holdings so that they were large enough to support a household; for the landless, it might be their only hope of obtaining any kind of holding. Hence the resentment against those who used this land to increase their already vast wealth, and hence the popularity among the landless and expropriated of any proposal to redistribute the land among the poor.

The obvious difficulty with this account of events lies of course in the fact that it is not only Beloch and Brunt who talk of 'manpower shortages' in the late Republic. The idea that the Italian free population was declining, displaced by slaves, with catastrophic consequences for military recruitment, is a staple of ancient accounts of the period, and of the speeches of Tiberius Gracchus.<sup>70</sup> Historians have often taken Gracchus' assessment of the situation at face value; he is seen as a 'conviction politician', albeit also a man of great personal ambition, who correctly identified Rome's problems and offered a sensible (even if inadequate) solution.<sup>71</sup> His opponents, meanwhile, are seen to be self-interested and reactionary, exactly as he portrayed them.<sup>72</sup> This is, to say the least, naive. As Rich notes, 'the Roman governing class was only too prone to exaggerate fears for the state's security'; if manpower was so scarce, would the Romans have involved themselves in quite so many perfectly avoidable wars in the second century?<sup>73</sup> If Gracchus' case was so overwhelmingly right, why would the senators be so short-sighted as to oppose it?

It should be obvious that Gracchus' speeches are not neutral, factual analyses of the state of Italy, but exercises in rhetoric intended to sway an audience. Nevertheless, too many historians, ancient and modern, have been happy to accept his version of events, not least the striking image of his eye-opening journey through an almost deserted countryside — a countryside which archaeological survey shows us to have been quite densely populated.<sup>74</sup> We do not have to go to the opposite extreme of accepting Cicero's view that Gracchus was thoroughly corrupt and bent on revenge, and so concluding that his account is entirely fictional.<sup>75</sup> Certainly some peasants were being displaced by slaves in some parts of Italy, and certainly many of the landless migrants who had come to Rome would be unable to afford to raise families. Gracchus took the obvious step of extrapolating this to the whole of Italy — it was, after all, so much more dramatic and appealing than the reality — and also sought to bolster his case by playing on the fears of the Roman élite that their military power might be undermined and that the slaves might revolt. His analysis was close enough to the truth to convince many people, not least later historians, but it was essentially a misdiagnosis; Rome's problem was not a shortage of manpower (unless perhaps a shortage of quality rather than quantity, as potential recruits were now frequently living close to subsistence level) but an excess of manpower and the consequent struggle for access to land. It is of course debatable whether Gracchus' opponents really grasped this either, but the grandees of the first

<sup>69</sup> For example, in Plutarch's account (*Tib. Gracc.* 8) the rich gain control of *ager publicus* by offering higher rents; this surely implies that land was both scarce and valuable, or rather valuable because of the level of competition for it. Cf. Hopkins, *op. cit.* (n. 2), 36, on the problems of veteran settlement: 'Most of Italy was too densely populated to allow the easy assimilation of a sudden influx of large numbers of new settlers.'

<sup>70</sup> The literary tradition is summarized and criticized in J. W. Rich, 'The supposed Roman manpower shortage of the later second century B.C.', *Historia* 32 (1983), 299–305. See the works listed in n. 2, along with H. H. Scullard, *From the Gracchi to Nero* (5th edn, 1982); D. Stockton, *The Gracchi* (1979); M. Crawford, *The Roman Republic* (2nd edn, 1992); D. Shotter, *The Fall of the Roman Republic* (1994).

<sup>71</sup> For Scullard, *op. cit.* (n. 70), 25, he was a 'gener-

ous-hearted man' who risked his own political future to help the poor; Stockton, *op. cit.* (n. 70), 84, notes his ambition but accepts that he set out to tackle a serious social ill. Brunt, in *The Fall of the Roman Republic and Other Essays* (1988), 91, notes simply that the evidence allows a multitude of different opinions about the motives of the Gracchi, but clearly he has no doubts about the magnitude or the nature of the economic 'crisis' in Italy.

<sup>72</sup> The exception is Shotter, *op. cit.* (n. 70), 19–22, who not only talks dismissively of Gracchan 'propaganda' but sees in Gracchus' actions the attempt of a faction to seize control of power in Rome from the Senate.

<sup>73</sup> Rich, *op. cit.* (n. 70), 304, 316.

<sup>74</sup> Potter, *op. cit.* (n. 51), 125.

<sup>75</sup> Cicero, *Brutus* 103, 125.

century certainly did, winning the support of their soldiers with the promise of grants of the most valuable commodity in Roman Italy.<sup>76</sup>

#### IV. CONCLUSION

'Imaginary' history is sometimes also termed 'counter-factual' history; it is concerned with exploring possible alternatives to what we know really happened in the past, the 'what if?' approach to the study of historical events.<sup>77</sup> This article explores a case where there is genuine uncertainty about what actually happened: the attempt at imagining the history of a densely populated Italy is not counter-factual but is on the contrary an exploration of a genuine possibility. We cannot be sure whether the population of Augustan Italy was 5–6 million or 12–14 million; and each alternative implies a radically different course of events in the last two centuries B.C. Indeed, the choice between the high and low population estimates is really a choice between two different narratives of Italy's development, since the only way of deciding between the two interpretations of the Augustan census data is to evaluate their demographic and economic plausibility and their compatibility with other evidence for this period.

In this article I have sought to make the most positive case possible for the 'high' interpretation of the Italian population. This is not because I am wholly convinced of its validity, but in the hope of enabling a proper comparison and evaluation of the two histories (and the two Italies) which are implied by the alternative interpretations of the Augustan census. The Beloch-Brunt account is coherent and familiar; those who disagree with its assumptions have not as yet produced a comparable alternative account of Italy's development, and so they have lost the wider argument by default. Historians have had to choose, not between two different narratives of the past, but between an elaborate and plausible narrative on the one hand and no more than a series of doubts and objections to it on the other. Rhetorically, at least, this gives Beloch and Brunt a clear advantage, which may in part explain the dominance of their interpretation in scholarship over the last thirty years. Debate on the size of the Italian population has never ceased amongst historical demographers, but it is the 'low' estimate, and its associated narrative of decline and crisis, that invariably provides the context for studies of politics, society, and economy in the late Republic. The aim of this article was to see if an alternative account might be equally compatible with the evidence and equally persuasive, or whether the attempt might make it clear that the Beloch-Brunt model is still to be preferred.

Recent work on Tiberius Gracchus, which sees him as the agent of a faction rather than a 'genuine reformer', and increased awareness of the techniques of political rhetoric, provide ample grounds for rejecting or at any rate modifying his diagnosis of Italy's problems. The model of Italian agriculture offered here suggests that a higher population could have been supported simply by increasing the proportion of barley grown, without the need for widespread suppression of fallow; the Italy of Beloch and Brunt, meanwhile, seems decidedly under-populated. In this new scenario it is easier to see how the Romans could sustain such high levels of army recruitment through the second century and of emigration from Italy in the first; this model seems to offer a better explanation of the ferocity of the conflicts over *ager publicus* and land redistribution in the late Republic. Finally, although I have not developed the idea at any length, the effects of serious over-population may constitute a better explanation of the much disputed 'first-century crisis' than any offered so far.

The least plausible aspect of this alternative account, it seems to me, is the required rate of growth of the population, which would have to be sustained over two centuries. I

<sup>76</sup> See L. Keppie, *Colonisation and Veteran Settlement in Italy, 47–14 B.C.* (1983).

<sup>77</sup> On 'imaginary history', see N. Ferguson (ed.), *Virtual History: Alternatives and Counterfactuals*

(1997) and G. Hawthorn, *Plausible Worlds: Possibility and Understanding in History and the Social Sciences* (1991); for an example in ancient history, N. Morley, 'Trajan's engines', *G&R* 47 (2000), 197–210.

have argued elsewhere against the higher estimate for Italian population by adducing the example of early modern England, where a rate of increase of 6 per thousand p.a. has been considered 'optimistic' by one historian of demography. In Section I above, I offer a range of comparative examples of rates of increase of well over 10 per thousand. These latter examples make the crucial point that, in certain circumstances, such rates of increase are at least *achievable*; the question of whether the demography of Roman Italy more closely resembled that of sixteenth-century England or nineteenth-century Greece is one which cannot be answered definitively. The problem is inherent in any attempt at using comparative examples as a means of compensating for a lack of ancient evidence; namely, the choice of an appropriate comparison, which always depends on preconceived notions of the nature of ancient society. I am still inclined to believe that the ancient demographic regime was characterized by high levels of mortality and fertility, in which case the English example seems a better comparison and the required rates of increase to sustain a population of 12 million may be considered implausibly high. On the other hand, if the higher estimate of Italian population were accepted on other grounds, the current consensus on ancient demographic structures might be challenged; in which case other examples may be more appropriate. Neither argument seems conclusive.

Faced with a situation in which the ancient evidence seems compatible with either of two completely different scenarios, and the outside authorities of comparative history and demography are equally unable to decide, the main lesson of this historical experiment might seem to be an emphasis on the uncertainty and fragility of our knowledge of even the most basic aspects of economic and social life in antiquity. I do not see this as grounds for pessimism: knowledge of the past is always contingent and provisional, and no interpretation, however reassuring in its apparent solidity, should be considered sacrosanct. My hope is that this experiment will promote further debate by offering a new focus for discussion, both of the history of Italy and of the ways in which we develop and evaluate interpretations of the past.<sup>78</sup>

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<sup>78</sup> Although Elio Lo Cascio has in recent years argued energetically for the adoption of a high population figure, he has not yet, so far as I am aware, explored the implications of his arguments for traditional interpretations of Roman history. I should like to

offer this piece in recognition of the enthusiasm, generosity, and good humour with which he has pursued the debate. I also wish to thank Professor Martin Goodman and the Editorial Committee for their extensive comments and suggestions.