

The Physical Parameters of Athenian Democracy

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ABSTRACT

This article investigates the physical parameters of Athenian democracy. It explores the collective-action problems that these parameters caused and settles debates about them that R. G. Osborne famously provoked. Classical Athens was ten times larger than an average Greek state. Fourth-century Athenians were ten times more numerous. These parameters significantly contributed to the success of Athenian democracy. Athens could field more combatants than almost every other Greek state. With such huge manpower reserves individual Athenians had to fight only every few years. Nevertheless, this huge population also caused collective-action problems. Attica's farmers could not grow enough to feed them. The Athenians never had adequate personnel nor recordkeeping centrally to administer so many citizens over such a large territory. Yet they found effective means at home and abroad to overcome these collective-action problems.

Keywords: Athenian democracy, Athenian demography, Collective-action problems, Attica.

In Memory of Matthew Trundle

1. INTRODUCTION

Ancient historians rarely consider systematically the physical parameters within which Athenian democracy operated. Yet these parameters contributed a great deal to the relative success of this state. At the same time, they also created a series of collective-action problems. The classical Athenians understandably did their best to solve as many of these problems as they could. Physical parameters that they did not control helped them to circumvent others. In terms of territory classical Athens had ten times more than that of an average-size Greek state. It had a larger population than almost all other states. Fourth-century Athenians were ten times more numerous than an average-size citizen body. In the 430s their number had been twenty times higher. This clear demographic advantage resulted in big military benefits.

Athens could put into the field a land army that was larger than almost all other Greek states. It often put to sea hundreds more warships than all of its enemies put together. With such deep manpower reserves, Athenian hoplites and sailors had to fight only every few years. This taking of turns explains why the classical Athenians rarely grew weary of almost nonstop wars. This very large population also caused grave problems. Attica's farmers simply could not grow enough to feed them. Therefore, the classical Athenians were always highly dependent on seaborne grain imports. Their unrivalled seapower in the fifth century had allowed Attica's population to grow well beyond its carrying capacity. After Sparta's destruction of this power in 405, food insecurity framed much of what Athens did in foreign affairs.

A large citizen body was also a bureaucratic problem. The Athenians never had adequate personnel nor recordkeeping to administer it centrally. They circumvented this collective-action problem by asking Attica's pre-existing villages to enrol citizens, to conscript hoplites, and to collect taxes locally. Villagers could perform such tasks because most of them lived in a small nucleated settlement and so could easily learn about the private lives of each other. Nevertheless, the fact that their villages were spread over a very large territory made it difficult for non-elite Athenians to participate in the city-based democracy. From the 470s, however, massive defence spending resulted in thousands of new urban jobs. In leaving Attica to take them up many non-elite Athenians found it easier to participate in the democracy. Soon they had the confidence to consolidate their democracy and to demand pay for running it.

2. THE SIZE OF ATTICA

By the standards of the day classical Attica was truly enormous. Including its small islands but excluding its border town of Oropus, which it did not always control, Attica covered some 2550 square kilometres.¹ This is equivalent in area to Europe's Luxemburg or to the US state of Rhode Island. It is around half the area of Australia's city of Brisbane. In comparison to mainland Greece's other *poleis*, excepting Sparta, this was by far the largest *khōra* ('countryside') of a single Greek state. The Copenhagen Polis Project (CPP) established that a typical *polis* ('city-state') controlled only a small *khōra* and had only a few thousand citizens. Indeed 80 percent of the 1000 *poleis* ('city-states') in the CPP's inventory had a territory of no more than 200 square kilometres. Therefore, the territory of classical Athens was more than 10 times larger than that of an average-size *polis*.

Attica's great size also caused real problems. The deme of Marathon, for example, was 26 kilometres as the crow flies from the *astu* ('urban centre'), while Sunium on Attica's south-eastern apex was 42 kilometres away. Such distances would take a day or more to walk. Certainly, poor farmers living close to Athens could easily participate in the democracy's city-based

¹ G. Busolt and H. Swoboda, *Griechische Staatskunde* (Munich 1926) 758.

institutions.² But those further away simply could not do so regularly (e.g. Eur. *El.* 297–99). Such distances created a clear collective-action problem: many non-elite Athenians lived too far away to participate in the central government. This limited the ability of the *dēmos* (‘people’) to run the government themselves and so constrained the general development of the democracy. This constraint was overcome only when large numbers of poorer farmers migrated to the urban centre to take up new jobs from the 470s onwards.³

As far as the classical Athenians were concerned, agriculture was their gift to mankind.⁴ They believed that the Two Goddesses, Demeter and Persephone, had revealed knowledge of growing grain to a leader of mythical Eleusis, Triptolemus, who, in turn, freely gave it to the Greeks (e.g. Isoc. 12.28–31; Pl. *Menex.* 237e–8b). For them the olive was another of their ‘civilising’ gifts (e.g. Eur. *Tro.* 802). Their patron goddess, Athena, they believed, had planted the world’s first olive-tree in Attica as part of her contest with Poseidon, her uncle, for Athens’s *khōra* (e.g. Pl. *Menex.* 237c7–d1). In spite of Attica’s perceived role in agriculture’s invention, it was *not* among Greece’s most agriculturally productive regions.⁵ Indeed most of it could not support the cultivation of crops. Attica had three small internal mountains surrounding its *astu*. To the north was Pentelikon, to the east Hymettus and to the west Aigaleos. While these mountains could not support farms, they formed the borders of the large plain around Athens itself, which was intensively cultivated. Farmers made the most too of the large Thriasian plain to Aigaleos’s west and of the inland plain between Hymettus and the hills above Sunium. The rest of Attica was decidedly hilly, which, in the main, the Athenians described as *eskhatia* (‘borderland’) and used primarily for the grazing of animals and the collecting of timber (e.g. Dem. 42.5, 21–22).

Attica provided other important natural resources for the Athenians.⁶ By far the most important non-agricultural resource was the silver-ore in the hills around Thoricus and Sunium.⁷ This had been exploited in the bronze age. Silver-mining really only intensified again after Pisistratus, in the mid-sixth century, established his tyranny. Classical Athens leased mining sites to private individuals. They, along with the *polis* itself, could make fortunes (e.g. Ar. *Av.* 593–95; *Vesp.* 655–63; Thuc. 6.91). Mine operators probably

² E.g. Ar. *Eccl.* 277–81; R.K. Sinclair, *Participation and Democracy in Athens* (Cambridge 1988) 119–27.

³ See section 8 below.

⁴ E.g. S. Mills, *Theseus, Tragedy and the Athenian Empire* (Oxford 1997) 61–62; R. Parker, *Athenian Religion: A History* (Oxford 1996) 99, 143.

⁵ P. Garnsey, ‘Grain for Athens’, in P.A. Cartledge and F.D. Harvey (eds.), *Crux: Essays Presented to G. E. M. de Ste. Croix on His 75th Birthday* (London 1985) 62–75, at 69–70.

⁶ R.G. Osborne, *Demos: The Discovery of Classical Attika* (Cambridge 1985) 93–110.

⁷ E.g. Dem. 1.5; Osborne (n. 6) 111–26.

had to use most of the silver that they refined to pay for their gangs of slave miners and other production-expenses.⁸ Attica's silver-mines therefore significantly expanded the quantity of Attic coins in circulation. This is a major reason why classical Attica had an economy with a strong market component.⁹ It helps to account for the fact that classical Athenian coins became the eastern Mediterranean's currency of choice.¹⁰

P. Garnsey has provided the most widely accepted estimate of how much of Attica was arable land.¹¹ This he puts at about 40 percent or some 96,000 hectares. Greece's Mediterranean climate means, of course, summers without any significant rainfall and relatively mild winters with lots of rain. Because, however, of the high-mountain ranges in Greece's centre the country's east gets considerably less rain than the west. With an average rainfall of only 400 millimetres per year, Attica is actually one of the driest parts of the Balkans.¹² Consequently Attic farmers cultivated a lot more barley than wheat because it does not require nearly as much rain.¹³ Ancient writers consistently describe Attica's soil as poor (e.g. Thuc. 1.2; Strabo 9.1.8).

3. THE POPULATION OF ATTICA

In light of such agricultural constraints, Garnsey has estimated Attica's carrying capacity.¹⁴ He estimates that Attica's farmers could grow enough food for only about 135,000 people. In order to work out whether this carrying capacity was adequate I will have to estimate how many people lived in classical Attica. This is easier to do if we divide residents into their three main legal statuses: citizens, metics and slaves. M. H. Hansen has worked the most on ancient Greek demography. His work continues to be widely accepted.¹⁵ It allows us to estimate safely the number of Athenian *politai* ('citizens'). For their number in the late 430s Hansen works backwards from the better-documented fourth century. A variety of recorded figures indicate a population of approximately 30,000 adult citizens living in Attica in 350.¹⁶ From this total Hansen deducts the likely population growth

⁸ G. Davis, 'Mining Money in Late Archaic Athens', *Historia* 63 (2014) 257–77.

⁹ C. Flament, *Une économie monétarisée: Athènes à l'époque classique (440-338): Contribution à l'étude du phénomène monétaire en Grèce ancienne* (Louvain 2007) 297–98.

¹⁰ R.S. Stroud, 'An Athenian Law on Silver Coinage', *Hesperia* 43 (1974) 157–88, at 166–72, 185–87.

¹¹ P. Garnsey, *Famine and Food Supply in the Graeco-Roman World* (Cambridge 1988) 91–93.

¹² Garnsey (n. 5) 73.

¹³ E.g. Theophr. *Hist. Pl.* 8.8.2; Garnsey (n. 11) 102–4.

¹⁴ Garnsey (n. 11) 104.

¹⁵ B. Akrigg, 'Demography and Classical Athens', in C. Holleran and A. Pudsey (eds.), *Demography and the Graeco-Roman World* (Cambridge 2011) 37–59 furnishes a valuable assessment of Hansen's demographic work.

¹⁶ M.H. Hansen, *Demography and Democracy: The Number of Athenian Citizens in the Fourth Century BC* (Herning 1986).

for this century's first 50 years and hence arrives at a figure of around 25,000 adult Athenians in 400.¹⁷ Finally, he estimates how many citizens there needed to be in 432/1 in order to end up at this figure of 25,000, while at the same time absorbing the huge losses of population that Thucydides and Xenophon reported for the Peloponnesian War. The result is, approximately, 60,000 adult male citizens in Attica in the late 430s.¹⁸ Because classical and hellenistic Greeks generally had small families, each *politēs* probably had 3 dependants on average.¹⁹

There is, unfortunately, 'even less information about the metics (resident but free non-citizens) and slaves'.²⁰ Soon after Athenian democracy's overthrow in 322/1, the tyrant whom the Macedonians had installed conducted a census of Attica's residents (Ctesicles, *FGrH* 245 F1). It showed there to be 10,000 metics living in Attica. This is the only surviving figure that we have for Athenian *metoikoi* ('metics'). Most scholars accept it.²¹ But they also suggest that the total number of resident aliens must have been considerably higher during the boom years of the fifth-century empire. At the Peloponnesian War's outbreak, therefore, the number of metics could easily have been 20,000. On the assumption that a metic had the same number of dependants as a citizen, this figure translates into a total population of 80,000 resident aliens in 432/1.

Sparta's occupation of Decelea, an outlying Attic deme, in the last phase of the Peloponnesian War resulted, according to Thucydides (7.27.5), in more than 20,000 slaves escaping from their Athenian masters. This is the only figure for slave numbers in classical Athens.²² The number of slaves that a free man owned depended on the extent of his wealth. A wealthy individual owned, no doubt, many *douloi*, who, in the case of mining or factory-working slaves, may have numbered into the hundreds. Thucydides rightly believed that every hoplite normally took a slave *hupēretēs* ('assistant') on campaign (e.g. 3.17; 7.75). Hoplites came, in terms of prosperity, from the upper 30 percent of citizens.²³ Nevertheless a *doulos* ('slave') was out of

¹⁷ M.H. Hansen, *Three Studies in Athenian Demography* (Copenhagen 1988) 26–28.

¹⁸ M.H. Hansen, *The Athenian Democracy in the Age of Demosthenes: Structure, Principles and Ideology*, trans. J.A. Crook (Cambridge [Massachusetts] and Oxford 1991) 55; cf. Akrigg (n. 15) 58–59.

¹⁹ P. Brulé, 'Enquête démographique sur la famille grecque antique: Étude de listes de politographie d'Asie mineure d'époque hellénistique (Milet et Ilion)', in C. Pébarthe and O. Devillers (eds.), *Histoire de familles dans le monde grec ancien et dans la Rome antique* (Bordeaux 2018) 67–88.

²⁰ Akrigg (n. 15) 42.

²¹ E.g. D. Whitehead, *The Ideology of the Athenian Metic* (Cambridge 1977) 97–98.

²² Akrigg (n. 15) 44; N.R.E. Fisher, *Slavery in Classical Greece* (London 1993) 35, 42; D. Kamen, *Status in Classical Athens* (Princeton 2013) 9.

²³ D.M. Pritchard, *Athenian Democracy at War* (Cambridge 2019) 36–43.

Table 1:
The Population of Attica in 432/1

Citizens living in Attica	60,000
Dependants of Citizens	180,000
Metics	20,000
Dependants of Metics	60,000
Slaves	50,000
TOTAL	370,000

the reach of many poorer Athenian families.²⁴ In classical Athens a slave cost on average 200 dr.²⁵ Even for a skilled labourer, who, by the later fifth century, earned 1 dr. per day, this was still a lot of money.²⁶ As limited as all of this evidence is, it suggests that there may have been 50,000 slaves in Attica in 432/1.²⁷

Table 1 above gives my estimate of the population of Attica in the late 430s. It suggests that Attica's total population was 370,000 in 432/1. Since Attica's carrying capacity was only 135,000, Athens, as the Peloponnesian War began, was importing two thirds of its food requirements. A century later Attica's population may have been only 185,000 people.²⁸ Yet, even then, not enough food could be grown in Attica to feed all its residents (e.g. Dem. 20.30–31). Here, it is clear, the Athenians faced another serious problem: their heavy reliance on grain imports, which came, predominantly, from around the Black Sea.²⁹ In the empire's heyday, the 'overwhelming predominance of Athens at sea' meant that 'it did not have to take military action to preserve her [grain] supplies'.³⁰ For the Aegean Sea's other *poleis* simply feared how Athens would retaliate if they stopped Piraeus-bound grain ships (e.g. [Xen.] *Ath. Pol.* 2.3, 16; cf. Ar. *Eq.* 160–74). It was Athenian naval predominance, therefore, that allowed Attica's population to grow well beyond its carrying capacity.

After Sparta's destruction of this seapower, in 405/4, this fear disappeared, and, as a result, food-security quickly became a major matter of

²⁴ E.g. Ar. *Eccl.* 593; Arist. *Pol.* 1323a5–7; Hdt. 6.137; Lys. 24.6; J.-M. Roubineau, *Les cités grecques (VF-II^e siècle av. J.-C.): Essai d'histoire sociale* (Paris 2015) 102–3.

²⁵ E.g. Dem. 27.9, 18; 41.8; cf. Xen. *Vect.* 4.23; D.M. Pritchard, *Public Spending and Democracy in Classical Athens* (Austin 2015) 84–85.

²⁶ For this pay-rate see e.g. W.T. Loomis, *Wages, Welfare Costs and Inflation in Classical Athens* (Ann Arbor 1998) 32–61, 104–20.

²⁷ This figure sits just below Fisher and Kamen's estimate of the slave population at between 15 and 35 percent of Attica's total population (Fisher [n. 22] 35; Kamen [n. 22] 9).

²⁸ D.M. Pritchard, 'The Symbiosis between Democracy and War: The Case of Ancient Athens', in D.M. Pritchard (ed.), *War, Democracy and Culture in Classical Athens* (Cambridge 2010) 1–62, at 22.

²⁹ G.E.M. de Sainte Croix, *The Origins of the Peloponnesian War* (London 1972) 45–49.

³⁰ De Sainte Croix (n. 29) 49.

public policy for the Athenian *dēmos*.³¹ In the Corinthian War, as soon as they could, they rebuilt their navy, recaptured bases along the shipping-lines to the north and attempted to re-establish an empire to pay for their fleet.³² Yet, Sparta was still able to stop the grain-ships sailing to Athens and so could force Athens to accept the King's Peace of 387/6.

In the 370s, when war against Sparta resumed, Athens quickly expanded the navy and established a new multilateral alliance that furnished the funds and the naval bases that it needed in order to use this fleet successfully.³³ Athens was now able to stop Sparta's attempt to block the grain-ships (Diod. Sic. 15.34.2; Xen. *Hell.* 5.4.60–61). From the 360s it repeatedly used warships to stop other *poleis* from doing the same (e.g. [Dem.] 50.4–6). Postwar the *dēmos* also used non-military policies for food-security: they cultivated good relationships with the Black Sea's grain-exporting kingdoms,³⁴ while increasingly intervening in the grain-market at home.³⁵

However, this huge population was not always a constraint on foreign policy. The fact that it had up to 20 times more citizens than an average-size *polis* gave classical Athens two significant military benefits.³⁶ The first benefit was the huge size of the military forces that it could easily field. In the late 430s, for example, Athens had 13,000 citizens who fought as frontline hoplites (Thuc. 2.13.7). Consequently it could, by itself, field a land army that was larger than that of almost any other *polis*. With 30,000 citizens in the navy, it had the capacity to man 150 triremes without the need to hire non-citizens. No other Greek state had a comparable naval capacity. The second military benefit was that with such deep manpower reserves hoplites and sailors had to fight only periodically. In a normal year Athens needed only to mobilise a fraction of them. In classical Athens military service may have been viewed as the duty of every citizen.³⁷ But the *dēmos* generally expected a hoplite or a sailor to serve only once in 2 or 3 years.³⁸ This taking of turns helps to explain why the Athenians never grew weary of almost nonstop war-making.

³¹ E.g. [Arist.] *Ath. Pol.* 43.4; A. Moreno, *Feeding the Democracy: The Athenian Grain Supply in the Fifth and Fourth Centuries BC* (Oxford 2007) 211–18.

³² Xen. *Hell.* 4.8.27–30; D. M. Pritchard, 'Public Finance and War in Ancient Greece', *G&R* 62 (2015) 48–59, at 55–56.

³³ Pritchard (n. 32) 56–58.

³⁴ E.g. Dem. 20.29–41; Isoc. 17.57; *IG ii²* 212; D.T. Engen, *Honour and Profit: Athenian Trade Policy and the Economy and Society of Greece* (Ann Arbor 2011).

³⁵ E.g. [Arist.] *Ath. Pol.* 51.3; Dem. 34.37; 35.51; RO 26.

³⁶ On the relative size of Attica's population see e.g. M.H. Hansen and T.H. Nielsen, *An Inventory of Archaic and Classical Poleis* (Oxford 2004) 70–73.

³⁷ E.g. Aesch. *Sept.* 10–20, 415–16; Ar. *Vesp.* 1117–20; Lys. 16.17; Thuc. 1.144.4; 2.41.5; 2.43.1; Pritchard (n. 28) 6.

³⁸ E.g. Lys. 9.4, 15; Pritchard (n. 23) 47, 101–2, 106–7.

4. CLEISTHENES'S REORGANISATION OF ATTICA

As part of his democratic reforms, after 507/6, Cleisthenes effectively integrated Attica's *dēmoi* into the *polis*'s institutions and made the residents of each *dēmos* the *dēmotai* of each other.³⁹ Although the literal meaning of *dēmos* is people, Aristotle explained that the Athenians also employed this word to describe what other Greeks called a *kōmē* or village.⁴⁰ In Anglophone scholarship *dēmos* in this secondary sense is usually translated as 'deme' and *dēmotai* as 'demesmen'. Every Athenian now got as a third name a form of his deme's name.⁴¹ Within a few decades the Athenians habitually used this demotic, along with a father's name, when they referred to another citizen.⁴²

Cleisthenes divided Attica into the regions of the 'urban centre', 'coast' and 'inland'.⁴³ In each region he organised villages into 10 groups which roughly had the same number of residents.⁴⁴ Each of these groups was called a *trittus* ('third') because 1 *trittus* from each of the 3 regions was brought together to form 1 of the 10 new *phulai* ('tribes'). Cleisthenes created as well a democratic *boulē* ('council') of 500 members and a new publicly controlled army of hoplites.⁴⁵ The 10 tribes had 50 members each in this council and served as the units of this new land army.⁴⁶ Therefore by serving on the council or in the army many poor Athenians got to know other citizens whom they would otherwise never have met. Ancient writers agreed that this 'mixing up' of citizens was one of Cleisthenes's major goals.⁴⁷ Certainly it directly addressed another collective-action problem: the strong self-identity that the poor had, not as Athenians, but as members of this or that deme.⁴⁸ This limited identity made it difficult for them to break free of local elites and to make independent decisions as part of a wider political community.

³⁹ E.g. [Arist.] *Ath. Pol.* 21.4-5; D.M. Pritchard, 'Cleisthenes and Athenian Democracy: Vision from Above or Below?', *Polis* 22 (2005) 136-57, at 137-40.

⁴⁰ Arist. *Poet.* 1448a35-7; Hansen and Nielsen (n. 36) 626.

⁴¹ D. Whitehead, *The Demes of Attica 508/7-ca. 250 BC: A Political and Social Study* (Princeton 1986) 69-75.

⁴² The demotics of Athenians or their abbreviations were always included on Attic inscriptions; for these abbreviations see especially D. Whitehead, 'Abbreviated Athenian Demotics', *ZPE* 81 (1990) 106-61.

⁴³ E.g. [Arist.] *Ath. Pol.* 21.4; Hansen (n. 18) 34-36, 101-6.

⁴⁴ Whitehead (n. 41) xxiii: map.

⁴⁵ Pritchard (n. 28) 9, 15-16. On the military purposes of his reforms see e.g. Pritchard (n. 23) 34-5.

⁴⁶ For tribes as the hoplite army's units see e.g. Hdt. 6.111.1; Thuc. 6.101.5; Xen. *Hell.* 4.2.19, 21; Pritchard (n. 23) 34-35.

⁴⁷ E.g. [Arist.] *Ath. Pol.* 21.1-4; Arist. *Pol.* 1275b34-40, 1319b20-28; Plut. *Vit. Per.* 3.2-3.

⁴⁸ F.J. Frost, *Politics and the Athenians: Essays on Athenian History and Historiography* (Toronto 2005) 167-68; D.M. Pritchard, 'Cleisthenes, Participation and the Dithyrambic Contests of Late Archaic and Classical Athens', *Phoenix* 58 (2004) 208-28, at 209.

The *trittues* ('thirds') and the *phulai* that Cleisthenes introduced as part of his reforms were completely new subdivisions. But this, apparently, was not the case beneath these units.⁴⁹ Pisistratus and a son of his, Hipparchus, who ruled Athens as tyrants continuously from the mid-540s, began to recognise Attica's demes,⁵⁰ while a poem predating their tyranny mentioned Eleusis repeatedly (*Hom. Hymn Dem.* 97, 266, 317, 356, 490). But perhaps the best evidence for their existence, before Cleisthenes, is that this democratic reformer recognised 139 demes.⁵¹ This odd number stands out against the numbers of the thirds and the tribes, which were both multiples of 10. If the demes were his inventions we would also expect their number to be divisible by 10. That it was not strongly suggests that the demes were indeed Attica's pre-existing *kōmai* ('villages').

Attica's demes were not the same size. On the basis of the fourth century's surviving lists of *bouleutai* ('councillors'), J. Traill established how many members each deme had on the council of five hundred.⁵² He puts beyond doubt that each deme's quota for the *boulē* was based on its relative population and that their quotas remained unchanged from when Cleisthenes first set them.⁵³ This means that the enormous variation that we find in quotas reflects the very different sizes of the demes themselves. A large number of demes sent only 1 *bouleutēs* ('councillor') to the democratic council of 500 members each year.⁵⁴ The number of citizens in 508/7 is conventionally said to be 30,000.⁵⁵ If this is correct, such demes would have had only 60 *dēmotai*. With their dependents they probably added up only to 240 persons. By far the largest deme was Acharnae, whose quota was 22. This translates into 1320 Acharnians. As they too had dependents, Acharnae would have had at least 5270 residents in the late sixth century. This was about the same size as an average-sized *polis* elsewhere.⁵⁶ In the late 430s Athens had twice as many citizens. Consequently, many demes may have been twice as large as they had been eighty years earlier. Attica's demes clearly ranged in size from hamlets or small villages to quite sizeable towns.⁵⁷

⁴⁹ Whitehead (n. 41) 5–6.

⁵⁰ E.g. [Arist.] *Ath. Pol.* 16.5; [Pl.] *Hipparch.* 228d; *IG* i³ 1023.

⁵¹ Whitehead (n. 41) 19–20.

⁵² J.S. Traill, *The Political Organisation of Attica* (Princeton 1975).

⁵³ Traill (n. 52) 56, 61, 103; Whitehead (n. 41) 19, 21.

⁵⁴ For the quotas see e.g. Whitehead (n. 41) 369–73.

⁵⁵ Pritchard (n. 28) 52.

⁵⁶ See [section 2](#) above.

⁵⁷ H. Lohmann, 'Agriculture and Country Life in Classical Attica', in B. Wells (ed.), *Agriculture in Ancient Greece* (Stockholm 1992) 29–60.

5. THE LOCAL AFFAIRS OF THE DEMES

Cleisthenes gave each deme responsibility for its own affairs and important roles in the *polis*'s central administration.⁵⁸ Several times a year a deme thus held a meeting of its *dēmotai* where, among other acts, speeches were made and decrees passed.⁵⁹ Each year demesmen appointed by lot a *dēmarkhos* or demarch ([Arist.] *Ath. Pol.* 21.5). Like the *polis*'s magistrates, he faced a *dokimasia* ('scrutiny') before he took up his post and an *euthuna* ('public audit') at its end.⁶⁰ The demarch convened each deme-meeting, chaired its proceedings and executed its decrees. To help him do so, demes appointed a range of other *arkhontes* ('magistrates').⁶¹ In their decrees we typically find *tamiai* ('treasurers'), *logistai* ('auditors'), *sunēgoroi* ('public advocates') and *hieropoioi* ('doers of sacred things').⁶² All of these magistrates may not have been found in every deme. But in every case their names paralleled those of *polis*-level magistrates. Demes too had their own public property.⁶³ Sunium, for one, had its own *agora* ('civic centre') (*IG* ii² 1180), while Brauron had a *gymnasion* ('athletics field').⁶⁴ No less than 15 demes had theatres in which they produced comedies and tragedies as part of their celebration of the Rural Dionysia.⁶⁵ Every deme also had its own religious sanctuaries.⁶⁶

The best evidence of what local affairs Attica's demes managed and how they did so are the hundred-plus known decrees that they inscribed.⁶⁷ Most of these inscriptions honoured a fellow demesman, while the rest dealt equally with a deme's finances, leases of its public land-plots, sacred calendar or cults more generally.⁶⁸ I select two examples of such decrees in order to illustrate what *dēmotai*, locally, were preoccupied about. The first decree was passed by the tiny deme of Plotheia during the Peloponnesian War.⁶⁹

⁵⁸ On their roles in central administration see section 5 below.

⁵⁹ E.g. Dem. 57.9; Osborne (n. 6) 79–80; Whitehead (n. 41) 87–120.

⁶⁰ E.g. RO 63.8–26; R.G. Osborne, 'The *Demos* and Its Divisions in Classical Athens', in O. Murray and S. Price (eds.), *The Greek City: From Homer to Alexander* (Oxford 1990) 265–93, at 270.

⁶¹ E.g. *IG* i³ 253; Osborne (n. 60) 269–70.

⁶² Whitehead (n. 41) 139–44.

⁶³ Osborne (n. 6) 74; C. Taylor, 'Migration and the Demes of Attica', in C. Holleran and A. Pudsey (eds.), *Demography and the Graeco-Roman World* (Cambridge 2011) 117–34, at 134.

⁶⁴ Osborne (n. 6) 234 n. 24.

⁶⁵ P. Wilson, 'How Did the Athenian Demes Fund Their Theatres?', in B. Le Guen (ed.), *L'argent dans les concours du monde grec* (Paris 2010) 37–82, at 40–43.

⁶⁶ E.g. Thuc. 2.16.2; Osborne (n. 6) 178–82.

⁶⁷ Whitehead (n. 41) 374–93 catalogues them.

⁶⁸ Osborne (n. 6) 206: table 6.

⁶⁹ Whitehead (n. 41) 165–69.

The decree's first lines record the balances of the deme's eight separate funds and its rental income (*IG i³ 258.1–10*). It then states:

It was resolved by the Plotheians. Aristotimus proposed. The financial magistrates will choose properly by lot as much as each magistracy controls and they will furnish to the Plotheians the money in its entirety. They will lend and collect according to the decree on money-lending and the interest rates that have been set according to the decree. They will lend as much as is lent each year and to whoever gives the most interest and whoever persuades the lending magistrates by his property-evaluation or guarantor. From the interest and the rents set against the totals of the rent-bearing purchases they will celebrate the public religious rituals both in Plotheia and in Athens on behalf of the people of the Plotheians and the sacred acts for the four-yearly festival. With respect to the other religious rituals, whenever the Plotheians as a group must pay money for them either to Plotheians, to Epakreians or to Athenians, the magistrates who control the money of the exemption fund will pay out of the public funds on behalf of the demesmen.

IG i³ 258.11–35.

For the Plotheians the funding of their rituals was clearly a priority. These sacred acts included not just the deme's *heortai* ('festivals') but also ones in the *polis* in which Plotheians participated. Much of the spending here covered feasts for the *dēmotai* and participation-fees that they would have otherwise paid as individuals. Therefore, Plotheia was subsidizing demesmen's religious participation. The decree shows how they paid for their local cults by investing its funds and earning rents from its lands. Finances apparently were an ongoing preoccupation because there is mention here of another decree about money-lending. In the year when this decree was passed its figures suggest that the Plotheians had 1946 drachmas (dr.) to spend on sacred acts.⁷⁰ At just one third of 1 talent (t.), this total was dwarfed by the 100 t. that the Athenians directed towards their *polis*-level festivals every year.⁷¹ But, as Plotheia, one of Attica's smallest demes, probably had no more than 100 *dēmotai* in the 420s, its budget for sacred acts is still impressive.

Another common type of deme decree was the calendar of yearly sacrifices.⁷² The second decree is the best example of this type: the calendar that Erchia inscribed in the fourth century's second quarter (*SEG 21.541*). This decree divided up Erchia's yearly sacrifices into five concurrent series and made the financing of them the responsibility of five local liturgists.⁷³ The decree listed these series in five columns. In each it recorded under a date the deity to be honoured, the sacrifice's location, the victim to be offered

⁷⁰ Whitehead (n. 41) 168.

⁷¹ Pritchard (n. 25) 27–51; (n. 23) 149–51.

⁷² Whitehead (n. 41) 185–205.

⁷³ Whitehead (n. 41) 199–200.

and its price, which ranged from 3 dr. for a piglet to 12 dr. for a ram. Some of these sacrifices were made at *polis*-sponsored festivals in Athens on behalf of the Erchians but most occurred within the deme. The cost of this calendar's 59 sacrifices was approximately 547 dr.⁷⁴ The Erchians, clearly, did not want to overlook traditional sacrifices that they owed their deities. But again their efforts were small in comparison to their *polis*'s sacred calendar. The Athenian *polis* of the 330s, by contrast, spent some 16 t. sacrificing more than 1300 cows every year.⁷⁵

For R. G. Osborne such decrees show how the local affairs of Attica's *dēmoi* were 'limited'.⁷⁶ In their meetings, Osborne writes, 'the issues which got discussed seem rarely to have risen above the routine', while their copying of the *polis*'s practices limited their 'initiative' and amounted to 'social control'. Osborne's assessment seems too negative. Certainly, Attica's *dēmoi* managed much less than the central government. Local affairs were quite narrow and primarily religious. But in managing their cults demes actually showed initiative.⁷⁷ There were, among other examples, no central parallels for the methods that Plotheia and Erchia adopted to pay for their sacred acts. Therefore, local affairs were still rich in terms of the number of sacred acts and the innovations that were found to finance them.

6. THE ROLES OF THE DEMES IN CENTRAL ADMINISTRATION

For the Athenian *polis* demes also played absolutely vital roles in *central* administration.⁷⁸ In doing so they enabled the Athenians to overcome another collective-action problem: the impossibility of recording in a central place critically important information about so many citizens. Because there were far fewer Athenians in any one deme, *dēmotai* themselves could retain such information. Cleisthenes astutely recognised that by aggregating what each group of demesmen knew this collective-action problem could be overcome. As a group demesmen controlled who was let into the body of Athenians and nominated candidates for the democratic *boulē* of five hundred. Demarchs also helped the generals to conscript hoplites for campaigns and, on behalf of the *polis*, collected taxes. The sheer number of Athenian citizens made it impossible for the *polis* to maintain a central registry of them.⁷⁹ Instead the son of an Athenian man and an Attic woman became a *politēs* ('citizen') when, on turning 18 years, he was registered as a

⁷⁴ Whitehead (n. 41) 164–65.

⁷⁵ Pritchard (n. 25) 40–41.

⁷⁶ Osborne (n. 6) 79–80.

⁷⁷ Wilson (n. 65).

⁷⁸ Osborne (n. 6) 80–83; Whitehead (n. 41) 255–90.

⁷⁹ M.H. Hansen, 'The Number of Athenian Hoplites in 431 BC', *SO* 56 (1981) 19–32, at 24–29.

dēmotēs ('demesman') in his deme.⁸⁰ Once his demesmen had accepted him or had been forced to do so by a law-court (2), his name was written into the deme's *lēxiarkhikon grammateion*. This was the demarch's registry of his *dēmotai* (e.g. Dem. 57.26, 60–62).

In his description of Athens's constitution in the 320s Aristotle's pupil stated that demes played a role in the lottery for each year's *bouleutai* ([Arist.] *Ath. Pol.* 43.1; 62.1). We do not know how exactly councillors were appointed.⁸¹ But D. Whitehead's proposal for their appointment seems plausible: each *dēmos* held a meeting to select candidates to fill their quota of seats, while each *phulē*, after this, met in Athens where it selected by lot its 50 councillors from the names that its demes had supplied.⁸²

Demes also appear to have played a vital part in the mobilisation of hoplites before the introduction of conscription by age-classes in the early 360s.⁸³ This mobilisation, whose first attestation is in 481/0 (ML 23.23–26), was, probably, another military reform of Cleisthenes.⁸⁴ Once the Athenian *dēmos* had voted for war, generals, along with the hoplite army's tribal commanders, had to produce a *katalogos* or conscription list of the hoplites of each tribe.⁸⁵ Next, each conscription list was posted on the statue of the tribe's eponymous hero in Athens's *agora* (Ar. *Av.* 450; *Pax* 1183–84). The statues of the tribal demi-gods formed a monument that served as the state's noticeboard.

There is a debate about how these commanders compiled these *katalogoi* ('conscription lists'). The older view is that the state had a central record of every Athenian who could serve as a hoplite.⁸⁶ Proponents of this view have argued that the military authorities simply used this record to work out which hoplites to conscript. In the 1980s M. H. Hansen, among others, began to question whether such a record could have ever existed.⁸⁷ Those on his side of the debate emphasise how this record's upkeep would have been immensely difficult. For hoplites liability for active service depended on their age.⁸⁸ In order to share the burden of such service fairly, the generals were, in addition, not supposed to conscript those who had recently borne

⁸⁰ E.g. [Arist.] *Ath. Pol.* 42.1; Whitehead (n. 41) 97–109.

⁸¹ Osborne (n. 6) 80–81.

⁸² Whitehead (n. 41) 266–70.

⁸³ For this change to the conscription of hoplites in the 360s see e.g. M.R. Christ, 'Conscription of Hoplites in Classical Athens', *CQ* 51 (2001) 398–422, at 409–16.

⁸⁴ Pritchard (n. 23) 47.

⁸⁵ E.g. [Arist.] *Ath. Pol.* 26.1; Thuc. 6.31.3; Christ (n. 83) 398–409.

⁸⁶ E.g. A.H.M. Jones, *Athenian Democracy* (Oxford 1957) 163.

⁸⁷ E.g. Christ (n. 83) 400–1; J. Crowley, *The Psychology of the Athenian Hoplite: The Culture of Combat in Classical Athens* (Cambridge, 2012) 29–30; Hansen (n. 79) 24–29; (n. 16) 83–89.

⁸⁸ Pritchard (n. 28) 22–23.

it.⁸⁹ This meant that keeping records up to date involved more than names. Good information was required as well on ages and service-records. In 432/1 this was needed for no less than 13,000 active-service hoplites.

Military commanders never had a pool of undersecretaries for clerical help.⁹⁰ Therefore those on this side of the debate plausibly believe that the state lacked the capacity to maintain a central record of hoplites. For them tribal conscription-lists were based instead on each deme's *lēxiarkhikon grammateion*. This record would have been 'augmented by local knowledge' because *dēmotai* were really interested in each other's service-record.⁹¹ Demes, it appears, had the required information to conscript hoplites. The generals, according to M. H. Hansen, got access to it by asking each demarch to provide a list of eligible conscripts from his deme. What evidence that survives supports this side of the debate; for each demarch's *lēxiarkhikon grammateion* did indeed record which *dēmotai* were hoplites or cavalrymen (*IG* i³ 138.5–6), while in the late 360s, during a naval emergency, the demarchs were asked to produce *katalogoi* of sailors.⁹² Because this naval conscription involved large numbers, like hoplite mobilisation, the two mobilisation-forms should have been similar.

Demarchs collected a range of taxes on behalf of the central government. Attica's farmers had long given Eleusis's Two Goddesses *aparkhai* from their harvests.⁹³ In the mid-430s the Athenian *dēmos* passed a decree about these so-called first fruits.⁹⁴ It confirmed that this produce tax was levied at one sixth hundredth of the year's barley-crop and one twelve hundredth of wheat-crop (*IG* i³ 78.5–8). On this tax's collection it stated too (8–10): 'Collection shall be made by [the] Demarchs deme by deme and they shall deliver it to the *hieropoioi* from Eleusis at Eleusis.'⁹⁵ A decade or so later Athens passed a decree that introduced a poll tax on its soldiers in order to pay for Apollo's city-based athletics field, which they regularly used for their musters.⁹⁶ The decree ordered the demarchs to collect this tax from the hoplites and horsemen on their deme-registries (*IG* i³ 138.5–6). The Athenians completely changed the collection of the *eisphora* or extraordinary tax on property for war in 378/7.⁹⁷ In this new system of collection the demes played the central part. J. K. Davies has suggested that, before

⁸⁹ See section 3 above.

⁹⁰ Pritchard (n. 25) 80–82.

⁹¹ Crowley (n. 87) 30.

⁹² [Dem.] 50.6; cf. Lys. 31.15; Pritchard (n. 23) 47–48.

⁹³ Parker (n. 4) 143.

⁹⁴ For the date see e.g. P.J. Rhodes, 'State and Religion in Athenian Inscriptions', *G&R* 56 (2009) 1–13, at 3.

⁹⁵ Tr. C. W. Fornara.

⁹⁶ D.M. Pritchard 'The Archers of Classical Athens', *G&R* 65 (2018) 86–102, at 91–92.

⁹⁷ M.R. Christ, 'The Evolution of the *Eisphora* in Classical Athens', *CQ* 57 (2007) 53–69.

this reform, the *eisphora* was collected locally in the demes.⁹⁸ Their collection of Apollo's poll tax and the Two Goddesses's produce tax certainly makes his suggestion plausible.

7. THE SETTLEMENT-PATTERN DEBATES

In the 1980s Osborne famously provoked two debates about Attica's settlement-pattern. I will attempt to settle these debates because settlement-pattern is a fundamental physical parameter. Doing so will also help us to understand how Athenian democracy overcame two of the collective-action problems that its physical parameters had caused. The most heated of these debates was about whether Attica's demes were nucleated settlements or collections of isolated farmhouses. Before Osborne the consensus had been that although many rural Athenians lived in villages, many others built their *oikiai* ('houses') on isolated *khōria* ('land-plots').⁹⁹ In support of this mixed settlement-pattern ancient historians could cite a range of literary evidence. Lysias 1 is a defence-speech in which a certain Euphiletus defended himself against the charge of murdering another citizen, whom he had caught in his wife's bed.¹⁰⁰ This defendant's *oikia* ('house') was, clearly, not on an isolated land-plot because the adulterous affair had flourished, when he was away 'in the country' (Lys. 1.11–12, 20). His two-storey house was, it appears, either in Athens's *astu* or a rural village; for, although one of his neighbours is likewise a farmer, the defendant was able to gather witnesses quickly before bursting in on the two adulterers (22–23). While his family was manifestly well off, Euphiletus did not live a life of *skholē* ('leisure'), which was, in classical Athens, a preserve of the wealthy.¹⁰¹

The speaker of [Demosthenes] 47, by contrast, is just such a rich man because he served as a trierarch (47.56), which was well beyond the means of a poor man.¹⁰² In his law-court speech he states that 'he is a farmer near the hippodrome and has lived there since his youth' ([Dem.] 47.53). There he did not live in a village because he could complain that a fellow citizen had violently seized livestock on his *khōrion* ('land-plot') and goods from the *oikia* on this plot (53, 62). Living on one's farm, moreover, was not confined to the rich, as Theophrastus, in his *Characters*, made a non-elite Attic farmer live in an *oikia* on his *khōrion* (4.12).

In his *Demos: The Discovery of Classical Attika* Osborne gave two reasons why classical Athenians, outside the urban centre's walls, could have lived *only* in nucleated settlements. The first reason was that demesmen

⁹⁸ J.K. Davies, *Wealth and the Power of Wealth in Classical Athens* (New York, 1981) 143–50. His suggestion is accepted by Whitehead ([n. 41] 132–33).

⁹⁹ Osborne (n. 6) 16.

¹⁰⁰ Osborne (n. 6) 17.

¹⁰¹ E.g. Ar. *Plut.* 281; *Vesp.* 552–57; Men. *Dys.* 293–95; Roubineau (n. 24) 88–89.

¹⁰² E.g. Lys. 29.4; Pritchard (n. 23) 88–92.

required detailed personal knowledge about each other in order to carry out the administrative tasks that the *polis* had given them.¹⁰³ For Osborne the only way to acquire such knowledge was to live together in a nucleated settlement. The second reason related to the pattern of landholding in classical Attica. Athenian farmers, it seems, owned scattered land-plots around their deme rather than one continuous *khōrion*.¹⁰⁴ ‘Work on present-day societies has revealed a correlation between a fragmented pattern of landholding and a clustered pattern of settlement.’¹⁰⁵ Because there was no economic advantage in living on one *khōrion* over others, Athenian farmers, Osborne argued, chose the richer social world of the village. In support of his revisionist position Osborne made a couple of questionable claims. In his 1985 book he asserted: ‘there is no clear evidence in the literature for anyone who lives and farms out on his own in the country’.¹⁰⁶ There are, however, in addition to the abovementioned passages, some inscriptions that refer to *oikia* on land-plots outside Athens’s walls.¹⁰⁷ In an article that he also published in 1985 Osborne tried to explain away this epigraphical evidence: these *oikia*, he maintained, were, not permanent houses, but barns and/or temporary dwellings.¹⁰⁸

Unsurprisingly Osborne’s strong views about Attica’s settlement-pattern quickly led to equally strong criticisms.¹⁰⁹ N. F. Jones, for one, in his *Rural Athens under the Democracy*, showed how several groups of inscriptions leave no doubt that classical Attica had quite a few isolated farmhouses.¹¹⁰ One group concerned the *khōria* that individuals leased from demes or other public associations.¹¹¹ Jones identifies 9 inscribed leases in which a land-plot included an *oikia*. In all but one lease there is reason to believe that the *oikia* was, in fact, a farmhouse.¹¹² Two leases, for example, specified when the lessee must *apienai* or leave (*IG* ii² 2499.12; *SEG* 24.203.18), which implies that he would be residing on the land-plot. A pair of leases required the lessee temporarily to vacate the *oikia* in order that a cult association could use it for a festival (*IG* ii² 2499.24–30; 2501.6–9). Such a clause would have been unnecessary unless the *oikia* was otherwise inhabited. Two other leases required the lessee to do so much agricultural work that he probably needed to live on the *khōrion* year-round (*IG* ii² 1241.19–25; *SEG* 21.644). A final

¹⁰³ Osborne (n. 6) 41–42.

¹⁰⁴ E.g. Osborne (n. 6) 47–63.

¹⁰⁵ Osborne (n. 6) 62.

¹⁰⁶ Osborne (n. 6) 17 (my italics).

¹⁰⁷ Osborne (n. 6) 50–60.

¹⁰⁸ R.G. Osborne, ‘Buildings and Residence on the Land in Classical and Hellenistic Greece: The Contribution of Epigraphy’, *ABSA* 80 (1985) 119–28.

¹⁰⁹ E.g. M.K. Langdon, ‘On the Farm in Classical Attica’, *CJ* 86 (1991) 209–13.

¹¹⁰ N.F. Jones, *Rural Athens under the Democracy* (Philadelphia 2004) 17–47.

¹¹¹ N.F. Jones (n. 110) 27–34.

¹¹² N.F. Jones (n. 110) 33.

lease included other pointers to permanent residence: a garden and a well.¹¹³ Clearly Osborne's argument that all such *oikia* were never homes is impossible to maintain.

Another of Jones's groups are the *horoi* ('boundary-stones') that were placed on *khōriai* that had been mortgaged.¹¹⁴ Jones calculates that outside the urban centre there are 33 known *horoi* whose inscriptions confirm that the land-plots on which they sat included houses.¹¹⁵ Because nucleated settlements could not easily accommodate *khōria*, these stones probably recorded mortgages over land-plots with houses away from any village. A third group are the accounts, from the later fourth century, that recorded the *hekatostē* ('1-percent tax') that had been paid on certain land-sales across Attica. Eight of them include the phrase *khōrion kai oikia* ('land-plot and house').¹¹⁶

Jones's study of these inscriptions emboldened him to go well beyond the pre-*Osborne* consensus.¹¹⁷ On the basis of them he argued: 'owner-operators lived on their farms rather than, as is widely assumed or argued, in some putative nucleated village residential center.'¹¹⁸ Certainly Attica's demes did own theatres, *agorai* ('civic centres'), sanctuaries and other public facilities.¹¹⁹ But *Rural Athens under the Democracy* concludes that 'the notion that to such a hub was attached a compact concentration of land-owners' dwellings lacks support'.¹²⁰ In rightly criticising Osborne, however, Jones, it is clear, went way too far in the other direction.

Indeed Jones conceded that not all residents in these isolated farmhouses were 'owner-operators'.¹²¹ The citizens in his inscriptions were predominantly wealthy because they were best placed to lease extra land or often required quick cash from a mortgage in order to pay for liturgies or other taxes.¹²² This social class may have represented only 5 percent of the citizen body.¹²³ But it is estimated that they owned 30 percent or more of Attica's arable land.¹²⁴ Typically wealthy Athenians also had a family home in the city or the Piraeus.¹²⁵ As a rich man, obviously, could not live on all of

¹¹³ N.F. Jones (n. 110) 28–29.

¹¹⁴ N.F. Jones (n. 110) 34–42.

¹¹⁵ N.F. Jones (n. 110) 40.

¹¹⁶ N.F. Jones (n. 110) 26–27.

¹¹⁷ N.F. Jones (n. 110) 44–47.

¹¹⁸ N.F. Jones (n. 110) 44–45.

¹¹⁹ See section 3 above.

¹²⁰ N.F. Jones (n. 110) 45.

¹²¹ N.F. Jones (n. 110) 33.

¹²² Osborne (n. 6) 47, 58–60.

¹²³ Pritchard (n. 48) 212–13.

¹²⁴ R.G. Osborne, *Athens and Athenian Democracy* (Cambridge 2010), especially p. 133.

¹²⁵ E.g. Aeschin. 1.97; Isae. 11.40–43; Lys. 20.11–12; Osborne (n. 6) 47–50, 69; Pritchard (n. 25) 58; Taylor (n. 63) 119–20, 123.

his properties simultaneously, if there was a farmhouse on one or more of his land-plots, it is more likely that his slaves or tenants lived there.¹²⁶ Jones's own tallies, moreover, show that most land-plots did not have a house. Admittedly there are 33 *horoi* that mentioned a *khōrion* and an *oikia*. But 153 others recorded a mortgage over a rural land-plot with no house or over a house alone in the *astu*.¹²⁷ We find the same in the *hekatostē*-accounts: 132 of their 144 land-sales were for a *khōrion* without a house.¹²⁸

Archaeology especially refutes Jones's alternate position. Certainly, several classical-period houses on isolated *khōria* have been excavated in Attica.¹²⁹ Jones rightly cited them in order to bolster his case for farmhouses in open country.¹³⁰ To his credit he also acknowledged that archaeologists have excavated parts of nucleated settlements outside the urban centre. But *Rural Athens under the Democracy* misrepresents these excavations, when it claims that they shine no light whatsoever on the number of isolated *oikia* relative to those within villages. Possibly the best excavated rural region lies on the coast about 20 kilometres to the south-west of the Piraeus.¹³¹ 'Archaeological activity in the area has been galvanised by the steady spread of Athens down this coast, and the increasing popularity of Vouliagmeni and Varkiza as tourist resorts.'¹³² Here two isolated farmhouses from classical times have been discovered: the so-called Vari house and the much more modest Lauter house.¹³³ But *several dozens* of others have been found within three classical-period nucleated settlements.

The first was near the sanctuary of Apollo Zoster that was in the south-west corner of this region. Two kilometres to its north there was found a large area with many wells and lots of classical-period pottery-sherds.¹³⁴ In the 1980s Greek archaeologists excavated this area's eastern side where they discovered tightly packed houses and narrow streets.¹³⁵ The consensus is that what we have here is part of Halai Aixonides, that is, the deme that controlled Apollo Zoster's sanctuary. Already in the 1930s another area of concentrated settlement-related finds was located one kilometre to the

¹²⁶ N.F. Jones (n. 110) 33; Osborne (n. 124) 136.

¹²⁷ N.F. Jones (n. 110) 35.

¹²⁸ N.F. Jones (n. 110) 26.

¹²⁹ E.g. D.M. Pritchard, 'Fool's Gold and Silver: Reflections on the Evidentiary Status of Finely Painted Attic Pottery', *Antichthon* 33 (1999) 1–27, at 4–5; Osborne (n. 6) 190–91.

¹³⁰ N.F. Jones (n. 110) 46–47.

¹³¹ I. Andreou, 'Ho dēmos tōn Aixōnidōn Alōn', in W.D.E. Coulson, O. Palagia, T.L. Shear, H.A. Shapiro and F.J. Frost (eds.), *The Archaeology of Athens and Attica under the Democracy* (Oxford 1994) 191–209; Osborne (n. 6) 22–29.

¹³² Osborne (n. 6) 22.

¹³³ Osborne (n. 6) 27–29.

¹³⁴ Osborne (n. 6) 24.

¹³⁵ E.g. Andreou (n. 131) 193: figures 8 and 9.

east.¹³⁶ This included 25 houses in close proximity. Greek archaeologists are now certain that this was part of the built-up deme-centre of Anagyrous, while a comparable area, which is four kilometres to the north-west, was part of Aixone.¹³⁷ This region's excavations strongly suggest that *most* Athenians who resided outside the *astu* lived close together in nucleated settlements rather than in isolated farmhouses.¹³⁸ Therefore there were *two* reasons why demesmen possessed the vital information about each other that the central government needed: the smaller size of their deme as a group and the residence of most of them in a nucleated settlement.

8. INTERNAL MIGRATION TO THE URBAN CENTRE

The second settlement-pattern debate that Osborne instigated concerned internal migration to the urban centre. The two decades of naval warfare after the Persian Wars caused a 'massive and rapid transformation of Athenian society'.¹³⁹ Imperial income allowed the Athenians to build the enormous port facilities and to hire the thousands of workers that were required to maintain their hundreds of new triremes. The needs and the salaries of these shipbuilders encouraged the development of secondary businesses. The bringing in of ever-larger amounts of cargo in order to service this military-led expansion quickly made the Piraeus the eastern Mediterranean's busiest trading port (e.g. Isoc. 4.42).

Certainly many thousands of foreigners came to Athens in order to take these urban jobs and, in some cases, to serve as seasonal rowers in the Athenian navy.¹⁴⁰ However, ancient historians had long assumed that just as many non-elite Athenians moved from the *khōra* to the *astu* in the hope of bettering their personal economic circumstances.¹⁴¹ Indeed in his famous book on the population of Attica A. W. Gomme presented the tombstones of Athenians as evidence of this internal migration.¹⁴² The *dēmotikon* that Cleisthenes gave each Athenian was hereditary. Consequently, even if a citizen moved from the deme in which his male

¹³⁶ Osborne (n. 6) 26–27.

¹³⁷ E.g. Andreou (n. 131) 192; figure 1.

¹³⁸ J. Bintliff, *The Complete Archaeology of Greece: From Hunter-Gatherers to the 20th Century AD* (Malden 2012) 270. This appears to be Osborne's revised position ([n. 124] 138).

¹³⁹ See Frost (n. 48) 161–76; D.M. Pritchard, 'From Hoplite Republic to Thetic Democracy: The Social Context of the Reforms of Ephialtes', *AH* 24 (1994) 111–39, at 121–36; K.A. Raafaub, 'The Transformations of Athens in the Fifth Century', in D. Boedeker and K.A. Raafaub (eds.), *Democracy, Empire and the Arts in Fifth-Century Athens* (Cambridge [Massachusetts] and London) 15–41. Quotation from Raafaub (n. 139) 37.

¹⁴⁰ Whitehead (n. 21) 69–70; Pritchard (n. 23) 98–99.

¹⁴¹ E.g. Pritchard (n. 139) 127–29; cf. Akrigg (n. 15) 57; Taylor (n. 63) 119–20.

¹⁴² A.W. Gomme, *The Population of Athens in the Fifth and the Fourth Centuries BC* (Oxford 1933) 37–48.

forebears had first been registered as *dēmotai*, he retained the *dēmotikon* of their deme. Gomme selected 600 tombstones from *Inscriptiones Graecae* that recorded demotics and compared these deme names with the find spots of the stelae. This comparison showed that tombstones with *dēmotika* from Cleisthenes's urban centre were very seldom found in demes from his 'coast' or 'inland'. By contrast, stelae with demotics from the 'coast' and 'inland' were found just as often in the 'urban centre' as they were in these two regions. Gomme concluded: 'These figures illustrate (and it is all that they do) the migration from the country to the town.'¹⁴³

After Gomme some ancient historians grew concerned that his tombstones proved only that rich Athenians migrated internally on the grounds that tombstones were generally too expensive for poor families.¹⁴⁴ In *Demos: The Discovery of Classical Attika* Osborne went even further than this. For him the 'naval mob evaporates on closer analysis'.¹⁴⁵ Osborne argued that Thucydides 2.14–16 simply disproved internal migration from the 470s.¹⁴⁶ Instead Osborne claimed that Attica's settlement-pattern was 'more or less unchanged from the time of the Persian Wars to the late fourth century'. At the beginning of the Peloponnesian War Attica's farmers famously abandoned the countryside in the face of Sparta's invasion.¹⁴⁷ Thucydides described the hardship that this abandonment caused them: in leaving their demes farmers felt that they were abandoning their own *polis* (2.16.2). Importantly Thucydides also wrote that *hoi polloi* ('the majority') of the Athenians still lived in rural demes (2.14.2, 16.1). This, it appears, continued into the fourth century; for, in a legal speech of 346/5, Demosthenes wrote that 'most' of the *dēmotai* of Halimous, which was around 6 kilometres from Athens, still lived there (59.10).

Certainly, this literary evidence shows how most classical Athenians continued to live in their ancestral demes. But it does not prove Osborne's claim about there being no internal migration. In the wake of Osborne's book, ancient historians under the leadership of M. H. Hansen went back to classical Attica's tombstones.¹⁴⁸ These Danish scholars put beyond doubt that many rural Athenians permanently migrated to Athens or the Piraeus. Some of these tombstones were indeed adorned with friezes or other sculpture and were part of *periboloi* ('walled enclosures'). Since such burials cost thousands of dr. (e.g. Dem. 40.52; 45.79; Lys. 31.21; 32.21), they, it is clear,

¹⁴³ Gomme (n. 142) 44–45.

¹⁴⁴ E.g. Whitehead (n. 41) 354.

¹⁴⁵ Osborne (n. 60) 266.

¹⁴⁶ Osborne (n. 6) 16–17.

¹⁴⁷ Taylor (n. 63) 121.

¹⁴⁸ M.H. Hansen, L. Bjertrup, T.H. Nielsen, L. Rubinstein, and T. Vestergaard, 'The Demography of Attic Demes: The Evidence of the Sepulchral Inscriptions', *Analecta romana Instituti danici* 19 (1990) 25–44.

were out of the reach of non-elite families.¹⁴⁹ However, T. H. Nielsen, among others, demonstrated that most of classical Attica's tombstones did not come from such elite tombs.¹⁵⁰ Instead they were small slabs with poor quality friezes or, more often than not, no friezes whatsoever, which cost only in the tens of dr.¹⁵¹

A. Damsgaard-Madsen compared, once again, the demotics of Attica's tombstones and their find spots. He identified 200 more inscriptions than Gomme had.¹⁵² Of his 350 people with tombstones in the city only 19 percent had *dēmotika* from Athens or the Piraeus. Of the 177 from the port and Phalerum only 17 percent had demotics from this region. Beyond the *astu* the pattern is the exact opposite: the vast majority of the hundreds of tombstones have demotics that correspond to the deme where they were set up. Damsgaard-Madsen concluded: 'the epigraphical record seems to corroborate the view cautiously expressed by Gomme half a century ago: a *considerable* migration in classical times from the country of Attica to the urban areas; little migration between the rural districts themselves; and very little migration from town to country'.¹⁵³

Attica's tombstones, unfortunately, do not shed light on *when* this internal migration peaked because only a small number of them come from the fifth century.¹⁵⁴ During the Peloponnesian War, however, many Athenians apparently believed that internal migration had been most intense *immediately after* the Persian Wars. In his *Constitution of the Athenians* Pseudo-Aristotle claimed that Aristides advised the Athenians to migrate to the urban centre (24.1). Pseudo-Aristotle went on to describe how more than 20,000 of these internal migrants earned a living (1–3). It is likely that he based his chapter 24 on a lost work of old comedy.¹⁵⁵ In his *Knights* of 425/4 Aristophanes made a similar claim: Themistocles had been responsible for filling the *polis* up with people (813–19). Because the political careers of both politicians ended in the 470s, this belief points to a substantial migration to the city right after the Second Persian War.

¹⁴⁹ E.g. I. Morris, *Death-Ritual and Social Structure in Classical Antiquity* (Cambridge 1992) 135.

¹⁵⁰ T.H. Nielsen, L. Bjertrup, M.H. Hansen, L. Rubinstein and T. Vestergaard. 'Athenian Grave Monuments and Social Class', *GRBS* 30 (1989) 411–20.

¹⁵¹ Nielsen, Bjertrup, Hansen, Rubinstein and Vestergaard (n. 150) 414.

¹⁵² A. Damsgaard-Madsen, 'Attic Funeral Inscriptions: Their Use as Historical Sources and Some Preliminary Results', in A. Damsgaard-Madsen, E. Christiansen and E. Hallager (eds.), *Studies in Ancient History and Numismatics Presented to Rudi Thomson* (Aarhus 1988) 55–68, at 58: map 1, 63.

¹⁵³ Damsgaard-Madsen (n. 152) 66 (my italics). I am unconvinced by C. Taylor's doubting of his conclusion ([n. 63] 122, 130). The decision of Athenian families with non-urban demotics to bury their dead in the *astu*, in spite of their likely ongoing links to their ancestral demes points, simply, to permanent rather than temporary internal migration.

¹⁵⁴ Damsgaard-Madsen (n. 152) 57.

¹⁵⁵ P.J. Rhodes, *A Commentary on the Aristotelian Athenaion Politeia* (Oxford 1981) 301–2.

By moving to the *astu* many non-elite Athenians, undoubtedly, found it a lot easier to attend the political meetings and the law-courts of Athenian democracy.¹⁵⁶ The sheer number of campaigns and the complex task of running the Athenian empire, after the Persian Wars, quickly increased the volume of public business. Consequently assembly- and council-meetings had to be held more regularly. In itself this intensification of politics caused democratic institutions to develop. It also gave the *dēmos* the confidence and the general knowledge that they needed to take over completely the law-courts as well as the surveillance of magistrates and to demand *misthos* ('pay') for running the government.¹⁵⁷

9. CONCLUSION: RESOLVING THE COLLECTIVE-ACTION PROBLEMS

Attica's enormous population and size created a series of collective-action problems. The *dēmos* supported institutional reforms and foreign policies that allowed them to overcome most of these problems. Physical parameters that they did not attempt to control helped them to address others. The sheer number of citizens made it impossible to record in one central place vital information about each of them. This meant that it was difficult to determine who qualified for citizenship and who could be conscripted for a war. The reforms of Cleisthenes that the *dēmos* supported directly addressed these two collective-action problems. His reforms turned Attica's pre-existing villages and suburbs into political units. Each of these demes was given the tasks of enrolling residents as citizens and of selecting hoplites who could fairly be called up for a war. Demes could fulfil these tasks because most demesmen lived in a small nucleated settlement and so knew a great deal about their neighbours. As time went on the *dēmos* asked the demes to draw on their local knowledge in order to collect taxes effectively.

The sheer size of Attica created another collective-action problem: non-elite Athenians only really knew their local region and so did not strongly identify as citizens of a single *polis*. This was an obstacle to their independent participation in politics. The tribes that Cleisthenes proposed were designed to overcome this problem. Each tribe included villages from right across Attica. A citizen was grouped in his tribe when he served on the new democratic council or in the new hoplite army. By performing these roles, a poor Athenian got to know others outside his region and so developed a stronger sense of being part of a larger political community. The distance between the city-based institutions and outlying demes was a third collective-action problem: many non-elite Athenians lived too far away to take part regularly in politics. This limited the ability of poor citizens to run the government themselves. Resolving this problem was an

¹⁵⁶ Taylor (n. 63) 121.

¹⁵⁷ Pritchard (n. 28) 1–2, 56–59.

unintended consequence of the decision of the *dēmos* to spend heavily on a new navy. This spending resulted in thousands of new urban jobs. In leaving the countryside to take them up poor Athenians found it easier to engage in politics. Therefore, it was possible for them to take charge of the increasing public business. In turn they acquired the confidence to ask for more political and legal responsibilities and for pay so that they had more time to bear them.

In foreign affairs the huge number of Athenians was also an unintended advantage. Athens could put into the field an army that was far larger than those of almost all other Greek states. The fleets that the Athenians could launch were mostly larger than the fleets of their enemies. With such deep manpower reserves, individual citizens could take it in turns to serve as hoplites and sailors. This demographic advantage was a major reason for military predominance of classical Athens.¹⁵⁸ This raw military power allowed the classical Athenians to address a final grave problem: their heavy dependence on imported grain. With their empire fifth-century Athenians were so dominant militarily that no state threatened the grain ships sailing for the Piraeus. In the next century they were not as powerful. But the *dēmos* were still able militarily to deter others from threatening their grain ships. They also voted for foreign policies that ensured friendly relations with grain-producing kingdoms and with the ports of call that all ships visited between these kingdoms and the Piraeus.

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¹⁵⁸ Pritchard (n. 23) 6–7.